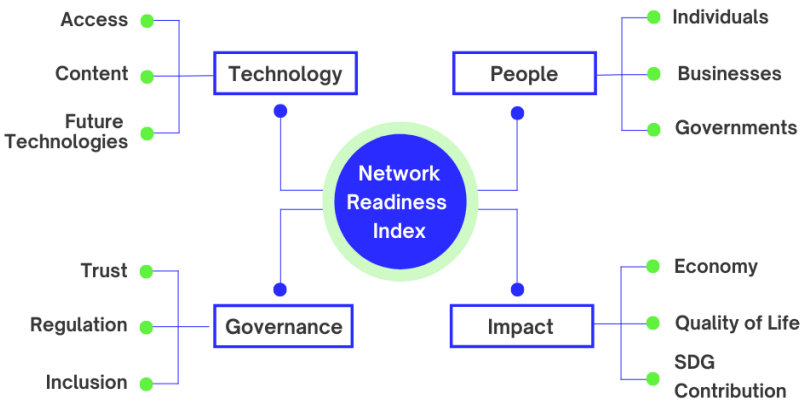
Network Readiness Index 2022 Albania

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

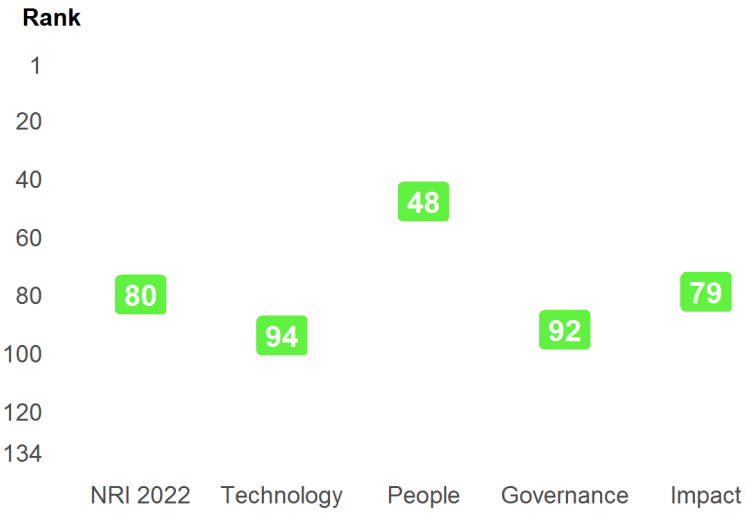
Figure 1: The NRI 2022 model



Global NRI position of Albania

Albania ranks 80th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Albania global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Albania relate to Businesses, Governments and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Economy and Future Technologies sub-pillars.

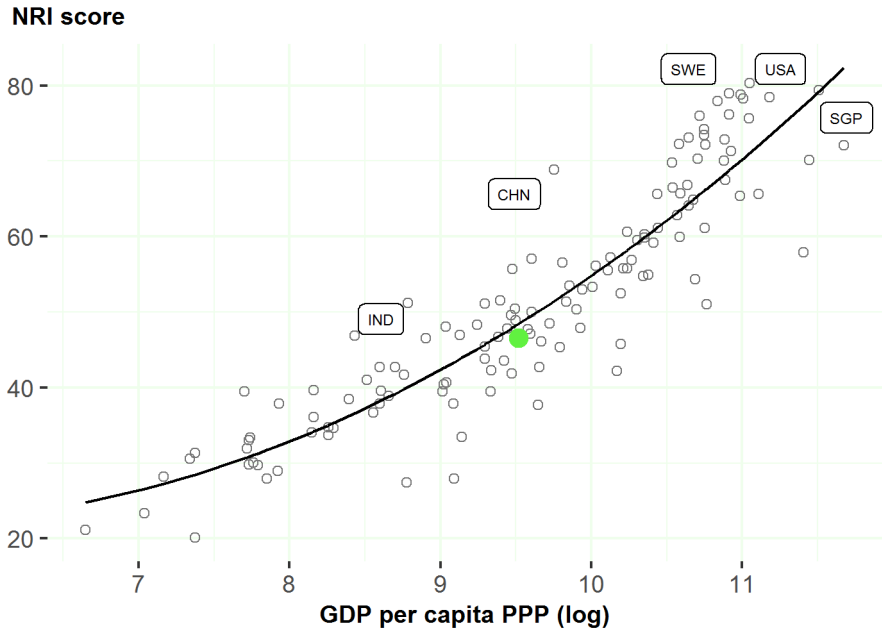
Table 1: Albania rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	43	Trust	79
Governments	46	Content	84
Quality of Life	47	Access	86
Regulation	63	Inclusion	107
SDG Contribution	65	Economy	111
Individuals	69	Future Technologies	122

NRI score and income

Figure 3 shows the position of Albania in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Albania is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Albania belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

Upper-middle-income countries

Albania is ranked 25th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: people. At the sub-pillar level, it outperforms upper-middle-income countries in five of the twelve sub-pillars: Businesses, Governments, Regulation, Quality of Life and SDG Contribution.

Europe

Albania is ranked 40th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Albania against its income group and region, overall and by pillar

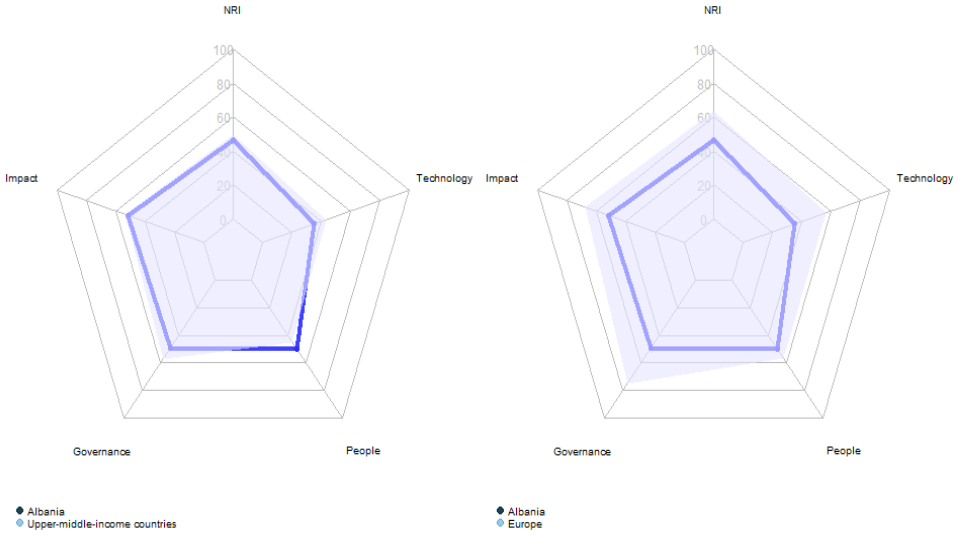


Table 2: Albania scores vs. averages of its income group and region, overall and by pillar

Dimension	Albania	Upper-middle-income countries	Europe
NRI	46.50	49.66	63.72
Technology	35.30	43.11	56.43
People	49.80	44.94	56.35
Governance	49.12	57.08	74.79
Impact	51.79	53.50	67.30

Strongest and weakest indicators

The indicators where Albania performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 4.2.3 Income inequality, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 3.3.2 Socioeconomic gap in use of digital payments, 3.3.5 Rural gap in use of digital payments, and 1.3.1 Adoption of emerging technologies.

Table 3: Strongest and weakest indicators of Albania

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	16	4.1.3 PCT patent applications	99
4.2.3 Income inequality	25	4.1.1 High-tech and medium-high-tech manufacturing	100
2.1.5 Adult literacy rate	28	1.3.1 Adoption of emerging technologies	116
2.3.1 Government online services	31	3.3.5 Rural gap in use of digital payments	117
4.3.3 SDG 5: Women's economic opportunity	32	3.3.2 Socioeconomic gap in use of digital payments	121
4.2.4 Healthy life expectancy at birth	34		
3.3.1 E-Participation	36		
3.2.2 ICT regulatory environment	45		
3.2.5 Privacy protection by law content	47		
1.1.4 Population covered by at least a 3G mobile network	53		

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NRI 2022 At-A-Glance: Albania

Network Readiness Index Rank: 80 (out of 131) Score: 46.50

Pillar/sub-pillar	Rank	Score
A. Technology pillar	94	35.30
1st sub-pillar: Access	86	57.11
2nd sub-pillar: Content	84	31.73
3rd sub-pillar: Future Technologies	122	17.06
B. People pillar	48	49.80
1st sub-pillar: Individuals	69	47.55
2nd sub-pillar: Businesses	43	51.91
3rd sub-pillar: Governments	46	49.96

Pillar/sub-pillar	Rank	Score
C. Governance pillar	92	49.12
1st sub-pillar: Trust	79	36.60
2nd sub-pillar: Regulation	63	64.40
3rd sub-pillar: Inclusion	107	46.37
D. Impact pillar	79	51.79
1st sub-pillar: Economy	111	16.34
2nd sub-pillar: Quality of Life	47	73.89
3rd sub-pillar: SDG Contribution	65	65.12

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	94	35.30	
1st sub-pillar: Access	86	57.11	
1.1.1 Mobile tariffs	84	48.10	
1.1.2 Handset prices	77	47.01	
1.1.3 FTTH/building Internet subscriptions	54	27.96	
1.1.4 Population covered by at least a 3G mobile network	53	99.74	●
1.1.5 International Internet bandwidth	101	63.05	
1.1.6 Internet access in schools	47	56.81	
2nd sub-pillar: Content	84	31.73	
1.2.1 GitHub commits	58	7.07	
1.2.2 Internet domain registrations	62	4.85	
1.2.3 Mobile apps development	63	80.49	
1.2.4 AI scientific publications	74	34.49	
3rd sub-pillar: Future Technologies	122	17.06	
1.3.1 Adoption of emerging technologies	116	19.18	○
1.3.2 Investment in emerging technologies	117	21.75	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	87	10.25	

Indicator	Rank	Score	
C. Governance pillar	92	49.12	
1st sub-pillar: Trust	79	36.60	
3.1.1 Secure Internet servers	66	54.15	
3.1.2 Cybersecurity	86	63.69	
3.1.3 Online access to financial account	112	8.62	
3.1.4 Internet shopping	62	19.93	
2nd sub-pillar: Regulation	63	64.40	
3.2.1 Regulatory quality	60	47.47	
3.2.2 ICT regulatory environment	45	87.06	●
3.2.3 Regulation of emerging technologies	53	48.42	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	47	72.40	●
3rd sub-pillar: Inclusion	107	46.37	
3.3.1 E-Participation	36	83.95	●
3.3.2 Socioeconomic gap in use of digital payments	121	32.57	○
3.3.3 Availability of local online content	118	26.20	
3.3.4 Gender gap in Internet use	57	69.33	
3.3.5 Rural gap in use of digital payments	117	19.80	○

Indicator	Rank	Score	
B. People pillar	48	49.80	
1st sub-pillar: Individuals	69	47.55	
2.1.1 Mobile broadband internet traffic within the country	89	2.56	
2.1.2 ICT skills in the education system	78	39.05	
2.1.3 Use of virtual social networks	78	60.27	
2.1.4 Tertiary enrollment	54	38.21	
2.1.5 Adult literacy rate	28	97.64	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	43	51.91	
2.2.1 Firms with website	54	58.11	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	81	26.18	
2.2.4 Annual investment in telecommunication services	94	71.44	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	46	49.96	
2.3.1 Government online services	31	83.64	●
2.3.2 Publication and use of open data	49	33.82	
2.3.3 Government promotion of investment in emerging tech	82	32.40	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	79	51.79	
1st sub-pillar: Economy	111	16.34	
4.1.1 High-tech and medium-high-tech manufacturing	100	2.60	○
4.1.2 High-tech exports	108	2.62	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	105	36.55	
4.1.5 Prevalence of gig economy	100	26.74	
4.1.6 ICT services exports	66	29.52	
2nd sub-pillar: Quality of Life	47	73.89	
4.2.1 Happiness	85	54.79	
4.2.2 Freedom to make life choices	56	76.69	
4.2.3 Income inequality	25	80.90	●
4.2.4 Healthy life expectancy at birth	34	83.19	●
3rd sub-pillar: SDG Contribution	65	65.12	
4.3.1 SDG 3: Good Health and Well-Being	91	55.55	
4.3.2 SDG 4: Quality Education	54	37.34	
4.3.3 SDG 5: Women's economic opportunity	32	87.72	●
4.3.4 SDG 7: Affordable and Clean Energy	16	90.14	●
4.3.5 SDG 11: Sustainable Cities and Communities	82	54.88	

NOTE: ● a strength and ○ a weakness.

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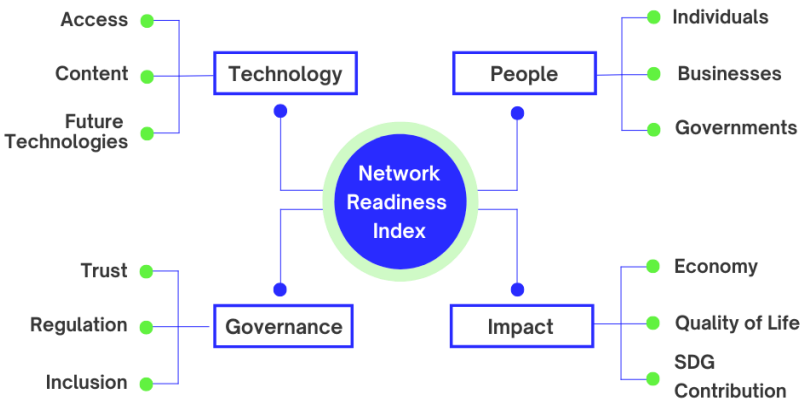
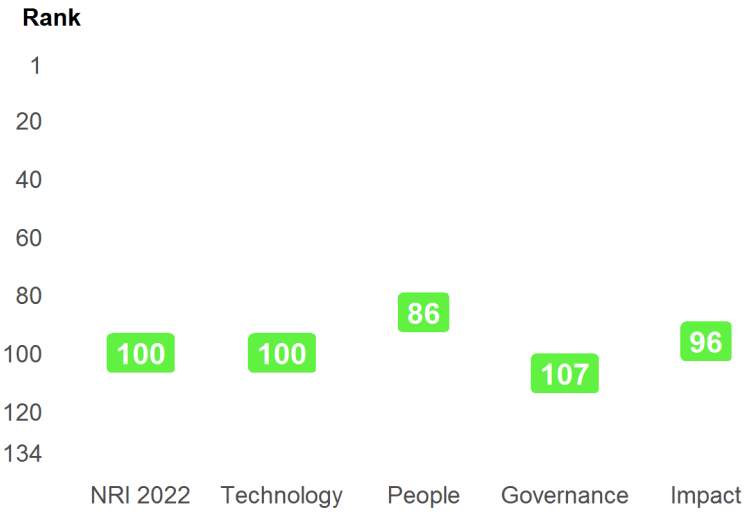
Figure 1: The NRI 2022 model



Global NRI position of Algeria

Algeria ranks 100th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Algeria global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Algeria relate to Governments, Individuals and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Access and Trust sub-pillars.

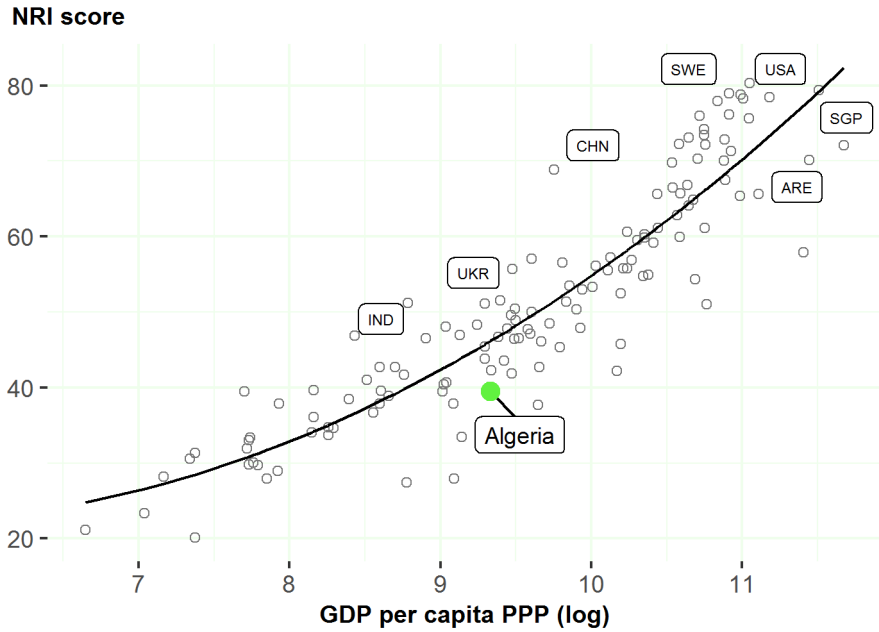
Table 1: Algeria rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	77	Regulation	104
Individuals	78	SDG Contribution	104
Quality of Life	84	Inclusion	108
Economy	87	Businesses	109
Future Technologies	90	Access	110
Content	96	Trust	116

NRI score and income

Figure 3 shows the position of Algeria in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Algeria is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Algeria belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Algeria is ranked 22nd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: people and impact. At the sub-pillar level, it outperforms lower-middle-income countries in four of the twelve sub-pillars: Individuals, Governments, Regulation and Quality of Life.

Arab States

Algeria is ranked 12th within Arab States (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Algeria against its income group and region, overall and by pillar

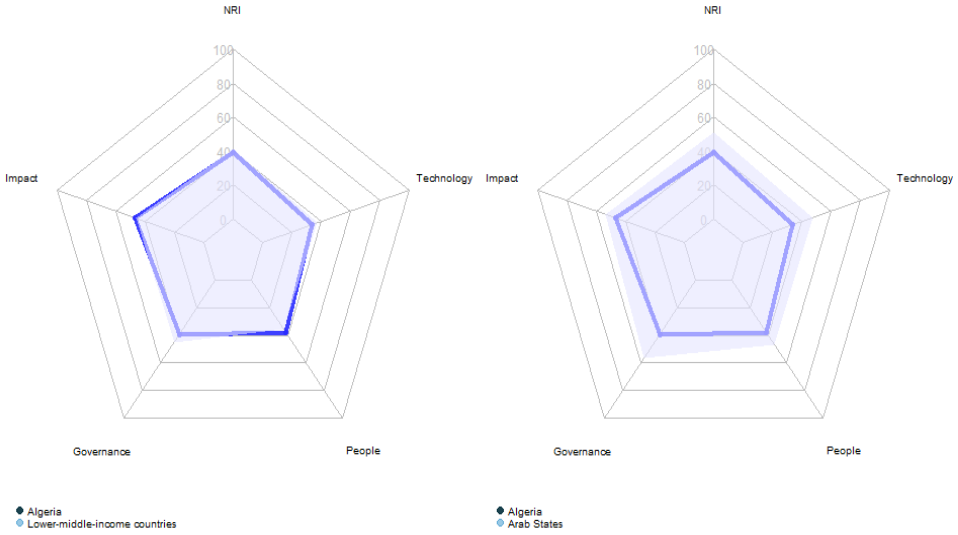


Table 2: Algeria scores vs. averages of its income group and region, overall and by pillar

Dimension	Algeria	Lower-middle-income countries	Arab States
NRI	39.48	40.94	51.21
Technology	33.58	37.28	47.66
People	37.92	35.42	47.11
Governance	39.41	45.00	56.68
Impact	47.02	46.09	53.39

Strongest and weakest indicators

The indicators where Algeria performs particularly well include 3.2.4 E-commerce legislation, 3.3.5 Rural gap in use of digital payments, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 3.3.1 E-Participation, 3.2.1 Regulatory quality, 1.3.4 Computer software spending, and 3.1.3 Online access to financial account.

Table 3: Strongest and weakest indicators of Algeria

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.3.2 SDG 4: Quality Education	76
3.3.5 Rural gap in use of digital payments	3	1.3.4 Computer software spending	120
4.2.3 Income inequality	10	3.1.3 Online access to financial account	120
4.1.5 Prevalence of gig economy	33	3.2.1 Regulatory quality	128
2.1.1 Mobile broadband internet traffic within the country	36	3.3.1 E-Participation	129
2.3.4 R&D expenditure by governments and higher education	37		
2.3.3 Government promotion of investment in emerging technologies	42		
4.1.4 Domestic market size	42		
2.2.4 Annual investment in telecommunication services	44		
1.1.5 International Internet bandwidth	47		
4.3.1 SDG 3: Good Health and Well-Being	50		

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NRI 2022 At-A-Glance: Algeria

Network Readiness Index Rank: 100 (out of 131) Score: 39.48

Pillar/sub-pillar	Rank	Score
A. Technology pillar	100	33.58
1st sub-pillar: Access	110	45.95
2nd sub-pillar: Content	96	27.54
3rd sub-pillar: Future Technologies	90	27.25
B. People pillar	86	37.92
1st sub-pillar: Individuals	78	45.08
2nd sub-pillar: Businesses	109	28.75
3rd sub-pillar: Governments	77	39.95

Pillar/sub-pillar	Rank	Score
C. Governance pillar	107	39.41
1st sub-pillar: Trust	116	19.32
2nd sub-pillar: Regulation	104	52.70
3rd sub-pillar: Inclusion	108	46.22
D. Impact pillar	96	47.02
1st sub-pillar: Economy	87	25.98
2nd sub-pillar: Quality of Life	84	62.10
3rd sub-pillar: SDG Contribution	104	53.00

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	100	33.58	
1st sub-pillar: Access	110	45.95	
1.1.1 Mobile tariffs	88	46.81	
1.1.2 Handset prices	115	30.40	
1.1.3 FTTH/building Internet subscriptions	71	19.64	
1.1.4 Population covered by at least a 3G mobile network	72	99.41	
1.1.5 International Internet bandwidth	47	74.10	●
1.1.6 Internet access in schools	75	5.33	
2nd sub-pillar: Content	96	27.54	
1.2.1 GitHub commits	84	3.10	
1.2.2 Internet domain registrations	112	0.34	
1.2.3 Mobile apps development	117	50.95	
1.2.4 AI scientific publications	45	55.77	
3rd sub-pillar: Future Technologies	90	27.25	
1.3.1 Adoption of emerging technologies	65	47.15	
1.3.2 Investment in emerging technologies	85	34.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	120	0.60	○

Indicator	Rank	Score	
C. Governance pillar	107	39.41	
1st sub-pillar: Trust	116	19.32	
3.1.1 Secure Internet servers	112	30.89	
3.1.2 Cybersecurity	104	32.79	
3.1.3 Online access to financial account	120	4.16	○
3.1.4 Internet shopping	85	9.43	
2nd sub-pillar: Regulation	104	52.70	
3.2.1 Regulatory quality	128	6.67	○
3.2.2 ICT regulatory environment	110	62.35	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	114	41.77	
3rd sub-pillar: Inclusion	108	46.22	
3.3.1 E-Participation	129	12.35	○
3.3.2 Socioeconomic gap in use of digital payments	109	41.78	
3.3.3 Availability of local online content	92	47.84	
3.3.4 Gender gap in Internet use	97	39.16	
3.3.5 Rural gap in use of digital payments	3	89.99	●

Indicator	Rank	Score	
B. People pillar	86	37.92	
1st sub-pillar: Individuals	78	45.08	
2.1.1 Mobile broadband internet traffic within the country	36	19.83	●
2.1.2 ICT skills in the education system	77	40.53	
2.1.3 Use of virtual social networks	85	54.33	
2.1.4 Tertiary enrollment	60	34.59	
2.1.5 Adult literacy rate	76	76.09	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	109	28.75	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	82	8.29	
2.2.3 Knowledge intensive employment	86	25.37	
2.2.4 Annual investment in telecommunication services	44	80.40	●
2.2.5 GERD performed by business enterprise	76	0.95	
3rd sub-pillar: Governments	77	39.95	
2.3.1 Government online services	124	25.46	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	42	48.54	
2.3.4 R&D expenditure by governments and higher education	37	45.84	●

Indicator	Rank	Score	
D. Impact pillar	96	47.02	
1st sub-pillar: Economy	87	25.98	
4.1.1 High-tech and medium-high-tech manufacturing	99	2.69	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	92	0.53	
4.1.4 Domestic market size	42	61.46	●
4.1.5 Prevalence of gig economy	33	59.59	●
4.1.6 ICT services exports	120	5.62	
2nd sub-pillar: Quality of Life	84	62.10	
4.2.1 Happiness	86	54.10	
4.2.2 Freedom to make life choices	122	31.15	
4.2.3 Income inequality	10	88.94	●
4.2.4 Healthy life expectancy at birth	59	74.19	
3rd sub-pillar: SDG Contribution	104	53.00	
4.3.1 SDG 3: Good Health and Well-Being	50	76.52	●
4.3.2 SDG 4: Quality Education	76	14.49	○
4.3.3 SDG 5: Women's economic opportunity	119	40.35	
4.3.4 SDG 7: Affordable and Clean Energy	102	66.58	
4.3.5 SDG 11: Sustainable Cities and Communities	63	67.05	

NOTE: ● a strength and ○ a weakness.

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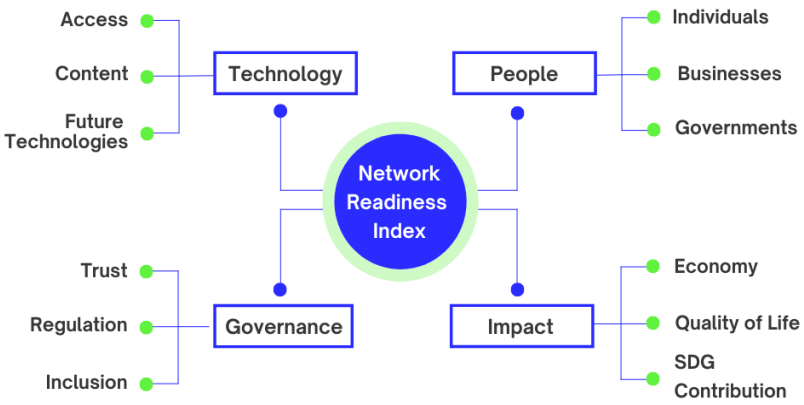
Network Readiness Index 2022 Angola

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

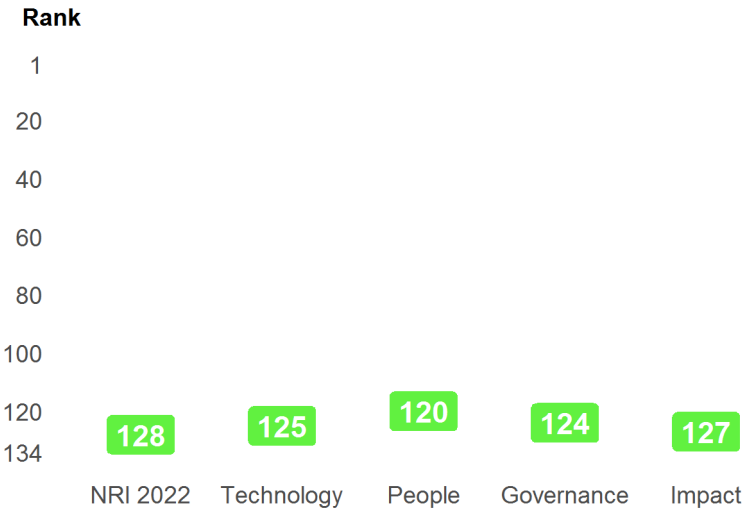
Figure 1: The NRI 2022 model



Global NRI position of Angola

Angola ranks 128th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Angola global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Angola relate to Businesses, SDG Contribution and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Future Technologies and Quality of Life sub-pillars.

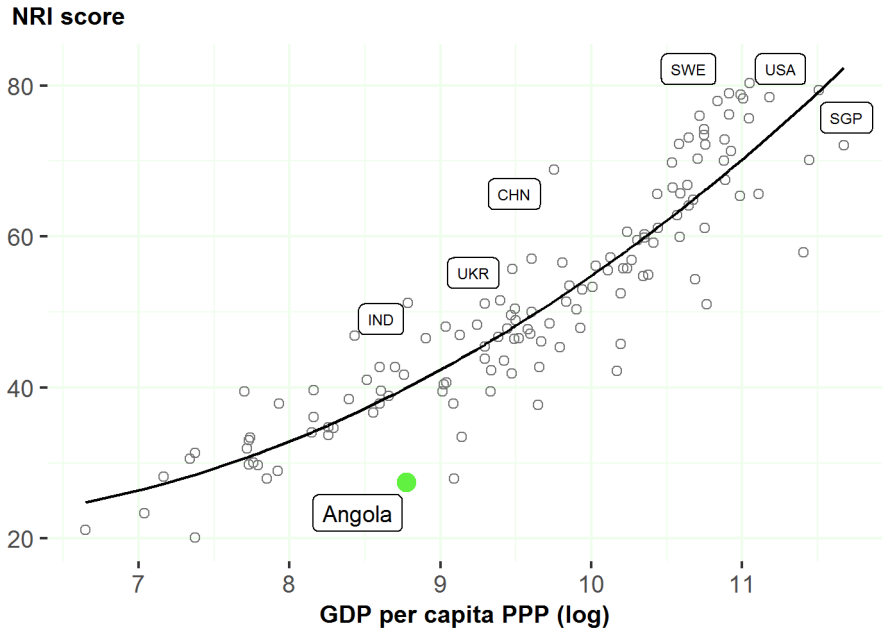
Table 1: Angola rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	73	Content	123
SDG Contribution	99	Governments	123
Access	107	Individuals	126
Regulation	116	Economy	127
Inclusion	120	Future Technologies	130
Trust	121	Quality of Life	130

NRI score and income

Figure 3 shows the position of Angola in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Angola is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Angola belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Angola is ranked 36th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in one of the twelve sub-pillars: Businesses.

Africa

Angola is ranked 28th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in three of the twelve sub-pillars: Access, Businesses and SDG Contribution.

Figure 4: Performance of Angola against its income group and region, overall and by pillar

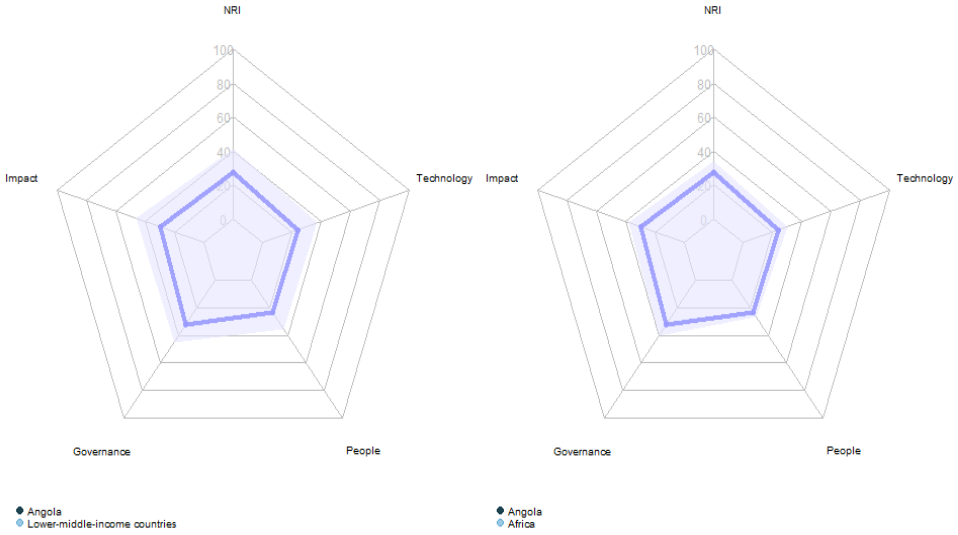


Table 2: Angola scores vs. averages of its income group and region, overall and by pillar

Dimension	Angola	Lower-middle-income countries	Africa
NRI	27.40	40.94	33.77
Technology	24.30	37.28	29.96
People	23.46	35.42	26.81
Governance	32.27	45.00	40.37
Impact	29.56	46.09	37.94

Strongest and weakest indicators

The indicators where Angola performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 2.2.4 Annual investment in telecommunication services, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 2.1.2 ICT skills in the education system, 1.3.2 Investment in emerging technologies, and 4.2.2 Freedom to make life choices.

Table 3: Strongest and weakest indicators of Angola

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	33	3.2.3 Regulation of emerging technologies	117
2.2.4 Annual investment in telecommunication services	57	3.3.2 Socioeconomic gap in use of digital payments	126
3.2.5 Privacy protection by law content	58	4.2.2 Freedom to make life choices	127
1.1.3 FTTH/building Internet subscriptions	61	1.3.2 Investment in emerging technologies	130
4.1.4 Domestic market size	62	2.1.2 ICT skills in the education system	131
1.1.2 Handset prices	64		
1.1.1 Mobile tariffs	87		
4.3.5 SDG 11: Sustainable Cities and Communities	88		
3.2.2 ICT regulatory environment	89		
4.1.2 High-tech exports	95		

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NRI 2022 At-A-Glance: Angola

Network Readiness Index Rank: 128 (out of 131) Score: 27.40

Pillar/sub-pillar	Rank	Score
A. Technology pillar	125	24.30
1st sub-pillar: Access	107	47.35
2nd sub-pillar: Content	123	17.33
3rd sub-pillar: Future Technologies	130	8.21
B. People pillar	120	23.46
1st sub-pillar: Individuals	126	13.50
2nd sub-pillar: Businesses	73	38.16
3rd sub-pillar: Governments	123	18.72

Pillar/sub-pillar	Rank	Score
C. Governance pillar	124	32.27
1st sub-pillar: Trust	121	17.68
2nd sub-pillar: Regulation	116	44.87
3rd sub-pillar: Inclusion	120	34.28
D. Impact pillar	127	29.56
1st sub-pillar: Economy	127	11.18
2nd sub-pillar: Quality of Life	130	23.42
3rd sub-pillar: SDG Contribution	99	54.07

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	125	24.30	
1st sub-pillar: Access	107	47.35	
1.1.1 Mobile tariffs	87	47.09	●
1.1.2 Handset prices	64	52.19	●
1.1.3 FTTH/building Internet subscriptions	61	25.65	●
1.1.4 Population covered by at least a 3G mobile network	107	95.42	
1.1.5 International Internet bandwidth	108	61.07	
1.1.6 Internet access in schools	77	2.70	
2nd sub-pillar: Content	123	17.33	
1.2.1 GitHub commits	120	0.32	
1.2.2 Internet domain registrations	126	0.09	
1.2.3 Mobile apps development	122	46.78	
1.2.4 AI scientific publications	86	22.16	
3rd sub-pillar: Future Technologies	130	8.21	
1.3.1 Adoption of emerging technologies	120	16.41	
1.3.2 Investment in emerging technologies	130	0.00	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	124	32.27	
1st sub-pillar: Trust	121	17.68	
3.1.1 Secure Internet servers	120	23.90	
3.1.2 Cybersecurity	124	11.46	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	116	44.87	
3.2.1 Regulatory quality	121	16.80	
3.2.2 ICT regulatory environment	89	71.38	●
3.2.3 Regulation of emerging technologies	117	0.53	○
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	58	68.96	●
3rd sub-pillar: Inclusion	120	34.28	
3.3.1 E-Participation	104	43.21	
3.3.2 Socioeconomic gap in use of digital payments	126	12.39	○
3.3.3 Availability of local online content	123	23.08	
3.3.4 Gender gap in Internet use	86	58.42	
3.3.5 Rural gap in use of digital payments	NA	NA	

Indicator	Rank	Score	
B. People pillar	120	23.46	
1st sub-pillar: Individuals	126	13.50	
2.1.1 Mobile broadband internet traffic within the country	100	1.47	
2.1.2 ICT skills in the education system	131	0.00	○
2.1.3 Use of virtual social networks	124	4.58	
2.1.4 Tertiary enrollment	111	5.19	
2.1.5 Adult literacy rate	94	56.29	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	73	38.16	
2.2.1 Firms with website	102	22.41	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	104	14.29	
2.2.4 Annual investment in telecommunication services	57	77.78	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	123	18.72	
2.3.1 Government online services	105	47.27	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	120	8.28	
2.3.4 R&D expenditure by governments and higher education	109	0.62	

Indicator	Rank	Score	
D. Impact pillar	127	29.56	
1st sub-pillar: Economy	127	11.18	
4.1.1 High-tech and medium-high-tech manufacturing	105	1.21	
4.1.2 High-tech exports	95	6.03	●
4.1.3 PCT patent applications	95	0.19	
4.1.4 Domestic market size	62	52.63	●
4.1.5 Prevalence of gig economy	122	5.23	
4.1.6 ICT services exports	127	1.82	
2nd sub-pillar: Quality of Life	130	23.42	
4.2.1 Happiness	117	28.78	
4.2.2 Freedom to make life choices	127	0.00	○
4.2.3 Income inequality	110	29.40	
4.2.4 Healthy life expectancy at birth	117	35.51	
3rd sub-pillar: SDG Contribution	99	54.07	
4.3.1 SDG 3: Good Health and Well-Being	124	17.18	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	101	62.28	
4.3.4 SDG 7: Affordable and Clean Energy	33	86.47	●
4.3.5 SDG 11: Sustainable Cities and Communities	88	50.37	●

NOTE: ● a strength and ○ a weakness.

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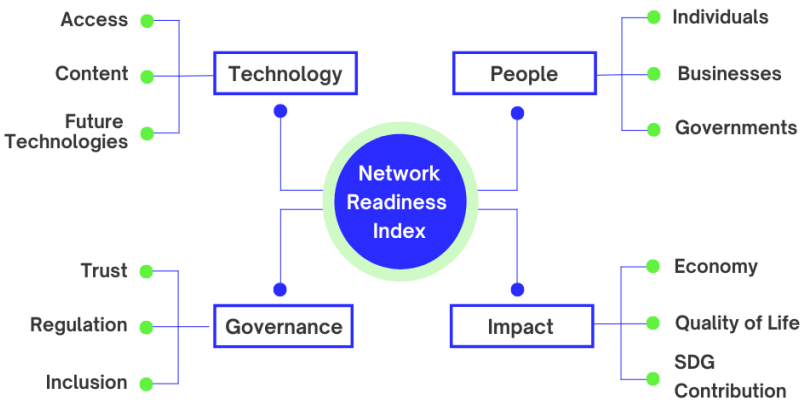
Network Readiness Index 2022 Argentina

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

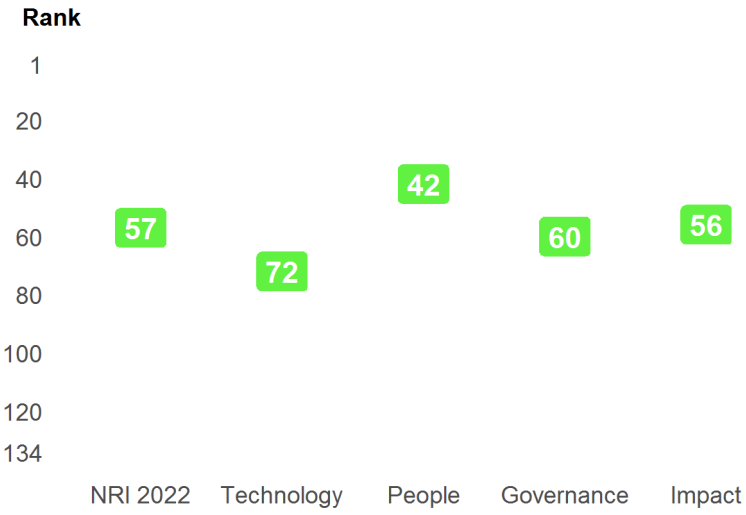
Figure 1: The NRI 2022 model



Global NRI position of Argentina

Argentina ranks 57th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Argentina global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Argentina relate to Individuals, Governments and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Regulation and Future Technologies sub-pillars.

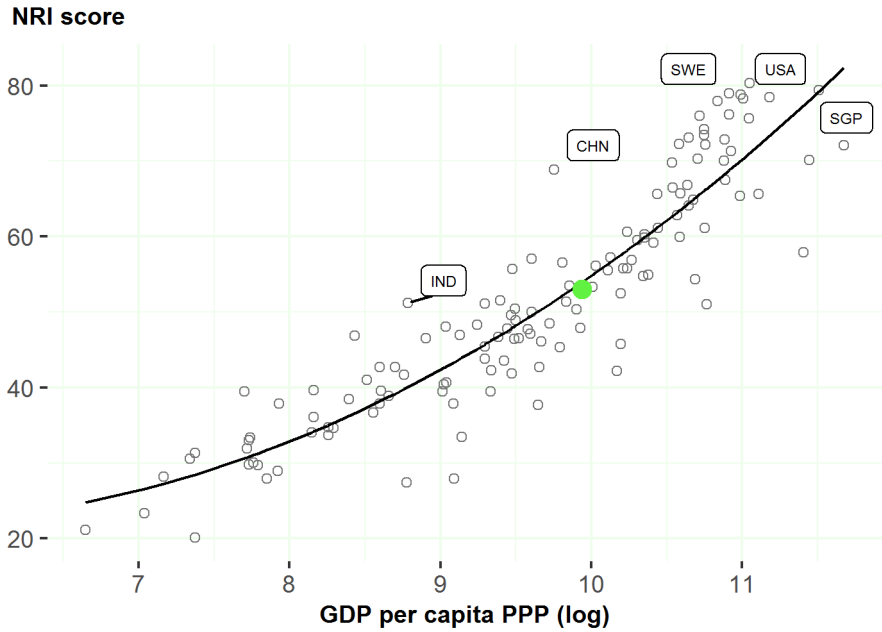
Table 1: Argentina rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	21	SDG Contribution	62
Governments	42	Quality of Life	66
Inclusion	47	Trust	69
Economy	50	Access	75
Content	51	Regulation	82
Businesses	60	Future Technologies	85

NRI score and income

Figure 3 shows the position of Argentina in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Argentina is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Argentina belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Argentina is ranked 10th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in eight of the twelve sub-pillars: Content, Individuals, Businesses, Governments, Inclusion, Economy, Quality of Life and SDG Contribution.

The Americas

Argentina is ranked 7th within The Americas (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, people, governance and impact. With regard to sub-pillars, it outperforms the average in The Americas in seven of the twelve sub-pillars: Content, Individuals, Businesses, Governments, Trust, Inclusion and Economy.

Figure 4: Performance of Argentina against its income group and region, overall and by pillar

Table 2: Argentina scores vs. averages of its income group and region, overall and by pillar

Dimension	Argentina	Upper-middle-income countries	The Americas
NRI	52.96	49.66	50.09
Technology	43.42	43.11	44.16
People	51.88	44.94	43.67
Governance	59.26	57.08	56.24
Impact	57.30	53.50	56.30

Strongest and weakest indicators

The indicators where Argentina performs particularly well include 3.2.4 E-commerce legislation, 2.1.4 Tertiary enrollment, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 3.2.1 Regulatory quality, 2.1.2 ICT skills in the education system, and 3.2.2 ICT regulatory environment.

Table 3: Strongest and weakest indicators of Argentina

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.3.2 SDG 4: Quality Education	68
2.1.4 Tertiary enrollment	5	4.2.3 Income inequality	88
2.1.5 Adult literacy rate	19	2.1.2 ICT skills in the education system	97
2.1.3 Use of virtual social networks	21	3.2.2 ICT regulatory environment	97
2.2.4 Annual investment in telecommunication services	21	3.2.1 Regulatory quality	102
2.3.2 Publication and use of open data	23		
1.1.3 FTTH/building Internet subscriptions	27		
4.1.4 Domestic market size	27		
3.3.1 E-Participation	29		
2.3.1 Government online services	30		
4.1.6 ICT services exports	36		

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NRI 2022 At-A-Glance: Argentina

Network Readiness Index Rank: 57 (out of 131) Score: 52.96

Pillar/sub-pillar	Rank	Score
A. Technology pillar	72	43.42
1st sub-pillar: Access	75	60.98
2nd sub-pillar: Content	51	41.25
3rd sub-pillar: Future Technologies	85	28.03
B. People pillar	42	51.88
1st sub-pillar: Individuals	21	58.31
2nd sub-pillar: Businesses	60	45.72
3rd sub-pillar: Governments	42	51.62

Pillar/sub-pillar	Rank	Score
C. Governance pillar	60	59.26
1st sub-pillar: Trust	69	43.73
2nd sub-pillar: Regulation	82	60.18
3rd sub-pillar: Inclusion	47	73.87
D. Impact pillar	56	57.30
1st sub-pillar: Economy	50	38.64
2nd sub-pillar: Quality of Life	66	67.61
3rd sub-pillar: SDG Contribution	62	65.65

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	72	43.42	
1st sub-pillar: Access	75	60.98	
1.1.1 Mobile tariffs	86	47.34	
1.1.2 Handset prices	65	51.73	
1.1.3 FTTH/building Internet subscriptions	27	40.79	•
1.1.4 Population covered by at least a 3G mobile network	70	99.51	
1.1.5 International Internet bandwidth	39	75.34	
1.1.6 Internet access in schools	48	51.15	
2nd sub-pillar: Content	51	41.25	
1.2.1 GitHub commits	50	10.63	
1.2.2 Internet domain registrations	58	5.21	
1.2.3 Mobile apps development	58	81.57	
1.2.4 AI scientific publications	28	67.61	
3rd sub-pillar: Future Technologies	85	28.03	
1.3.1 Adoption of emerging technologies	51	51.97	
1.3.2 Investment in emerging technologies	84	34.50	
1.3.3 Robot density	40	3.41	
1.3.4 Computer software spending	53	22.23	

Indicator	Rank	Score	
C. Governance pillar	60	59.26	
1st sub-pillar: Trust	69	43.73	
3.1.1 Secure Internet servers	49	65.53	
3.1.2 Cybersecurity	94	49.24	
3.1.3 Online access to financial account	75	22.93	
3.1.4 Internet shopping	49	37.21	
2nd sub-pillar: Regulation	82	60.18	
3.2.1 Regulatory quality	102	25.87	○
3.2.2 ICT regulatory environment	97	68.82	○
3.2.3 Regulation of emerging technologies	77	34.74	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	50	71.46	
3rd sub-pillar: Inclusion	47	73.87	
3.3.1 E-Participation	29	85.18	•
3.3.2 Socioeconomic gap in use of digital payments	53	81.47	
3.3.3 Availability of local online content	59	64.18	
3.3.4 Gender gap in Internet use	53	70.09	
3.3.5 Rural gap in use of digital payments	52	68.43	

Indicator	Rank	Score	
B. People pillar	42	51.88	
1st sub-pillar: Individuals	21	58.31	
2.1.1 Mobile broadband internet traffic within the country	46	15.00	
2.1.2 ICT skills in the education system	97	33.14	○
2.1.3 Use of virtual social networks	21	80.82	●
2.1.4 Tertiary enrollment	5	63.84	●
2.1.5 Adult literacy rate	19	98.75	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	60	45.72	
2.2.1 Firms with website	38	69.09	
2.2.2 GERD financed by business enterprise	61	32.69	
2.2.3 Knowledge intensive employment	58	37.50	
2.2.4 Annual investment in telecommunication services	21	84.95	●
2.2.5 GERD performed by business enterprise	56	4.36	
3rd sub-pillar: Governments	42	51.62	
2.3.1 Government online services	30	84.25	●
2.3.2 Publication and use of open data	23	57.35	●
2.3.3 Government promotion of investment in emerging tech	72	34.82	
2.3.4 R&D expenditure by governments and higher education	58	30.05	

Indicator	Rank	Score	
D. Impact pillar	56	57.30	
1st sub-pillar: Economy	50	38.64	
4.1.1 High-tech and medium-high-tech manufacturing	46	32.79	
4.1.2 High-tech exports	70	16.92	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	27	68.13	●
4.1.5 Prevalence of gig economy	81	35.17	
4.1.6 ICT services exports	36	40.20	●
2nd sub-pillar: Quality of Life	66	67.61	
4.2.1 Happiness	61	66.41	
4.2.2 Freedom to make life choices	60	75.34	
4.2.3 Income inequality	88	52.01	○
4.2.4 Healthy life expectancy at birth	49	76.66	
3rd sub-pillar: SDG Contribution	62	65.65	
4.3.1 SDG 3: Good Health and Well-Being	54	73.93	
4.3.2 SDG 4: Quality Education	68	27.59	○
4.3.3 SDG 5: Women's economic opportunity	92	66.67	
4.3.4 SDG 7: Affordable and Clean Energy	48	83.04	
4.3.5 SDG 11: Sustainable Cities and Communities	45	77.02	

NOTE: ● a strength and ○ a weakness.

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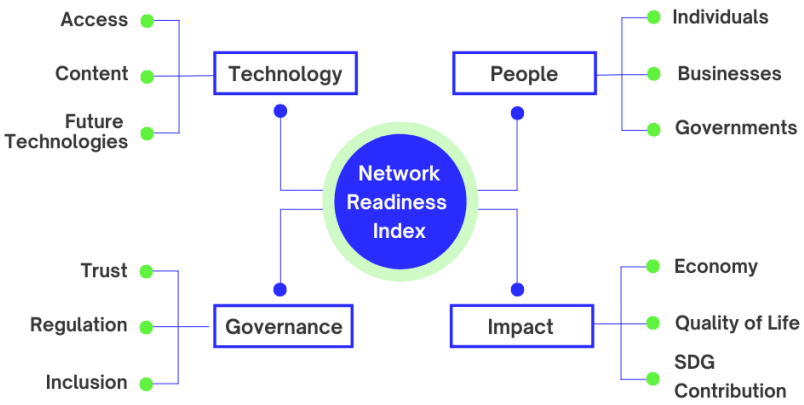
Network Readiness Index 2022 Armenia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

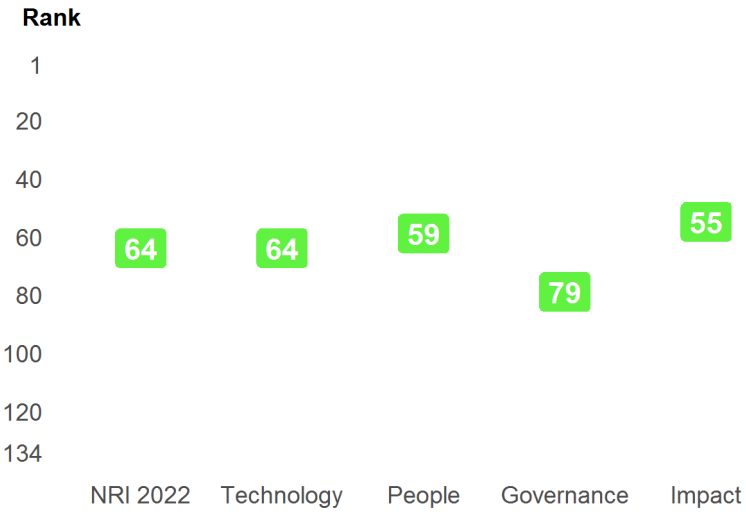
Figure 1: The NRI 2022 model



Global NRI position of Armenia

Armenia ranks 64th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Armenia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Armenia relate to Quality of Life, SDG Contribution and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Economy and Trust sub-pillars.

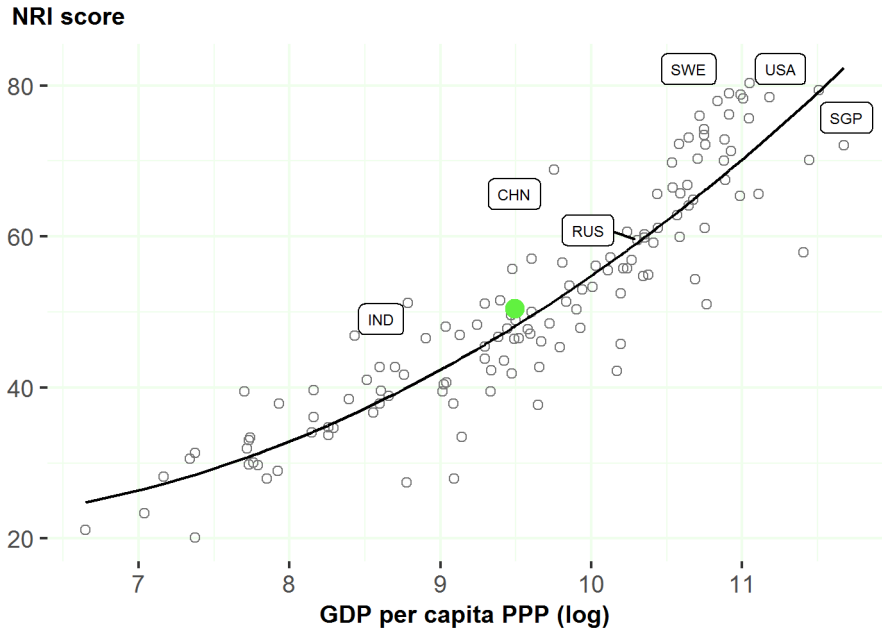
Table 1: Armenia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	44	Businesses	62
SDG Contribution	52	Access	63
Governments	54	Content	75
Future Technologies	55	Inclusion	82
Individuals	57	Economy	82
Regulation	59	Trust	91

NRI score and income

Figure 3 shows the position of Armenia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Armenia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Armenia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Upper-middle-income countries

Armenia is ranked 13th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, people and impact. At the sub-pillar level, it outperforms upper-middle-income countries in eight of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Governments, Regulation, Quality of Life and SDG Contribution.

CIS

Armenia is ranked 3rd within CIS (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, technology, people and impact. With regard to sub-pillars, it outperforms the average in CIS in nine of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Regulation, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Armenia against its income group and region, overall and by pillar

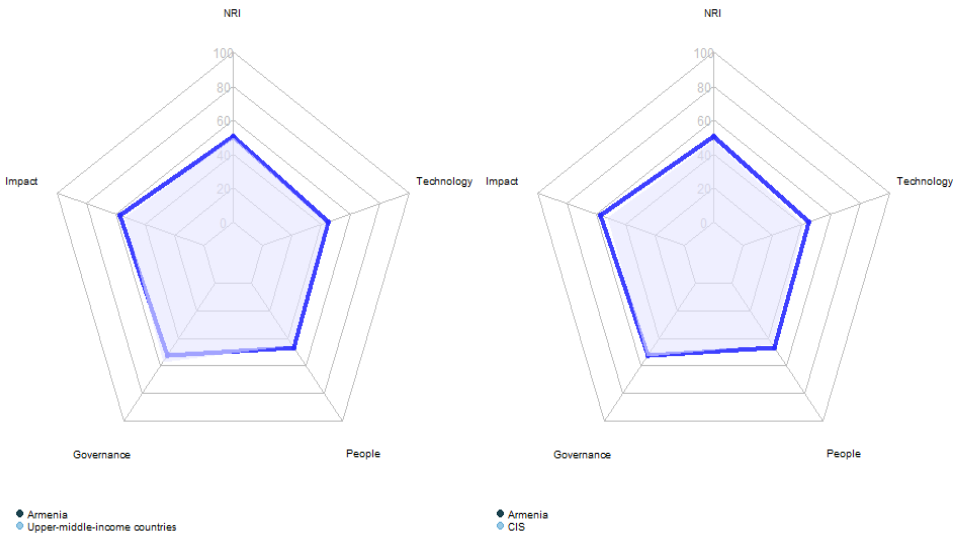


Table 2: Armenia scores vs. averages of its income group and region, overall and by pillar

Dimension	Armenia	Upper-middle-income countries	CIS
NRI	50.40	49.66	47.65
Technology	44.96	43.11	41.04
People	47.13	44.94	44.26
Governance	52.21	57.08	52.99
Impact	57.31	53.50	52.31

Strongest and weakest indicators

The indicators where Armenia performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 3.3.5 Rural gap in use of digital payments, 4.1.4 Domestic market size, 2.2.4 Annual investment in telecommunication services, and 4.1.1 High-tech and medium-high-tech manufacturing.

Table 3: Strongest and weakest indicators of Armenia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	3.2.4 E-commerce legislation	87
1.1.6 Internet access in schools	1	2.2.4 Annual investment in telecommunication services	96
4.2.3 Income inequality	3	4.1.1 High-tech and medium-high-tech manufacturing	96
2.1.5 Adult literacy rate	7	4.1.4 Domestic market size	106
3.3.4 Gender gap in Internet use	7	3.3.5 Rural gap in use of digital payments	118
4.1.6 ICT services exports	9		
2.3.3 Government promotion of investment in emerging technologies	29		
3.2.2 ICT regulatory environment	39		
3.2.3 Regulation of emerging technologies	41		
1.2.1 GitHub commits	47		

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NRI 2022 At-A-Glance: Armenia

Network Readiness Index Rank: 64 (out of 131) Score: 50.40

Pillar/sub-pillar	Rank	Score
A. Technology pillar	64	44.96
1st sub-pillar: Access	63	66.00
2nd sub-pillar: Content	75	33.65
3rd sub-pillar: Future Technologies	55	35.21
B. People pillar	59	47.13
1st sub-pillar: Individuals	57	50.59
2nd sub-pillar: Businesses	62	43.68
3rd sub-pillar: Governments	54	47.12

Pillar/sub-pillar	Rank	Score
C. Governance pillar	79	52.21
1st sub-pillar: Trust	91	34.00
2nd sub-pillar: Regulation	59	64.98
3rd sub-pillar: Inclusion	82	57.66
D. Impact pillar	55	57.31
1st sub-pillar: Economy	82	27.12
2nd sub-pillar: Quality of Life	44	74.61
3rd sub-pillar: SDG Contribution	52	70.22

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	64	44.96	
1st sub-pillar: Access	63	66.00	
1.1.1 Mobile tariffs	67	55.98	
1.1.2 Handset prices	98	38.94	
1.1.3 FTTH/building Internet subscriptions	49	29.75	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	63	71.34	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	75	33.65	
1.2.1 GitHub commits	47	12.15	●
1.2.2 Internet domain registrations	64	4.53	
1.2.3 Mobile apps development	49	83.59	
1.2.4 AI scientific publications	75	34.35	
3rd sub-pillar: Future Technologies	55	35.21	
1.3.1 Adoption of emerging technologies	64	47.72	
1.3.2 Investment in emerging technologies	51	46.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	82	11.67	

Indicator	Rank	Score	
C. Governance pillar	79	52.21	
1st sub-pillar: Trust	91	34.00	
3.1.1 Secure Internet servers	68	50.88	
3.1.2 Cybersecurity	93	49.60	
3.1.3 Online access to financial account	84	17.52	
3.1.4 Internet shopping	68	18.00	
2nd sub-pillar: Regulation	59	64.98	
3.2.1 Regulatory quality	59	47.73	
3.2.2 ICT regulatory environment	39	87.65	●
3.2.3 Regulation of emerging technologies	41	58.95	●
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	67	63.89	
3rd sub-pillar: Inclusion	82	57.66	
3.3.1 E-Participation	56	74.07	
3.3.2 Socioeconomic gap in use of digital payments	86	55.89	
3.3.3 Availability of local online content	71	59.38	
3.3.4 Gender gap in Internet use	7	80.38	●
3.3.5 Rural gap in use of digital payments	118	18.57	○

Indicator	Rank	Score	
B. People pillar	59	47.13	
1st sub-pillar: Individuals	57	50.59	
2.1.1 Mobile broadband internet traffic within the country	86	3.41	
2.1.2 ICT skills in the education system	52	52.37	
2.1.3 Use of virtual social networks	73	63.97	
2.1.4 Tertiary enrollment	63	33.44	
2.1.5 Adult literacy rate	7	99.76	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	62	43.68	
2.2.1 Firms with website	58	55.45	
2.2.2 GERD financed by business enterprise	70	20.60	
2.2.3 Knowledge intensive employment	79	27.55	
2.2.4 Annual investment in telecommunication services	96	71.10	○
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	54	47.12	
2.3.1 Government online services	67	69.09	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	29	56.72	
2.3.4 R&D expenditure by governments and higher education	83	15.54	

Indicator	Rank	Score	
D. Impact pillar	55	57.31	
1st sub-pillar: Economy	82	27.12	
4.1.1 High-tech and medium-high-tech manufacturing	96	4.54	○
4.1.2 High-tech exports	81	12.94	
4.1.3 PCT patent applications	64	3.58	
4.1.4 Domestic market size	106	36.32	○
4.1.5 Prevalence of gig economy	58	44.48	
4.1.6 ICT services exports	9	60.85	●
2nd sub-pillar: Quality of Life	44	74.61	
4.2.1 Happiness	81	55.59	
4.2.2 Freedom to make life choices	72	71.23	
4.2.3 Income inequality	3	94.97	●
4.2.4 Healthy life expectancy at birth	50	76.63	
3rd sub-pillar: SDG Contribution	52	70.22	
4.3.1 SDG 3: Good Health and Well-Being	75	67.15	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	55	78.95	
4.3.4 SDG 7: Affordable and Clean Energy	59	81.54	
4.3.5 SDG 11: Sustainable Cities and Communities	84	53.25	

NOTE: ● a strength and ○ a weakness.

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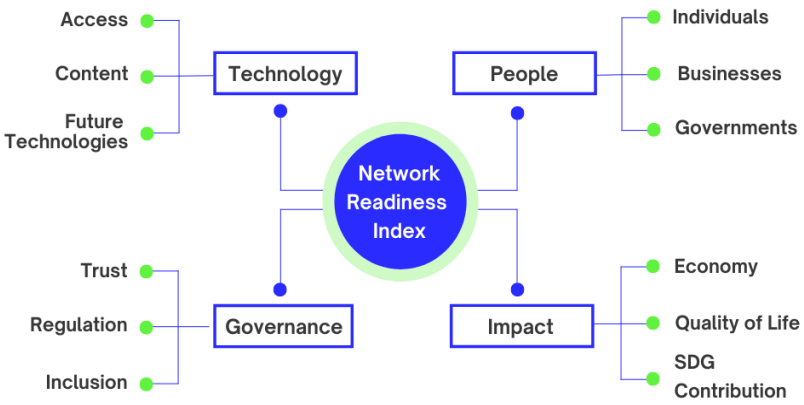
Network Readiness Index 2022 Australia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

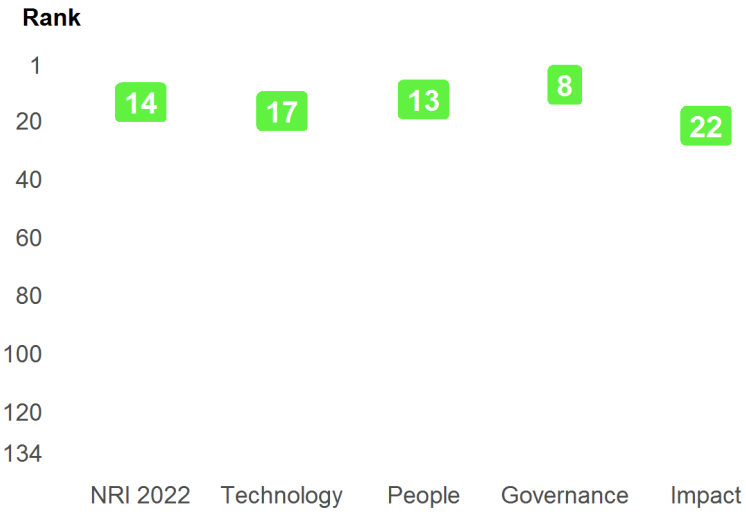
Figure 1: The NRI 2022 model



Global NRI position of Australia

Australia ranks 14th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Australia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Australia relate to Access, Governments and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Future Technologies and Individuals sub-pillars.

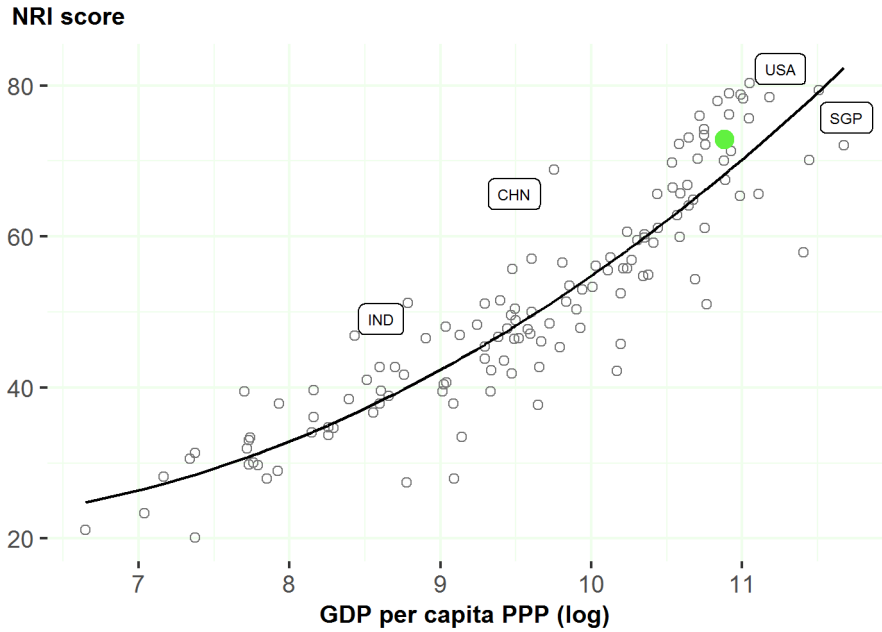
Table 1: Australia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	8	Quality of Life	14
Governments	8	SDG Contribution	15
Trust	8	Businesses	18
Regulation	10	Economy	31
Content	14	Future Technologies	32
Inclusion	14	Individuals	43

NRI score and income

Figure 3 shows the position of Australia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Australia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Australia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

Australia is ranked 14th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Asia & Pacific

Australia is ranked 4th within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Australia against its income group and region, overall and by pillar

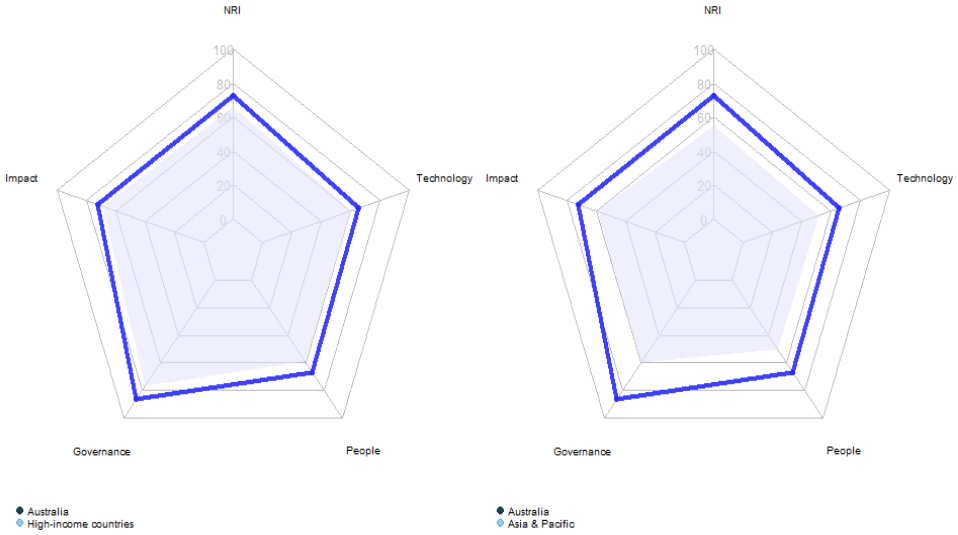


Table 2: Australia scores vs. averages of its income group and region, overall and by pillar

Dimension	Australia	High-income countries	Asia & Pacific
NRI	72.83	66.21	55.18
Technology	65.35	60.28	51.78
People	67.18	58.83	50.21
Governance	86.74	76.89	59.66
Impact	72.05	68.86	59.07

Strongest and weakest indicators

The indicators where Australia performs particularly well include 1.1.2 Handset prices, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 4.1.6 ICT services exports, and 4.1.2 High-tech exports.

Table 3: Strongest and weakest indicators of Australia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.2 Handset prices	1	2.1.6 AI talent concentration	28
1.1.6 Internet access in schools	1	4.1.2 High-tech exports	57
3.2.4 E-commerce legislation	1	4.1.6 ICT services exports	75
2.1.4 Tertiary enrollment	3	4.3.4 SDG 7: Affordable and Clean Energy	78
2.3.2 Publication and use of open data	3		
4.3.1 SDG 3: Good Health and Well-Being	4		
3.1.4 Internet shopping	5		
3.2.1 Regulatory quality	5		
1.2.4 AI scientific publications	7		
2.2.4 Annual investment in telecommunication services	7		
2.3.1 Government online services	7		
3.3.3 Availability of local online content	9		

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NRI 2022 At-A-Glance: Australia

Network Readiness Index — Rank: 14 (out of 131) — Score: 72.83

Pillar/sub-pillar	Rank	Score
A. Technology pillar	17	65.35
1st sub-pillar: Access	8	82.27
2nd sub-pillar: Content	14	68.49
3rd sub-pillar: Future Technologies	32	45.28
B. People pillar	13	67.18
1st sub-pillar: Individuals	43	53.65
2nd sub-pillar: Businesses	18	67.75
3rd sub-pillar: Governments	8	80.14

Pillar/sub-pillar	Rank	Score
C. Governance pillar	8	86.74
1st sub-pillar: Trust	8	87.67
2nd sub-pillar: Regulation	10	87.66
3rd sub-pillar: Inclusion	14	84.87
D. Impact pillar	22	72.05
1st sub-pillar: Economy	31	44.66
2nd sub-pillar: Quality of Life	14	85.11
3rd sub-pillar: SDG Contribution	15	86.38

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	17	65.35	
1st sub-pillar: Access	8	82.27	
1.1.1 Mobile tariffs	17	83.95	
1.1.2 Handset prices	1	100.00	•
1.1.3 FTTH/building Internet subscriptions	38	35.94	
1.1.4 Population covered by at least a 3G mobile network	47	99.84	
1.1.5 International Internet bandwidth	48	73.91	
1.1.6 Internet access in schools	1	100.00	•
2nd sub-pillar: Content	14	68.49	
1.2.1 GitHub commits	21	45.54	
1.2.2 Internet domain registrations	21	44.98	
1.2.3 Mobile apps development	21	96.01	
1.2.4 AI scientific publications	7	87.42	•
3rd sub-pillar: Future Technologies	32	45.28	
1.3.1 Adoption of emerging technologies	15	82.33	
1.3.2 Investment in emerging technologies	24	65.75	
1.3.3 Robot density	26	10.84	
1.3.4 Computer software spending	55	22.18	

Indicator	Rank	Score	
C. Governance pillar	8	86.74	
1st sub-pillar: Trust	8	87.67	
3.1.1 Secure Internet servers	18	84.51	
3.1.2 Cybersecurity	17	97.43	
3.1.3 Online access to financial account	11	79.37	
3.1.4 Internet shopping	5	89.37	•
2nd sub-pillar: Regulation	10	87.66	
3.2.1 Regulatory quality	5	89.60	•
3.2.2 ICT regulatory environment	11	94.71	
3.2.3 Regulation of emerging technologies	22	73.95	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	33	80.07	
3rd sub-pillar: Inclusion	14	84.87	
3.3.1 E-Participation	9	96.30	
3.3.2 Socioeconomic gap in use of digital payments	20	96.29	
3.3.3 Availability of local online content	9	93.03	•
3.3.4 Gender gap in Internet use	41	71.94	
3.3.5 Rural gap in use of digital payments	55	66.79	

Indicator	Rank	Score	
B. People pillar	13	67.18	
1st sub-pillar: Individuals	43	53.65	
2.1.1 Mobile broadband internet traffic within the country	25	29.10	
2.1.2 ICT skills in the education system	23	71.01	
2.1.3 Use of virtual social networks	31	77.31	
2.1.4 Tertiary enrollment	3	76.61	●
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	28	14.23	○
2nd sub-pillar: Businesses	18	67.75	
2.2.1 Firms with website	20	81.87	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	13	74.28	
2.2.4 Annual investment in telecommunication services	7	90.76	●
2.2.5 GERD performed by business enterprise	25	24.09	
3rd sub-pillar: Governments	8	80.14	
2.3.1 Government online services	7	94.55	●
2.3.2 Publication and use of open data	3	98.53	●
2.3.3 Government promotion of investment in emerging tech	37	51.19	
2.3.4 R&D expenditure by governments and higher education	9	76.28	

Indicator	Rank	Score	
D. Impact pillar	22	72.05	
1st sub-pillar: Economy	31	44.66	
4.1.1 High-tech and medium-high-tech manufacturing	47	31.01	
4.1.2 High-tech exports	57	28.55	○
4.1.3 PCT patent applications	26	34.09	
4.1.4 Domestic market size	18	71.15	
4.1.5 Prevalence of gig economy	12	78.20	
4.1.6 ICT services exports	75	24.95	○
2nd sub-pillar: Quality of Life	14	85.11	
4.2.1 Happiness	11	87.84	
4.2.2 Freedom to make life choices	16	91.08	
4.2.3 Income inequality	46	72.11	
4.2.4 Healthy life expectancy at birth	22	89.42	
3rd sub-pillar: SDG Contribution	15	86.38	
4.3.1 SDG 3: Good Health and Well-Being	4	96.39	●
4.3.2 SDG 4: Quality Education	20	68.50	
4.3.3 SDG 5: Women's economic opportunity	20	95.61	
4.3.4 SDG 7: Affordable and Clean Energy	78	75.10	○
4.3.5 SDG 11: Sustainable Cities and Communities	9	96.29	

NOTE: ● a strength and ○ a weakness.

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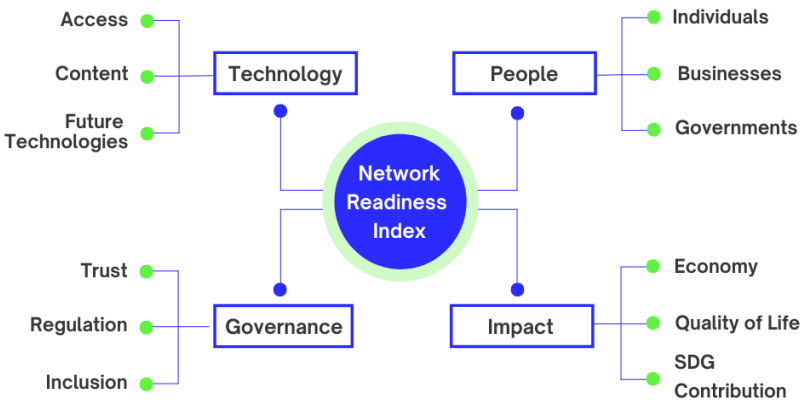
Network Readiness Index 2022 Austria

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

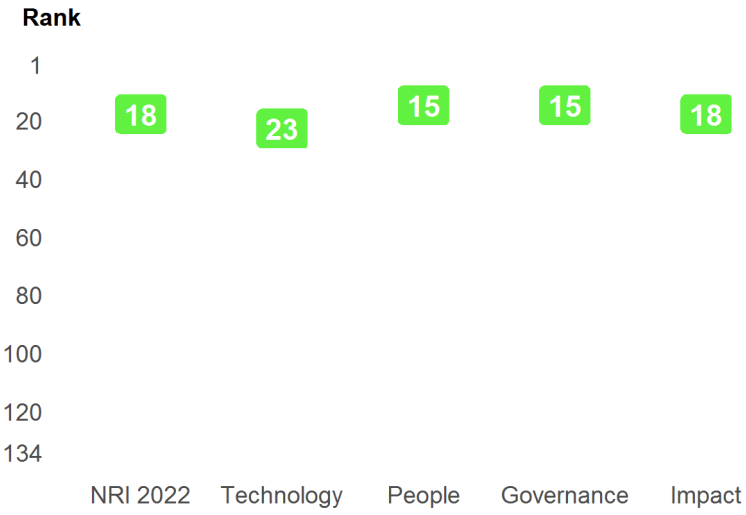
Figure 1: The NRI 2022 model



Global NRI position of Austria

Austria ranks 18th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People and Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Austria global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Austria relate to Inclusion, Businesses and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Access and Individuals sub-pillars.

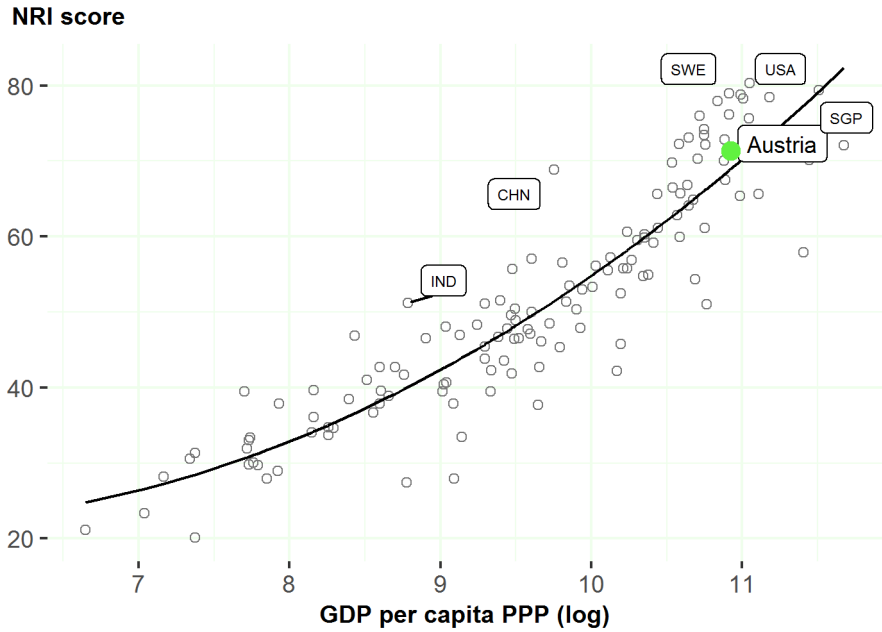
Table 1: Austria rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	10	SDG Contribution	20
Businesses	12	Trust	21
Regulation	13	Economy	21
Governments	14	Content	22
Future Technologies	19	Access	55
Quality of Life	19	Individuals	59

NRI score and income

Figure 3 shows the position of Austria in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Austria is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Austria belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Austria is ranked 18th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in ten of the twelve sub-pillars: Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Austria is ranked 12th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Austria against its income group and region, overall and by pillar

Table 2: Austria scores vs. averages of its income group and region, overall and by pillar

Dimension	Austria	High-income countries	Europe
NRI	71.31	66.21	63.72
Technology	62.30	60.28	56.43
People	66.35	58.83	56.35
Governance	83.18	76.89	74.79
Impact	73.43	68.86	67.30

Strongest and weakest indicators

The indicators where Austria performs particularly well include 3.2.4 E-commerce legislation, 2.2.1 Firms with website, and 2.3.4 R&D expenditure by governments and higher education (Table 3). By contrast, the economy's weakest indicators include 1.1.3 FTTH/building Internet subscriptions, 1.1.5 International Internet bandwidth, and 4.1.5 Prevalence of gig economy.

Table 3: Strongest and weakest indicators of Austria

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	65
2.2.1 Firms with website	6	1.1.5 International Internet bandwidth	79
2.3.4 R&D expenditure by governments and higher education	6	4.1.5 Prevalence of gig economy	79
3.3.1 E-Participation	6	1.1.3 FTTH/building Internet subscriptions	87
2.2.5 GERD performed by business enterprise	7		
2.3.1 Government online services	7		
3.3.5 Rural gap in use of digital payments	7		
1.1.1 Mobile tariffs	9		
3.3.2 Socioeconomic gap in use of digital payments	10		
4.1.3 PCT patent applications	11		
4.2.1 Happiness	12		

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NRI 2022 At-A-Glance: Austria

Network Readiness Index — Rank: 18 (out of 131) — Score: 71.31

Pillar/sub-pillar	Rank	Score
A. Technology pillar	23	62.30
1st sub-pillar: Access	55	68.65
2nd sub-pillar: Content	22	64.10
3rd sub-pillar: Future Technologies	19	54.13
B. People pillar	15	66.35
1st sub-pillar: Individuals	59	50.28
2nd sub-pillar: Businesses	12	72.66
3rd sub-pillar: Governments	14	76.10

Pillar/sub-pillar	Rank	Score
C. Governance pillar	15	83.18
1st sub-pillar: Trust	21	77.66
2nd sub-pillar: Regulation	13	86.22
3rd sub-pillar: Inclusion	10	85.66
D. Impact pillar	18	73.43
1st sub-pillar: Economy	21	52.71
2nd sub-pillar: Quality of Life	19	82.58
3rd sub-pillar: SDG Contribution	20	85.00

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	23	62.30	
1st sub-pillar: Access	55	68.65	
1.1.1 Mobile tariffs	9	89.31	●
1.1.2 Handset prices	24	74.44	
1.1.3 FTTH/building Internet subscriptions	87	11.00	○
1.1.4 Population covered by at least a 3G mobile network	75	99.35	
1.1.5 International Internet bandwidth	79	69.17	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	22	64.10	
1.2.1 GitHub commits	22	43.11	
1.2.2 Internet domain registrations	13	53.17	
1.2.3 Mobile apps development	20	96.03	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	19	54.13	
1.3.1 Adoption of emerging technologies	21	74.59	
1.3.2 Investment in emerging technologies	26	64.25	
1.3.3 Robot density	15	29.18	
1.3.4 Computer software spending	17	48.52	

Indicator	Rank	Score	
C. Governance pillar	15	83.18	
1st sub-pillar: Trust	21	77.66	
3.1.1 Secure Internet servers	22	83.21	
3.1.2 Cybersecurity	36	93.78	
3.1.3 Online access to financial account	22	59.89	
3.1.4 Internet shopping	18	73.76	
2nd sub-pillar: Regulation	13	86.22	
3.2.1 Regulatory quality	18	78.40	
3.2.2 ICT regulatory environment	37	88.82	
3.2.3 Regulation of emerging technologies	13	80.53	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	24	83.33	
3rd sub-pillar: Inclusion	10	85.66	
3.3.1 E-Participation	6	97.53	●
3.3.2 Socioeconomic gap in use of digital payments	10	98.14	●
3.3.3 Availability of local online content	23	85.34	
3.3.4 Gender gap in Internet use	65	67.76	○
3.3.5 Rural gap in use of digital payments	7	79.51	●

Indicator	Rank	Score	
B. People pillar	15	66.35	
1st sub-pillar: Individuals	59	50.28	
2.1.1 Mobile broadband internet traffic within the country	29	26.82	
2.1.2 ICT skills in the education system	33	63.91	
2.1.3 Use of virtual social networks	36	76.05	
2.1.4 Tertiary enrollment	14	57.73	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	15	26.90	
2nd sub-pillar: Businesses	12	72.66	
2.2.1 Firms with website	6	94.14	●
2.2.2 GERD financed by business enterprise	29	61.95	
2.2.3 Knowledge intensive employment	25	67.18	
2.2.4 Annual investment in telecommunication services	37	81.74	
2.2.5 GERD performed by business enterprise	7	58.29	●
3rd sub-pillar: Governments	14	76.10	
2.3.1 Government online services	7	94.55	●
2.3.2 Publication and use of open data	17	69.12	
2.3.3 Government promotion of investment in emerging tech	33	53.65	
2.3.4 R&D expenditure by governments and higher education	6	87.09	●

Indicator	Rank	Score	
D. Impact pillar	18	73.43	
1st sub-pillar: Economy	21	52.71	
4.1.1 High-tech and medium-high-tech manufacturing	17	60.17	
4.1.2 High-tech exports	25	54.49	
4.1.3 PCT patent applications	11	59.18	●
4.1.4 Domestic market size	43	61.44	
4.1.5 Prevalence of gig economy	79	35.47	○
4.1.6 ICT services exports	26	45.53	
2nd sub-pillar: Quality of Life	19	82.58	
4.2.1 Happiness	12	87.27	●
4.2.2 Freedom to make life choices	73	71.17	
4.2.3 Income inequality	22	82.41	
4.2.4 Healthy life expectancy at birth	21	89.44	
3rd sub-pillar: SDG Contribution	20	85.00	
4.3.1 SDG 3: Good Health and Well-Being	26	88.39	
4.3.2 SDG 4: Quality Education	27	65.38	
4.3.3 SDG 5: Women's economic opportunity	20	95.61	
4.3.4 SDG 7: Affordable and Clean Energy	30	87.47	
4.3.5 SDG 11: Sustainable Cities and Communities	23	88.14	

NOTE: ● a strength and ○ a weakness.

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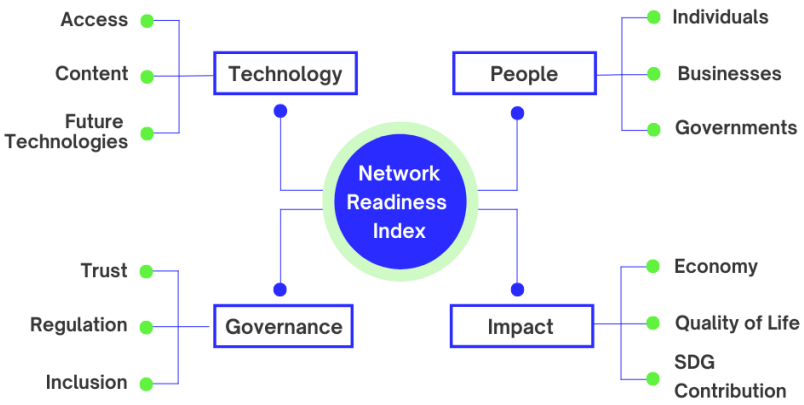
Network Readiness Index 2022 Azerbaijan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

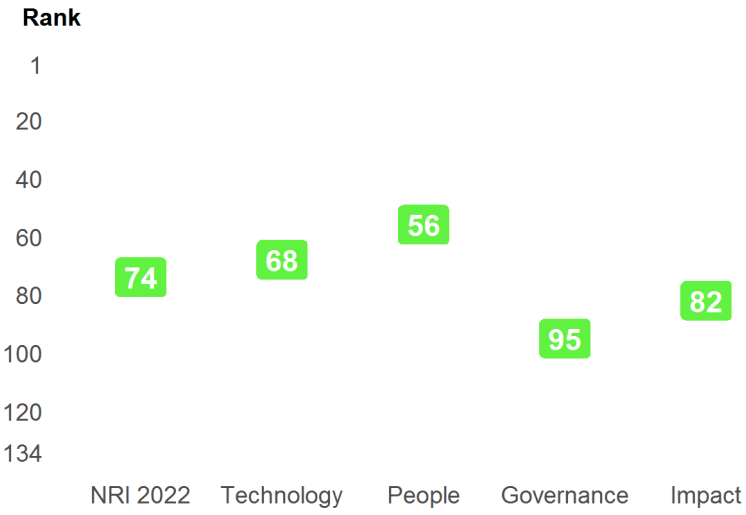
Figure 1: The NRI 2022 model



Global NRI position of Azerbaijan

Azerbaijan ranks 74th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Azerbaijan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Azerbaijan relate to Future Technologies, Governments and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Economy and Regulation sub-pillars.

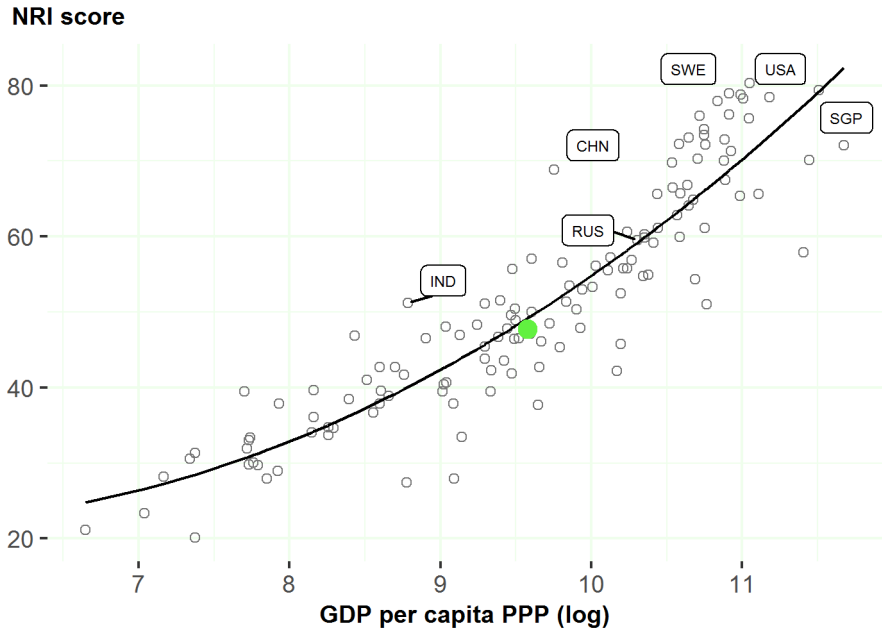
Table 1: Azerbaijan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	33	Trust	78
Governments	44	Access	80
Individuals	66	Inclusion	87
Businesses	66	Content	93
SDG Contribution	68	Economy	93
Quality of Life	76	Regulation	106

NRI score and income

Figure 3 shows the position of Azerbaijan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Azerbaijan is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Azerbaijan belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Upper-middle-income countries

Azerbaijan is ranked 21st in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: technology and people. At the sub-pillar level, it outperforms upper-middle-income countries in four of the twelve sub-pillars: Future Technologies, Businesses, Governments and Quality of Life.

CIS

Azerbaijan is ranked 4th within CIS (Figure 4, right panel). It has a score above the regional average in two of the four pillars: nri.score, technology and people. With regard to sub-pillars, it outperforms the average in CIS in six of the twelve sub-pillars: Future Technologies, Businesses, Governments, Regulation, Economy and SDG Contribution.

Figure 4: Performance of Azerbaijan against its income group and region, overall and by pillar

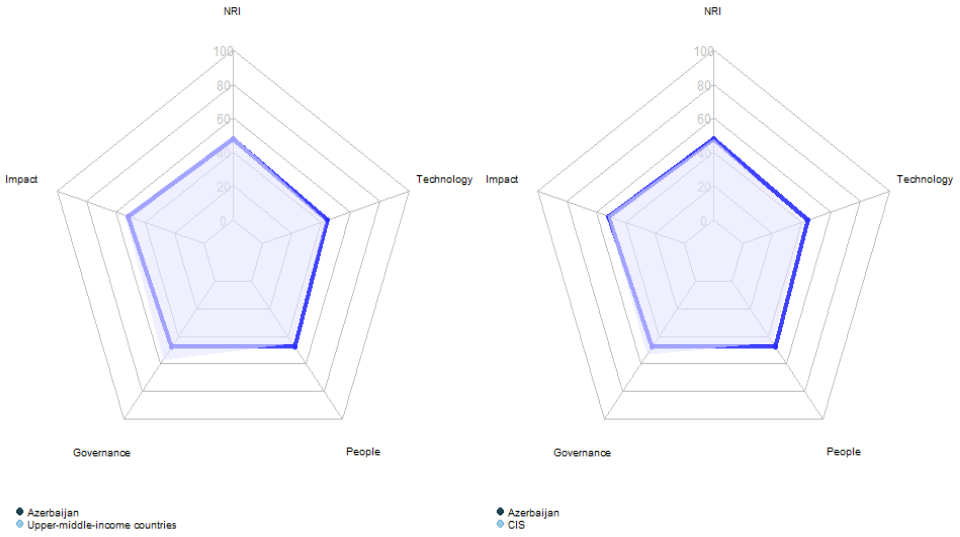


Table 2: Azerbaijan scores vs. averages of its income group and region, overall and by pillar

Dimension	Azerbaijan	Upper-middle-income countries	CIS
NRI	47.74	49.66	47.65
Technology	44.12	43.11	41.04
People	47.58	44.94	44.26
Governance	47.96	57.08	52.99
Impact	51.29	53.50	52.31

Strongest and weakest indicators

The indicators where Azerbaijan performs particularly well include 2.1.5 Adult literacy rate, 4.1.5 Prevalence of gig economy, and 2.1.2 ICT skills in the education system (Table 3). By contrast, the economy's weakest indicators include 3.3.2 Socioeconomic gap in use of digital payments, 3.3.5 Rural gap in use of digital payments, and 3.1.3 Online access to financial account.

Table 3: Strongest and weakest indicators of Azerbaijan

Strongest indicators	Rank	Weakest indicators	Rank
2.1.5 Adult literacy rate	6	3.2.4 E-commerce legislation	87
4.1.5 Prevalence of gig economy	16	2.2.5 GERD performed by business enterprise	88
2.1.2 ICT skills in the education system	19	3.1.3 Online access to financial account	115
2.3.3 Government promotion of investment in emerging technologies	20	3.3.5 Rural gap in use of digital payments	116
1.3.2 Investment in emerging technologies	23	3.3.2 Socioeconomic gap in use of digital payments	117
3.3.3 Availability of local online content	24		
1.3.1 Adoption of emerging technologies	34		
4.3.5 SDG 11: Sustainable Cities and Communities	39		
4.2.2 Freedom to make life choices	41		
2.2.1 Firms with website	44		

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NRI 2022 At-A-Glance: Azerbaijan

Network Readiness Index Rank: 74 (out of 131) Score: 47.74

Pillar/sub-pillar	Rank	Score
A. Technology pillar	68	44.12
1st sub-pillar: Access	80	58.89
2nd sub-pillar: Content	93	28.22
3rd sub-pillar: Future Technologies	33	45.24
B. People pillar	56	47.58
1st sub-pillar: Individuals	66	48.83
2nd sub-pillar: Businesses	66	42.76
3rd sub-pillar: Governments	44	51.14

Pillar/sub-pillar	Rank	Score
C. Governance pillar	95	47.96
1st sub-pillar: Trust	78	36.77
2nd sub-pillar: Regulation	106	52.02
3rd sub-pillar: Inclusion	87	55.10
D. Impact pillar	82	51.29
1st sub-pillar: Economy	93	24.64
2nd sub-pillar: Quality of Life	76	66.52
3rd sub-pillar: SDG Contribution	68	62.71

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	68	44.12	
1st sub-pillar: Access	80	58.89	
1.1.1 Mobile tariffs	64	60.86	
1.1.2 Handset prices	114	32.50	
1.1.3 FTTH/building Internet subscriptions	53	28.06	
1.1.4 Population covered by at least a 3G mobile network	47	99.84	
1.1.5 International Internet bandwidth	59	71.74	
1.1.6 Internet access in schools	46	60.37	
2nd sub-pillar: Content	93	28.22	
1.2.1 GitHub commits	88	2.77	
1.2.2 Internet domain registrations	91	1.23	
1.2.3 Mobile apps development	78	73.21	
1.2.4 AI scientific publications	73	35.70	
3rd sub-pillar: Future Technologies	33	45.24	
1.3.1 Adoption of emerging technologies	34	62.72	•
1.3.2 Investment in emerging technologies	23	67.00	•
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	96	5.99	
B. People pillar	56	47.58	

Indicator	Rank	Score	
C. Governance pillar	95	47.96	
1st sub-pillar: Trust	78	36.77	
3.1.1 Secure Internet servers	83	45.49	
3.1.2 Cybersecurity	48	89.12	
3.1.3 Online access to financial account	115	6.93	○
3.1.4 Internet shopping	95	5.53	
2nd sub-pillar: Regulation	106	52.02	
3.2.1 Regulatory quality	92	32.80	
3.2.2 ICT regulatory environment	114	61.18	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	103	47.42	
3rd sub-pillar: Inclusion	87	55.10	
3.3.1 E-Participation	71	67.90	
3.3.2 Socioeconomic gap in use of digital payments	117	36.84	○
3.3.3 Availability of local online content	24	85.10	•
3.3.4 Gender gap in Internet use	75	64.93	
3.3.5 Rural gap in use of digital payments	116	20.72	○
D. Impact pillar	82	51.29	

Indicator	Rank	Score	
1st sub-pillar: Individuals	66	48.83	
2.1.1 Mobile broadband internet traffic within the country	87	3.18	
2.1.2 ICT skills in the education system	19	72.19	●
2.1.3 Use of virtual social networks	93	46.15	
2.1.4 Tertiary enrollment	79	22.84	
2.1.5 Adult literacy rate	6	99.77	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	66	42.76	
2.2.1 Firms with website	44	65.50	●
2.2.2 GERD financed by business enterprise	57	38.04	
2.2.3 Knowledge intensive employment	66	33.98	
2.2.4 Annual investment in telecommunication services	67	76.19	
2.2.5 GERD performed by business enterprise	88	0.11	○
3rd sub-pillar: Governments	44	51.14	
2.3.1 Government online services	64	69.70	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	20	69.04	
2.3.4 R&D expenditure by governments and higher education	84	14.67	

Indicator	Rank	Score	
1st sub-pillar: Economy	93	24.64	
4.1.1 High-tech and medium-high-tech manufacturing	80	12.80	
4.1.2 High-tech exports	99	5.00	
4.1.3 PCT patent applications	90	0.77	
4.1.4 Domestic market size	71	49.29	
4.1.5 Prevalence of gig economy	16	70.06	●
4.1.6 ICT services exports	105	9.92	
2nd sub-pillar: Quality of Life	76	66.52	
4.2.1 Happiness	88	53.33	
4.2.2 Freedom to make life choices	41	81.23	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	88	65.00	
3rd sub-pillar: SDG Contribution	68	62.71	
4.3.1 SDG 3: Good Health and Well-Being	85	60.63	
4.3.2 SDG 4: Quality Education	64	30.43	
4.3.3 SDG 5: Women's economic opportunity	81	70.18	
4.3.4 SDG 7: Affordable and Clean Energy	89	72.51	
4.3.5 SDG 11: Sustainable Cities and Communities	39	79.80	●

NOTE: ● a strength and ○ a weakness.

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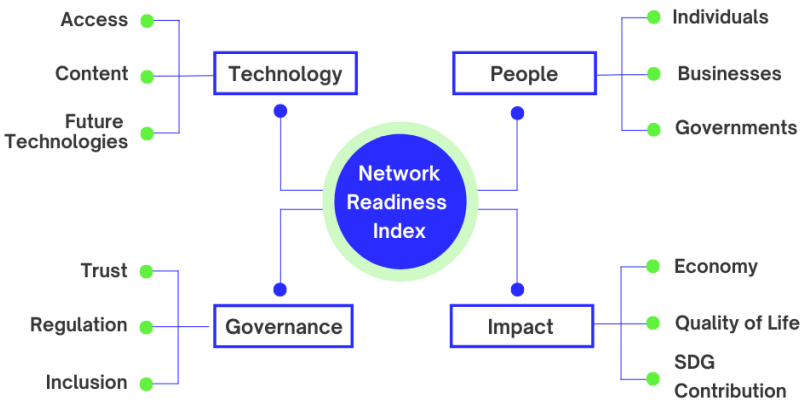
Network Readiness Index 2022 Bahrain

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

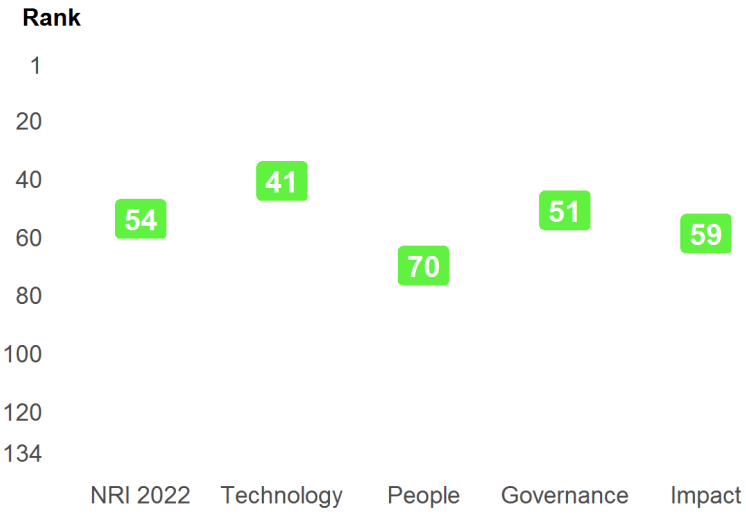
Figure 1: The NRI 2022 model



Global NRI position of Bahrain

Bahrain ranks 54th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Bahrain global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Bahrain relate to Individuals, Quality of Life and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Economy and Businesses sub-pillars.

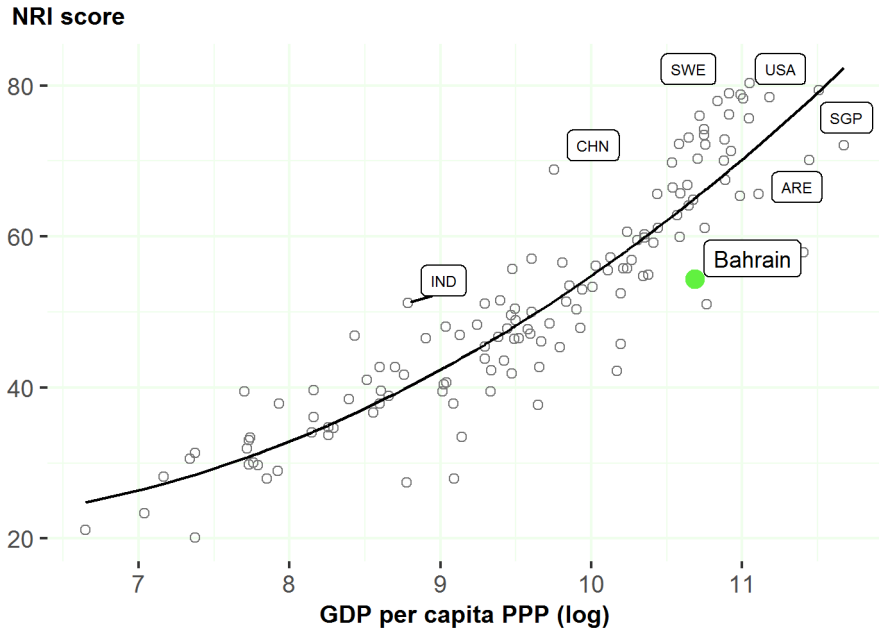
Table 1: Bahrain rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	26	Content	60
Quality of Life	26	Trust	62
Future Technologies	27	Governments	69
Inclusion	35	SDG Contribution	76
Regulation	53	Economy	79
Access	56	Businesses	90

NRI score and income

Figure 3 shows the position of Bahrain in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Bahrain is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Bahrain belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

Bahrain is ranked 46th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in one of the twelve sub-pillars: Individuals.

Arab States

Bahrain is ranked 5th within Arab States (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, technology, governance and impact. With regard to sub-pillars, it outperforms the average in Arab States in nine of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Bahrain against its income group and region, overall and by pillar

Table 2: Bahrain scores vs. averages of its income group and region, overall and by pillar

Dimension	Bahrain	High-income countries	Arab States
NRI	54.34	66.21	51.21
Technology	51.47	60.28	47.66
People	44.26	58.83	47.11
Governance	65.17	76.89	56.68
Impact	56.46	68.86	53.39

Strongest and weakest indicators

The indicators where Bahrain performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 4.3.4 SDG 7: Affordable and Clean Energy, and 4.3.3 SDG 5: Women's economic opportunity.

Table 3: Strongest and weakest indicators of Bahrain

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.2.5 GERD performed by business enterprise	80
1.1.6 Internet access in schools	1	2.3.4 R&D expenditure by governments and higher education	98
3.2.4 E-commerce legislation	1	4.3.3 SDG 5: Women's economic opportunity	120
4.2.2 Freedom to make life choices	5	3.2.5 Privacy protection by law content	124
4.3.5 SDG 11: Sustainable Cities and Communities	8	4.3.4 SDG 7: Affordable and Clean Energy	124
3.3.3 Availability of local online content	14		
2.1.3 Use of virtual social networks	16		
2.3.3 Government promotion of investment in emerging technologies	18		
3.2.3 Regulation of emerging technologies	19		
4.1.5 Prevalence of gig economy	25		
3.3.5 Rural gap in use of digital payments	26		
1.3.1 Adoption of emerging technologies	30		

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NRI 2022 At-A-Glance: Bahrain

Network Readiness Index — Rank: 54 (out of 131) — Score: 54.34

Pillar/sub-pillar	Rank	Score
A. Technology pillar	41	51.47
1st sub-pillar: Access	56	68.61
2nd sub-pillar: Content	60	38.15
3rd sub-pillar: Future Technologies	27	47.67
B. People pillar	70	44.26
1st sub-pillar: Individuals	26	56.40
2nd sub-pillar: Businesses	90	33.41
3rd sub-pillar: Governments	69	42.97

Pillar/sub-pillar	Rank	Score
C. Governance pillar	51	65.17
1st sub-pillar: Trust	62	48.50
2nd sub-pillar: Regulation	53	68.86
3rd sub-pillar: Inclusion	35	78.14
D. Impact pillar	59	56.46
1st sub-pillar: Economy	79	28.56
2nd sub-pillar: Quality of Life	26	80.08
3rd sub-pillar: SDG Contribution	76	60.75

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	41	51.47	
1st sub-pillar: Access	56	68.61	
1.1.1 Mobile tariffs	73	52.94	
1.1.2 Handset prices	32	72.04	
1.1.3 FTTH/building Internet subscriptions	84	12.93	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	49	73.73	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	60	38.15	
1.2.1 GitHub commits	65	5.49	
1.2.2 Internet domain registrations	67	3.80	
1.2.3 Mobile apps development	44	85.61	
1.2.4 AI scientific publications	43	57.68	
3rd sub-pillar: Future Technologies	27	47.67	
1.3.1 Adoption of emerging technologies	30	65.71	●
1.3.2 Investment in emerging technologies	NA	NA	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	31	29.63	

Indicator	Rank	Score	
C. Governance pillar	51	65.17	
1st sub-pillar: Trust	62	48.50	
3.1.1 Secure Internet servers	77	47.65	
3.1.2 Cybersecurity	68	77.47	
3.1.3 Online access to financial account	45	40.00	
3.1.4 Internet shopping	56	28.89	
2nd sub-pillar: Regulation	53	68.86	
3.2.1 Regulatory quality	41	57.87	
3.2.2 ICT regulatory environment	55	85.68	
3.2.3 Regulation of emerging technologies	19	76.05	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	124	24.72	○
3rd sub-pillar: Inclusion	35	78.14	
3.3.1 E-Participation	50	76.54	
3.3.2 Socioeconomic gap in use of digital payments	62	75.64	
3.3.3 Availability of local online content	14	88.94	●
3.3.4 Gender gap in Internet use	28	74.31	
3.3.5 Rural gap in use of digital payments	26	75.26	●

Indicator	Rank	Score	
B. People pillar	70	44.26	
1st sub-pillar: Individuals	26	56.40	
2.1.1 Mobile broadband internet traffic within the country	63	8.39	
2.1.2 ICT skills in the education system	35	63.02	
2.1.3 Use of virtual social networks	16	82.28	●
2.1.4 Tertiary enrollment	50	39.91	
2.1.5 Adult literacy rate	63	88.42	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	90	33.41	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	65	26.89	
2.2.3 Knowledge intensive employment	69	31.96	
2.2.4 Annual investment in telecommunication services	78	74.27	
2.2.5 GERD performed by business enterprise	80	0.54	○
3rd sub-pillar: Governments	69	42.97	
2.3.1 Government online services	45	78.18	
2.3.2 Publication and use of open data	77	17.65	
2.3.3 Government promotion of investment in emerging tech	18	70.90	
2.3.4 R&D expenditure by governments and higher education	98	5.16	○

Indicator	Rank	Score	
D. Impact pillar	59	56.46	
1st sub-pillar: Economy	79	28.56	
4.1.1 High-tech and medium-high-tech manufacturing	88	10.63	
4.1.2 High-tech exports	84	12.24	
4.1.3 PCT patent applications	70	2.50	
4.1.4 Domestic market size	89	42.46	
4.1.5 Prevalence of gig economy	25	63.66	●
4.1.6 ICT services exports	38	39.89	
2nd sub-pillar: Quality of Life	26	80.08	
4.2.1 Happiness	47	71.13	
4.2.2 Freedom to make life choices	5	96.64	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	68	72.47	
3rd sub-pillar: SDG Contribution	76	60.75	
4.3.1 SDG 3: Good Health and Well-Being	64	70.70	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	120	37.72	○
4.3.4 SDG 7: Affordable and Clean Energy	124	38.10	○
4.3.5 SDG 11: Sustainable Cities and Communities	8	96.47	●

NOTE: ● a strength and ○ a weakness.

Sources

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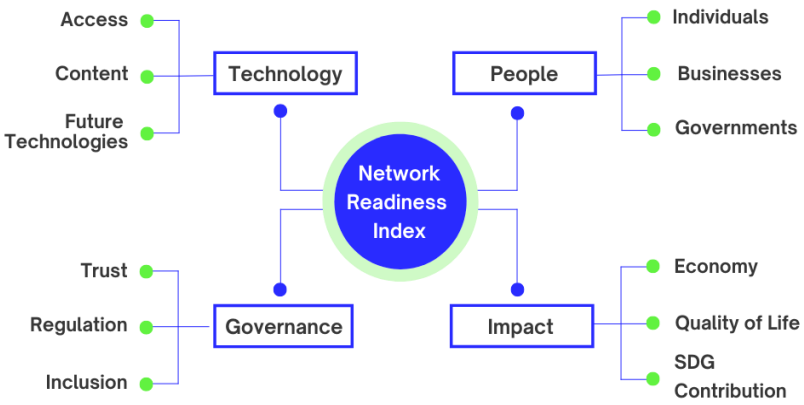
Network Readiness Index 2022 Bangladesh

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

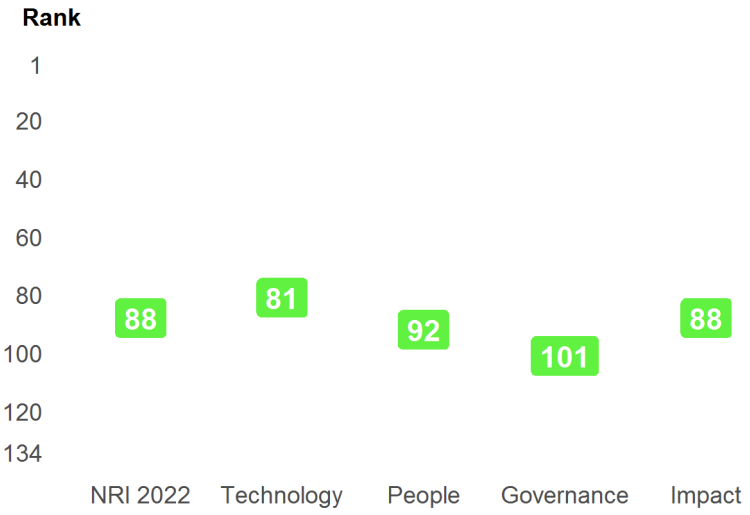
Figure 1: The NRI 2022 model



Global NRI position of Bangladesh

Bangladesh ranks 88th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Bangladesh global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Bangladesh relate to Access, Quality of Life and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, SDG Contribution and Regulation sub-pillars.

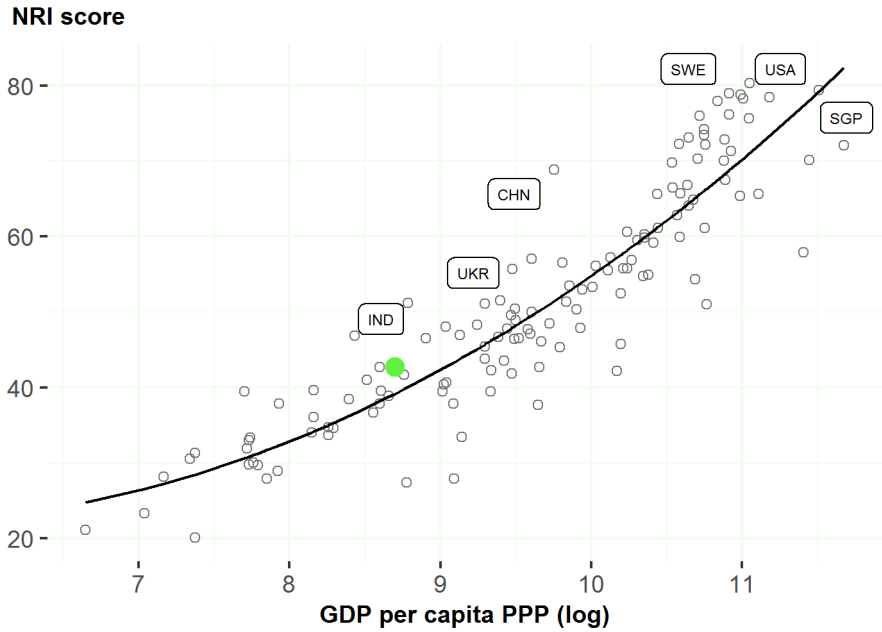
Table 1: Bangladesh rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	58	Governments	88
Quality of Life	72	Trust	88
Economy	77	Future Technologies	99
Businesses	79	Individuals	100
Content	82	SDG Contribution	110
Inclusion	85	Regulation	117

NRI score and income

Figure 3 shows the position of Bangladesh in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Bangladesh is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Bangladesh belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Bangladesh is ranked 13th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, people and impact. At the sub-pillar level, it outperforms lower-middle-income countries in eight of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust, Inclusion, Economy and Quality of Life.

Asia & Pacific

Bangladesh is ranked 17th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Bangladesh against its income group and region, overall and by pillar

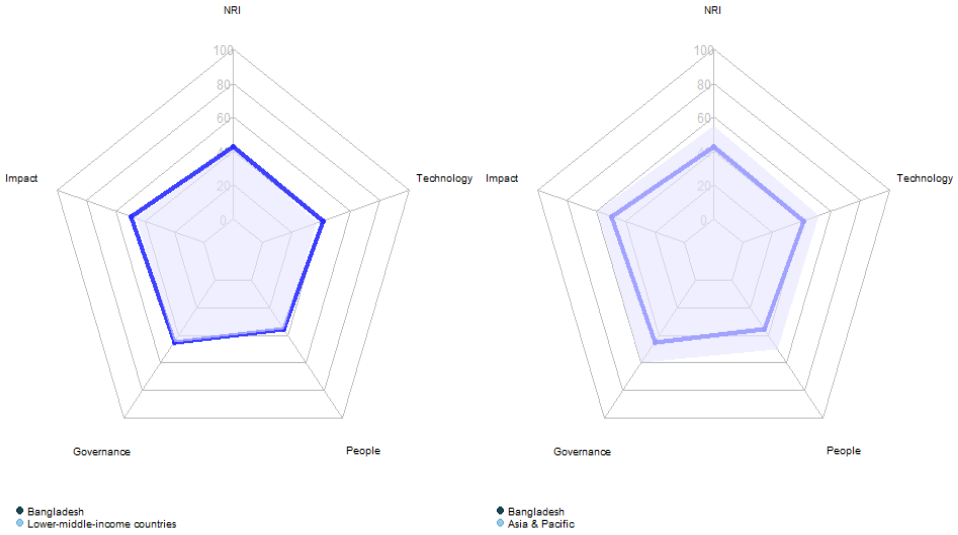


Table 2: Bangladesh scores vs. averages of its income group and region, overall and by pillar

Dimension	Bangladesh	Lower-middle-income countries	Asia & Pacific
NRI	42.74	40.94	55.18
Technology	41.24	37.28	51.78
People	35.72	35.42	50.21
Governance	44.79	45.00	59.66
Impact	49.23	46.09	59.07

Strongest and weakest indicators

The indicators where Bangladesh performs particularly well include 1.1.3 FTTH/building Internet subscriptions, 4.3.4 SDG 7: Affordable and Clean Energy, and 2.1.1 Mobile broadband internet traffic within the country (Table 3). By contrast, the economy's weakest indicators include 4.3.3 SDG 5: Women's economic opportunity, 3.2.1 Regulatory quality, and 3.1.4 Internet shopping.

Table 3: Strongest and weakest indicators of Bangladesh

Strongest indicators	Rank	Weakest indicators	Rank
1.1.3 FTTH/building Internet subscriptions	2	3.2.4 E-commerce legislation	87
4.3.4 SDG 7: Affordable and Clean Energy	13	3.3.4 Gender gap in Internet use	100
2.1.1 Mobile broadband internet traffic within the country	24	3.1.4 Internet shopping	104
1.1.5 International Internet bandwidth	29	3.2.1 Regulatory quality	120
1.2.4 AI scientific publications	29	4.3.3 SDG 5: Women's economic opportunity	124
4.1.4 Domestic market size	30		
4.2.3 Income inequality	33		
2.2.4 Annual investment in telecommunication services	34		
3.3.5 Rural gap in use of digital payments	37		
1.1.1 Mobile tariffs	53		

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NRI 2022 At-A-Glance: Bangladesh

Network Readiness Index Rank: 88 (out of 131) Score: 42.74

Pillar/sub-pillar	Rank	Score
A. Technology pillar	81	41.24
1st sub-pillar: Access	58	67.49
2nd sub-pillar: Content	82	32.18
3rd sub-pillar: Future Technologies	99	24.05
B. People pillar	92	35.72
1st sub-pillar: Individuals	100	34.41
2nd sub-pillar: Businesses	79	37.15
3rd sub-pillar: Governments	88	35.59

Pillar/sub-pillar	Rank	Score
C. Governance pillar	101	44.79
1st sub-pillar: Trust	88	34.48
2nd sub-pillar: Regulation	117	44.48
3rd sub-pillar: Inclusion	85	55.40
D. Impact pillar	88	49.23
1st sub-pillar: Economy	77	28.83
2nd sub-pillar: Quality of Life	72	66.88
3rd sub-pillar: SDG Contribution	110	51.97

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	81	41.24	
1st sub-pillar: Access	58	67.49	
1.1.1 Mobile tariffs	53	68.17	●
1.1.2 Handset prices	109	35.99	
1.1.3 FTTH/building Internet subscriptions	2	73.51	●
1.1.4 Population covered by at least a 3G mobile network	73	99.38	
1.1.5 International Internet bandwidth	29	78.61	●
1.1.6 Internet access in schools	49	49.30	
2nd sub-pillar: Content	82	32.18	
1.2.1 GitHub commits	94	1.94	
1.2.2 Internet domain registrations	116	0.26	
1.2.3 Mobile apps development	103	59.12	
1.2.4 AI scientific publications	29	67.40	●
3rd sub-pillar: Future Technologies	99	24.05	
1.3.1 Adoption of emerging technologies	106	27.75	
1.3.2 Investment in emerging technologies	98	29.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	76	15.39	

Indicator	Rank	Score	
C. Governance pillar	101	44.79	
1st sub-pillar: Trust	88	34.48	
3.1.1 Secure Internet servers	95	39.43	
3.1.2 Cybersecurity	61	80.94	
3.1.3 Online access to financial account	96	14.08	
3.1.4 Internet shopping	104	3.48	○
2nd sub-pillar: Regulation	117	44.48	
3.2.1 Regulatory quality	120	17.07	○
3.2.2 ICT regulatory environment	113	61.38	
3.2.3 Regulation of emerging technologies	91	27.89	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	101	49.40	
3rd sub-pillar: Inclusion	85	55.40	
3.3.1 E-Participation	89	55.55	
3.3.2 Socioeconomic gap in use of digital payments	52	82.35	
3.3.3 Availability of local online content	89	50.00	
3.3.4 Gender gap in Internet use	100	15.35	○
3.3.5 Rural gap in use of digital payments	37	73.73	●

Indicator	Rank	Score	
B. People pillar	92	35.72	
1st sub-pillar: Individuals	100	34.41	
2.1.1 Mobile broadband internet traffic within the country	24	30.54	●
2.1.2 ICT skills in the education system	96	33.73	
2.1.3 Use of virtual social networks	105	25.71	
2.1.4 Tertiary enrollment	93	14.38	
2.1.5 Adult literacy rate	87	67.73	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	79	37.15	
2.2.1 Firms with website	104	19.41	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	114	9.80	
2.2.4 Annual investment in telecommunication services	34	82.24	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	88	35.59	
2.3.1 Government online services	83	60.00	
2.3.2 Publication and use of open data	87	11.76	
2.3.3 Government promotion of investment in emerging tech	71	35.01	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	88	49.23	
1st sub-pillar: Economy	77	28.83	
4.1.1 High-tech and medium-high-tech manufacturing	95	6.04	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	30	67.19	●
4.1.5 Prevalence of gig economy	103	24.42	
4.1.6 ICT services exports	85	17.66	
2nd sub-pillar: Quality of Life	72	66.88	
4.2.1 Happiness	84	55.22	
4.2.2 Freedom to make life choices	77	68.23	
4.2.3 Income inequality	33	76.88	●
4.2.4 Healthy life expectancy at birth	82	67.17	
3rd sub-pillar: SDG Contribution	110	51.97	
4.3.1 SDG 3: Good Health and Well-Being	107	36.88	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	124	28.95	○
4.3.4 SDG 7: Affordable and Clean Energy	13	91.31	●
4.3.5 SDG 11: Sustainable Cities and Communities	87	50.75	

NOTE: ● a strength and ○ a weakness.

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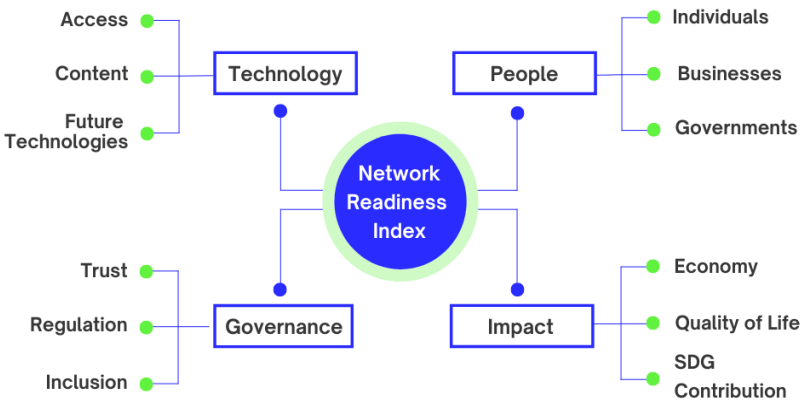
Network Readiness Index 2022 Belgium

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

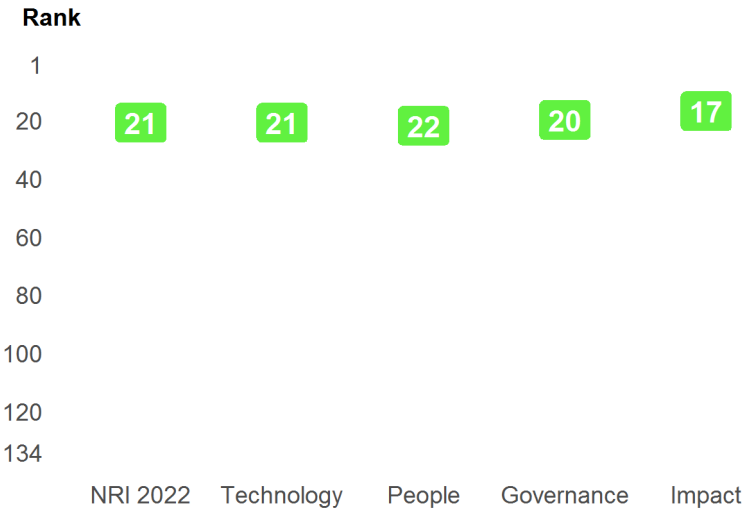
Figure 1: The NRI 2022 model



Global NRI position of Belgium

Belgium ranks 21st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Belgium global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Belgium relate to Businesses, Trust and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Inclusion and Individuals sub-pillars.

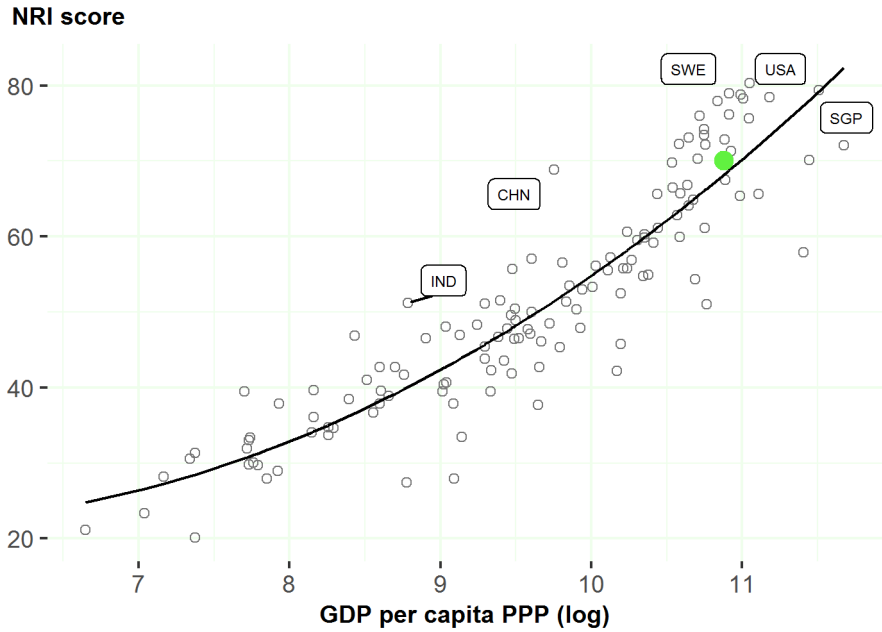
Table 1: Belgium rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	3	Future Technologies	22
Trust	14	Governments	22
SDG Contribution	17	Access	24
Content	18	Regulation	24
Economy	19	Inclusion	31
Quality of Life	21	Individuals	82

NRI score and income

Figure 3 shows the position of Belgium in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Belgium is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Belgium belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Belgium is ranked 21st in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Economy, Quality of Life and SDG Contribution.

Europe

Belgium is ranked 14th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Belgium against its income group and region, overall and by pillar

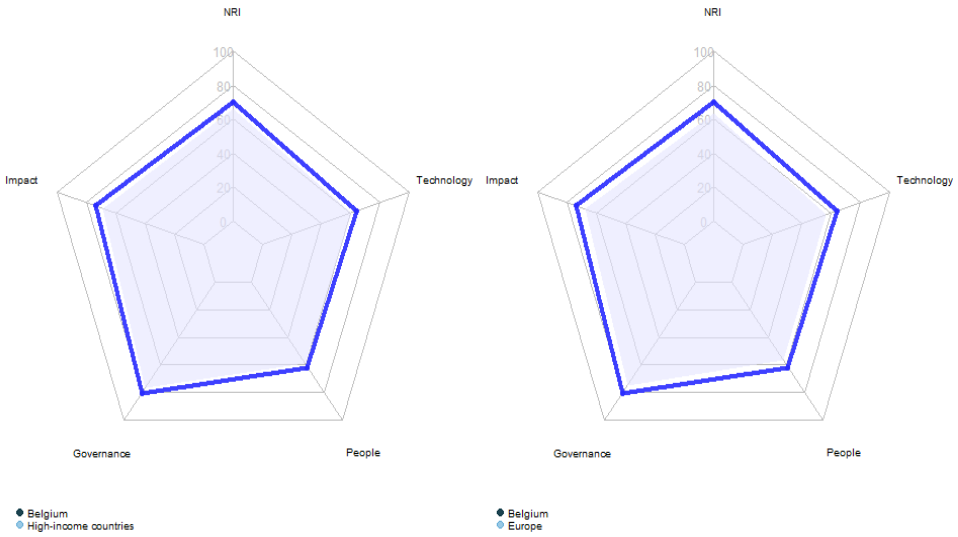


Table 2: Belgium scores vs. averages of its income group and region, overall and by pillar

Dimension	Belgium	High-income countries	Europe
NRI	70.04	66.21	63.72
Technology	63.78	60.28	56.43
People	61.79	58.83	56.35
Governance	80.72	76.89	74.79
Impact	73.87	68.86	67.30

Strongest and weakest indicators

The indicators where Belgium performs particularly well include 1.1.2 Handset prices, 1.1.4 Population covered by at least a 3G mobile network, and 1.1.6 Internet access in schools (Table 3). By contrast, the economy's weakest indicators include 1.1.3 FTTH/building Internet subscriptions, 3.2.4 E-commerce legislation, and 4.2.2 Freedom to make life choices.

Table 3: Strongest and weakest indicators of Belgium

Strongest indicators	Rank	Weakest indicators	Rank
1.1.2 Handset prices	1	2.1.6 AI talent concentration	34
1.1.4 Population covered by at least a 3G mobile network	1	3.3.1 E-Participation	75
1.1.6 Internet access in schools	1	4.2.2 Freedom to make life choices	84
4.3.3 SDG 5: Women's economic opportunity	1	3.2.4 E-commerce legislation	87
2.2.5 GERD performed by business enterprise	6	1.1.3 FTTH/building Internet subscriptions	90
3.2.3 Regulation of emerging technologies	8		
2.2.1 Firms with website	9		
2.2.2 GERD financed by business enterprise	9		
2.2.3 Knowledge intensive employment	9		
4.2.3 Income inequality	9		
1.3.4 Computer software spending	10		
3.3.5 Rural gap in use of digital payments	10		

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NRI 2022 At-A-Glance: Belgium

Network Readiness Index Rank: 21 (out of 131) Score: 70.04

Pillar/sub-pillar	Rank	Score
A. Technology pillar	21	63.78
1st sub-pillar: Access	24	75.46
2nd sub-pillar: Content	18	65.74
3rd sub-pillar: Future Technologies	22	50.13
B. People pillar	22	61.79
1st sub-pillar: Individuals	82	43.18
2nd sub-pillar: Businesses	3	79.33
3rd sub-pillar: Governments	22	62.84

Pillar/sub-pillar	Rank	Score
C. Governance pillar	20	80.72
1st sub-pillar: Trust	14	82.19
2nd sub-pillar: Regulation	24	81.17
3rd sub-pillar: Inclusion	31	78.81
D. Impact pillar	17	73.87
1st sub-pillar: Economy	19	54.12
2nd sub-pillar: Quality of Life	21	81.88
3rd sub-pillar: SDG Contribution	17	85.60

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	21	63.78	
1st sub-pillar: Access	24	75.46	
1.1.1 Mobile tariffs	52	68.26	
1.1.2 Handset prices	1	100.00	●
1.1.3 FTTH/building Internet subscriptions	90	8.97	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	37	75.54	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	18	65.74	
1.2.1 GitHub commits	16	55.93	
1.2.2 Internet domain registrations	15	51.69	
1.2.3 Mobile apps development	35	89.61	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	22	50.13	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	21	67.50	
1.3.3 Robot density	14	29.52	
1.3.4 Computer software spending	10	53.38	●

Indicator	Rank	Score	
C. Governance pillar	20	80.72	
1st sub-pillar: Trust	14	82.19	
3.1.1 Secure Internet servers	28	80.55	
3.1.2 Cybersecurity	26	96.18	
3.1.3 Online access to financial account	13	73.15	
3.1.4 Internet shopping	15	78.87	
2nd sub-pillar: Regulation	24	81.17	
3.2.1 Regulatory quality	19	77.07	
3.2.2 ICT regulatory environment	25	92.94	
3.2.3 Regulation of emerging technologies	8	82.11	●
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	16	87.07	
3rd sub-pillar: Inclusion	31	78.81	
3.3.1 E-Participation	75	64.20	○
3.3.2 Socioeconomic gap in use of digital payments	23	95.02	
3.3.3 Availability of local online content	25	84.62	
3.3.4 Gender gap in Internet use	39	72.14	
3.3.5 Rural gap in use of digital payments	10	78.08	●

Indicator	Rank	Score	
B. People pillar	22	61.79	
1st sub-pillar: Individuals	82	43.18	
2.1.1 Mobile broadband internet traffic within the country	67	7.91	
2.1.2 ICT skills in the education system	29	66.57	
2.1.3 Use of virtual social networks	35	76.34	
2.1.4 Tertiary enrollment	21	53.41	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	34	11.70	○
2nd sub-pillar: Businesses	3	79.33	
2.2.1 Firms with website	9	89.09	●
2.2.2 GERD financed by business enterprise	9	79.53	●
2.2.3 Knowledge intensive employment	9	77.18	●
2.2.4 Annual investment in telecommunication services	24	84.36	
2.2.5 GERD performed by business enterprise	6	66.50	●
3rd sub-pillar: Governments	22	62.84	
2.3.1 Government online services	74	64.85	
2.3.2 Publication and use of open data	27	50.00	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	10	73.68	

Indicator	Rank	Score	
D. Impact pillar	17	73.87	
1st sub-pillar: Economy	19	54.12	
4.1.1 High-tech and medium-high-tech manufacturing	21	57.96	
4.1.2 High-tech exports	22	57.56	
4.1.3 PCT patent applications	16	48.74	
4.1.4 Domestic market size	36	63.35	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	29	42.97	
2nd sub-pillar: Quality of Life	21	81.88	
4.2.1 Happiness	18	82.98	
4.2.2 Freedom to make life choices	84	66.44	○
4.2.3 Income inequality	9	89.95	●
4.2.4 Healthy life expectancy at birth	26	88.15	
3rd sub-pillar: SDG Contribution	17	85.60	
4.3.1 SDG 3: Good Health and Well-Being	15	93.69	
4.3.2 SDG 4: Quality Education	19	68.86	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	69	78.70	
4.3.5 SDG 11: Sustainable Cities and Communities	28	86.75	

NOTE: ● a strength and ○ a weakness.

Sources

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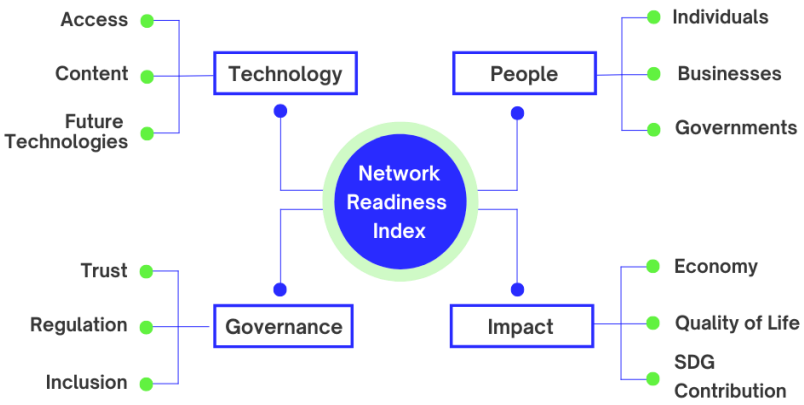
Network Readiness Index 2022 Benin

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

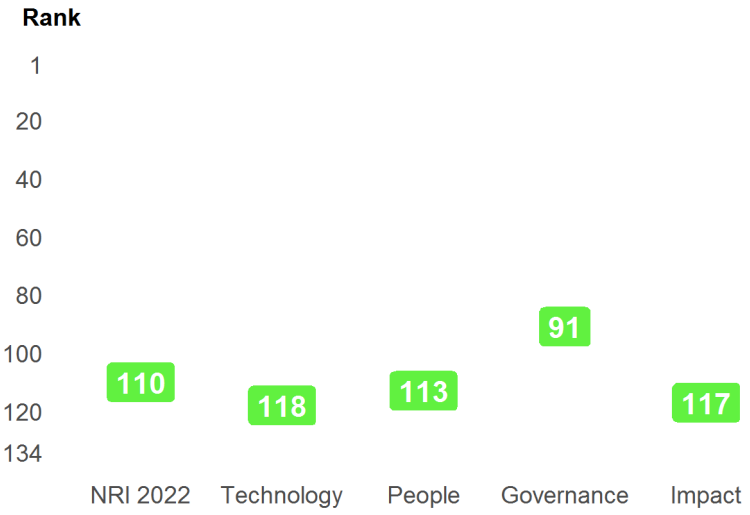
Figure 1: The NRI 2022 model



Global NRI position of Benin

Benin ranks 110th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Benin global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Benin relate to Regulation, Businesses and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Individuals and SDG Contribution sub-pillars.

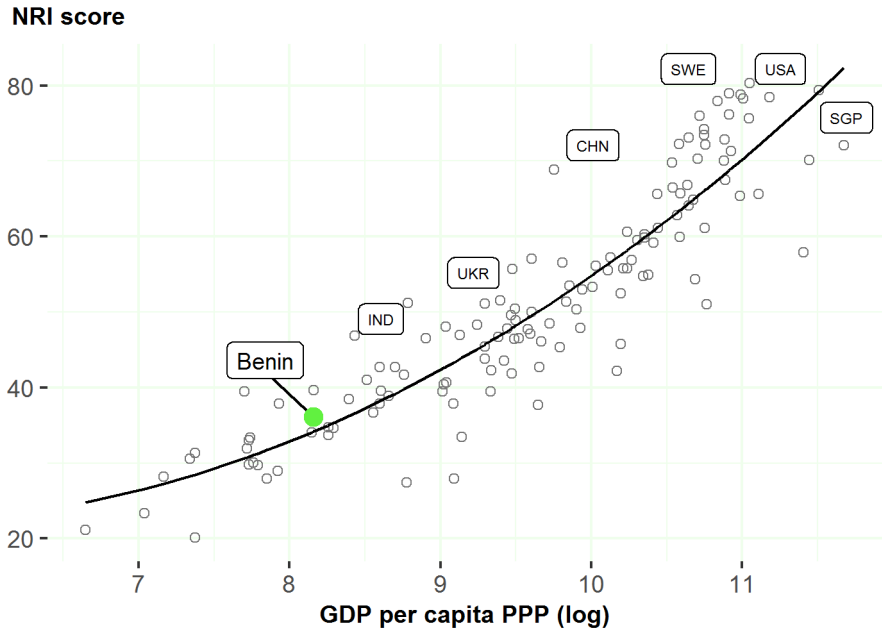
Table 1: Benin rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	65	Quality of Life	109
Businesses	77	Content	110
Trust	85	Access	114
Governments	98	Future Technologies	118
Inclusion	103	Individuals	119
Economy	104	SDG Contribution	119

NRI score and income

Figure 3 shows the position of Benin in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Benin is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Benin belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Benin is ranked 29th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: governance. At the sub-pillar level, it outperforms lower-middle-income countries in three of the twelve sub-pillars: Businesses, Trust and Regulation.

Africa

Benin is ranked 12th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: nri.score, people and governance. With regard to sub-pillars, it outperforms the average in Africa in seven of the twelve sub-pillars: Content, Businesses, Governments, Trust, Regulation, Inclusion and Quality of Life.

Figure 4: Performance of Benin against its income group and region, overall and by pillar

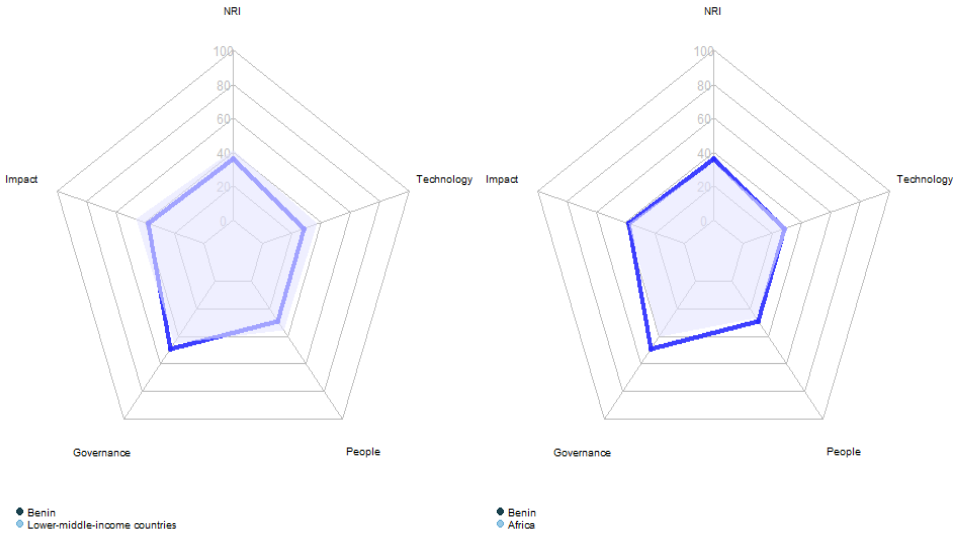


Table 2: Benin scores vs. averages of its income group and region, overall and by pillar

Dimension	Benin	Lower-middle-income countries	Africa
NRI	36.05	40.94	33.77
Technology	27.95	37.28	29.96
People	29.23	35.42	26.81
Governance	49.19	45.00	40.37
Impact	37.81	46.09	37.94

Strongest and weakest indicators

The indicators where Benin performs particularly well include 3.2.4 E-commerce legislation, 3.2.5 Privacy protection by law content, and 2.1.2 ICT skills in the education system (Table 3). By contrast, the economy's weakest indicators include 4.3.1 SDG 3: Good Health and Well-Being, 4.1.2 High-tech exports, and 2.1.5 Adult literacy rate.

Table 3: Strongest and weakest indicators of Benin

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.1.3 FTTH/building Internet subscriptions	98
3.2.5 Privacy protection by law content	20	4.1.3 PCT patent applications	99
2.1.2 ICT skills in the education system	43	2.1.5 Adult literacy rate	102
4.1.5 Prevalence of gig economy	60	4.1.2 High-tech exports	115
3.1.3 Online access to financial account	61	4.3.1 SDG 3: Good Health and Well-Being	126
3.2.3 Regulation of emerging technologies	62		
3.1.2 Cybersecurity	64		
1.2.4 AI scientific publications	65		
4.2.3 Income inequality	68		
2.3.3 Government promotion of investment in emerging technologies	79		
3.3.2 Socioeconomic gap in use of digital payments	82		

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NRI 2022 At-A-Glance: Benin

Network Readiness Index Rank: 110 (out of 131) Score: 36.05

Pillar/sub-pillar	Rank	Score
A. Technology pillar	118	27.95
1st sub-pillar: Access	114	43.63
2nd sub-pillar: Content	110	22.57
3rd sub-pillar: Future Technologies	118	17.64
B. People pillar	113	29.23
1st sub-pillar: Individuals	119	20.19
2nd sub-pillar: Businesses	77	37.38
3rd sub-pillar: Governments	98	30.13

Pillar/sub-pillar	Rank	Score
C. Governance pillar	91	49.19
1st sub-pillar: Trust	85	34.63
2nd sub-pillar: Regulation	65	64.15
3rd sub-pillar: Inclusion	103	48.80
D. Impact pillar	117	37.81
1st sub-pillar: Economy	104	18.44
2nd sub-pillar: Quality of Life	109	50.37
3rd sub-pillar: SDG Contribution	119	44.62

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	118	27.95	
1st sub-pillar: Access	114	43.63	
1.1.1 Mobile tariffs	120	25.36	
1.1.2 Handset prices	111	34.47	
1.1.3 FTTH/building Internet subscriptions	98	3.61	○
1.1.4 Population covered by at least a 3G mobile network	119	92.35	
1.1.5 International Internet bandwidth	106	62.37	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	110	22.57	
1.2.1 GitHub commits	111	0.57	
1.2.2 Internet domain registrations	109	0.41	
1.2.3 Mobile apps development	120	47.80	
1.2.4 AI scientific publications	65	41.49	●
3rd sub-pillar: Future Technologies	118	17.64	
1.3.1 Adoption of emerging technologies	109	26.30	
1.3.2 Investment in emerging technologies	116	22.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	100	4.61	

Indicator	Rank	Score	
C. Governance pillar	91	49.19	
1st sub-pillar: Trust	85	34.63	
3.1.1 Secure Internet servers	121	23.50	
3.1.2 Cybersecurity	64	79.71	●
3.1.3 Online access to financial account	61	30.59	●
3.1.4 Internet shopping	99	4.71	
2nd sub-pillar: Regulation	65	64.15	
3.2.1 Regulatory quality	94	31.20	
3.2.2 ICT regulatory environment	115	60.39	
3.2.3 Regulation of emerging technologies	62	43.95	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	20	85.19	●
3rd sub-pillar: Inclusion	103	48.80	
3.3.1 E-Participation	92	53.09	
3.3.2 Socioeconomic gap in use of digital payments	82	58.72	●
3.3.3 Availability of local online content	112	29.57	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	84	53.85	

Indicator	Rank	Score	
B. People pillar	113	29.23	
1st sub-pillar: Individuals	119	20.19	
2.1.1 Mobile broadband internet traffic within the country	91	2.29	
2.1.2 ICT skills in the education system	43	56.80	●
2.1.3 Use of virtual social networks	117	9.64	
2.1.4 Tertiary enrollment	106	6.38	
2.1.5 Adult literacy rate	102	25.82	○
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	77	37.38	
2.2.1 Firms with website	91	33.27	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	121	6.11	
2.2.4 Annual investment in telecommunication services	85	72.75	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	98	30.13	
2.3.1 Government online services	101	49.70	
2.3.2 Publication and use of open data	96	7.35	
2.3.3 Government promotion of investment in emerging tech	79	33.33	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	117	37.81	
1st sub-pillar: Economy	104	18.44	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	115	1.52	○
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	103	37.00	
4.1.5 Prevalence of gig economy	60	43.60	●
4.1.6 ICT services exports	103	10.10	
2nd sub-pillar: Quality of Life	109	50.37	
4.2.1 Happiness	102	41.22	
4.2.2 Freedom to make life choices	96	59.19	
4.2.3 Income inequality	68	63.32	●
4.2.4 Healthy life expectancy at birth	115	37.78	
3rd sub-pillar: SDG Contribution	119	44.62	
4.3.1 SDG 3: Good Health and Well-Being	126	16.39	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	88	68.42	
4.3.4 SDG 7: Affordable and Clean Energy	105	63.49	
4.3.5 SDG 11: Sustainable Cities and Communities	120	30.17	

NOTE: ● a strength and ○ a weakness.

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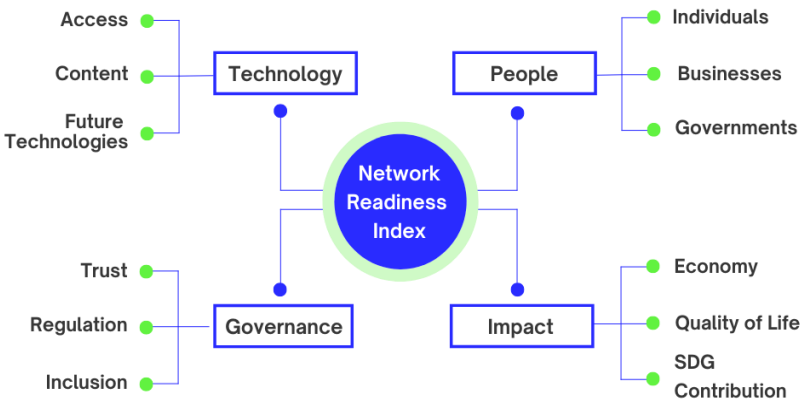
Network Readiness Index 2022 Bolivia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

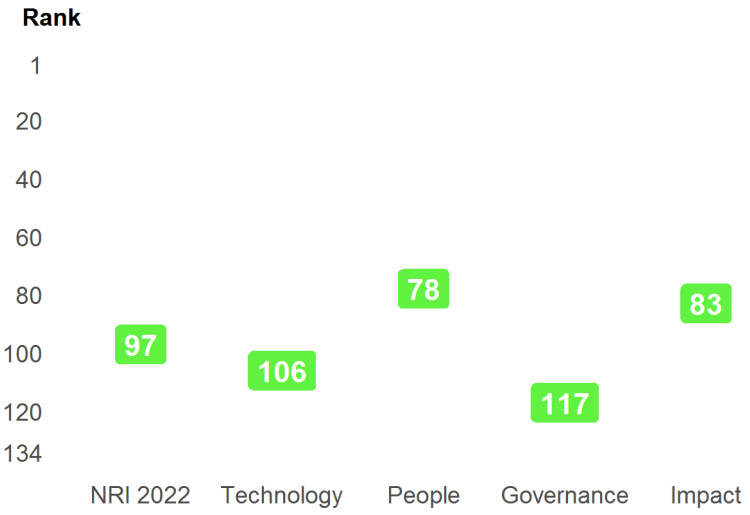
Figure 1: The NRI 2022 model



Global NRI position of Bolivia

Bolivia ranks 97th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Bolivia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Bolivia relate to Individuals, SDG Contribution and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Trust and Regulation sub-pillars.

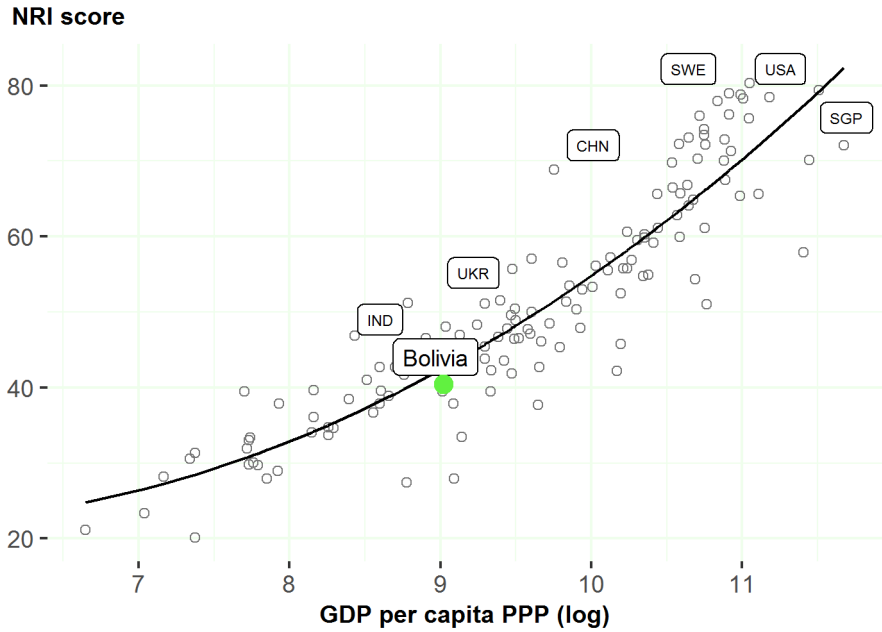
Table 1: Bolivia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	32	Access	100
SDG Contribution	48	Content	108
Businesses	72	Future Technologies	108
Quality of Life	82	Economy	108
Inclusion	90	Trust	115
Governments	99	Regulation	123

NRI score and income

Figure 3 shows the position of Bolivia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Bolivia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Bolivia belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Lower-middle-income countries

Bolivia is ranked 19th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: people and impact. At the sub-pillar level, it outperforms lower-middle-income countries in five of the twelve sub-pillars: Individuals, Businesses, Inclusion, Quality of Life and SDG Contribution.

The Americas

Bolivia is ranked 18th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in two of the twelve sub-pillars: Individuals and SDG Contribution.

Figure 4: Performance of Bolivia against its income group and region, overall and by pillar

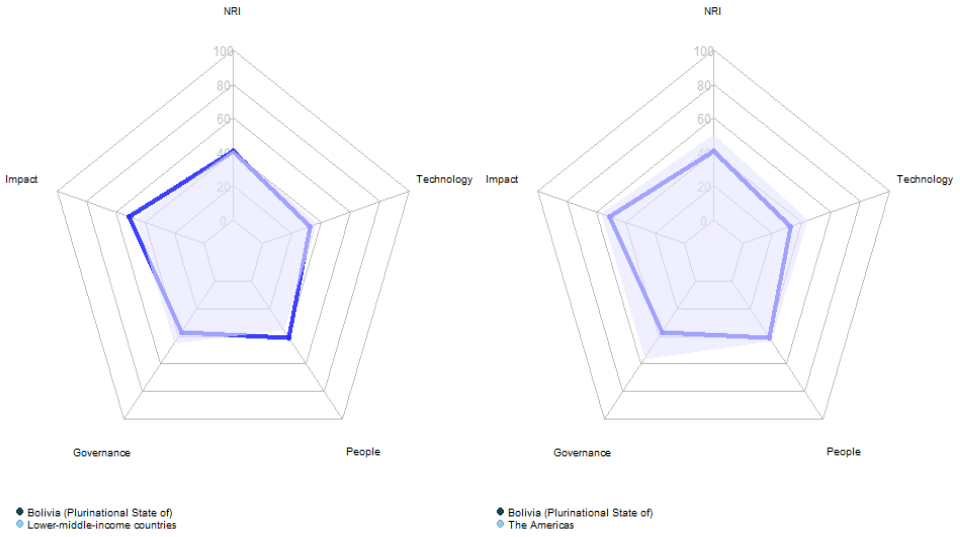


Table 2: Bolivia scores vs. averages of its income group and region, overall and by pillar

Dimension	Bolivia	Lower-middle-income countries	The Americas
NRI	40.41	40.94	50.09
Technology	32.35	37.28	44.16
People	41.40	35.42	43.67
Governance	36.68	45.00	56.24
Impact	51.23	46.09	56.30

Strongest and weakest indicators

The indicators where Bolivia performs particularly well include 4.2.2 Freedom to make life choices, 3.3.5 Rural gap in use of digital payments, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 3.2.1 Regulatory quality, 2.3.3 Government promotion of investment in emerging technologies, and 4.1.5 Prevalence of gig economy.

Table 3: Strongest and weakest indicators of Bolivia

Strongest indicators	Rank	Weakest indicators	Rank
4.2.2 Freedom to make life choices	37	3.2.3 Regulation of emerging technologies	116
3.3.5 Rural gap in use of digital payments	38	2.3.3 Government promotion of investment in emerging technologies	123
4.3.3 SDG 5: Women's economic opportunity	40	4.1.5 Prevalence of gig economy	123
2.2.4 Annual investment in telecommunication services	50	3.2.1 Regulatory quality	124
2.1.5 Adult literacy rate	54	1.3.2 Investment in emerging technologies	128
1.3.4 Computer software spending	57		
3.2.5 Privacy protection by law content	64		
4.3.4 SDG 7: Affordable and Clean Energy	67		
2.1.3 Use of virtual social networks	69		
1.1.1 Mobile tariffs	70		

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NRI 2022 At-A-Glance: Bolivia

Network Readiness Index Rank: 97 (out of 131) Score: 40.41

Pillar/sub-pillar	Rank	Score
A. Technology pillar	106	32.35
1st sub-pillar: Access	100	53.11
2nd sub-pillar: Content	108	23.54
3rd sub-pillar: Future Technologies	108	20.39
B. People pillar	78	41.40
1st sub-pillar: Individuals	32	55.70
2nd sub-pillar: Businesses	72	38.47
3rd sub-pillar: Governments	99	30.02

Pillar/sub-pillar	Rank	Score
C. Governance pillar	117	36.68
1st sub-pillar: Trust	115	20.80
2nd sub-pillar: Regulation	123	34.51
3rd sub-pillar: Inclusion	90	54.71
D. Impact pillar	83	51.23
1st sub-pillar: Economy	108	17.95
2nd sub-pillar: Quality of Life	82	63.84
3rd sub-pillar: SDG Contribution	48	71.91

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	106	32.35	
1st sub-pillar: Access	100	53.11	
1.1.1 Mobile tariffs	70	55.04	●
1.1.2 Handset prices	106	36.81	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	101	97.06	
1.1.5 International Internet bandwidth	80	69.13	
1.1.6 Internet access in schools	72	7.52	
2nd sub-pillar: Content	108	23.54	
1.2.1 GitHub commits	85	3.08	
1.2.2 Internet domain registrations	92	1.19	
1.2.3 Mobile apps development	90	68.80	
1.2.4 AI scientific publications	89	21.08	
3rd sub-pillar: Future Technologies	108	20.39	
1.3.1 Adoption of emerging technologies	105	27.75	
1.3.2 Investment in emerging technologies	128	12.00	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	57	21.43	●

Indicator	Rank	Score	
C. Governance pillar	117	36.68	
1st sub-pillar: Trust	115	20.80	
3.1.1 Secure Internet servers	90	42.67	
3.1.2 Cybersecurity	121	14.66	
3.1.3 Online access to financial account	101	12.41	
3.1.4 Internet shopping	76	13.48	
2nd sub-pillar: Regulation	123	34.51	
3.2.1 Regulatory quality	124	13.87	○
3.2.2 ICT regulatory environment	120	57.06	
3.2.3 Regulation of emerging technologies	116	2.11	○
3.2.4 E-commerce legislation	118	33.33	
3.2.5 Privacy protection by law content	64	66.21	●
3rd sub-pillar: Inclusion	90	54.71	
3.3.1 E-Participation	85	58.02	
3.3.2 Socioeconomic gap in use of digital payments	99	49.89	
3.3.3 Availability of local online content	114	28.37	
3.3.4 Gender gap in Internet use	76	63.87	
3.3.5 Rural gap in use of digital payments	38	73.42	●

Indicator	Rank	Score	
B. People pillar	78	41.40	
1st sub-pillar: Individuals	32	55.70	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	125	9.17	
2.1.3 Use of virtual social networks	69	65.82	●
2.1.4 Tertiary enrollment	NA	NA	
2.1.5 Adult literacy rate	54	92.12	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	72	38.47	
2.2.1 Firms with website	68	46.10	
2.2.2 GERD financed by business enterprise	83	6.39	
2.2.3 Knowledge intensive employment	91	21.89	
2.2.4 Annual investment in telecommunication services	50	79.50	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	99	30.02	
2.3.1 Government online services	87	56.98	
2.3.2 Publication and use of open data	61	26.47	
2.3.3 Government promotion of investment in emerging tech	123	6.60	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	83	51.23	
1st sub-pillar: Economy	108	17.95	
4.1.1 High-tech and medium-high-tech manufacturing	84	11.67	
4.1.2 High-tech exports	80	13.21	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	84	45.34	
4.1.5 Prevalence of gig economy	123	4.94	○
4.1.6 ICT services exports	92	14.58	
2nd sub-pillar: Quality of Life	82	63.84	
4.2.1 Happiness	71	60.36	
4.2.2 Freedom to make life choices	37	82.50	●
4.2.3 Income inequality	95	48.74	
4.2.4 Healthy life expectancy at birth	89	63.74	
3rd sub-pillar: SDG Contribution	48	71.91	
4.3.1 SDG 3: Good Health and Well-Being	82	63.05	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	40	84.21	●
4.3.4 SDG 7: Affordable and Clean Energy	67	79.11	●
4.3.5 SDG 11: Sustainable Cities and Communities	74	61.26	

NOTE: ● a strength and ○ a weakness.

Sources

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Network Readiness Index 2022 Bosnia and Herzegovina

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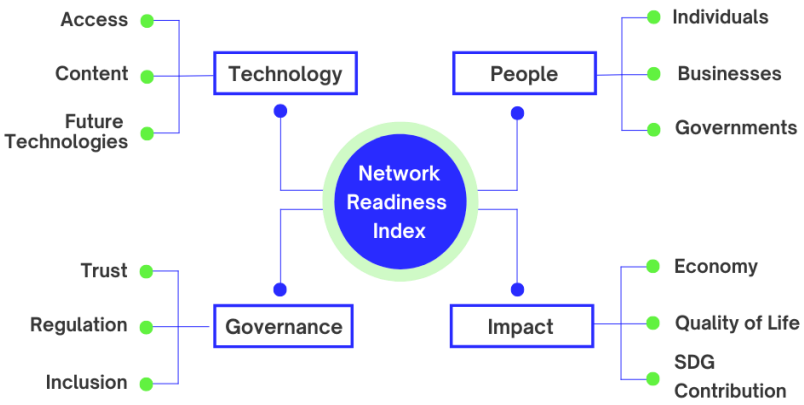
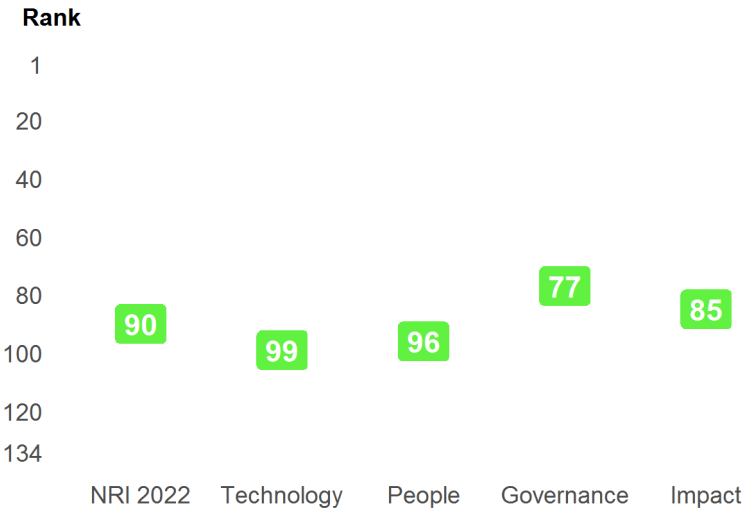
Figure 1: The NRI 2022 model



Global NRI position of Bosnia and Herzegovina

Bosnia and Herzegovina ranks 90th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Bosnia and Herzegovina global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Bosnia and Herzegovina relate to Quality of Life, Businesses and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Governments and Future Technologies sub-pillars.

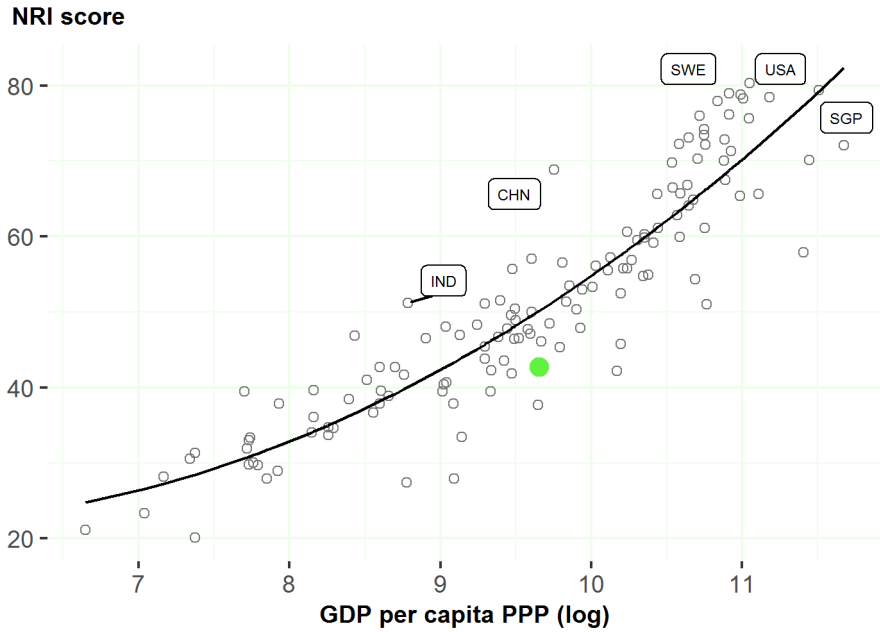
Table 1: Bosnia and Herzegovina rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	59	Economy	88
Businesses	67	Individuals	89
Regulation	70	Access	94
Inclusion	73	SDG Contribution	107
Content	81	Governments	124
Trust	86	Future Technologies	126

NRI score and income

Figure 3 shows the position of Bosnia and Herzegovina in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Bosnia and Herzegovina is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Bosnia and Herzegovina belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

Upper-middle-income countries

Bosnia and Herzegovina is ranked 28th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in two of the twelve sub-pillars: Businesses and Quality of Life.

Europe

Bosnia and Herzegovina is ranked 41st within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Bosnia and Herzegovina against its income group and region, overall and by pillar

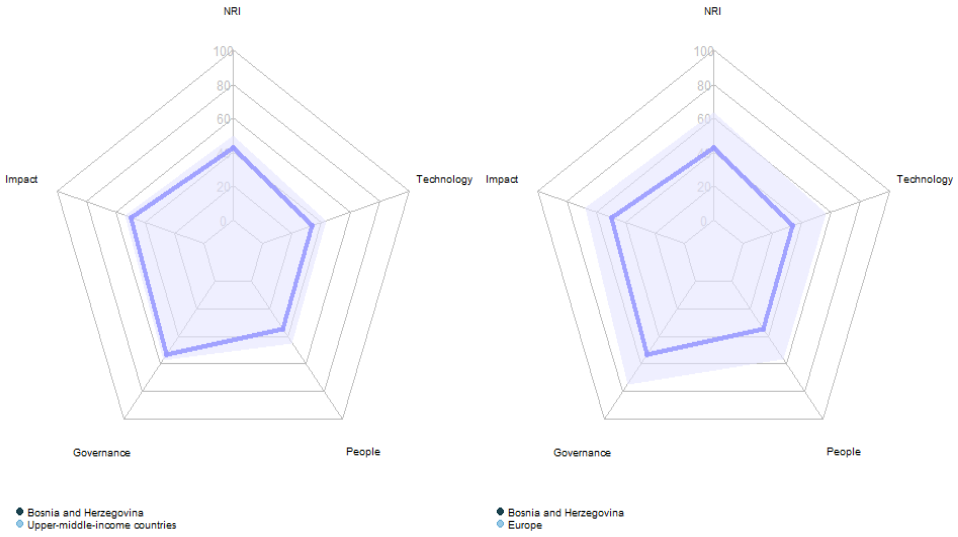


Table 2: Bosnia and Herzegovina scores vs. averages of its income group and region, overall and by pillar

Dimension	Bosnia and Herzegovina	Upper-middle-income countries	Europe
NRI	42.67	49.66	63.72
Technology	33.92	43.11	56.43
People	34.36	44.94	56.35
Governance	53.11	57.08	74.79
Impact	49.31	53.50	67.30

Strongest and weakest indicators

The indicators where Bosnia and Herzegovina performs particularly well include 3.2.4 E-commerce legislation, 3.3.5 Rural gap in use of digital payments, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 2.3.3 Government promotion of investment in emerging technologies, and 4.3.5 SDG 11: Sustainable Cities and Communities.

Table 3: Strongest and weakest indicators of Bosnia and Herzegovina

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	54
3.3.5 Rural gap in use of digital payments	28	3.2.3 Regulation of emerging technologies	107
2.1.5 Adult literacy rate	34	4.3.5 SDG 11: Sustainable Cities and Communities	118
3.2.2 ICT regulatory environment	36	1.3.2 Investment in emerging technologies	125
4.2.3 Income inequality	39	2.3.3 Government promotion of investment in emerging technologies	125
2.2.1 Firms with website	41		
4.1.3 PCT patent applications	47		
3.2.5 Privacy protection by law content	48		
4.2.4 Healthy life expectancy at birth	48		
3.1.1 Secure Internet servers	52		
1.2.1 GitHub commits	53		

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NRI 2022 At-A-Glance: Bosnia and Herzegovina

Network Readiness Index Rank: 90 (out of 131) Score: 42.67

Pillar/sub-pillar	Rank	Score
A. Technology pillar	99	33.92
1st sub-pillar: Access	94	54.75
2nd sub-pillar: Content	81	32.50
3rd sub-pillar: Future Technologies	126	14.51
B. People pillar	96	34.36
1st sub-pillar: Individuals	89	41.63
2nd sub-pillar: Businesses	67	42.72
3rd sub-pillar: Governments	124	18.72

Pillar/sub-pillar	Rank	Score
C. Governance pillar	77	53.11
1st sub-pillar: Trust	86	34.62
2nd sub-pillar: Regulation	70	62.53
3rd sub-pillar: Inclusion	73	62.18
D. Impact pillar	85	49.31
1st sub-pillar: Economy	88	25.50
2nd sub-pillar: Quality of Life	59	70.23
3rd sub-pillar: SDG Contribution	107	52.21

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	99	33.92	
1st sub-pillar: Access	94	54.75	
1.1.1 Mobile tariffs	93	44.80	
1.1.2 Handset prices	63	52.65	
1.1.3 FTTH/building Internet subscriptions	82	13.44	
1.1.4 Population covered by at least a 3G mobile network	78	99.01	
1.1.5 International Internet bandwidth	98	63.85	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	81	32.50	
1.2.1 GitHub commits	53	8.57	●
1.2.2 Internet domain registrations	77	2.57	
1.2.3 Mobile apps development	75	74.87	
1.2.4 AI scientific publications	60	43.98	
3rd sub-pillar: Future Technologies	126	14.51	
1.3.1 Adoption of emerging technologies	95	33.05	
1.3.2 Investment in emerging technologies	125	17.00	○
1.3.3 Robot density	54	0.24	○
1.3.4 Computer software spending	91	7.76	

Indicator	Rank	Score	
C. Governance pillar	77	53.11	
1st sub-pillar: Trust	86	34.62	
3.1.1 Secure Internet servers	52	64.31	●
3.1.2 Cybersecurity	108	28.20	
3.1.3 Online access to financial account	103	10.71	
3.1.4 Internet shopping	51	35.26	
2nd sub-pillar: Regulation	70	62.53	
3.2.1 Regulatory quality	89	34.93	
3.2.2 ICT regulatory environment	36	89.41	●
3.2.3 Regulation of emerging technologies	107	16.05	○
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	48	72.23	●
3rd sub-pillar: Inclusion	73	62.18	
3.3.1 E-Participation	83	59.26	
3.3.2 Socioeconomic gap in use of digital payments	74	65.63	
3.3.3 Availability of local online content	75	54.33	
3.3.4 Gender gap in Internet use	88	56.66	
3.3.5 Rural gap in use of digital payments	28	75.01	●

Indicator	Rank	Score	
B. People pillar	96	34.36	
1st sub-pillar: Individuals	89	41.63	
2.1.1 Mobile broadband internet traffic within the country	101	1.41	
2.1.2 ICT skills in the education system	105	27.81	
2.1.3 Use of virtual social networks	83	58.13	
2.1.4 Tertiary enrollment	76	24.66	
2.1.5 Adult literacy rate	34	96.16	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	67	42.72	
2.2.1 Firms with website	41	67.70	●
2.2.2 GERD financed by business enterprise	51	44.63	
2.2.3 Knowledge intensive employment	83	25.62	
2.2.4 Annual investment in telecommunication services	82	73.83	
2.2.5 GERD performed by business enterprise	64	1.83	
3rd sub-pillar: Governments	124	18.72	
2.3.1 Government online services	94	52.12	
2.3.2 Publication and use of open data	91	8.82	
2.3.3 Government promotion of investment in emerging tech	125	4.46	
2.3.4 R&D expenditure by governments and higher education	90	9.47	

Indicator	Rank	Score	
D. Impact pillar	85	49.31	
1st sub-pillar: Economy	88	25.50	
4.1.1 High-tech and medium-high-tech manufacturing	70	18.29	
4.1.2 High-tech exports	51	32.63	
4.1.3 PCT patent applications	47	8.97	●
4.1.4 Domestic market size	100	38.40	
4.1.5 Prevalence of gig economy	109	21.80	
4.1.6 ICT services exports	56	32.88	
2nd sub-pillar: Quality of Life	59	70.23	
4.2.1 Happiness	64	63.57	
4.2.2 Freedom to make life choices	87	65.10	
4.2.3 Income inequality	39	75.38	●
4.2.4 Healthy life expectancy at birth	48	76.87	●
3rd sub-pillar: SDG Contribution	107	52.21	
4.3.1 SDG 3: Good Health and Well-Being	87	59.55	
4.3.2 SDG 4: Quality Education	62	30.58	
4.3.3 SDG 5: Women's economic opportunity	55	78.95	
4.3.4 SDG 7: Affordable and Clean Energy	106	59.73	
4.3.5 SDG 11: Sustainable Cities and Communities	118	32.25	○

NOTE: ● a strength and ○ a weakness.

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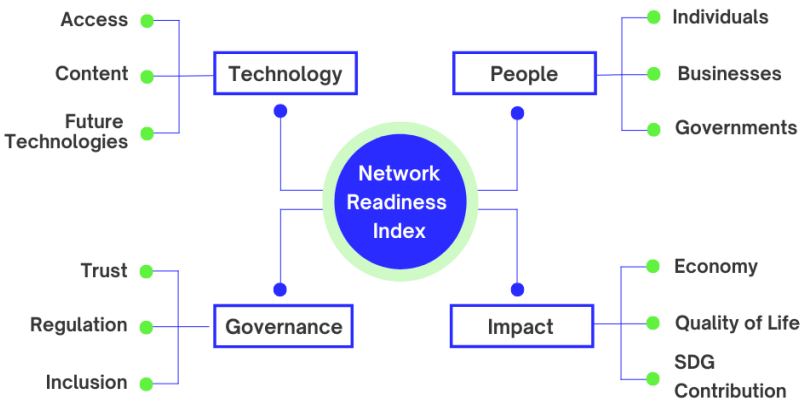
Network Readiness Index 2022 Botswana

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

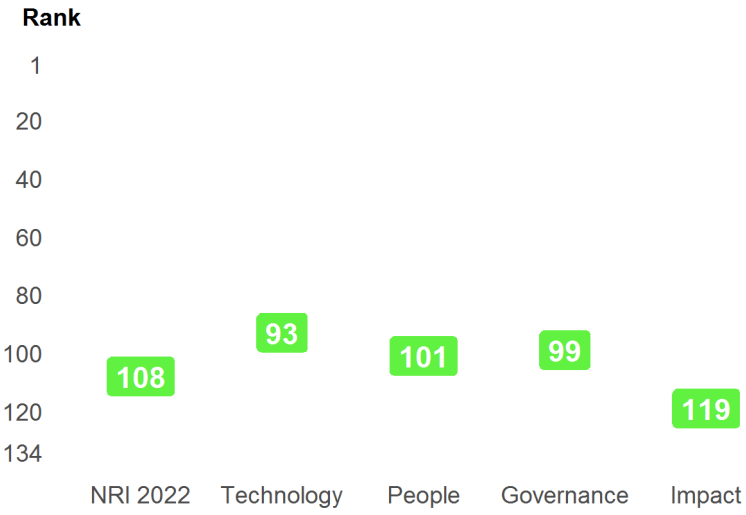
Figure 1: The NRI 2022 model



Global NRI position of Botswana

Botswana ranks 108th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Botswana global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Botswana relate to Regulation, Access and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Quality of Life and Economy sub-pillars.

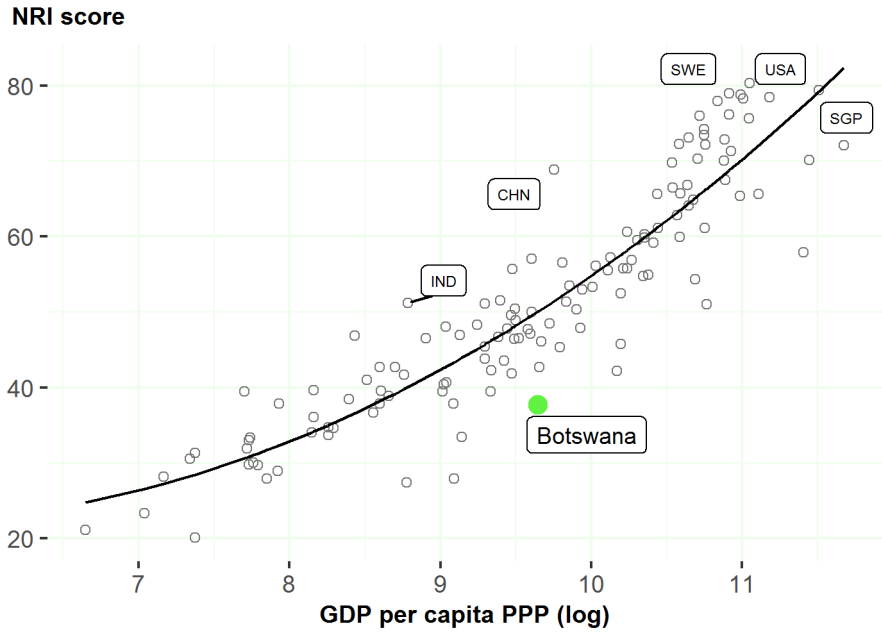
Table 1: Botswana rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	68	Future Technologies	101
Access	79	Content	102
SDG Contribution	85	Governments	110
Trust	90	Inclusion	113
Individuals	93	Quality of Life	123
Businesses	98	Economy	125

NRI score and income

Figure 3 shows the position of Botswana in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Botswana is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Botswana belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Upper-middle-income countries

Botswana is ranked 31st in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in one of the twelve sub-pillars: Regulation.

Africa

Botswana is ranked 10th within Africa (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, technology, people and governance. With regard to sub-pillars, it outperforms the average in Africa in eight of the twelve sub-pillars: Access, Content, Individuals, Businesses, Trust, Regulation, Inclusion and SDG Contribution.

Figure 4: Performance of Botswana against its income group and region, overall and by pillar

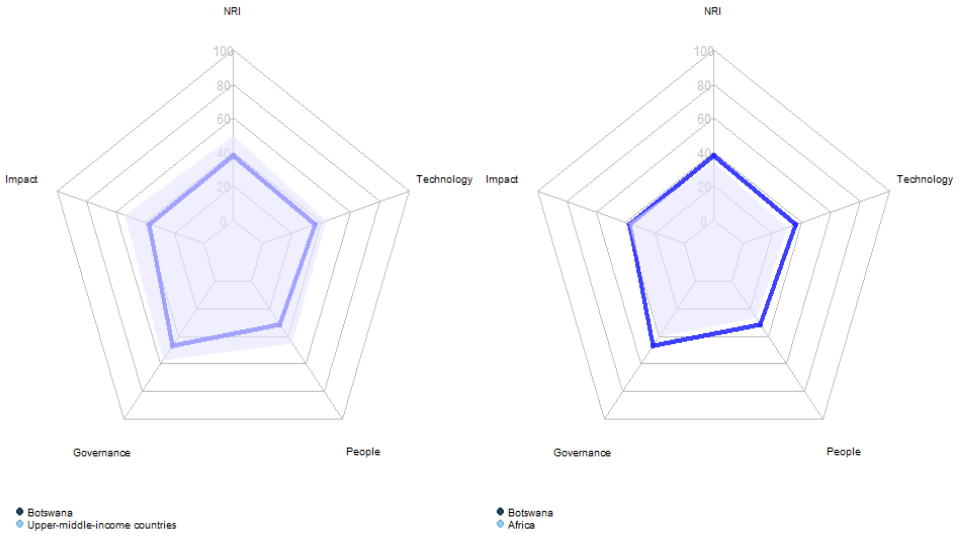


Table 2: Botswana scores vs. averages of its income group and region, overall and by pillar

Dimension	Botswana	Upper-middle-income countries	Africa
NRI	37.72	49.66	33.77
Technology	35.86	43.11	29.96
People	31.66	44.94	26.81
Governance	46.41	57.08	40.37
Impact	36.93	53.50	37.94

Strongest and weakest indicators

The indicators where Botswana performs particularly well include 3.2.4 E-commerce legislation, 4.3.4 SDG 7: Affordable and Clean Energy, and 1.1.2 Handset prices (Table 3). By contrast, the economy's weakest indicators include 4.2.4 Healthy life expectancy at birth, 4.2.1 Happiness, and 4.1.5 Prevalence of gig economy.

Table 3: Strongest and weakest indicators of Botswana

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.1.3 FTTH/building Internet subscriptions	101
4.3.4 SDG 7: Affordable and Clean Energy	27	4.2.3 Income inequality	111
1.1.2 Handset prices	30	4.1.5 Prevalence of gig economy	118
3.2.5 Privacy protection by law content	38	4.2.1 Happiness	123
3.1.3 Online access to financial account	49	4.2.4 Healthy life expectancy at birth	124
3.2.1 Regulatory quality	52		
4.2.2 Freedom to make life choices	54		
2.3.4 R&D expenditure by governments and higher education	57		
2.1.2 ICT skills in the education system	61		
3.3.5 Rural gap in use of digital payments	67		
1.1.5 International Internet bandwidth	76		

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NRI 2022 At-A-Glance: Botswana

Network Readiness Index Rank: 108 (out of 131) Score: 37.72

Pillar/sub-pillar	Rank	Score
A. Technology pillar	93	35.86
1st sub-pillar: Access	79	59.04
2nd sub-pillar: Content	102	25.85
3rd sub-pillar: Future Technologies	101	22.69
B. People pillar	101	31.66
1st sub-pillar: Individuals	93	38.81
2nd sub-pillar: Businesses	98	31.13
3rd sub-pillar: Governments	110	25.04

Pillar/sub-pillar	Rank	Score
C. Governance pillar	99	46.41
1st sub-pillar: Trust	90	34.27
2nd sub-pillar: Regulation	68	63.34
3rd sub-pillar: Inclusion	113	41.63
D. Impact pillar	119	36.93
1st sub-pillar: Economy	125	12.83
2nd sub-pillar: Quality of Life	123	39.31
3rd sub-pillar: SDG Contribution	85	58.65

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	93	35.86	
1st sub-pillar: Access	79	59.04	
1.1.1 Mobile tariffs	78	50.38	
1.1.2 Handset prices	30	72.79	●
1.1.3 FTTH/building Internet subscriptions	101	3.05	○
1.1.4 Population covered by at least a 3G mobile network	75	99.35	
1.1.5 International Internet bandwidth	76	69.64	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	102	25.85	
1.2.1 GitHub commits	106	1.20	
1.2.2 Internet domain registrations	86	1.53	
1.2.3 Mobile apps development	100	63.08	
1.2.4 AI scientific publications	70	37.60	
3rd sub-pillar: Future Technologies	101	22.69	
1.3.1 Adoption of emerging technologies	108	26.73	
1.3.2 Investment in emerging technologies	96	30.75	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	85	10.58	

Indicator	Rank	Score	
C. Governance pillar	99	46.41	
1st sub-pillar: Trust	90	34.27	
3.1.1 Secure Internet servers	85	44.49	
3.1.2 Cybersecurity	92	52.23	
3.1.3 Online access to financial account	49	36.21	●
3.1.4 Internet shopping	101	4.14	
2nd sub-pillar: Regulation	68	63.34	
3.2.1 Regulatory quality	52	52.27	●
3.2.2 ICT regulatory environment	99	67.65	
3.2.3 Regulation of emerging technologies	102	21.32	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	38	75.47	●
3rd sub-pillar: Inclusion	113	41.63	
3.3.1 E-Participation	113	34.56	
3.3.2 Socioeconomic gap in use of digital payments	112	39.83	
3.3.3 Availability of local online content	121	23.56	
3.3.4 Gender gap in Internet use	94	47.77	
3.3.5 Rural gap in use of digital payments	67	62.45	●

Indicator	Rank	Score	
B. People pillar	101	31.66	
1st sub-pillar: Individuals	93	38.81	
2.1.1 Mobile broadband internet traffic within the country	94	1.69	
2.1.2 ICT skills in the education system	61	47.63	●
2.1.3 Use of virtual social networks	95	45.08	
2.1.4 Tertiary enrollment	88	16.60	
2.1.5 Adult literacy rate	70	83.07	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	98	31.13	
2.2.1 Firms with website	93	31.31	
2.2.2 GERD financed by business enterprise	69	21.83	
2.2.3 Knowledge intensive employment	76	28.65	
2.2.4 Annual investment in telecommunication services	95	71.36	
2.2.5 GERD performed by business enterprise	63	2.49	
3rd sub-pillar: Governments	110	25.04	
2.3.1 Government online services	116	34.55	
2.3.2 Publication and use of open data	97	5.88	
2.3.3 Government promotion of investment in emerging tech	91	29.57	
2.3.4 R&D expenditure by governments and higher education	57	30.18	●

Indicator	Rank	Score	
D. Impact pillar	119	36.93	
1st sub-pillar: Economy	125	12.83	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	94	6.19	
4.1.3 PCT patent applications	69	2.87	
4.1.4 Domestic market size	109	35.72	
4.1.5 Prevalence of gig economy	118	11.92	○
4.1.6 ICT services exports	111	7.46	
2nd sub-pillar: Quality of Life	123	39.31	
4.2.1 Happiness	123	23.01	○
4.2.2 Freedom to make life choices	54	77.55	●
4.2.3 Income inequality	111	24.37	○
4.2.4 Healthy life expectancy at birth	124	32.31	○
3rd sub-pillar: SDG Contribution	85	58.65	
4.3.1 SDG 3: Good Health and Well-Being	105	41.65	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	115	49.12	
4.3.4 SDG 7: Affordable and Clean Energy	27	88.55	●
4.3.5 SDG 11: Sustainable Cities and Communities	81	55.29	

NOTE: ● a strength and ○ a weakness.

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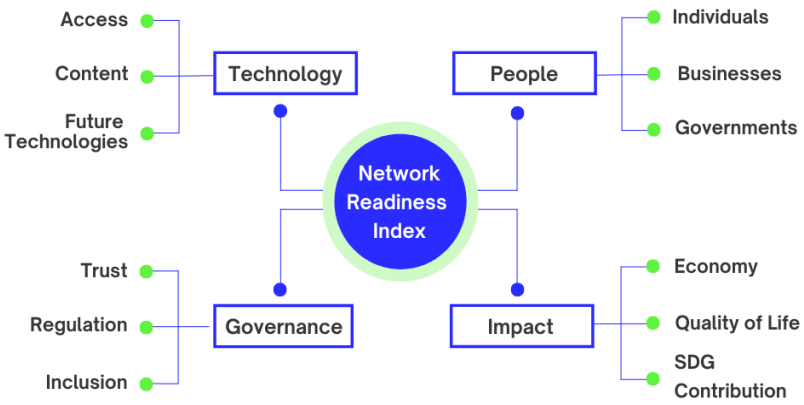
Network Readiness Index 2022 Brazil

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

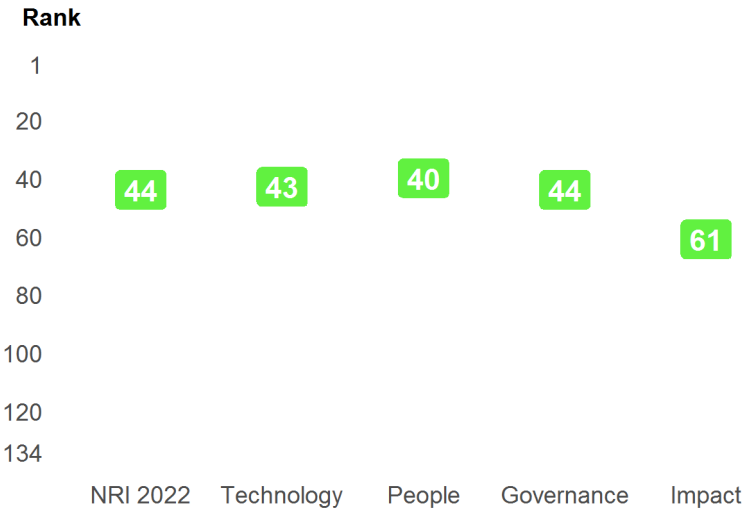
Figure 1: The NRI 2022 model



Global NRI position of Brazil

Brazil ranks 44th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Brazil global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Brazil relate to Inclusion, Access and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Individuals and Quality of Life sub-pillars.

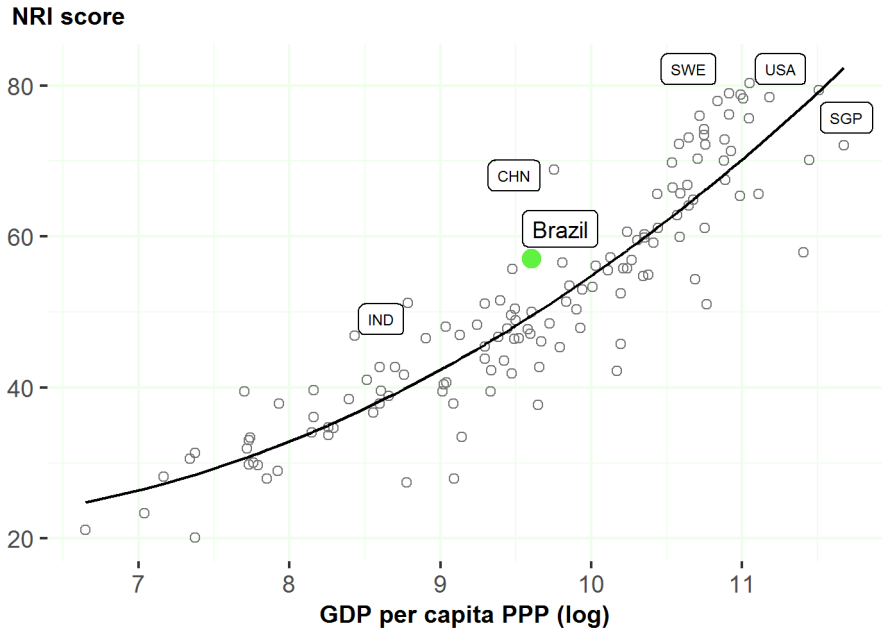
Table 1: Brazil rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	21	Trust	52
Access	27	Economy	57
Governments	30	SDG Contribution	57
Businesses	35	Future Technologies	68
Content	36	Individuals	84
Regulation	50	Quality of Life	87

NRI score and income

Figure 3 shows the position of Brazil in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Brazil is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Brazil belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Brazil is ranked 4th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

The Americas

Brazil is ranked 4th within The Americas (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, technology, people and governance. With regard to sub-pillars, it outperforms the average in The Americas in eight of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust, Regulation, Inclusion and Economy.

Figure 4: Performance of Brazil against its income group and region, overall and by pillar

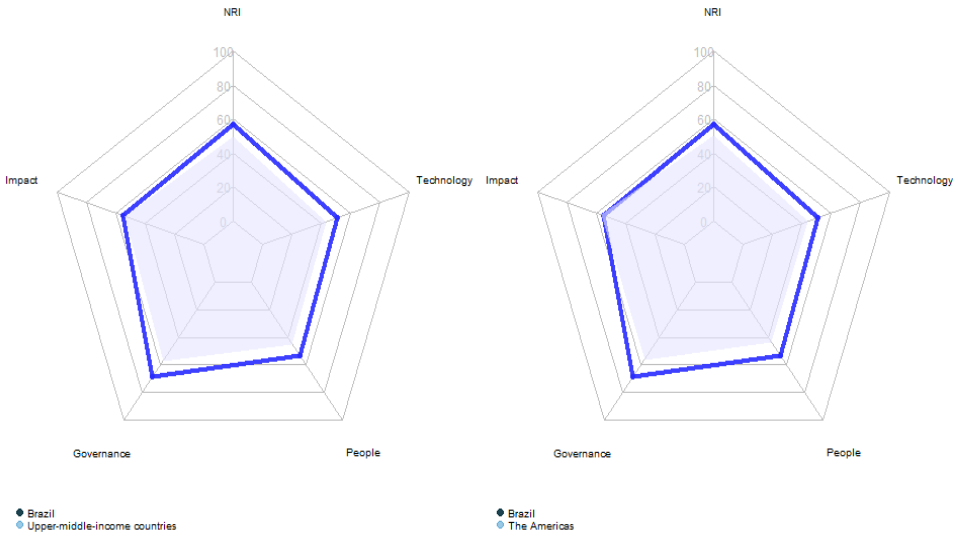


Table 2: Brazil scores vs. averages of its income group and region, overall and by pillar

Dimension	Brazil	Upper-middle-income countries	The Americas
NRI	57.01	49.66	50.09
Technology	50.87	43.11	44.16
People	53.07	44.94	43.67
Governance	68.88	57.08	56.24
Impact	55.21	53.50	56.30

Strongest and weakest indicators

The indicators where Brazil performs particularly well include 3.2.4 E-commerce legislation, 3.3.4 Gender gap in Internet use, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 2.1.2 ICT skills in the education system, 4.2.3 Income inequality, and 1.1.4 Population covered by at least a 3G mobile network.

Table 3: Strongest and weakest indicators of Brazil

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	41
3.3.4 Gender gap in Internet use	3	4.3.2 SDG 4: Quality Education	67
1.1.3 FTTH/building Internet subscriptions	4	1.1.4 Population covered by at least a 3G mobile network	103
4.1.4 Domestic market size	8	4.2.3 Income inequality	106
1.2.4 AI scientific publications	9	2.1.2 ICT skills in the education system	116
2.2.4 Annual investment in telecommunication services	10		
3.3.1 E-Participation	18		
1.1.5 International Internet bandwidth	19		
2.1.1 Mobile broadband internet traffic within the country	20		
2.3.1 Government online services	20		
1.1.1 Mobile tariffs	24		

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NRI 2022 At-A-Glance: Brazil

Network Readiness Index — Rank: 44 (out of 131) — Score: 57.01

Pillar/sub-pillar	Rank	Score
A. Technology pillar	43	50.87
1st sub-pillar: Access	27	74.90
2nd sub-pillar: Content	36	46.87
3rd sub-pillar: Future Technologies	68	30.85
B. People pillar	40	53.07
1st sub-pillar: Individuals	84	42.90
2nd sub-pillar: Businesses	35	57.38
3rd sub-pillar: Governments	30	58.95

Pillar/sub-pillar	Rank	Score
C. Governance pillar	44	68.88
1st sub-pillar: Trust	52	55.17
2nd sub-pillar: Regulation	50	69.53
3rd sub-pillar: Inclusion	21	81.95
D. Impact pillar	61	55.21
1st sub-pillar: Economy	57	36.33
2nd sub-pillar: Quality of Life	87	61.28
3rd sub-pillar: SDG Contribution	57	68.02

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	43	50.87	
1st sub-pillar: Access	27	74.90	
1.1.1 Mobile tariffs	24	78.49	●
1.1.2 Handset prices	52	62.32	
1.1.3 FTTH/building Internet subscriptions	4	69.02	●
1.1.4 Population covered by at least a 3G mobile network	103	96.57	○
1.1.5 International Internet bandwidth	19	80.95	●
1.1.6 Internet access in schools	45	62.04	
2nd sub-pillar: Content	36	46.87	
1.2.1 GitHub commits	48	11.92	
1.2.2 Internet domain registrations	51	7.35	
1.2.3 Mobile apps development	47	84.23	
1.2.4 AI scientific publications	9	83.98	●
3rd sub-pillar: Future Technologies	68	30.85	
1.3.1 Adoption of emerging technologies	46	55.65	
1.3.2 Investment in emerging technologies	66	39.00	
1.3.3 Robot density	44	2.34	
1.3.4 Computer software spending	40	26.41	

Indicator	Rank	Score	
C. Governance pillar	44	68.88	
1st sub-pillar: Trust	52	55.17	
3.1.1 Secure Internet servers	54	64.12	
3.1.2 Cybersecurity	25	96.54	
3.1.3 Online access to financial account	77	19.93	
3.1.4 Internet shopping	47	40.08	
2nd sub-pillar: Regulation	50	69.53	
3.2.1 Regulatory quality	84	36.80	
3.2.2 ICT regulatory environment	28	91.76	
3.2.3 Regulation of emerging technologies	59	45.26	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	43	73.81	
3rd sub-pillar: Inclusion	21	81.95	
3.3.1 E-Participation	18	90.13	●
3.3.2 Socioeconomic gap in use of digital payments	41	88.16	
3.3.3 Availability of local online content	50	67.55	
3.3.4 Gender gap in Internet use	3	88.66	●
3.3.5 Rural gap in use of digital payments	25	75.26	

Indicator	Rank	Score	
B. People pillar	40	53.07	
1st sub-pillar: Individuals	84	42.90	
2.1.1 Mobile broadband internet traffic within the country	20	35.59	●
2.1.2 ICT skills in the education system	116	19.53	○
2.1.3 Use of virtual social networks	45	74.59	
2.1.4 Tertiary enrollment	57	36.38	
2.1.5 Adult literacy rate	59	91.31	
2.1.6 AI talent concentration	41	0.00	○
2nd sub-pillar: Businesses	35	57.38	
2.2.1 Firms with website	63	50.13	
2.2.2 GERD financed by business enterprise	36	53.77	
2.2.3 Knowledge intensive employment	60	36.23	
2.2.4 Annual investment in telecommunication services	10	89.38	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	30	58.95	
2.3.1 Government online services	20	86.67	●
2.3.2 Publication and use of open data	20	61.76	
2.3.3 Government promotion of investment in emerging tech	95	28.41	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	61	55.21	
1st sub-pillar: Economy	57	36.33	
4.1.1 High-tech and medium-high-tech manufacturing	32	48.81	
4.1.2 High-tech exports	52	32.57	
4.1.3 PCT patent applications	54	6.77	
4.1.4 Domestic market size	8	79.77	●
4.1.5 Prevalence of gig economy	94	29.36	
4.1.6 ICT services exports	83	20.73	
2nd sub-pillar: Quality of Life	87	61.28	
4.2.1 Happiness	55	68.22	
4.2.2 Freedom to make life choices	74	70.61	
4.2.3 Income inequality	106	35.43	○
4.2.4 Healthy life expectancy at birth	73	70.87	
3rd sub-pillar: SDG Contribution	57	68.02	
4.3.1 SDG 3: Good Health and Well-Being	49	76.58	
4.3.2 SDG 4: Quality Education	67	29.56	○
4.3.3 SDG 5: Women's economic opportunity	55	78.95	
4.3.4 SDG 7: Affordable and Clean Energy	70	78.20	
4.3.5 SDG 11: Sustainable Cities and Communities	47	76.80	

NOTE: ● a strength and ○ a weakness.

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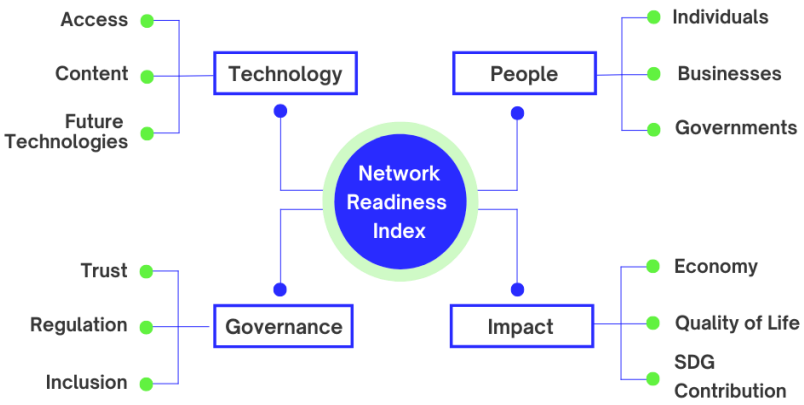
Network Readiness Index 2022 Bulgaria

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

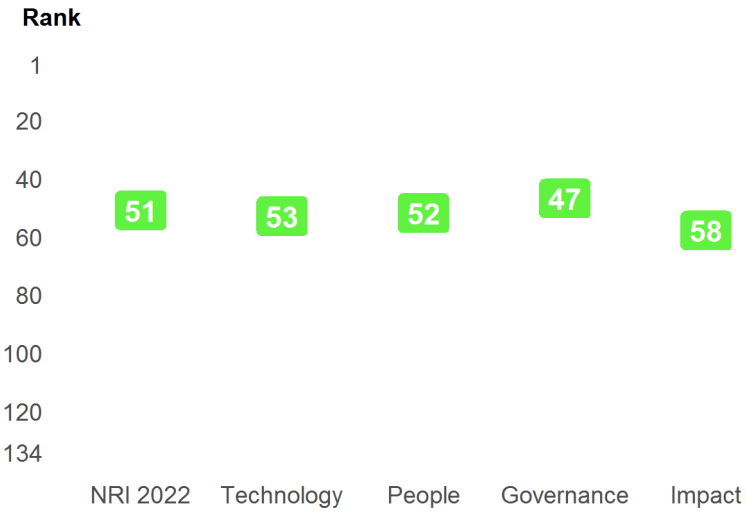
Figure 1: The NRI 2022 model



Global NRI position of Bulgaria

Bulgaria ranks 51st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Bulgaria global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Bulgaria relate to Regulation, Individuals and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, SDG Contribution and Future Technologies sub-pillars.

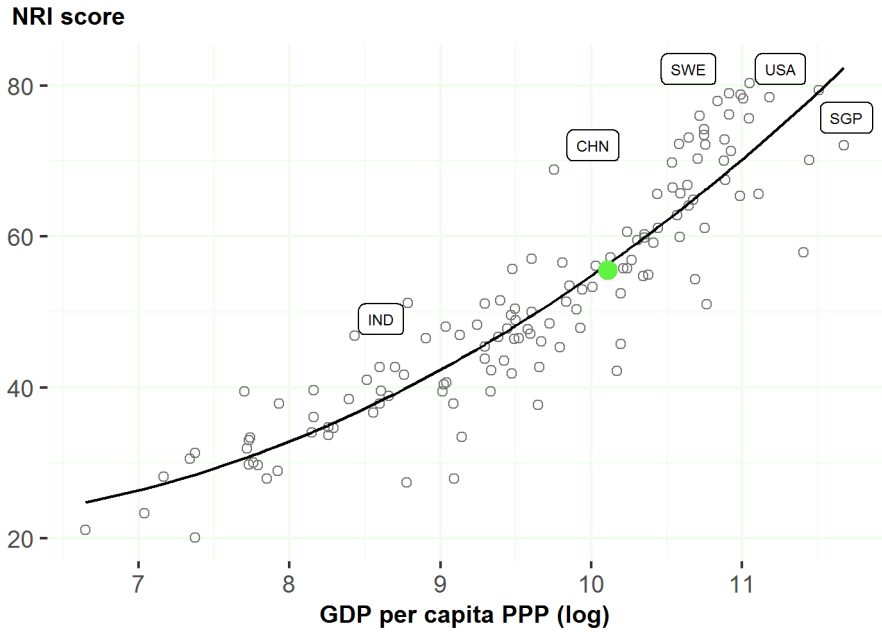
Table 1: Bulgaria rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	30	Trust	55
Individuals	33	Businesses	57
Economy	39	Governments	67
Content	41	Quality of Life	71
Access	43	SDG Contribution	71
Inclusion	52	Future Technologies	76

NRI score and income

Figure 3 shows the position of Bulgaria in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Bulgaria is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Bulgaria belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

Upper-middle-income countries

Bulgaria is ranked 7th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in ten of the twelve sub-pillars: Access, Content, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Europe

Bulgaria is ranked 33rd within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in two of the twelve sub-pillars: Access and Individuals.

Figure 4: Performance of Bulgaria against its income group and region, overall and by pillar

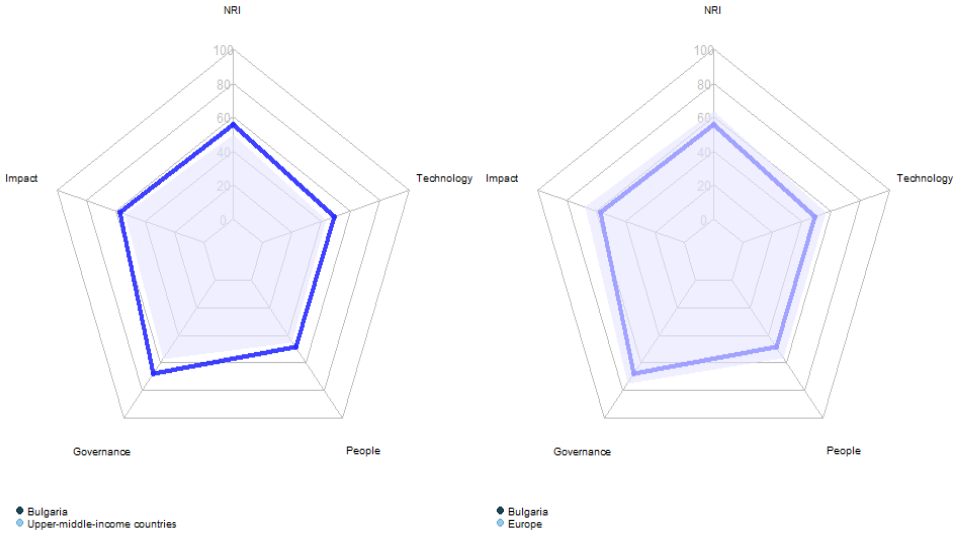


Table 2: Bulgaria scores vs. averages of its income group and region, overall and by pillar

Dimension	Bulgaria	Upper-middle-income countries	Europe
NRI	55.51	49.66	63.72
Technology	48.77	43.11	56.43
People	48.71	44.94	56.35
Governance	67.50	57.08	74.79
Impact	57.07	53.50	67.30

Strongest and weakest indicators

The indicators where Bulgaria performs particularly well include 3.2.4 E-commerce legislation, 3.1.1 Secure Internet servers, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 4.3.5 SDG 11: Sustainable Cities and Communities, 3.1.3 Online access to financial account, and 4.3.4 SDG 7: Affordable and Clean Energy.

Table 3: Strongest and weakest indicators of Bulgaria

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	41
3.1.1 Secure Internet servers	14	2.3.4 R&D expenditure by governments and higher education	77
4.1.6 ICT services exports	18	3.1.3 Online access to financial account	92
1.1.4 Population covered by at least a 3G mobile network	19	4.3.4 SDG 7: Affordable and Clean Energy	92
3.3.1 E-Participation	23	4.3.5 SDG 11: Sustainable Cities and Communities	103
4.1.5 Prevalence of gig economy	24		
3.2.2 ICT regulatory environment	25		
1.2.3 Mobile apps development	27		
2.1.4 Tertiary enrollment	29		
3.2.5 Privacy protection by law content	29		
1.1.5 International Internet bandwidth	30		

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NRI 2022 At-A-Glance: Bulgaria

Network Readiness Index Rank: 51 (out of 131) Score: 55.51

Pillar/sub-pillar	Rank	Score
A. Technology pillar	53	48.77
1st sub-pillar: Access	43	71.73
2nd sub-pillar: Content	41	44.78
3rd sub-pillar: Future Technologies	76	29.79
B. People pillar	52	48.71
1st sub-pillar: Individuals	33	55.60
2nd sub-pillar: Businesses	57	46.15
3rd sub-pillar: Governments	67	44.39

Pillar/sub-pillar	Rank	Score
C. Governance pillar	47	67.50
1st sub-pillar: Trust	55	53.48
2nd sub-pillar: Regulation	30	77.61
3rd sub-pillar: Inclusion	52	71.41
D. Impact pillar	58	57.07
1st sub-pillar: Economy	39	42.05
2nd sub-pillar: Quality of Life	71	66.91
3rd sub-pillar: SDG Contribution	71	62.24

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	53	48.77	
1st sub-pillar: Access	43	71.73	
1.1.1 Mobile tariffs	45	70.13	
1.1.2 Handset prices	35	71.05	
1.1.3 FTTH/building Internet subscriptions	31	38.93	
1.1.4 Population covered by at least a 3G mobile network	19	100.00	●
1.1.5 International Internet bandwidth	30	78.56	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	41	44.78	
1.2.1 GitHub commits	34	23.62	
1.2.2 Internet domain registrations	37	17.62	
1.2.3 Mobile apps development	27	93.11	●
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	76	29.79	
1.3.1 Adoption of emerging technologies	60	48.94	
1.3.2 Investment in emerging technologies	50	46.50	
1.3.3 Robot density	41	3.30	○
1.3.4 Computer software spending	63	20.43	

Indicator	Rank	Score	
C. Governance pillar	47	67.50	
1st sub-pillar: Trust	55	53.48	
3.1.1 Secure Internet servers	14	86.02	●
3.1.2 Cybersecurity	83	66.81	
3.1.3 Online access to financial account	92	16.23	○
3.1.4 Internet shopping	43	44.88	
2nd sub-pillar: Regulation	30	77.61	
3.2.1 Regulatory quality	45	54.93	
3.2.2 ICT regulatory environment	25	92.94	●
3.2.3 Regulation of emerging technologies	41	58.95	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	29	81.25	●
3rd sub-pillar: Inclusion	52	71.41	
3.3.1 E-Participation	23	88.89	●
3.3.2 Socioeconomic gap in use of digital payments	72	67.26	
3.3.3 Availability of local online content	36	78.12	
3.3.4 Gender gap in Internet use	70	67.32	
3.3.5 Rural gap in use of digital payments	79	55.45	

Indicator	Rank	Score	
B. People pillar	52	48.71	
1st sub-pillar: Individuals	33	55.60	
2.1.1 Mobile broadband internet traffic within the country	71	7.18	
2.1.2 ICT skills in the education system	32	64.20	
2.1.3 Use of virtual social networks	79	59.88	
2.1.4 Tertiary enrollment	29	48.81	●
2.1.5 Adult literacy rate	26	97.91	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	57	46.15	
2.2.1 Firms with website	76	41.82	
2.2.2 GERD financed by business enterprise	47	46.48	
2.2.3 Knowledge intensive employment	44	50.65	
2.2.4 Annual investment in telecommunication services	66	76.56	
2.2.5 GERD performed by business enterprise	38	15.23	
3rd sub-pillar: Governments	67	44.39	
2.3.1 Government online services	46	76.37	
2.3.2 Publication and use of open data	41	38.24	
2.3.3 Government promotion of investment in emerging tech	50	45.61	
2.3.4 R&D expenditure by governments and higher education	77	17.36	○

Indicator	Rank	Score	
D. Impact pillar	58	57.07	
1st sub-pillar: Economy	39	42.05	
4.1.1 High-tech and medium-high-tech manufacturing	53	29.65	
4.1.2 High-tech exports	35	48.46	
4.1.3 PCT patent applications	45	9.08	
4.1.4 Domestic market size	68	50.60	
4.1.5 Prevalence of gig economy	24	63.95	●
4.1.6 ICT services exports	18	50.58	●
2nd sub-pillar: Quality of Life	71	66.91	
4.2.1 Happiness	77	57.75	
4.2.2 Freedom to make life choices	46	79.02	
4.2.3 Income inequality	80	57.04	
4.2.4 Healthy life expectancy at birth	60	73.83	
3rd sub-pillar: SDG Contribution	71	62.24	
4.3.1 SDG 3: Good Health and Well-Being	68	68.14	
4.3.2 SDG 4: Quality Education	49	40.04	
4.3.3 SDG 5: Women's economic opportunity	35	86.84	
4.3.4 SDG 7: Affordable and Clean Energy	92	71.43	○
4.3.5 SDG 11: Sustainable Cities and Communities	103	44.76	○

NOTE: ● a strength and ○ a weakness.

Sources

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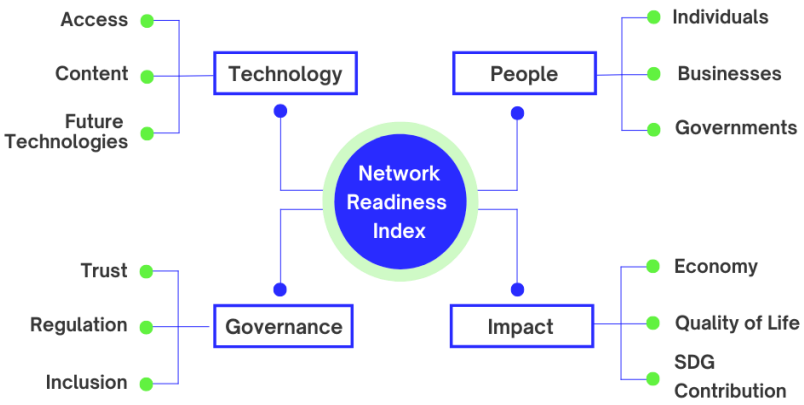
Network Readiness Index 2022 Burkina Faso

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

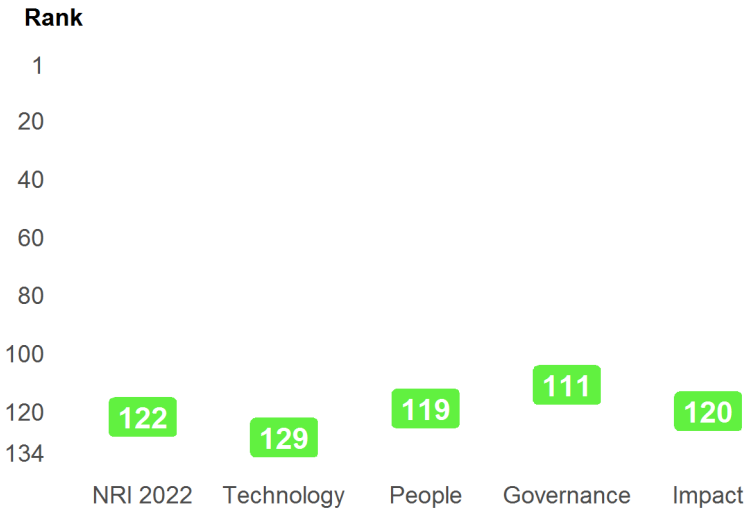
Figure 1: The NRI 2022 model



Global NRI position of Burkina Faso

Burkina Faso ranks 122nd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Burkina Faso global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Burkina Faso relate to Regulation, Governments and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Future Technologies and Individuals sub-pillars.

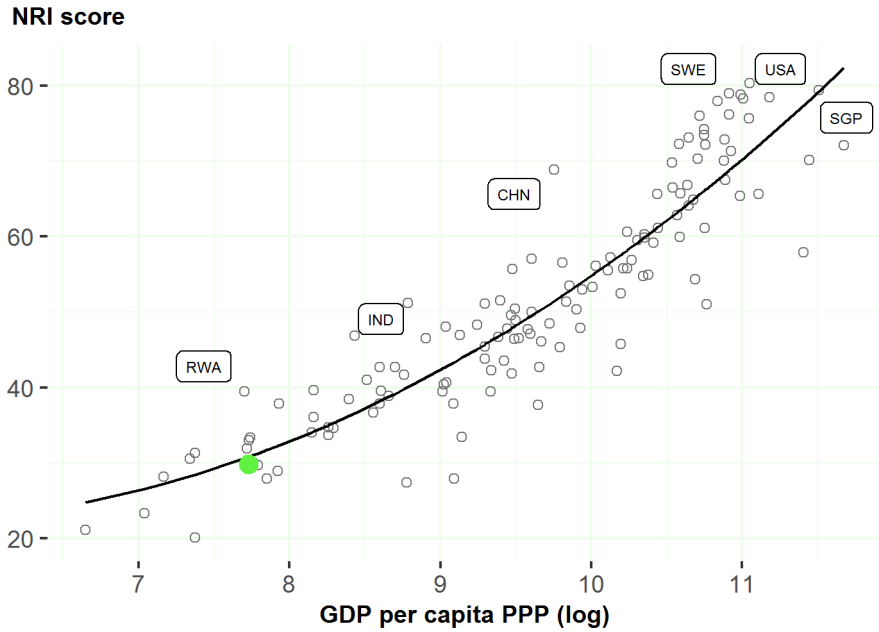
Table 1: Burkina Faso rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	85	Inclusion	119
Governments	91	Quality of Life	120
SDG Contribution	109	Access	125
Businesses	110	Content	126
Trust	114	Future Technologies	129
Economy	115	Individuals	130

NRI score and income

Figure 3 shows the position of Burkina Faso in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Burkina Faso is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Burkina Faso belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Burkina Faso is ranked 8th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: nri.score, people and governance. At the sub-pillar level, it outperforms low-income countries in six of the twelve sub-pillars: Businesses, Governments, Trust, Regulation, Inclusion and SDG Contribution.

Africa

Burkina Faso is ranked 22nd within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in three of the twelve sub-pillars: Governments, Regulation and SDG Contribution.

Figure 4: Performance of Burkina Faso against its income group and region, overall and by pillar

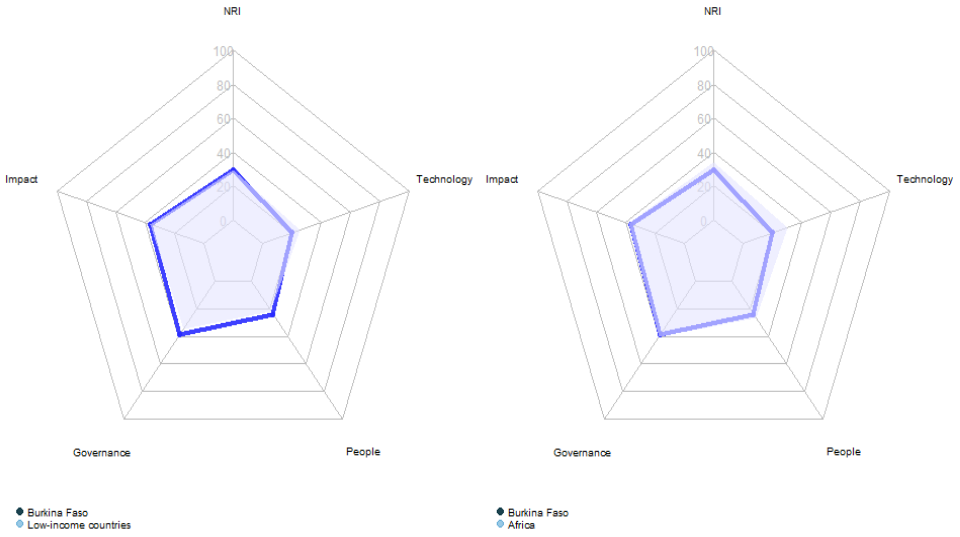


Table 2: Burkina Faso scores vs. averages of its income group and region, overall and by pillar

Dimension	Burkina Faso	Low-income countries	Africa
NRI	29.76	29.49	33.77
Technology	20.27	25.43	29.96
People	23.84	21.74	26.81
Governance	38.65	34.28	40.37
Impact	36.28	36.50	37.94

Strongest and weakest indicators

The indicators where Burkina Faso performs particularly well include 2.3.4 R&D expenditure by governments and higher education, 4.3.3 SDG 5: Women's economic opportunity, and 3.1.3 Online access to financial account (Table 3). By contrast, the economy's weakest indicators include 3.3.3 Availability of local online content, 1.1.2 Handset prices, and 1.2.2 Internet domain registrations.

Table 3: Strongest and weakest indicators of Burkina Faso

Strongest indicators	Rank	Weakest indicators	Rank
2.3.4 R&D expenditure by governments and higher education	26	4.1.3 PCT patent applications	99
4.3.3 SDG 5: Women's economic opportunity	65	1.3.1 Adoption of emerging technologies	125
3.1.3 Online access to financial account	67	1.2.1 GitHub commits	128
3.2.2 ICT regulatory environment	67	3.1.1 Secure Internet servers	128
2.3.2 Publication and use of open data	72	1.1.2 Handset prices	129
2.2.2 GERD financed by business enterprise	73	1.2.2 Internet domain registrations	129
4.1.6 ICT services exports	80	3.3.3 Availability of local online content	130
3.2.5 Privacy protection by law content	82		
4.3.4 SDG 7: Affordable and Clean Energy	83		
3.2.1 Regulatory quality	96		

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NRI 2022 At-A-Glance: Burkina Faso

Network Readiness Index Rank: 122 (out of 131) Score: 29.76

Pillar/sub-pillar	Rank	Score
A. Technology pillar	129	20.27
1st sub-pillar: Access	125	36.17
2nd sub-pillar: Content	126	15.03
3rd sub-pillar: Future Technologies	129	9.62
B. People pillar	119	23.84
1st sub-pillar: Individuals	130	8.30
2nd sub-pillar: Businesses	110	28.68
3rd sub-pillar: Governments	91	34.55

Pillar/sub-pillar	Rank	Score
C. Governance pillar	111	38.65
1st sub-pillar: Trust	114	21.50
2nd sub-pillar: Regulation	85	59.72
3rd sub-pillar: Inclusion	119	34.74
D. Impact pillar	120	36.28
1st sub-pillar: Economy	115	15.70
2nd sub-pillar: Quality of Life	120	41.10
3rd sub-pillar: SDG Contribution	109	52.03

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	129	20.27	
1st sub-pillar: Access	125	36.17	
1.1.1 Mobile tariffs	114	28.66	
1.1.2 Handset prices	129	15.55	○
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	127	74.23	
1.1.5 International Internet bandwidth	115	57.67	
1.1.6 Internet access in schools	76	4.74	
2nd sub-pillar: Content	126	15.03	
1.2.1 GitHub commits	128	0.06	○
1.2.2 Internet domain registrations	129	0.04	○
1.2.3 Mobile apps development	127	37.49	
1.2.4 AI scientific publications	85	22.52	
3rd sub-pillar: Future Technologies	129	9.62	
1.3.1 Adoption of emerging technologies	125	2.44	○
1.3.2 Investment in emerging technologies	110	24.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	109	2.43	

Indicator	Rank	Score	
C. Governance pillar	111	38.65	
1st sub-pillar: Trust	114	21.50	
3.1.1 Secure Internet servers	128	14.30	○
3.1.2 Cybersecurity	99	38.92	
3.1.3 Online access to financial account	67	27.27	●
3.1.4 Internet shopping	96	5.50	
2nd sub-pillar: Regulation	85	59.72	
3.2.1 Regulatory quality	96	29.87	●
3.2.2 ICT regulatory environment	67	82.35	●
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	82	60.00	●
3rd sub-pillar: Inclusion	119	34.74	
3.3.1 E-Participation	96	49.38	
3.3.2 Socioeconomic gap in use of digital payments	102	46.40	
3.3.3 Availability of local online content	130	8.41	○
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	106	34.76	

Indicator	Rank	Score	
B. People pillar	119	23.84	
1st sub-pillar: Individuals	130	8.30	
2.1.1 Mobile broadband internet traffic within the country	115	0.20	
2.1.2 ICT skills in the education system	126	8.58	
2.1.3 Use of virtual social networks	121	6.62	
2.1.4 Tertiary enrollment	113	4.17	
2.1.5 Adult literacy rate	104	21.93	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	110	28.68	
2.2.1 Firms with website	118	8.90	
2.2.2 GERD financed by business enterprise	73	14.72	●
2.2.3 Knowledge intensive employment	97	17.88	
2.2.4 Annual investment in telecommunication services	83	73.21	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	91	34.55	
2.3.1 Government online services	108	44.85	
2.3.2 Publication and use of open data	72	20.59	●
2.3.3 Government promotion of investment in emerging tech	106	18.36	
2.3.4 R&D expenditure by governments and higher education	26	54.41	●

Indicator	Rank	Score	
D. Impact pillar	120	36.28	
1st sub-pillar: Economy	115	15.70	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	111	1.92	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	101	38.29	
4.1.5 Prevalence of gig economy	115	15.99	
4.1.6 ICT services exports	80	22.31	●
2nd sub-pillar: Quality of Life	120	41.10	
4.2.1 Happiness	97	43.75	
4.2.2 Freedom to make life choices	118	45.65	
4.2.3 Income inequality	102	39.45	
4.2.4 Healthy life expectancy at birth	116	35.57	
3rd sub-pillar: SDG Contribution	109	52.03	
4.3.1 SDG 3: Good Health and Well-Being	122	24.54	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	65	75.44	●
4.3.4 SDG 7: Affordable and Clean Energy	83	73.52	●
4.3.5 SDG 11: Sustainable Cities and Communities	116	34.61	

NOTE: ● a strength and ○ a weakness.

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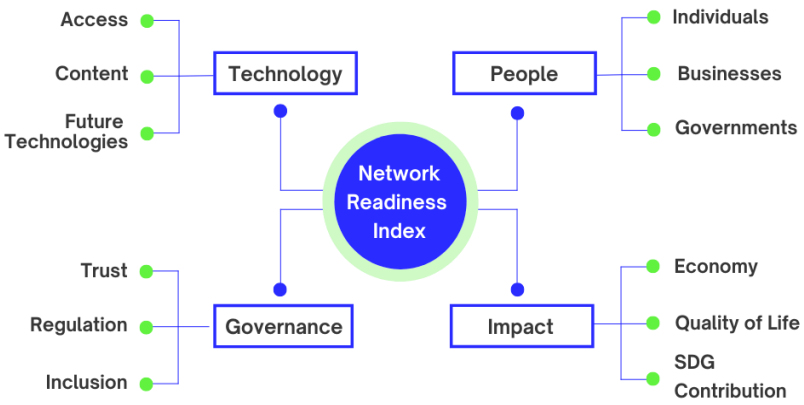
Network Readiness Index 2022 Burundi

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

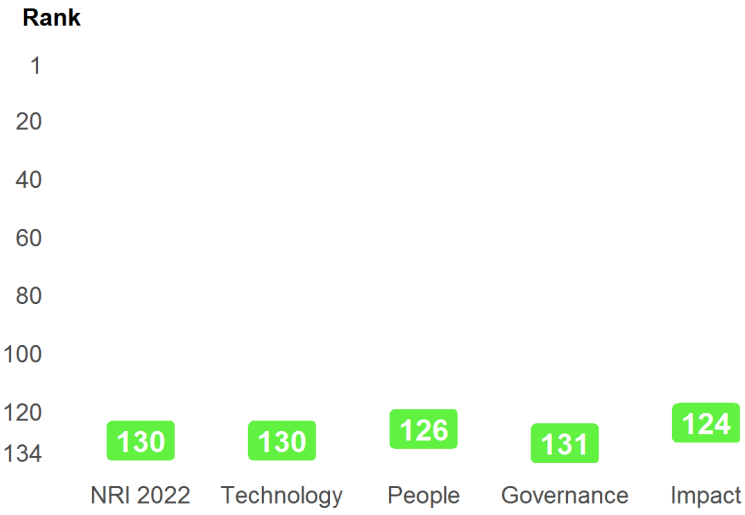
Figure 1: The NRI 2022 model



Global NRI position of Burundi

Burundi ranks 130th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Burundi global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Burundi relate to Governments, Quality of Life and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Regulation and Inclusion sub-pillars.

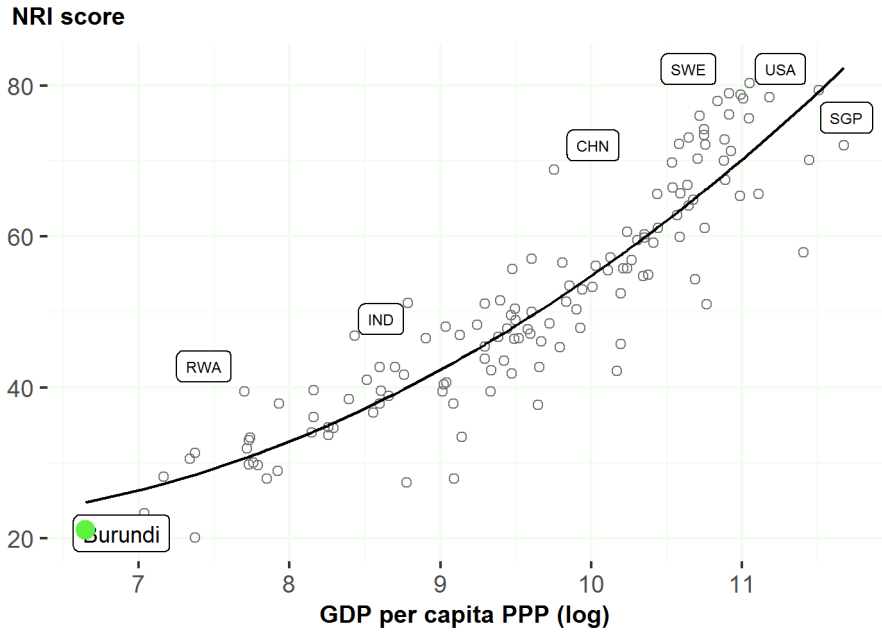
Table 1: Burundi rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	116	SDG Contribution	127
Quality of Life	119	Businesses	128
Economy	120	Access	131
Individuals	122	Trust	131
Future Technologies	123	Regulation	131
Content	127	Inclusion	131

NRI score and income

Figure 3 shows the position of Burundi in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Burundi is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Burundi belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Burundi is ranked 13th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms low-income countries in one of the twelve sub-pillars: Individuals.

Africa

Burundi is ranked 30th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Burundi against its income group and region, overall and by pillar

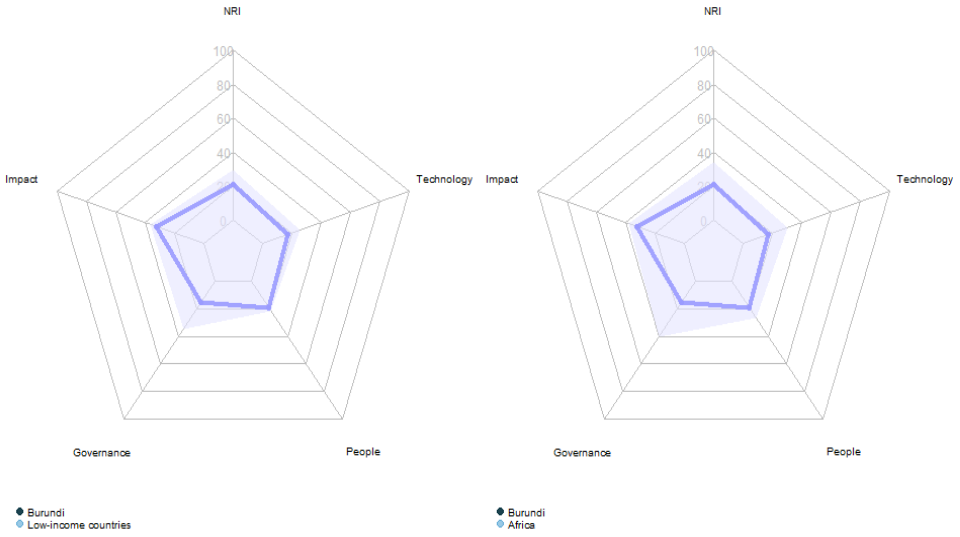


Table 2: Burundi scores vs. averages of its income group and region, overall and by pillar

Dimension	Burundi	Low-income countries	Africa
NRI	21.11	29.49	33.77
Technology	17.23	25.43	29.96
People	19.21	21.74	26.81
Governance	15.48	34.28	40.37
Impact	32.52	36.50	37.94

Strongest and weakest indicators

The indicators where Burundi performs particularly well include 4.2.3 Income inequality, 2.2.2 GERD financed by business enterprise, and 2.2.5 GERD performed by business enterprise (Table 3). By contrast, the economy's weakest indicators include 1.1.2 Handset prices, 2.2.3 Knowledge intensive employment, and 3.1.2 Cybersecurity.

Table 3: Strongest and weakest indicators of Burundi

Strongest indicators	Rank	Weakest indicators	Rank
4.2.3 Income inequality	72	3.3.4 Gender gap in Internet use	104
2.2.2 GERD financed by business enterprise	78	3.2.4 E-commerce legislation	126
2.2.5 GERD performed by business enterprise	81	3.3.2 Socioeconomic gap in use of digital payments	127
3.2.3 Regulation of emerging technologies	82	1.1.1 Mobile tariffs	128
2.3.4 R&D expenditure by governments and higher education	88	1.1.4 Population covered by at least a 3G mobile network	128
4.1.6 ICT services exports	88	4.1.4 Domestic market size	128
4.1.5 Prevalence of gig economy	91	3.2.5 Privacy protection by law content	129
1.3.4 Computer software spending	95	1.1.2 Handset prices	130
4.3.3 SDG 5: Women's economic opportunity	101	2.2.3 Knowledge intensive employment	130
2.3.3 Government promotion of investment in emerging technologies	103	3.1.2 Cybersecurity	130

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NRI 2022 At-A-Glance: Burundi

Network Readiness Index Rank: 130 (out of 131) Score: 21.11

Pillar/sub-pillar	Rank	Score
A. Technology pillar	130	17.23
1st sub-pillar: Access	131	21.04
2nd sub-pillar: Content	127	14.89
3rd sub-pillar: Future Technologies	123	15.74
B. People pillar	126	19.21
1st sub-pillar: Individuals	122	17.45
2nd sub-pillar: Businesses	128	18.45
3rd sub-pillar: Governments	116	21.73

Pillar/sub-pillar	Rank	Score
C. Governance pillar	131	15.48
1st sub-pillar: Trust	131	8.77
2nd sub-pillar: Regulation	131	23.40
3rd sub-pillar: Inclusion	131	14.27
D. Impact pillar	124	32.52
1st sub-pillar: Economy	120	13.57
2nd sub-pillar: Quality of Life	119	43.44
3rd sub-pillar: SDG Contribution	127	40.54

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	130	17.23	
1st sub-pillar: Access	131	21.04	
1.1.1 Mobile tariffs	128	7.11	○
1.1.2 Handset prices	130	0.00	○
1.1.3 FTTH/building Internet subscriptions	104	1.24	
1.1.4 Population covered by at least a 3G mobile network	128	71.29	○
1.1.5 International Internet bandwidth	127	46.62	
1.1.6 Internet access in schools	79	0.00	
2nd sub-pillar: Content	127	14.89	
1.2.1 GitHub commits	126	0.13	
1.2.2 Internet domain registrations	123	0.09	
1.2.3 Mobile apps development	114	52.92	
1.2.4 AI scientific publications	98	6.44	
3rd sub-pillar: Future Technologies	123	15.74	
1.3.1 Adoption of emerging technologies	117	17.31	
1.3.2 Investment in emerging technologies	111	23.50	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	95	6.41	●

Indicator	Rank	Score	
C. Governance pillar	131	15.48	
1st sub-pillar: Trust	131	8.77	
3.1.1 Secure Internet servers	126	17.53	
3.1.2 Cybersecurity	130	0.00	○
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	131	23.40	
3.2.1 Regulatory quality	124	13.87	
3.2.2 ICT regulatory environment	118	57.65	
3.2.3 Regulation of emerging technologies	82	32.37	●
3.2.4 E-commerce legislation	126	0.00	○
3.2.5 Privacy protection by law content	129	13.12	○
3rd sub-pillar: Inclusion	131	14.27	
3.3.1 E-Participation	118	30.86	
3.3.2 Socioeconomic gap in use of digital payments	127	0.00	○
3.3.3 Availability of local online content	118	26.20	
3.3.4 Gender gap in Internet use	104	0.00	○
3.3.5 Rural gap in use of digital payments	NA	NA	

Indicator	Rank	Score	
B. People pillar	126	19.21	
1st sub-pillar: Individuals	122	17.45	
2.1.1 Mobile broadband internet traffic within the country	113	0.23	
2.1.2 ICT skills in the education system	113	22.78	
2.1.3 Use of virtual social networks	126	2.73	
2.1.4 Tertiary enrollment	123	2.21	
2.1.5 Adult literacy rate	92	59.31	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	128	18.45	
2.2.1 Firms with website	106	18.60	
2.2.2 GERD financed by business enterprise	78	10.85	●
2.2.3 Knowledge intensive employment	130	0.00	○
2.2.4 Annual investment in telecommunication services	109	62.34	
2.2.5 GERD performed by business enterprise	81	0.48	●
3rd sub-pillar: Governments	116	21.73	
2.3.1 Government online services	119	33.33	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	103	21.15	
2.3.4 R&D expenditure by governments and higher education	88	10.70	●

Indicator	Rank	Score	
D. Impact pillar	124	32.52	
1st sub-pillar: Economy	120	13.57	
4.1.1 High-tech and medium-high-tech manufacturing	101	2.41	
4.1.2 High-tech exports	121	0.07	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	128	18.65	○
4.1.5 Prevalence of gig economy	91	30.81	●
4.1.6 ICT services exports	88	15.90	●
2nd sub-pillar: Quality of Life	119	43.44	
4.2.1 Happiness	118	28.43	
4.2.2 Freedom to make life choices	117	46.03	
4.2.3 Income inequality	72	61.31	●
4.2.4 Healthy life expectancy at birth	114	37.99	
3rd sub-pillar: SDG Contribution	127	40.54	
4.3.1 SDG 3: Good Health and Well-Being	120	26.46	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	101	62.28	●
4.3.4 SDG 7: Affordable and Clean Energy	119	47.37	
4.3.5 SDG 11: Sustainable Cities and Communities	123	26.06	

NOTE: ● a strength and ○ a weakness.

Sources

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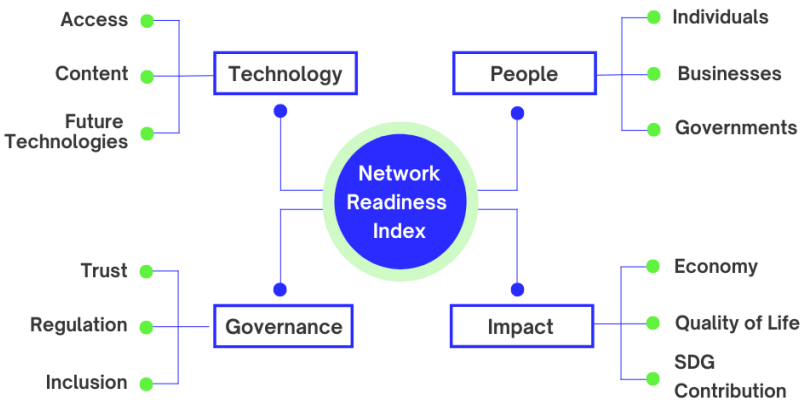
Network Readiness Index 2022 Cabo Verde

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

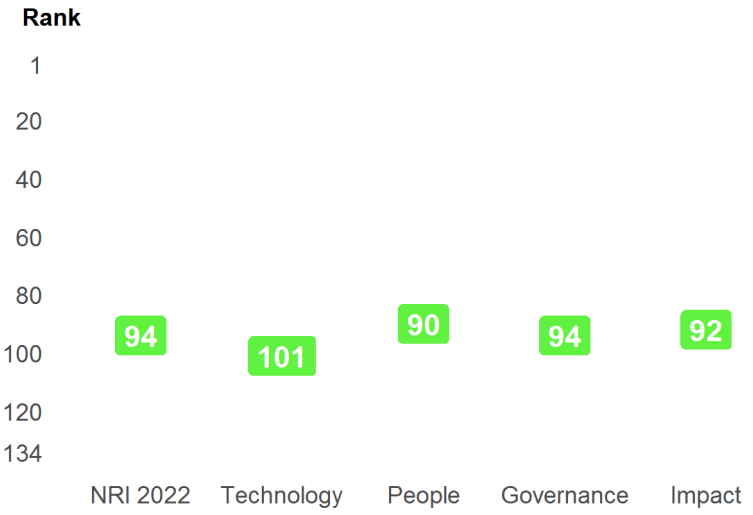
Figure 1: The NRI 2022 model



Global NRI position of Cabo Verde

Cabo Verde ranks 94th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Cabo Verde global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Cabo Verde relate to SDG Contribution, Future Technologies and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Access and Economy sub-pillars.

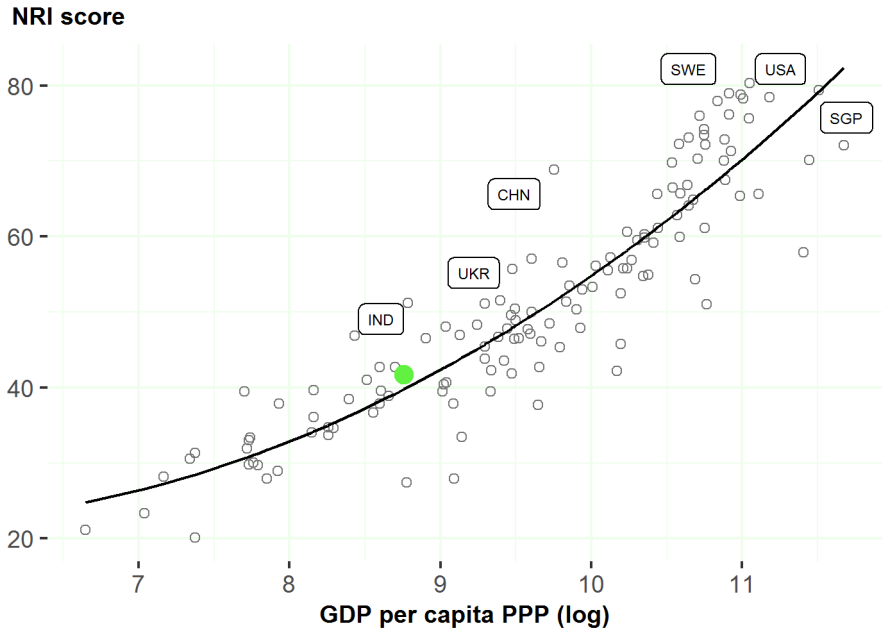
Table 1: Cabo Verde rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	50	Inclusion	93
Future Technologies	66	Individuals	96
Regulation	67	Content	99
Governments	82	Trust	101
Businesses	89	Access	120
Quality of Life	90	Economy	121

NRI score and income

Figure 3 shows the position of Cabo Verde in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Cabo Verde is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Cabo Verde belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Cabo Verde is ranked 16th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, people, governance and impact. At the sub-pillar level, it outperforms lower-middle-income countries in seven of the twelve sub-pillars: Future Technologies, Businesses, Governments, Regulation, Inclusion, Quality of Life and SDG Contribution.

Africa

Cabo Verde is ranked 4th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in ten of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Cabo Verde against its income group and region, overall and by pillar

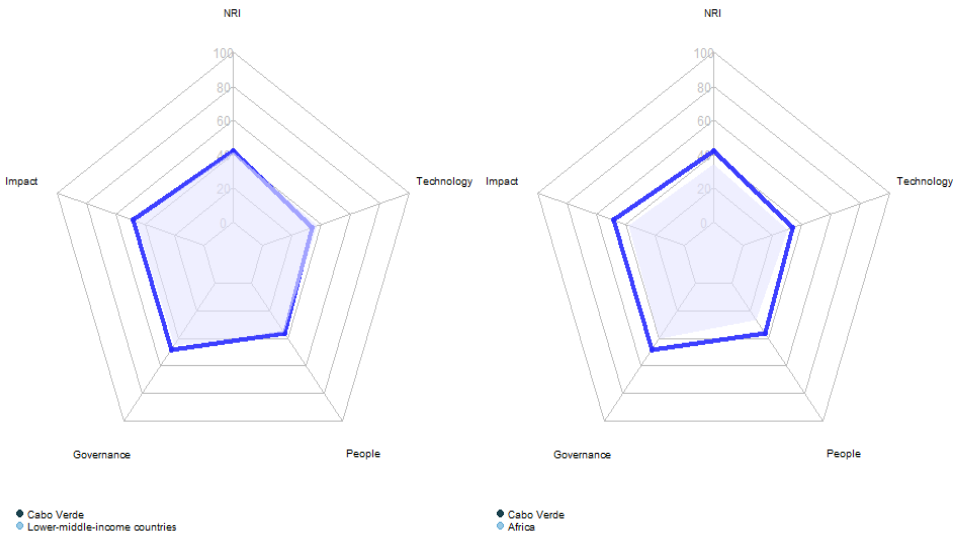


Table 2: Cabo Verde scores vs. averages of its income group and region, overall and by pillar

Dimension	Cabo Verde	Lower-middle-income countries	Africa
NRI	41.68	40.94	33.77
Technology	33.53	37.28	29.96
People	36.26	35.42	26.81
Governance	48.47	45.00	40.37
Impact	48.45	46.09	37.94

Strongest and weakest indicators

The indicators where Cabo Verde performs particularly well include 3.2.4 E-commerce legislation, 4.3.4 SDG 7: Affordable and Clean Energy, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 4.1.2 High-tech exports, and 2.1.1 Mobile broadband internet traffic within the country.

Table 3: Strongest and weakest indicators of Cabo Verde

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.1.3 FTTH/building Internet subscriptions	100
4.3.4 SDG 7: Affordable and Clean Energy	21	2.2.4 Annual investment in telecommunication services	106
3.2.5 Privacy protection by law content	45	2.1.1 Mobile broadband internet traffic within the country	112
4.3.3 SDG 5: Women's economic opportunity	49	4.1.2 High-tech exports	120
3.3.4 Gender gap in Internet use	61	4.1.4 Domestic market size	131
1.2.1 GitHub commits	74		
4.3.1 SDG 3: Good Health and Well-Being	74		
3.2.1 Regulatory quality	76		
1.2.3 Mobile apps development	77		
4.2.4 Healthy life expectancy at birth	77		
2.1.2 ICT skills in the education system	78		

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NRI 2022 At-A-Glance: Cabo Verde

Network Readiness Index Rank: 94 (out of 131) Score: 41.68

Pillar/sub-pillar	Rank	Score
A. Technology pillar	101	33.53
1st sub-pillar: Access	120	42.21
2nd sub-pillar: Content	99	26.50
3rd sub-pillar: Future Technologies	66	31.87
B. People pillar	90	36.26
1st sub-pillar: Individuals	96	37.33
2nd sub-pillar: Businesses	89	34.07
3rd sub-pillar: Governments	82	37.40

Pillar/sub-pillar	Rank	Score
C. Governance pillar	94	48.47
1st sub-pillar: Trust	101	28.82
2nd sub-pillar: Regulation	67	63.68
3rd sub-pillar: Inclusion	93	52.91
D. Impact pillar	92	48.45
1st sub-pillar: Economy	121	13.46
2nd sub-pillar: Quality of Life	90	60.31
3rd sub-pillar: SDG Contribution	50	71.59

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	101	33.53	
1st sub-pillar: Access	120	42.21	
1.1.1 Mobile tariffs	113	29.41	
1.1.2 Handset prices	92	41.34	
1.1.3 FTTH/building Internet subscriptions	100	3.19	○
1.1.4 Population covered by at least a 3G mobile network	96	97.91	
1.1.5 International Internet bandwidth	123	52.28	
1.1.6 Internet access in schools	60	29.14	
2nd sub-pillar: Content	99	26.50	
1.2.1 GitHub commits	74	4.11	●
1.2.2 Internet domain registrations	85	1.69	
1.2.3 Mobile apps development	77	73.69	●
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	66	31.87	
1.3.1 Adoption of emerging technologies	101	29.74	
1.3.2 Investment in emerging technologies	85	34.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	94	48.47	
1st sub-pillar: Trust	101	28.82	
3.1.1 Secure Internet servers	93	41.35	
3.1.2 Cybersecurity	119	16.29	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	67	63.68	
3.2.1 Regulatory quality	76	39.20	●
3.2.2 ICT regulatory environment	81	75.68	
3.2.3 Regulation of emerging technologies	86	30.53	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	45	73.00	●
3rd sub-pillar: Inclusion	93	52.91	
3.3.1 E-Participation	108	39.51	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	87	50.48	
3.3.4 Gender gap in Internet use	61	68.73	●
3.3.5 Rural gap in use of digital payments	NA	NA	

Indicator	Rank	Score	
B. People pillar	90	36.26	
1st sub-pillar: Individuals	96	37.33	
2.1.1 Mobile broadband internet traffic within the country	112	0.27	○
2.1.2 ICT skills in the education system	78	39.05	●
2.1.3 Use of virtual social networks	89	49.37	
2.1.4 Tertiary enrollment	92	14.91	
2.1.5 Adult literacy rate	71	83.02	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	89	34.07	
2.2.1 Firms with website	113	11.21	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	87	24.15	
2.2.4 Annual investment in telecommunication services	106	66.85	○
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	82	37.40	
2.3.1 Government online services	103	48.49	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	99	26.31	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	92	48.45	
1st sub-pillar: Economy	121	13.46	
4.1.1 High-tech and medium-high-tech manufacturing	87	10.83	
4.1.2 High-tech exports	120	0.11	○
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	131	0.00	○
4.1.5 Prevalence of gig economy	84	34.01	
4.1.6 ICT services exports	79	22.34	
2nd sub-pillar: Quality of Life	90	60.31	
4.2.1 Happiness	NA	NA	
4.2.2 Freedom to make life choices	NA	NA	
4.2.3 Income inequality	90	51.76	
4.2.4 Healthy life expectancy at birth	77	68.87	●
3rd sub-pillar: SDG Contribution	50	71.59	
4.3.1 SDG 3: Good Health and Well-Being	74	67.38	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	49	80.70	●
4.3.4 SDG 7: Affordable and Clean Energy	21	89.31	●
4.3.5 SDG 11: Sustainable Cities and Communities	94	48.98	

NOTE: ● a strength and ○ a weakness.

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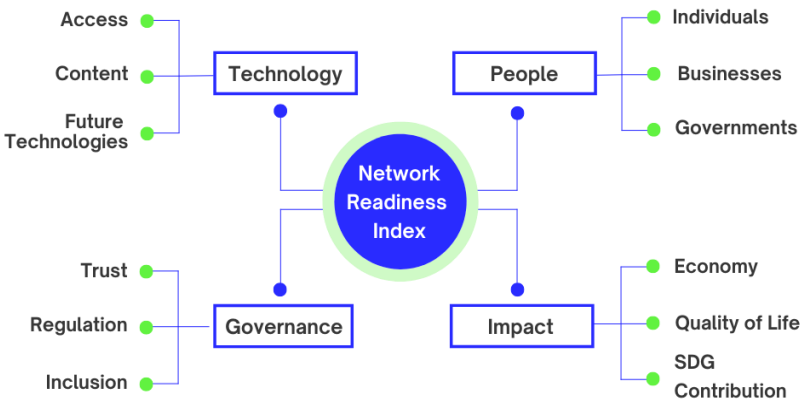
Network Readiness Index 2022 Cambodia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

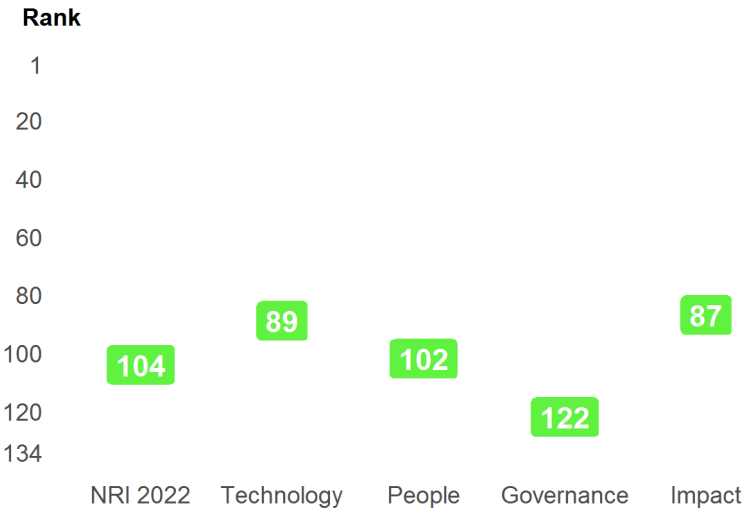
Figure 1: The NRI 2022 model



Global NRI position of Cambodia

Cambodia ranks 104th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Cambodia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Cambodia relate to Quality of Life, SDG Contribution and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Regulation and Trust sub-pillars.

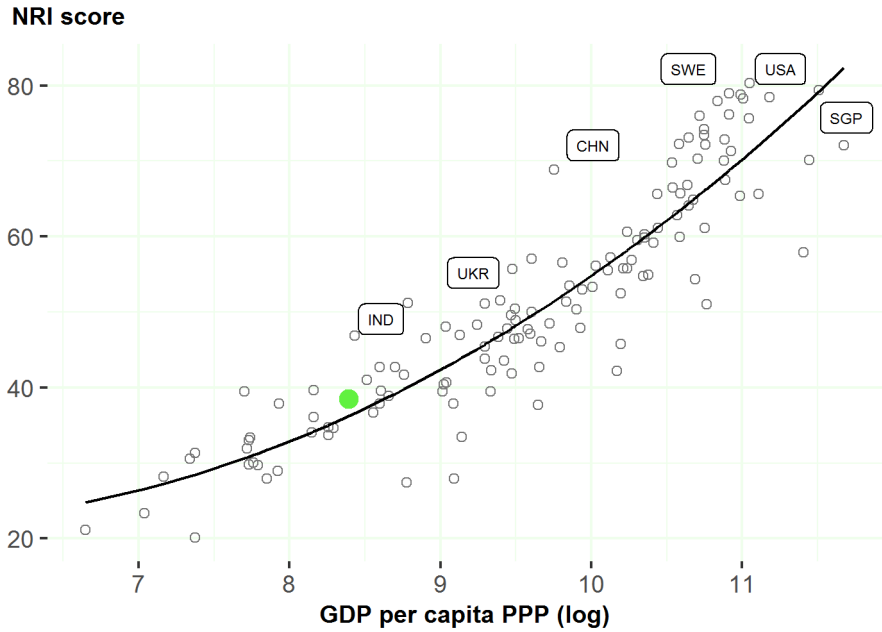
Table 1: Cambodia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	73	Economy	101
SDG Contribution	80	Governments	104
Access	84	Inclusion	105
Individuals	86	Businesses	113
Content	90	Regulation	118
Future Technologies	95	Trust	122

NRI score and income

Figure 3 shows the position of Cambodia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Cambodia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Cambodia belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Cambodia is ranked 25th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: technology and impact. At the sub-pillar level, it outperforms lower-middle-income countries in five of the twelve sub-pillars: Access, Content, Individuals, Quality of Life and SDG Contribution.

Asia & Pacific

Cambodia is ranked 20th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Cambodia against its income group and region, overall and by pillar

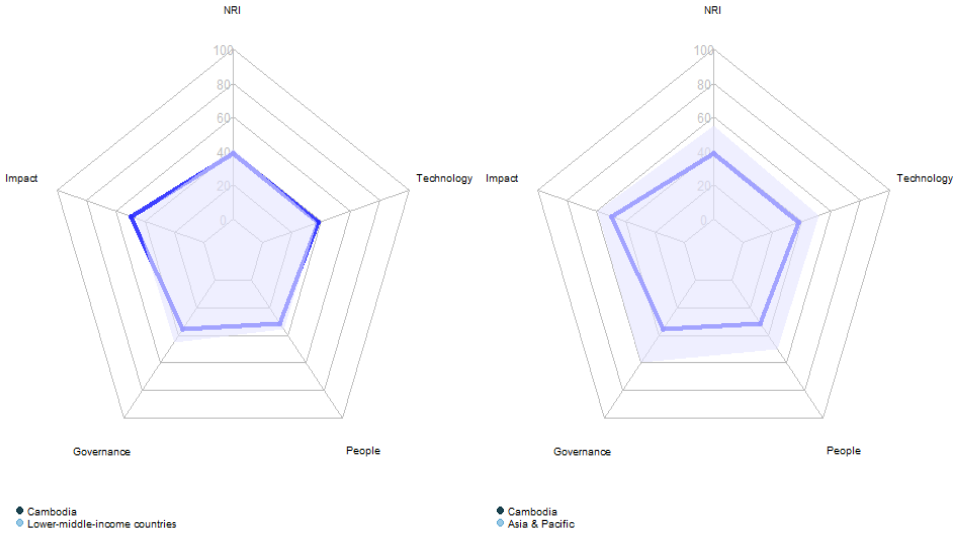


Table 2: Cambodia scores vs. averages of its income group and region, overall and by pillar

Dimension	Cambodia	Lower-middle-income countries	Asia & Pacific
NRI	38.48	40.94	55.18
Technology	38.03	37.28	51.78
People	31.25	35.42	50.21
Governance	35.37	45.00	59.66
Impact	49.29	46.09	59.07

Strongest and weakest indicators

The indicators where Cambodia performs particularly well include 4.2.2 Freedom to make life choices, 2.1.1 Mobile broadband internet traffic within the country, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 3.1.3 Online access to financial account, and 3.1.2 Cybersecurity.

Table 3: Strongest and weakest indicators of Cambodia

Strongest indicators	Rank	Weakest indicators	Rank
4.2.2 Freedom to make life choices	1	3.2.4 E-commerce legislation	87
2.1.1 Mobile broadband internet traffic within the country	32	2.3.4 R&D expenditure by governments and higher education	106
1.1.3 FTTH/building Internet subscriptions	33	3.1.2 Cybersecurity	117
3.3.4 Gender gap in Internet use	33	3.1.3 Online access to financial account	118
1.2.4 AI scientific publications	50	3.2.5 Privacy protection by law content	123
1.3.2 Investment in emerging technologies	55		
2.1.3 Use of virtual social networks	61		
4.1.2 High-tech exports	65		
2.2.2 GERD financed by business enterprise	66		
1.1.5 International Internet bandwidth	70		

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NRI 2022 At-A-Glance: Cambodia

Network Readiness Index Rank: 104 (out of 131) Score: 38.48

Pillar/sub-pillar	Rank	Score
A. Technology pillar	89	38.03
1st sub-pillar: Access	84	57.69
2nd sub-pillar: Content	90	30.29
3rd sub-pillar: Future Technologies	95	26.10
B. People pillar	102	31.25
1st sub-pillar: Individuals	86	42.53
2nd sub-pillar: Businesses	113	25.27
3rd sub-pillar: Governments	104	25.95

Pillar/sub-pillar	Rank	Score
C. Governance pillar	122	35.37
1st sub-pillar: Trust	122	17.45
2nd sub-pillar: Regulation	118	41.82
3rd sub-pillar: Inclusion	105	46.82
D. Impact pillar	87	49.29
1st sub-pillar: Economy	101	20.64
2nd sub-pillar: Quality of Life	73	66.72
3rd sub-pillar: SDG Contribution	80	60.50

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	89	38.03	
1st sub-pillar: Access	84	57.69	
1.1.1 Mobile tariffs	92	44.93	
1.1.2 Handset prices	103	37.08	
1.1.3 FTTH/building Internet subscriptions	33	37.84	●
1.1.4 Population covered by at least a 3G mobile network	85	98.57	
1.1.5 International Internet bandwidth	70	70.05	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	90	30.29	
1.2.1 GitHub commits	97	1.78	
1.2.2 Internet domain registrations	99	0.79	
1.2.3 Mobile apps development	94	66.81	
1.2.4 AI scientific publications	50	51.77	●
3rd sub-pillar: Future Technologies	95	26.10	
1.3.1 Adoption of emerging technologies	98	32.06	
1.3.2 Investment in emerging technologies	55	43.75	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	108	2.49	

Indicator	Rank	Score	
C. Governance pillar	122	35.37	
1st sub-pillar: Trust	122	17.45	
3.1.1 Secure Internet servers	92	41.83	
3.1.2 Cybersecurity	117	17.70	○
3.1.3 Online access to financial account	118	5.27	○
3.1.4 Internet shopping	98	5.02	
2nd sub-pillar: Regulation	118	41.82	
3.2.1 Regulatory quality	105	24.53	
3.2.2 ICT regulatory environment	106	62.74	
3.2.3 Regulation of emerging technologies	87	30.00	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	123	25.18	○
3rd sub-pillar: Inclusion	105	46.82	
3.3.1 E-Participation	108	39.51	
3.3.2 Socioeconomic gap in use of digital payments	106	43.37	
3.3.3 Availability of local online content	95	45.19	
3.3.4 Gender gap in Internet use	33	73.53	●
3.3.5 Rural gap in use of digital payments	109	32.51	

Indicator	Rank	Score	
B. People pillar	102	31.25	
1st sub-pillar: Individuals	86	42.53	
2.1.1 Mobile broadband internet traffic within the country	32	24.59	●
2.1.2 ICT skills in the education system	92	35.50	
2.1.3 Use of virtual social networks	61	68.74	●
2.1.4 Tertiary enrollment	99	8.87	
2.1.5 Adult literacy rate	78	74.96	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	113	25.27	
2.2.1 Firms with website	107	16.98	
2.2.2 GERD financed by business enterprise	66	24.01	●
2.2.3 Knowledge intensive employment	113	10.21	
2.2.4 Annual investment in telecommunication services	77	74.72	
2.2.5 GERD performed by business enterprise	83	0.41	
3rd sub-pillar: Governments	104	25.95	
2.3.1 Government online services	110	43.63	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	87	31.10	
2.3.4 R&D expenditure by governments and higher education	106	3.11	○

Indicator	Rank	Score	
D. Impact pillar	87	49.29	
1st sub-pillar: Economy	101	20.64	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	65	22.97	●
4.1.3 PCT patent applications	86	1.03	
4.1.4 Domestic market size	91	42.34	
4.1.5 Prevalence of gig economy	97	27.62	
4.1.6 ICT services exports	107	9.23	
2nd sub-pillar: Quality of Life	73	66.72	
4.2.1 Happiness	99	42.32	
4.2.2 Freedom to make life choices	1	100.00	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	96	57.83	
3rd sub-pillar: SDG Contribution	80	60.50	
4.3.1 SDG 3: Good Health and Well-Being	95	53.95	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	95	64.91	
4.3.4 SDG 7: Affordable and Clean Energy	91	71.93	
4.3.5 SDG 11: Sustainable Cities and Communities	85	51.22	

NOTE: ● a strength and ○ a weakness.

Sources

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Network Readiness Index 2022 Cameroon

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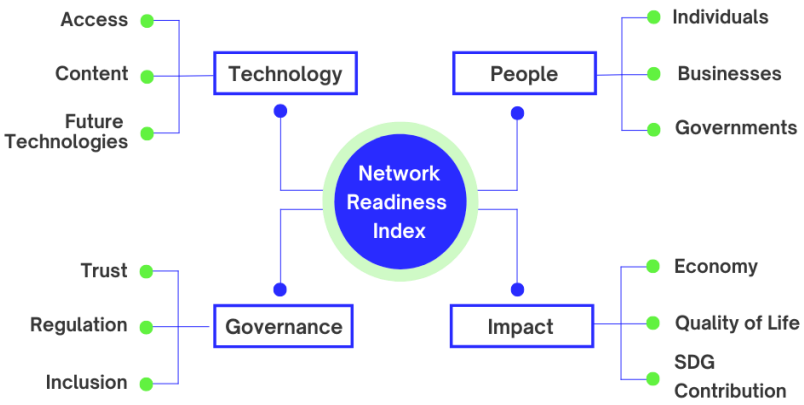
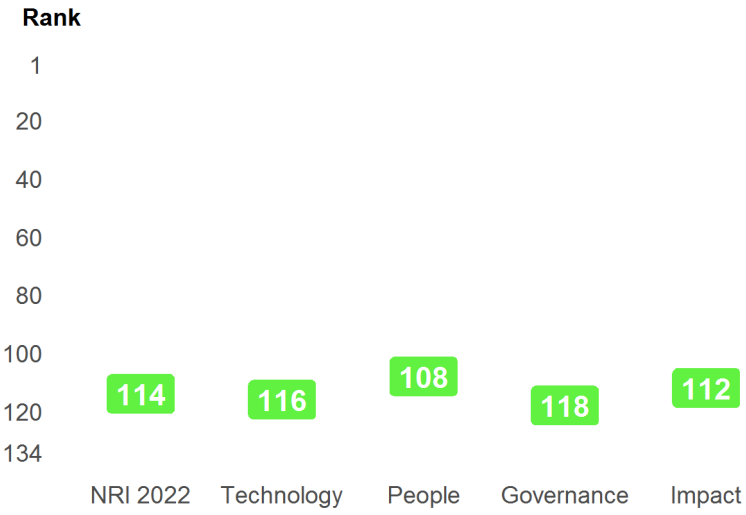
Figure 1: The NRI 2022 model



Global NRI position of Cameroon

Cameroon ranks 114th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Cameroon global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Cameroon relate to Economy, Businesses and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, SDG Contribution and Access sub-pillars.

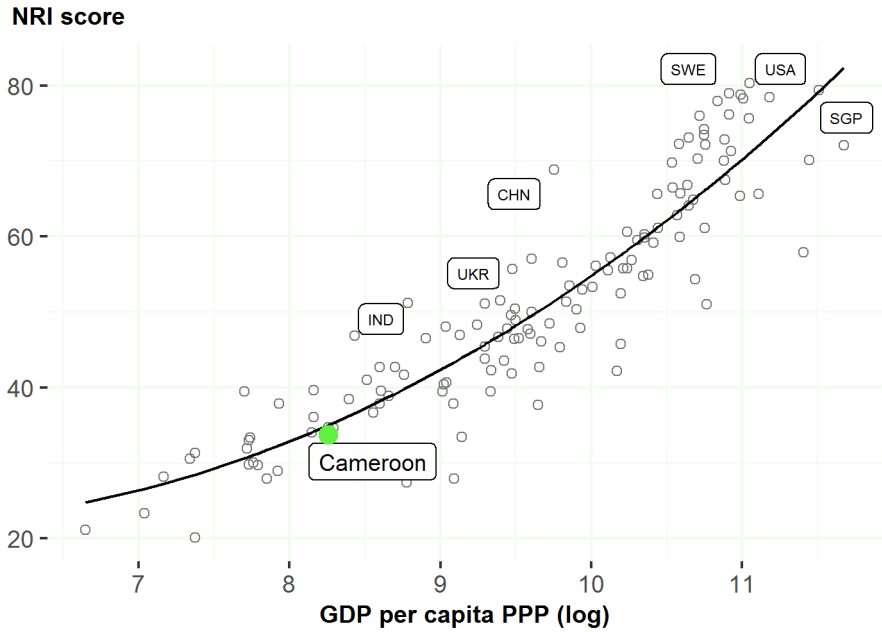
Table 1: Cameroon rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	63	Trust	109
Businesses	86	Individuals	112
Future Technologies	87	Quality of Life	116
Content	97	Inclusion	121
Governments	103	SDG Contribution	121
Regulation	107	Access	129

NRI score and income

Figure 3 shows the position of Cameroon in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Cameroon is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Cameroon belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Cameroon is ranked 32nd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in two of the twelve sub-pillars: Businesses and Economy.

Africa

Cameroon is ranked 14th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: people and impact. With regard to sub-pillars, it outperforms the average in Africa in six of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Economy and Quality of Life.

Figure 4: Performance of Cameroon against its income group and region, overall and by pillar

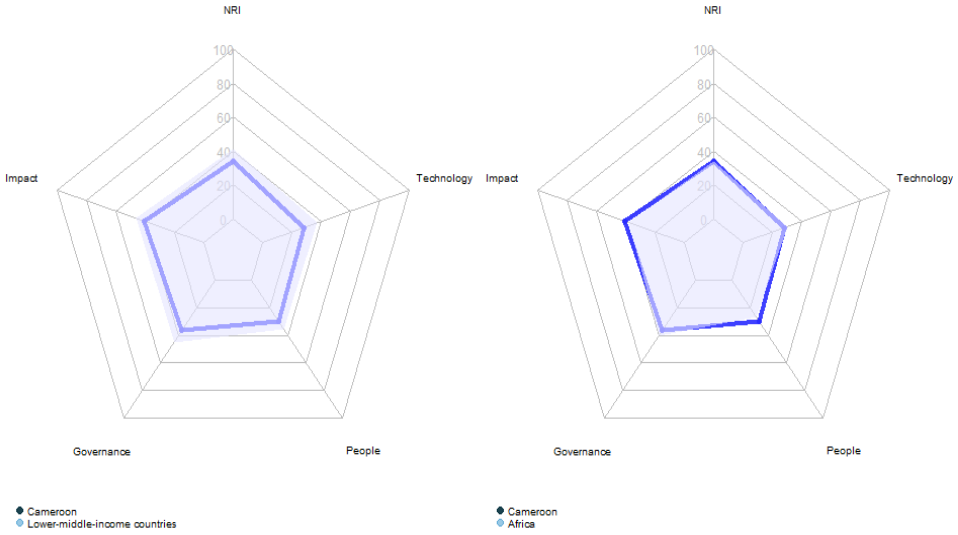


Table 2: Cameroon scores vs. averages of its income group and region, overall and by pillar

Dimension	Cameroon	Lower-middle-income countries	Africa
NRI	33.72	40.94	33.77
Technology	28.32	37.28	29.96
People	29.69	35.42	26.81
Governance	36.46	45.00	40.37
Impact	40.42	46.09	37.94

Strongest and weakest indicators

The indicators where Cameroon performs particularly well include 3.2.4 E-commerce legislation, 4.1.5 Prevalence of gig economy, and 1.2.4 AI scientific publications (Table 3). By contrast, the economy's weakest indicators include 1.1.4 Population covered by at least a 3G mobile network, 3.1.1 Secure Internet servers, and 4.3.5 SDG 11: Sustainable Cities and Communities.

Table 3: Strongest and weakest indicators of Cameroon

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.3.2 Publication and use of open data	99
4.1.5 Prevalence of gig economy	41	4.3.1 SDG 3: Good Health and Well-Being	121
1.2.4 AI scientific publications	55	3.1.1 Secure Internet servers	122
2.1.1 Mobile broadband internet traffic within the country	62	4.3.5 SDG 11: Sustainable Cities and Communities	122
1.1.3 FTTH/building Internet subscriptions	66	1.1.4 Population covered by at least a 3G mobile network	131
2.2.4 Annual investment in telecommunication services	70		
3.1.3 Online access to financial account	71		
4.1.6 ICT services exports	71		
1.3.4 Computer software spending	80		
4.3.4 SDG 7: Affordable and Clean Energy	80		
4.1.4 Domestic market size	83		

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NRI 2022 At-A-Glance: Cameroon

Network Readiness Index Rank: 114 (out of 131) Score: 33.72

Pillar/sub-pillar	Rank	Score
A. Technology pillar	116	28.32
1st sub-pillar: Access	129	30.10
2nd sub-pillar: Content	97	27.42
3rd sub-pillar: Future Technologies	87	27.45
B. People pillar	108	29.69
1st sub-pillar: Individuals	112	27.53
2nd sub-pillar: Businesses	86	35.04
3rd sub-pillar: Governments	103	26.49

Pillar/sub-pillar	Rank	Score
C. Governance pillar	118	36.46
1st sub-pillar: Trust	109	24.35
2nd sub-pillar: Regulation	107	51.44
3rd sub-pillar: Inclusion	121	33.59
D. Impact pillar	112	40.42
1st sub-pillar: Economy	63	32.68
2nd sub-pillar: Quality of Life	116	45.73
3rd sub-pillar: SDG Contribution	121	42.86

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	116	28.32	
1st sub-pillar: Access	129	30.10	
1.1.1 Mobile tariffs	108	35.97	
1.1.2 Handset prices	97	39.37	
1.1.3 FTTH/building Internet subscriptions	66	20.94	●
1.1.4 Population covered by at least a 3G mobile network	131	0.00	○
1.1.5 International Internet bandwidth	120	54.21	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	97	27.42	
1.2.1 GitHub commits	108	0.87	
1.2.2 Internet domain registrations	100	0.78	
1.2.3 Mobile apps development	107	58.12	
1.2.4 AI scientific publications	55	49.91	●
3rd sub-pillar: Future Technologies	87	27.45	
1.3.1 Adoption of emerging technologies	92	36.36	
1.3.2 Investment in emerging technologies	89	33.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	80	12.74	●

Indicator	Rank	Score	
C. Governance pillar	118	36.46	
1st sub-pillar: Trust	109	24.35	
3.1.1 Secure Internet servers	122	22.61	○
3.1.2 Cybersecurity	96	44.67	
3.1.3 Online access to financial account	71	24.15	●
3.1.4 Internet shopping	92	5.98	
2nd sub-pillar: Regulation	107	51.44	
3.2.1 Regulatory quality	117	19.20	
3.2.2 ICT regulatory environment	96	69.80	
3.2.3 Regulation of emerging technologies	96	23.95	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	112	44.23	
3rd sub-pillar: Inclusion	121	33.59	
3.3.1 E-Participation	108	39.51	
3.3.2 Socioeconomic gap in use of digital payments	108	41.96	
3.3.3 Availability of local online content	120	24.76	
3.3.4 Gender gap in Internet use	98	27.32	
3.3.5 Rural gap in use of digital payments	107	34.43	

Indicator	Rank	Score	
B. People pillar	108	29.69	
1st sub-pillar: Individuals	112	27.53	
2.1.1 Mobile broadband internet traffic within the country	62	8.47	●
2.1.2 ICT skills in the education system	88	37.28	
2.1.3 Use of virtual social networks	113	12.85	
2.1.4 Tertiary enrollment	100	8.54	
2.1.5 Adult literacy rate	82	70.51	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	86	35.04	
2.2.1 Firms with website	108	15.13	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	106	13.96	
2.2.4 Annual investment in telecommunication services	70	76.04	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	103	26.49	
2.3.1 Government online services	107	45.46	
2.3.2 Publication and use of open data	99	4.41	○
2.3.3 Government promotion of investment in emerging tech	90	29.59	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	112	40.42	
1st sub-pillar: Economy	63	32.68	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	80	1.52	
4.1.4 Domestic market size	83	45.34	●
4.1.5 Prevalence of gig economy	41	56.10	●
4.1.6 ICT services exports	71	27.77	●
2nd sub-pillar: Quality of Life	116	45.73	
4.2.1 Happiness	91	49.58	
4.2.2 Freedom to make life choices	101	57.70	
4.2.3 Income inequality	101	41.21	
4.2.4 Healthy life expectancy at birth	120	34.42	
3rd sub-pillar: SDG Contribution	121	42.86	
4.3.1 SDG 3: Good Health and Well-Being	121	26.36	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	118	43.86	
4.3.4 SDG 7: Affordable and Clean Energy	80	74.85	●
4.3.5 SDG 11: Sustainable Cities and Communities	122	26.38	○

NOTE: ● a strength and ○ a weakness.

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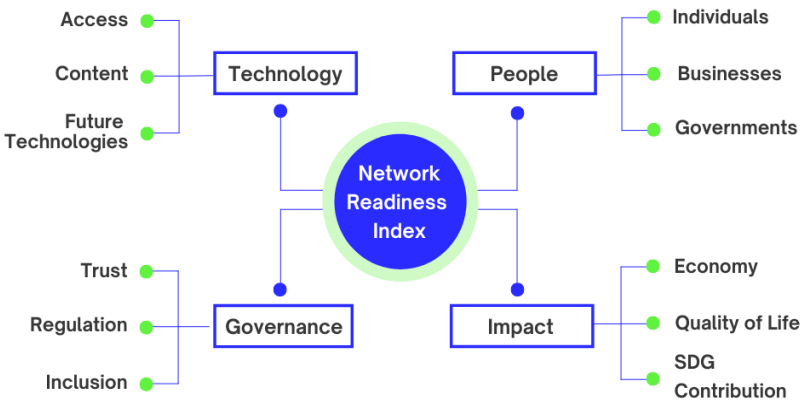
Network Readiness Index 2022 Canada

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

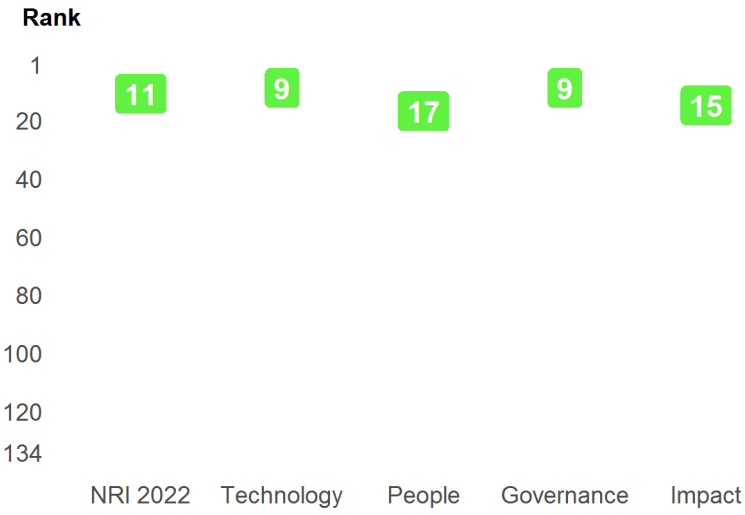
Figure 1: The NRI 2022 model



Global NRI position of Canada

Canada ranks 11th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology and Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Canada global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Canada relate to Governments, Content and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Businesses and Individuals sub-pillars.

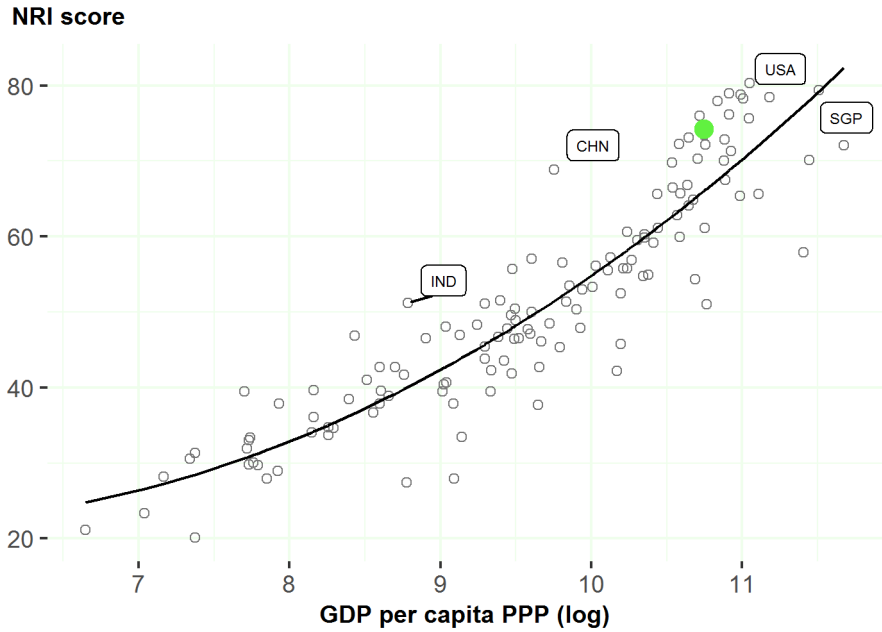
Table 1: Canada rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	4	Quality of Life	15
Content	8	SDG Contribution	19
Trust	9	Economy	20
Future Technologies	12	Access	22
Regulation	12	Businesses	26
Inclusion	13	Individuals	58

NRI score and income

Figure 3 shows the position of Canada in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Canada is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Canada belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-The Americas-is also United States of America (USA).

Performance against its income group and region

High-income countries

Canada is ranked 11th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

The Americas

Canada is ranked 2nd within The Americas (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Canada against its income group and region, overall and by pillar

Table 2: Canada scores vs. averages of its income group and region, overall and by pillar

Dimension	Canada	High-income countries	The Americas
NRI	74.22	66.21	50.09
Technology	71.49	60.28	44.16
People	65.08	58.83	43.67
Governance	85.93	76.89	56.24
Impact	74.39	68.86	56.30

Strongest and weakest indicators

The indicators where Canada performs particularly well include 2.3.2 Publication and use of open data, 3.2.4 E-commerce legislation, and 4.3.1 SDG 3: Good Health and Well-Being (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 4.1.6 ICT services exports, and 3.3.4 Gender gap in Internet use.

Table 3: Strongest and weakest indicators of Canada

Strongest indicators	Rank	Weakest indicators	Rank
2.3.2 Publication and use of open data	1	3.2.2 ICT regulatory environment	50
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	59
4.3.1 SDG 3: Good Health and Well-Being	1	4.1.6 ICT services exports	61
4.3.3 SDG 5: Women's economic opportunity	1	4.3.4 SDG 7: Affordable and Clean Energy	112
1.3.4 Computer software spending	3		
1.2.4 AI scientific publications	4		
4.3.5 SDG 11: Sustainable Cities and Communities	7		
1.2.2 Internet domain registrations	8		
2.2.4 Annual investment in telecommunication services	9		
4.1.5 Prevalence of gig economy	9		
3.1.3 Online access to financial account	10		

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NRI 2022 At-A-Glance: Canada

Network Readiness Index — Rank: 11 (out of 131) — Score: 74.22

Pillar/sub-pillar	Rank	Score
A. Technology pillar	9	71.49
1st sub-pillar: Access	22	75.97
2nd sub-pillar: Content	8	77.52
3rd sub-pillar: Future Technologies	12	60.99
B. People pillar	17	65.08
1st sub-pillar: Individuals	58	50.40
2nd sub-pillar: Businesses	26	63.26
3rd sub-pillar: Governments	4	81.57

Pillar/sub-pillar	Rank	Score
C. Governance pillar	9	85.93
1st sub-pillar: Trust	9	86.14
2nd sub-pillar: Regulation	12	86.62
3rd sub-pillar: Inclusion	13	85.03
D. Impact pillar	15	74.39
1st sub-pillar: Economy	20	53.51
2nd sub-pillar: Quality of Life	15	84.64
3rd sub-pillar: SDG Contribution	19	85.02

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	9	71.49	
1st sub-pillar: Access	22	75.97	
1.1.1 Mobile tariffs	32	76.85	
1.1.2 Handset prices	16	83.12	
1.1.3 FTTH/building Internet subscriptions	26	41.35	
1.1.4 Population covered by at least a 3G mobile network	44	99.90	
1.1.5 International Internet bandwidth	28	78.63	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	8	77.52	
1.2.1 GitHub commits	12	63.22	
1.2.2 Internet domain registrations	8	62.27	•
1.2.3 Mobile apps development	17	96.57	
1.2.4 AI scientific publications	4	88.00	•
3rd sub-pillar: Future Technologies	12	60.99	
1.3.1 Adoption of emerging technologies	11	85.04	
1.3.2 Investment in emerging technologies	20	68.25	
1.3.3 Robot density	16	28.43	
1.3.4 Computer software spending	3	62.25	•

Indicator	Rank	Score	
C. Governance pillar	9	85.93	
1st sub-pillar: Trust	9	86.14	
3.1.1 Secure Internet servers	17	84.53	
3.1.2 Cybersecurity	13	97.63	
3.1.3 Online access to financial account	10	81.53	•
3.1.4 Internet shopping	13	80.89	
2nd sub-pillar: Regulation	12	86.62	
3.2.1 Regulatory quality	11	83.73	
3.2.2 ICT regulatory environment	50	86.47	○
3.2.3 Regulation of emerging technologies	16	78.95	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	23	83.95	
3rd sub-pillar: Inclusion	13	85.03	
3.3.1 E-Participation	16	93.83	
3.3.2 Socioeconomic gap in use of digital payments	19	96.33	
3.3.3 Availability of local online content	15	88.70	
3.3.4 Gender gap in Internet use	59	69.17	○
3.3.5 Rural gap in use of digital payments	12	77.09	

Indicator	Rank	Score	
B. People pillar	17	65.08	
1st sub-pillar: Individuals	58	50.40	
2.1.1 Mobile broadband internet traffic within the country	40	17.52	
2.1.2 ICT skills in the education system	18	73.67	
2.1.3 Use of virtual social networks	17	81.60	
2.1.4 Tertiary enrollment	25	50.39	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	13	28.85	
2nd sub-pillar: Businesses	26	63.26	
2.2.1 Firms with website	18	83.53	
2.2.2 GERD financed by business enterprise	38	51.81	
2.2.3 Knowledge intensive employment	24	67.56	
2.2.4 Annual investment in telecommunication services	9	90.68	●
2.2.5 GERD performed by business enterprise	28	22.70	
3rd sub-pillar: Governments	4	81.57	
2.3.1 Government online services	31	83.64	
2.3.2 Publication and use of open data	1	100.00	●
2.3.3 Government promotion of investment in emerging tech	13	74.15	
2.3.4 R&D expenditure by governments and higher education	13	68.50	

Indicator	Rank	Score	
D. Impact pillar	15	74.39	
1st sub-pillar: Economy	20	53.51	
4.1.1 High-tech and medium-high-tech manufacturing	34	47.82	
4.1.2 High-tech exports	32	50.92	
4.1.3 PCT patent applications	25	34.99	
4.1.4 Domestic market size	15	74.59	
4.1.5 Prevalence of gig economy	9	81.98	●
4.1.6 ICT services exports	61	30.77	○
2nd sub-pillar: Quality of Life	15	84.64	
4.2.1 Happiness	14	84.78	
4.2.2 Freedom to make life choices	23	88.68	
4.2.3 Income inequality	43	74.62	
4.2.4 Healthy life expectancy at birth	16	90.48	
3rd sub-pillar: SDG Contribution	19	85.02	
4.3.1 SDG 3: Good Health and Well-Being	1	100.00	●
4.3.2 SDG 4: Quality Education	7	75.47	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	112	53.05	○
4.3.5 SDG 11: Sustainable Cities and Communities	7	96.57	●

NOTE: ● a strength and ○ a weakness.

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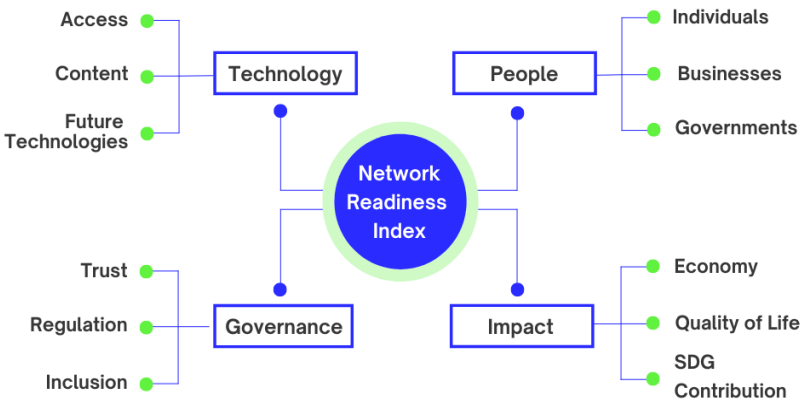
Network Readiness Index 2022 Chad

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

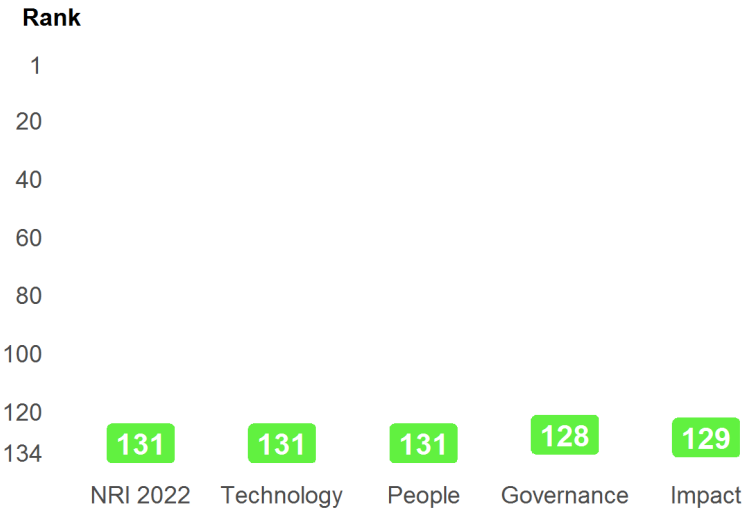
Figure 1: The NRI 2022 model



Global NRI position of Chad

Chad ranks 131st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology and People.

Figure 2: Chad global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Chad relate to Businesses, Economy and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Future Technologies and Individuals sub-pillars.

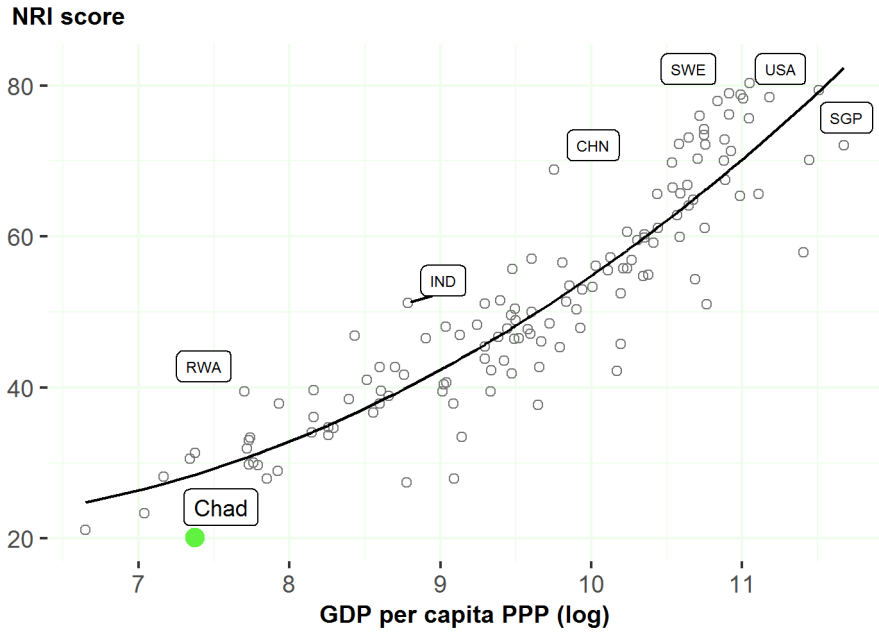
Table 1: Chad rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	119	Regulation	128
Economy	119	Access	130
Inclusion	124	Content	130
Governments	125	SDG Contribution	130
Quality of Life	125	Future Technologies	131
Trust	126	Individuals	131

NRI score and income

Figure 3 shows the position of Chad in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Chad is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Chad belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Chad is ranked 14th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails low-income countries in all of them.

Africa

Chad is ranked 31st within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Chad against its income group and region, overall and by pillar

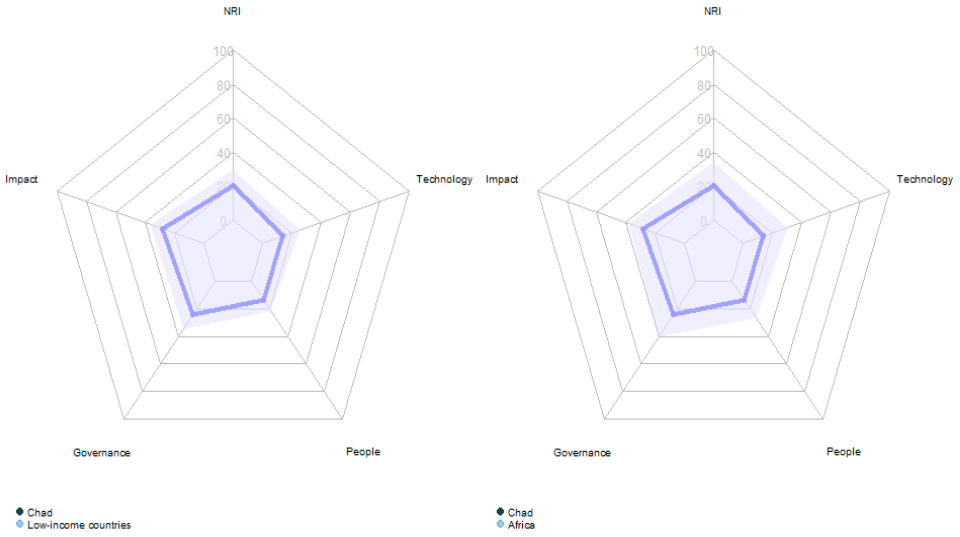


Table 2: Chad scores vs. averages of its income group and region, overall and by pillar

Dimension	Chad	Low-income countries	Africa
NRI	20.12	29.49	33.77
Technology	13.91	25.43	29.96
People	13.81	21.74	26.81
Governance	24.33	34.28	40.37
Impact	28.44	36.50	37.94

Strongest and weakest indicators

The indicators where Chad performs particularly well include 2.3.4 R&D expenditure by governments and higher education, 3.3.5 Rural gap in use of digital payments, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 1.1.1 Mobile tariffs, 2.1.3 Use of virtual social networks, 3.1.1 Secure Internet servers, and 3.3.3 Availability of local online content.

Table 3: Strongest and weakest indicators of Chad

Strongest indicators	Rank	Weakest indicators	Rank
2.3.4 R&D expenditure by governments and higher education	62	4.1.3 PCT patent applications	99
3.3.5 Rural gap in use of digital payments	62	3.2.4 E-commerce legislation	126
4.3.4 SDG 7: Affordable and Clean Energy	64	1.1.4 Population covered by at least a 3G mobile network	129
4.2.3 Income inequality	67	2.1.2 ICT skills in the education system	129
3.2.5 Privacy protection by law content	72	2.2.3 Knowledge intensive employment	129
3.1.3 Online access to financial account	88	1.1.2 Handset prices	130
4.1.6 ICT services exports	96	1.2.1 GitHub commits	130
3.1.2 Cybersecurity	98	1.2.3 Mobile apps development	130
4.2.1 Happiness	111	4.3.1 SDG 3: Good Health and Well-Being	130
4.3.3 SDG 5: Women's economic opportunity	111	4.3.5 SDG 11: Sustainable Cities and Communities	130
		1.1.1 Mobile tariffs	131
		2.1.3 Use of virtual social networks	131
		3.1.1 Secure Internet servers	131
		3.3.3 Availability of local online content	131

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NRI 2022 At-A-Glance: Chad

Network Readiness Index Rank: 131 (out of 131) Score: 20.12

Pillar/sub-pillar	Rank	Score
A. Technology pillar	131	13.91
1st sub-pillar: Access	130	29.12
2nd sub-pillar: Content	130	4.54
3rd sub-pillar: Future Technologies	131	8.06
B. People pillar	131	13.81
1st sub-pillar: Individuals	131	0.72
2nd sub-pillar: Businesses	119	23.10
3rd sub-pillar: Governments	125	17.62

Pillar/sub-pillar	Rank	Score
C. Governance pillar	128	24.33
1st sub-pillar: Trust	126	14.50
2nd sub-pillar: Regulation	128	27.17
3rd sub-pillar: Inclusion	124	31.33
D. Impact pillar	129	28.44
1st sub-pillar: Economy	119	13.64
2nd sub-pillar: Quality of Life	125	38.64
3rd sub-pillar: SDG Contribution	130	33.04

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	131	13.91	
1st sub-pillar: Access	130	29.12	
1.1.1 Mobile tariffs	131	0.00	○
1.1.2 Handset prices	130	0.00	○
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	129	67.89	○
1.1.5 International Internet bandwidth	126	48.59	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	130	4.54	
1.2.1 GitHub commits	130	0.00	○
1.2.2 Internet domain registrations	127	0.06	
1.2.3 Mobile apps development	130	10.93	○
1.2.4 AI scientific publications	96	7.18	
3rd sub-pillar: Future Technologies	131	8.06	
1.3.1 Adoption of emerging technologies	124	3.37	
1.3.2 Investment in emerging technologies	126	12.75	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	128	24.33	
1st sub-pillar: Trust	126	14.50	
3.1.1 Secure Internet servers	131	0.00	○
3.1.2 Cybersecurity	98	39.39	
3.1.3 Online access to financial account	88	16.73	
3.1.4 Internet shopping	109	1.89	
2nd sub-pillar: Regulation	128	27.17	
3.2.1 Regulatory quality	127	10.67	
3.2.2 ICT regulatory environment	123	55.68	
3.2.3 Regulation of emerging technologies	112	7.11	
3.2.4 E-commerce legislation	126	0.00	○
3.2.5 Privacy protection by law content	72	62.39	
3rd sub-pillar: Inclusion	124	31.33	
3.3.1 E-Participation	126	23.46	
3.3.2 Socioeconomic gap in use of digital payments	116	37.42	
3.3.3 Availability of local online content	131	0.00	○
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	62	64.45	

Indicator	Rank	Score	
B. People pillar	131	13.81	
1st sub-pillar: Individuals	131	0.72	
2.1.1 Mobile broadband internet traffic within the country	114	0.21	
2.1.2 ICT skills in the education system	129	2.37	○
2.1.3 Use of virtual social networks	131	0.00	○
2.1.4 Tertiary enrollment	125	1.04	
2.1.5 Adult literacy rate	106	0.00	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	119	23.10	
2.2.1 Firms with website	121	0.00	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	129	0.89	○
2.2.4 Annual investment in telecommunication services	105	68.40	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	125	17.62	
2.3.1 Government online services	127	17.58	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	118	9.08	
2.3.4 R&D expenditure by governments and higher education	62	26.19	

Indicator	Rank	Score	
D. Impact pillar	129	28.44	
1st sub-pillar: Economy	119	13.64	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	122	31.49	
4.1.5 Prevalence of gig economy	119	10.76	
4.1.6 ICT services exports	96	12.30	
2nd sub-pillar: Quality of Life	125	38.64	
4.2.1 Happiness	111	36.90	
4.2.2 Freedom to make life choices	124	27.55	
4.2.3 Income inequality	67	64.07	
4.2.4 Healthy life expectancy at birth	127	26.04	
3rd sub-pillar: SDG Contribution	130	33.04	
4.3.1 SDG 3: Good Health and Well-Being	130	0.00	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	111	52.63	
4.3.4 SDG 7: Affordable and Clean Energy	64	79.53	
4.3.5 SDG 11: Sustainable Cities and Communities	130	0.00	○

NOTE: ● a strength and ○ a weakness.

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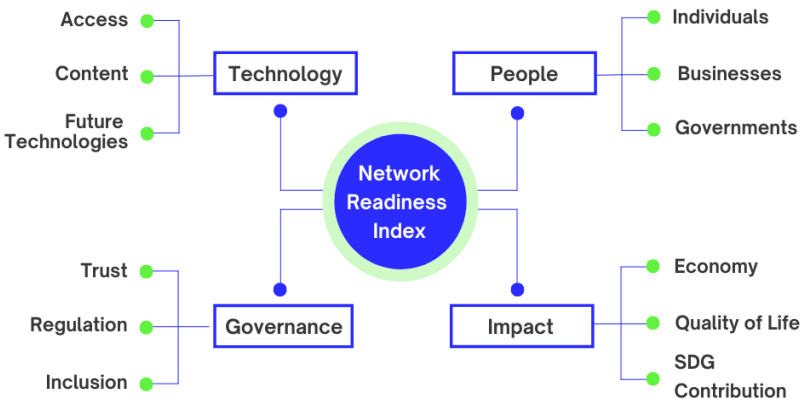
Network Readiness Index 2022 Chile

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

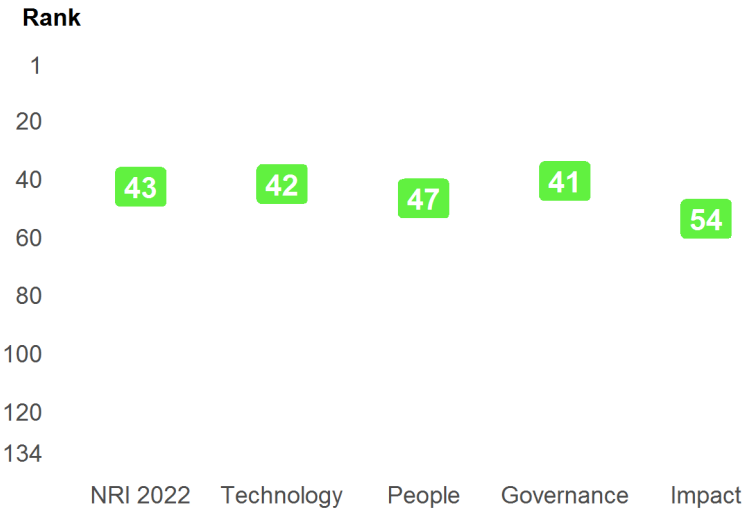
Figure 1: The NRI 2022 model



Global NRI position of Chile

Chile ranks 43rd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Chile global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Chile relate to Access, Regulation and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Quality of Life and Economy sub-pillars.

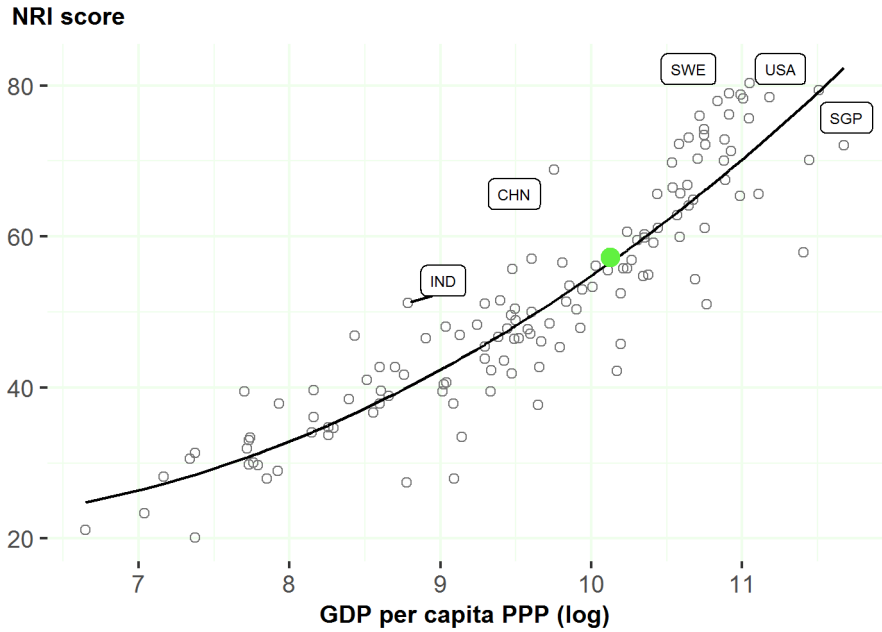
Table 1: Chile rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	25	Businesses	49
Regulation	38	SDG Contribution	49
Individuals	41	Future Technologies	54
Content	45	Governments	57
Inclusion	45	Quality of Life	60
Trust	48	Economy	69

NRI score and income

Figure 3 shows the position of Chile in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Chile is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Chile belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-The Americas-is also United States of America (USA).

Performance against its income group and region

High-income countries

Chile is ranked 40th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in one of the twelve sub-pillars: Access.

The Americas

Chile is ranked 3rd within The Americas (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Chile against its income group and region, overall and by pillar

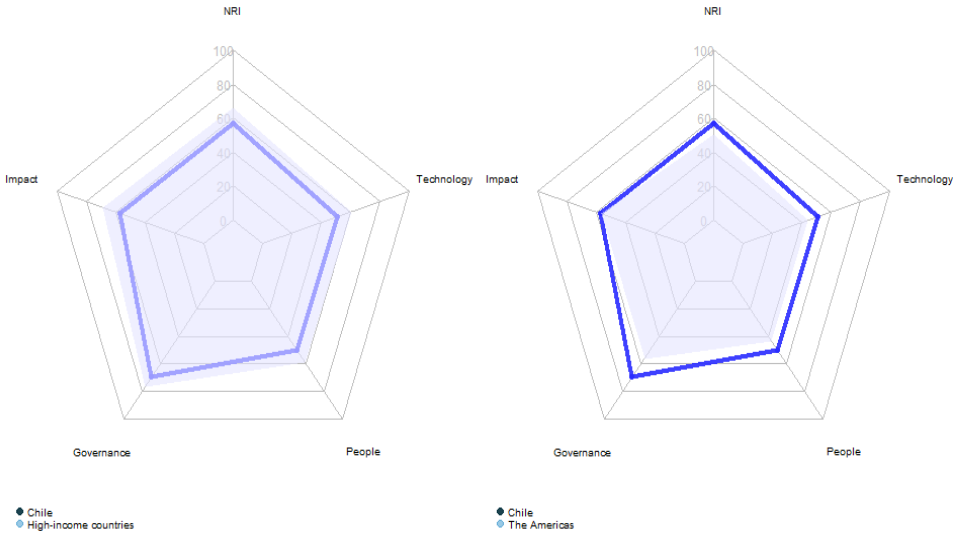


Table 2: Chile scores vs. averages of its income group and region, overall and by pillar

Dimension	Chile	High-income countries	The Americas
NRI	57.19	66.21	50.09
Technology	51.14	60.28	44.16
People	50.38	58.83	43.67
Governance	69.84	76.89	56.24
Impact	57.42	68.86	56.30

Strongest and weakest indicators

The indicators where Chile performs particularly well include 3.2.4 E-commerce legislation, 2.1.3 Use of virtual social networks, and 2.1.4 Tertiary enrollment (Table 3). By contrast, the economy's weakest indicators include 4.2.3 Income inequality, 4.1.6 ICT services exports, and 1.1.4 Population covered by at least a 3G mobile network.

Table 3: Strongest and weakest indicators of Chile

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	40
2.1.3 Use of virtual social networks	7	1.3.3 Robot density	52
2.1.4 Tertiary enrollment	7	1.1.4 Population covered by at least a 3G mobile network	89
3.3.2 Socioeconomic gap in use of digital payments	11	4.1.6 ICT services exports	94
1.3.4 Computer software spending	21	4.2.3 Income inequality	98
1.1.5 International Internet bandwidth	22		
2.2.1 Firms with website	24		
2.3.1 Government online services	24		
2.1.1 Mobile broadband internet traffic within the country	26		
4.2.4 Healthy life expectancy at birth	30		
4.3.1 SDG 3: Good Health and Well-Being	30		

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NRI 2022 At-A-Glance: Chile

Network Readiness Index — Rank: 43 (out of 131) — Score: 57.19

Pillar/sub-pillar	Rank	Score
A. Technology pillar	42	51.14
1st sub-pillar: Access	25	75.26
2nd sub-pillar: Content	45	42.78
3rd sub-pillar: Future Technologies	54	35.37
B. People pillar	47	50.38
1st sub-pillar: Individuals	41	53.75
2nd sub-pillar: Businesses	49	50.53
3rd sub-pillar: Governments	57	46.87

Pillar/sub-pillar	Rank	Score
C. Governance pillar	41	69.84
1st sub-pillar: Trust	48	59.91
2nd sub-pillar: Regulation	38	74.50
3rd sub-pillar: Inclusion	45	75.11
D. Impact pillar	54	57.42
1st sub-pillar: Economy	69	30.56
2nd sub-pillar: Quality of Life	60	70.09
3rd sub-pillar: SDG Contribution	49	71.61

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	42	51.14	
1st sub-pillar: Access	25	75.26	
1.1.1 Mobile tariffs	66	58.97	
1.1.2 Handset prices	51	62.90	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	89	98.33	○
1.1.5 International Internet bandwidth	22	80.84	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	45	42.78	
1.2.1 GitHub commits	57	7.63	
1.2.2 Internet domain registrations	40	12.23	
1.2.3 Mobile apps development	56	82.15	
1.2.4 AI scientific publications	26	69.10	
3rd sub-pillar: Future Technologies	54	35.37	
1.3.1 Adoption of emerging technologies	36	61.55	
1.3.2 Investment in emerging technologies	68	38.50	
1.3.3 Robot density	52	0.48	○
1.3.4 Computer software spending	21	40.96	●

Indicator	Rank	Score	
C. Governance pillar	41	69.84	
1st sub-pillar: Trust	48	59.91	
3.1.1 Secure Internet servers	40	75.53	
3.1.2 Cybersecurity	80	68.28	
3.1.3 Online access to financial account	46	39.41	
3.1.4 Internet shopping	37	56.40	
2nd sub-pillar: Regulation	38	74.50	
3.2.1 Regulatory quality	31	69.07	
3.2.2 ICT regulatory environment	51	85.88	
3.2.3 Regulation of emerging technologies	51	49.74	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	60	67.81	
3rd sub-pillar: Inclusion	45	75.11	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	11	97.84	●
3.3.3 Availability of local online content	54	66.35	
3.3.4 Gender gap in Internet use	67	67.52	
3.3.5 Rural gap in use of digital payments	73	58.69	

Indicator	Rank	Score	
B. People pillar	47	50.38	
1st sub-pillar: Individuals	41	53.75	
2.1.1 Mobile broadband internet traffic within the country	26	29.10	●
2.1.2 ICT skills in the education system	63	47.04	
2.1.3 Use of virtual social networks	7	87.15	●
2.1.4 Tertiary enrollment	7	62.24	●
2.1.5 Adult literacy rate	38	95.40	
2.1.6 AI talent concentration	40	1.56	○
2nd sub-pillar: Businesses	49	50.53	
2.2.1 Firms with website	24	79.95	●
2.2.2 GERD financed by business enterprise	56	38.32	
2.2.3 Knowledge intensive employment	46	47.87	
2.2.4 Annual investment in telecommunication services	26	83.52	
2.2.5 GERD performed by business enterprise	60	3.00	
3rd sub-pillar: Governments	57	46.87	
2.3.1 Government online services	24	84.84	●
2.3.2 Publication and use of open data	31	47.06	
2.3.3 Government promotion of investment in emerging tech	64	38.03	
2.3.4 R&D expenditure by governments and higher education	75	17.55	

Indicator	Rank	Score	
D. Impact pillar	54	57.42	
1st sub-pillar: Economy	69	30.56	
4.1.1 High-tech and medium-high-tech manufacturing	52	30.00	
4.1.2 High-tech exports	62	26.95	
4.1.3 PCT patent applications	37	11.41	
4.1.4 Domestic market size	44	61.27	
4.1.5 Prevalence of gig economy	65	40.41	
4.1.6 ICT services exports	94	13.32	○
2nd sub-pillar: Quality of Life	60	70.09	
4.2.1 Happiness	33	75.80	
4.2.2 Freedom to make life choices	68	72.62	
4.2.3 Income inequality	98	45.48	○
4.2.4 Healthy life expectancy at birth	30	86.45	●
3rd sub-pillar: SDG Contribution	49	71.61	
4.3.1 SDG 3: Good Health and Well-Being	30	84.45	●
4.3.2 SDG 4: Quality Education	45	44.41	
4.3.3 SDG 5: Women's economic opportunity	77	71.93	
4.3.4 SDG 7: Affordable and Clean Energy	61	80.45	
4.3.5 SDG 11: Sustainable Cities and Communities	46	76.81	

NOTE: ● a strength and ○ a weakness.

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Network Readiness Index 2022 China

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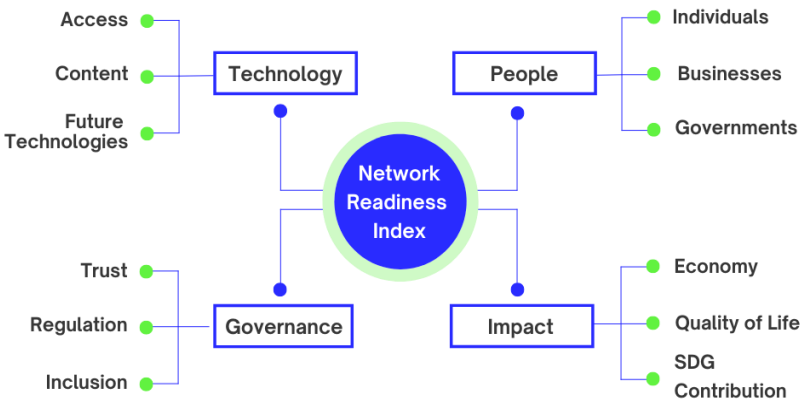
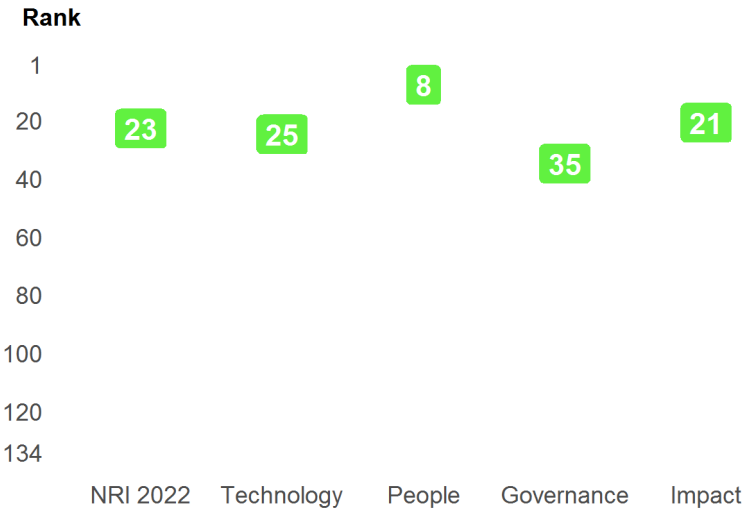
Figure 1: The NRI 2022 model



Global NRI position of China

China ranks 23rd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: China global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of China relate to Access, Economy and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, SDG Contribution and Regulation sub-pillars.

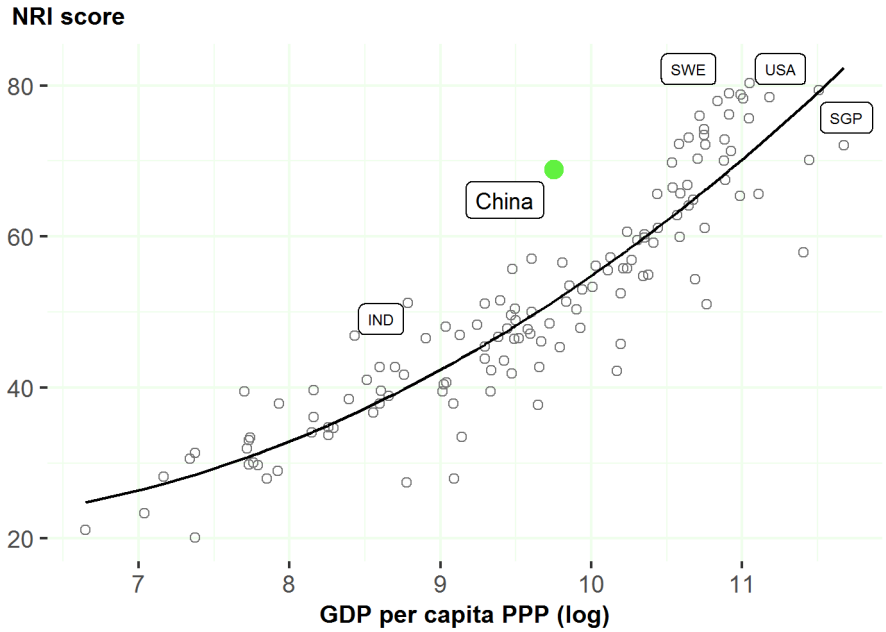
Table 1: China rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	1	Trust	28
Economy	1	Future Technologies	29
Individuals	5	Content	39
Businesses	8	Quality of Life	50
Inclusion	17	SDG Contribution	54
Governments	19	Regulation	81

NRI score and income

Figure 3 shows the position of China in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, China is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. China belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Upper-middle-income countries

China is ranked 1st in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion, Economy, Quality of Life and SDG Contribution.

Asia & Pacific

China is ranked 6th within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of China against its income group and region, overall and by pillar

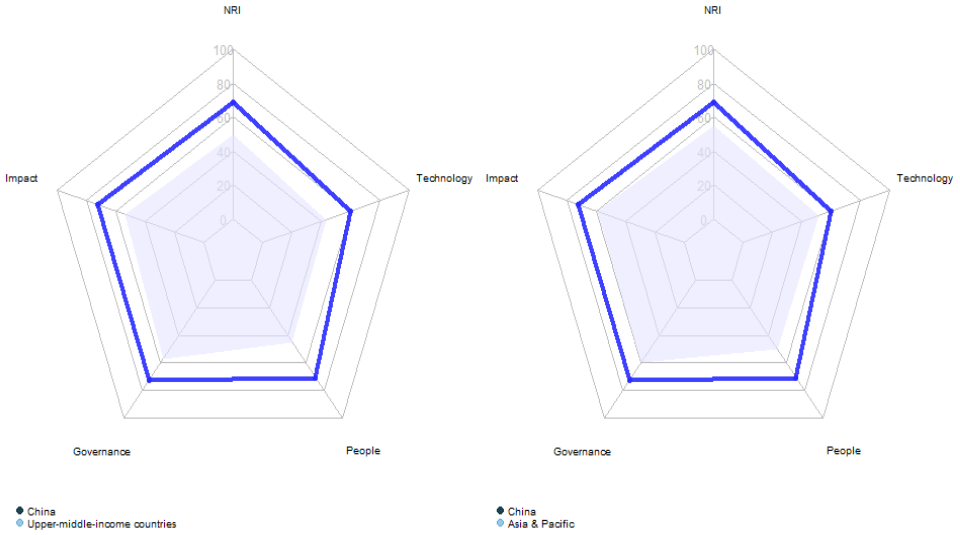


Table 2: China scores vs. averages of its income group and region, overall and by pillar

Dimension	China	Upper-middle-income countries	Asia & Pacific
NRI	68.83	49.66	55.18
Technology	59.69	43.11	51.78
People	70.77	44.94	50.21
Governance	72.52	57.08	59.66
Impact	72.32	53.50	59.07

Strongest and weakest indicators

The indicators where China performs particularly well include 1.1.3 FTTH/building Internet subscriptions, 2.1.1 Mobile broadband internet traffic within the country, and 2.3.3 Government promotion of investment in emerging technologies (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 3.2.5 Privacy protection by law content, and 4.3.5 SDG 11: Sustainable Cities and Communities.

Table 3: Strongest and weakest indicators of China

Strongest indicators	Rank	Weakest indicators	Rank
1.1.3 FTTH/building Internet subscriptions	1	4.3.3 SDG 5: Women's economic opportunity	93
2.1.1 Mobile broadband internet traffic within the country	1	4.3.4 SDG 7: Affordable and Clean Energy	109
2.3.3 Government promotion of investment in emerging technologies	1	4.3.5 SDG 11: Sustainable Cities and Communities	117
3.2.4 E-commerce legislation	1	3.2.5 Privacy protection by law content	122
4.1.4 Domestic market size	1	3.2.2 ICT regulatory environment	124
4.1.5 Prevalence of gig economy	1		
4.3.2 SDG 4: Quality Education	1		
1.2.4 AI scientific publications	2		
2.2.4 Annual investment in telecommunication services	2		
1.1.5 International Internet bandwidth	3		
2.2.2 GERD financed by business enterprise	3		
3.1.4 Internet shopping	3		
3.3.3 Availability of local online content	3		

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NRI 2022 At-A-Glance: China

Network Readiness Index — Rank: 23 (out of 131) — Score: 68.83

Pillar/sub-pillar	Rank	Score
A. Technology pillar	25	59.69
1st sub-pillar: Access	1	87.84
2nd sub-pillar: Content	39	45.47
3rd sub-pillar: Future Technologies	29	45.75
B. People pillar	8	70.77
1st sub-pillar: Individuals	5	68.54
2nd sub-pillar: Businesses	8	76.81
3rd sub-pillar: Governments	19	66.94

Pillar/sub-pillar	Rank	Score
C. Governance pillar	35	72.52
1st sub-pillar: Trust	28	73.83
2nd sub-pillar: Regulation	81	60.45
3rd sub-pillar: Inclusion	17	83.29
D. Impact pillar	21	72.32
1st sub-pillar: Economy	1	74.10
2nd sub-pillar: Quality of Life	50	73.49
3rd sub-pillar: SDG Contribution	54	69.37

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	25	59.69	
1st sub-pillar: Access	1	87.84	
1.1.1 Mobile tariffs	21	80.18	
1.1.2 Handset prices	60	53.87	
1.1.3 FTTH/building Internet subscriptions	1	100.00	●
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	3	94.59	●
1.1.6 Internet access in schools	32	98.43	
2nd sub-pillar: Content	39	45.47	
1.2.1 GitHub commits	91	2.57	
1.2.2 Internet domain registrations	70	3.40	
1.2.3 Mobile apps development	70	76.96	
1.2.4 AI scientific publications	2	98.97	●
3rd sub-pillar: Future Technologies	29	45.75	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	33	59.75	
1.3.3 Robot density	5	47.96	
1.3.4 Computer software spending	32	29.55	

Indicator	Rank	Score	
C. Governance pillar	35	72.52	
1st sub-pillar: Trust	28	73.83	
3.1.1 Secure Internet servers	64	54.69	
3.1.2 Cybersecurity	40	92.40	
3.1.3 Online access to financial account	28	55.81	
3.1.4 Internet shopping	3	92.42	●
2nd sub-pillar: Regulation	81	60.45	
3.2.1 Regulatory quality	77	38.93	
3.2.2 ICT regulatory environment	124	54.12	○
3.2.3 Regulation of emerging technologies	7	83.68	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	122	25.49	○
3rd sub-pillar: Inclusion	17	83.29	
3.3.1 E-Participation	9	96.30	
3.3.2 Socioeconomic gap in use of digital payments	51	83.52	
3.3.3 Availability of local online content	3	97.12	●
3.3.4 Gender gap in Internet use	18	75.28	
3.3.5 Rural gap in use of digital payments	63	64.25	

Indicator	Rank	Score	
B. People pillar	8	70.77	
1st sub-pillar: Individuals	5	68.54	
2.1.1 Mobile broadband internet traffic within the country	1	100.00	●
2.1.2 ICT skills in the education system	16	77.81	
2.1.3 Use of virtual social networks	75	63.00	
2.1.4 Tertiary enrollment	51	38.62	
2.1.5 Adult literacy rate	35	95.97	
2.1.6 AI talent concentration	8	35.87	
2nd sub-pillar: Businesses	8	76.81	
2.2.1 Firms with website	45	65.39	
2.2.2 GERD financed by business enterprise	3	95.82	●
2.2.3 Knowledge intensive employment	NA	NA	
2.2.4 Annual investment in telecommunication services	2	97.77	●
2.2.5 GERD performed by business enterprise	12	48.27	
3rd sub-pillar: Governments	19	66.94	
2.3.1 Government online services	12	90.30	
2.3.2 Publication and use of open data	49	33.82	
2.3.3 Government promotion of investment in emerging tech	1	100.00	
2.3.4 R&D expenditure by governments and higher education	44	43.64	

Indicator	Rank	Score	
D. Impact pillar	21	72.32	
1st sub-pillar: Economy	1	74.10	
4.1.1 High-tech and medium-high-tech manufacturing	14	63.97	
4.1.2 High-tech exports	4	90.66	
4.1.3 PCT patent applications	14	54.29	
4.1.4 Domestic market size	1	100.00	●
4.1.5 Prevalence of gig economy	1	100.00	●
4.1.6 ICT services exports	49	35.69	
2nd sub-pillar: Quality of Life	50	73.49	
4.2.1 Happiness	62	65.60	
4.2.2 Freedom to make life choices	32	84.70	
4.2.3 Income inequality	70	62.31	
4.2.4 Healthy life expectancy at birth	41	81.36	
3rd sub-pillar: SDG Contribution	54	69.37	
4.3.1 SDG 3: Good Health and Well-Being	27	88.24	
4.3.2 SDG 4: Quality Education	1	100.00	●
4.3.3 SDG 5: Women's economic opportunity	93	65.79	○
4.3.4 SDG 7: Affordable and Clean Energy	109	58.31	○
4.3.5 SDG 11: Sustainable Cities and Communities	117	34.51	○

NOTE: ● a strength and ○ a weakness.

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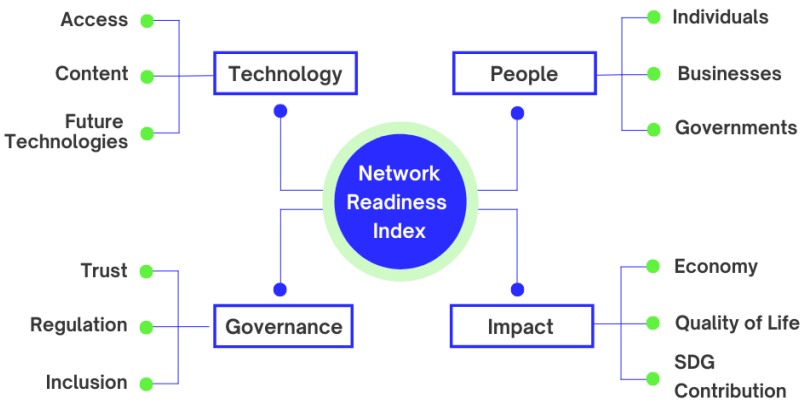
Network Readiness Index 2022 Colombia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

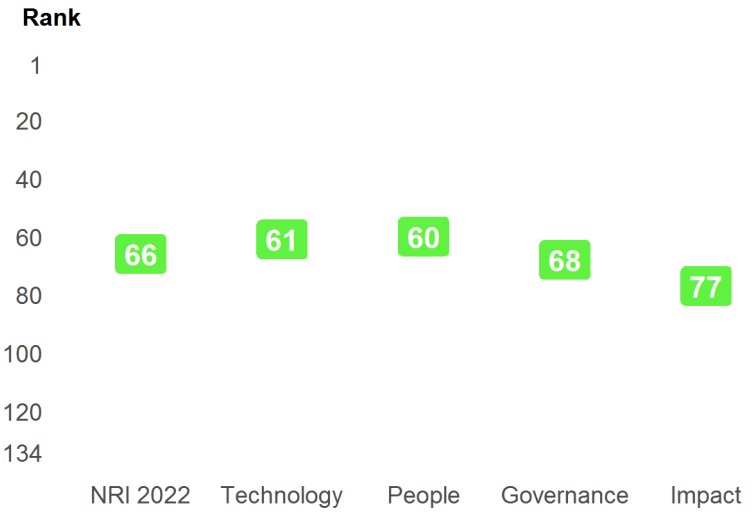
Figure 1: The NRI 2022 model



Global NRI position of Colombia

Colombia ranks 66th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Colombia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Colombia relate to Businesses, SDG Contribution and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Economy and Quality of Life sub-pillars.

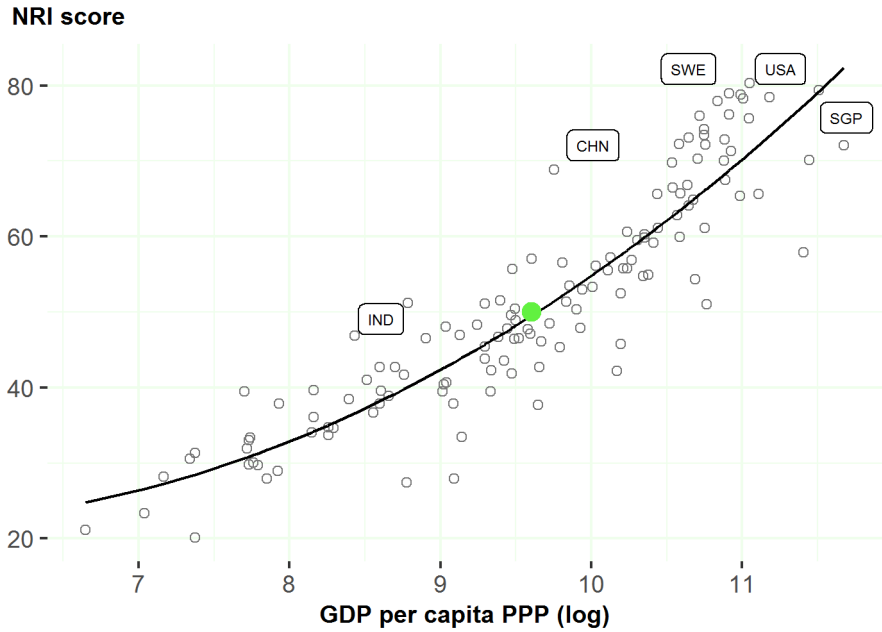
Table 1: Colombia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	51	Inclusion	67
SDG Contribution	51	Access	72
Content	53	Individuals	74
Regulation	57	Trust	80
Future Technologies	60	Economy	80
Governments	61	Quality of Life	99

NRI score and income

Figure 3 shows the position of Colombia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Colombia is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Colombia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Colombia is ranked 15th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: nri.score, technology and people. At the sub-pillar level, it outperforms upper-middle-income countries in six of the twelve sub-pillars: Content, Future Technologies, Businesses, Governments, Regulation and SDG Contribution.

The Americas

Colombia is ranked 9th within The Americas (Figure 4, right panel). It has a score above the regional average in two of the four pillars: technology and people. With regard to sub-pillars, it outperforms the average in The Americas in seven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Regulation and SDG Contribution.

Figure 4: Performance of Colombia against its income group and region, overall and by pillar

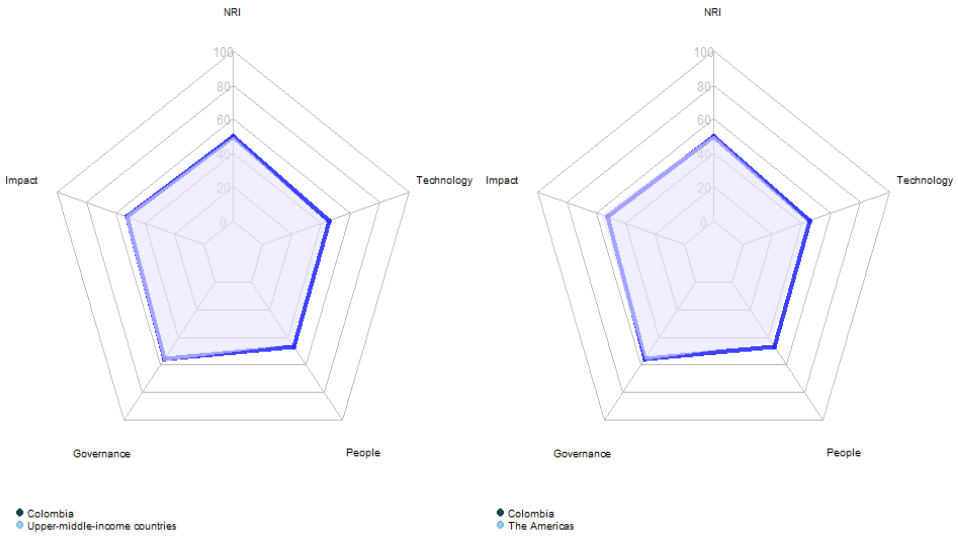


Table 2: Colombia scores vs. averages of its income group and region, overall and by pillar

Dimension	Colombia	Upper-middle-income countries	The Americas
NRI	49.99	49.66	50.09
Technology	45.43	43.11	44.16
People	47.04	44.94	43.67
Governance	55.37	57.08	56.24
Impact	52.11	53.50	56.30

Strongest and weakest indicators

The indicators where Colombia performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 3.2.4 E-commerce legislation, and 3.3.4 Gender gap in Internet use (Table 3). By contrast, the economy's weakest indicators include 4.2.3 Income inequality, 2.3.4 R&D expenditure by governments and higher education, and 3.3.5 Rural gap in use of digital payments.

Table 3: Strongest and weakest indicators of Colombia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.1.6 AI talent concentration	37
3.2.4 E-commerce legislation	1	4.3.2 SDG 4: Quality Education	61
3.3.4 Gender gap in Internet use	9	2.3.4 R&D expenditure by governments and higher education	97
1.1.5 International Internet bandwidth	14	3.3.5 Rural gap in use of digital payments	97
4.3.4 SDG 7: Affordable and Clean Energy	17	4.2.3 Income inequality	113
2.3.2 Publication and use of open data	18		
1.1.3 FTTH/building Internet subscriptions	19		
2.2.2 GERD financed by business enterprise	24		
3.3.1 E-Participation	27		
4.1.4 Domestic market size	32		
1.2.2 Internet domain registrations	34		

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NRI 2022 At-A-Glance: Colombia

Network Readiness Index — Rank: 66 (out of 131) — Score: 49.99

Pillar/sub-pillar	Rank	Score
A. Technology pillar	61	45.43
1st sub-pillar: Access	72	61.77
2nd sub-pillar: Content	53	40.41
3rd sub-pillar: Future Technologies	60	34.12
B. People pillar	60	47.04
1st sub-pillar: Individuals	74	46.18
2nd sub-pillar: Businesses	51	48.98
3rd sub-pillar: Governments	61	45.94

Pillar/sub-pillar	Rank	Score
C. Governance pillar	68	55.37
1st sub-pillar: Trust	80	36.41
2nd sub-pillar: Regulation	57	65.84
3rd sub-pillar: Inclusion	67	63.87
D. Impact pillar	77	52.11
1st sub-pillar: Economy	80	28.40
2nd sub-pillar: Quality of Life	99	57.02
3rd sub-pillar: SDG Contribution	51	70.91

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	61	45.43	
1st sub-pillar: Access	72	61.77	
1.1.1 Mobile tariffs	91	45.43	
1.1.2 Handset prices	55	60.83	
1.1.3 FTTH/building Internet subscriptions	19	44.26	●
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	14	84.89	●
1.1.6 Internet access in schools	56	35.21	
2nd sub-pillar: Content	53	40.41	
1.2.1 GitHub commits	60	6.89	
1.2.2 Internet domain registrations	34	20.21	●
1.2.3 Mobile apps development	92	68.22	
1.2.4 AI scientific publications	31	66.33	
3rd sub-pillar: Future Technologies	60	34.12	
1.3.1 Adoption of emerging technologies	67	46.99	
1.3.2 Investment in emerging technologies	67	38.75	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	71	16.62	

Indicator	Rank	Score	
C. Governance pillar	68	55.37	
1st sub-pillar: Trust	80	36.41	
3.1.1 Secure Internet servers	76	47.93	
3.1.2 Cybersecurity	87	63.08	
3.1.3 Online access to financial account	85	17.15	
3.1.4 Internet shopping	69	17.47	
2nd sub-pillar: Regulation	57	65.84	
3.2.1 Regulatory quality	55	49.60	
3.2.2 ICT regulatory environment	67	82.35	
3.2.3 Regulation of emerging technologies	55	47.37	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	99	49.88	
3rd sub-pillar: Inclusion	67	63.87	
3.3.1 E-Participation	27	86.42	●
3.3.2 Socioeconomic gap in use of digital payments	88	55.54	
3.3.3 Availability of local online content	78	53.85	
3.3.4 Gender gap in Internet use	9	77.89	●
3.3.5 Rural gap in use of digital payments	97	45.66	○

Indicator	Rank	Score	
B. People pillar	60	47.04	
1st sub-pillar: Individuals	74	46.18	
2.1.1 Mobile broadband internet traffic within the country	35	19.87	
2.1.2 ICT skills in the education system	67	44.67	
2.1.3 Use of virtual social networks	37	75.95	
2.1.4 Tertiary enrollment	58	35.77	
2.1.5 Adult literacy rate	45	94.41	
2.1.6 AI talent concentration	37	6.43	○
2nd sub-pillar: Businesses	51	48.98	
2.2.1 Firms with website	43	67.36	
2.2.2 GERD financed by business enterprise	24	66.06	●
2.2.3 Knowledge intensive employment	34	58.60	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	57	3.90	
3rd sub-pillar: Governments	61	45.94	
2.3.1 Government online services	48	75.76	
2.3.2 Publication and use of open data	18	64.71	●
2.3.3 Government promotion of investment in emerging tech	65	37.89	
2.3.4 R&D expenditure by governments and higher education	97	5.42	○

Indicator	Rank	Score	
D. Impact pillar	77	52.11	
1st sub-pillar: Economy	80	28.40	
4.1.1 High-tech and medium-high-tech manufacturing	63	24.46	
4.1.2 High-tech exports	64	24.02	
4.1.3 PCT patent applications	60	4.69	
4.1.4 Domestic market size	32	65.62	●
4.1.5 Prevalence of gig economy	81	35.17	
4.1.6 ICT services exports	86	16.42	
2nd sub-pillar: Quality of Life	99	57.02	
4.2.1 Happiness	82	55.40	
4.2.2 Freedom to make life choices	79	67.75	
4.2.3 Income inequality	113	22.11	○
4.2.4 Healthy life expectancy at birth	35	82.82	
3rd sub-pillar: SDG Contribution	51	70.91	
4.3.1 SDG 3: Good Health and Well-Being	37	81.88	
4.3.2 SDG 4: Quality Education	61	31.72	○
4.3.3 SDG 5: Women's economic opportunity	70	74.56	
4.3.4 SDG 7: Affordable and Clean Energy	17	90.06	●
4.3.5 SDG 11: Sustainable Cities and Communities	48	76.31	

NOTE: ● a strength and ○ a weakness.

Sources

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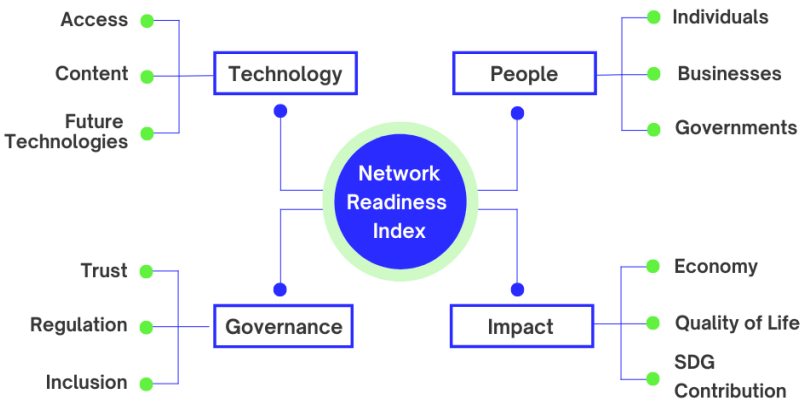
Network Readiness Index 2022 Congo, Dem. Rep.

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

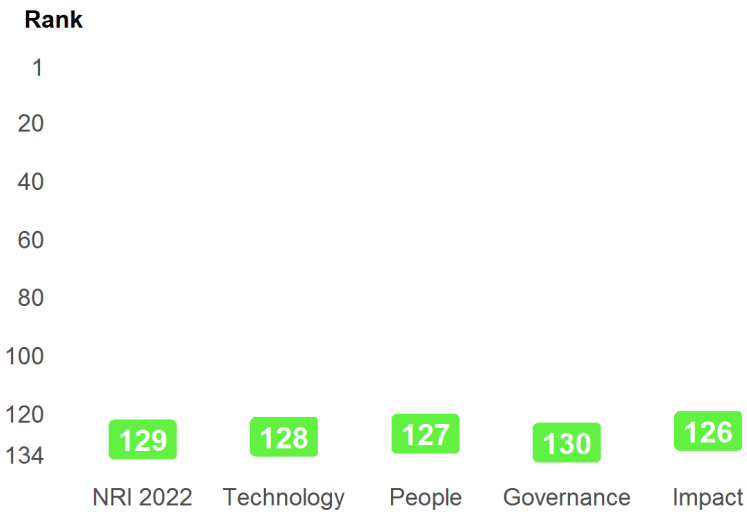
Figure 1: The NRI 2022 model



Global NRI position of Congo, Dem. Rep.

Congo, Dem. Rep. ranks 129th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Congo, Dem. Rep. global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Congo, Dem. Rep. relate to Businesses, Economy and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Regulation and SDG Contribution sub-pillars.

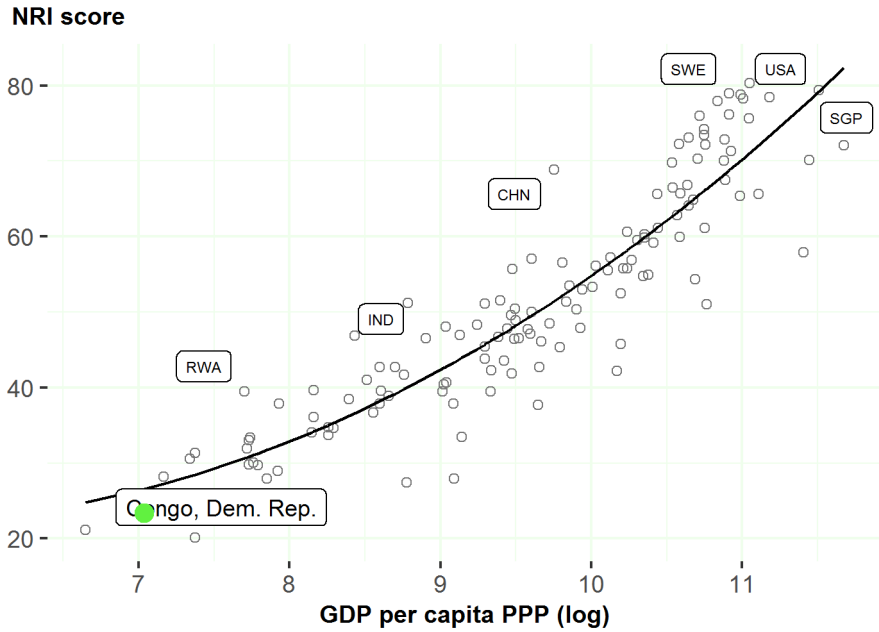
Table 1: Congo, Dem. Rep. rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	112	Governments	127
Economy	114	Access	128
Quality of Life	117	Content	128
Trust	123	Inclusion	128
Future Technologies	124	Regulation	130
Individuals	124	SDG Contribution	131

NRI score and income

Figure 3 shows the position of Congo, Dem. Rep. in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Congo, Dem. Rep. is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Congo, Dem. Rep. belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Congo, Dem. Rep. is ranked 12th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails low-income countries in all of them.

Africa

Congo, Dem. Rep. is ranked 29th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Congo, Dem. Rep. against its income group and region, overall and by pillar

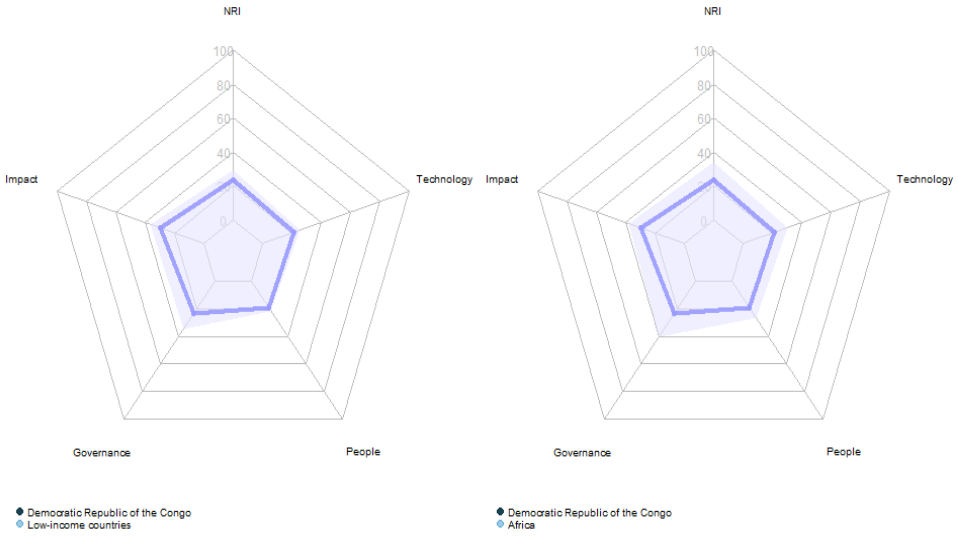


Table 2: Congo, Dem. Rep. scores vs. averages of its income group and region, overall and by pillar

Dimension	Congo, Dem. Rep.	Low-income countries	Africa
NRI	23.34	29.49	33.77
Technology	21.15	25.43	29.96
People	19.20	21.74	26.81
Governance	23.32	34.28	40.37
Impact	29.68	36.50	37.94

Strongest and weakest indicators

The indicators where Congo, Dem. Rep. performs particularly well include 2.2.4 Annual investment in telecommunication services, 2.3.4 R&D expenditure by governments and higher education, and 3.1.3 Online access to financial account (Table 3). By contrast, the economy's weakest indicators include 3.2.1 Regulatory quality, 1.2.2 Internet domain registrations, 2.1.2 ICT skills in the education system, 3.1.1 Secure Internet servers, and 4.3.4 SDG 7: Affordable and Clean Energy.

Table 3: Strongest and weakest indicators of Congo, Dem. Rep.

Strongest indicators	Rank	Weakest indicators	Rank
2.2.4 Annual investment in telecommunication services	36	2.2.2 GERD financed by business enterprise	105
2.3.4 R&D expenditure by governments and higher education	53	3.2.3 Regulation of emerging technologies	118
3.1.3 Online access to financial account	55	3.2.4 E-commerce legislation	126
3.2.5 Privacy protection by law content	77	1.2.3 Mobile apps development	128
4.3.3 SDG 5: Women's economic opportunity	81	3.1.2 Cybersecurity	128
4.1.4 Domestic market size	82	3.3.1 E-Participation	128
4.2.3 Income inequality	87	4.1.6 ICT services exports	128
2.1.1 Mobile broadband internet traffic within the country	90	2.1.3 Use of virtual social networks	129
3.3.2 Socioeconomic gap in use of digital payments	97	2.3.1 Government online services	129
3.2.2 ICT regulatory environment	98	3.3.3 Availability of local online content	129
		1.2.2 Internet domain registrations	130
		2.1.2 ICT skills in the education system	130
		3.1.1 Secure Internet servers	130
		4.3.4 SDG 7: Affordable and Clean Energy	130
		3.2.1 Regulatory quality	131

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NRI 2022 At-A-Glance: Congo, Dem. Rep.

Network Readiness Index Rank: 129 (out of 131) Score: 23.34

Pillar/sub-pillar	Rank	Score
A. Technology pillar	128	21.15
1st sub-pillar: Access	128	33.76
2nd sub-pillar: Content	128	14.20
3rd sub-pillar: Future Technologies	124	15.48
B. People pillar	127	19.20
1st sub-pillar: Individuals	124	15.75
2nd sub-pillar: Businesses	112	25.50
3rd sub-pillar: Governments	127	16.33

Pillar/sub-pillar	Rank	Score
C. Governance pillar	130	23.32
1st sub-pillar: Trust	123	16.07
2nd sub-pillar: Regulation	130	26.02
3rd sub-pillar: Inclusion	128	27.88
D. Impact pillar	126	29.68
1st sub-pillar: Economy	114	15.79
2nd sub-pillar: Quality of Life	117	44.83
3rd sub-pillar: SDG Contribution	131	28.44

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	128	21.15	
1st sub-pillar: Access	128	33.76	
1.1.1 Mobile tariffs	126	10.33	
1.1.2 Handset prices	121	25.33	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	125	75.06	
1.1.5 International Internet bandwidth	114	58.09	
1.1.6 Internet access in schools	79	0.00	
2nd sub-pillar: Content	128	14.20	
1.2.1 GitHub commits	119	0.33	
1.2.2 Internet domain registrations	130	0.02	○
1.2.3 Mobile apps development	128	22.72	○
1.2.4 AI scientific publications	77	33.74	
3rd sub-pillar: Future Technologies	124	15.48	
1.3.1 Adoption of emerging technologies	122	13.47	
1.3.2 Investment in emerging technologies	123	17.50	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	130	23.32	
1st sub-pillar: Trust	123	16.07	
3.1.1 Secure Internet servers	130	11.06	○
3.1.2 Cybersecurity	128	3.63	○
3.1.3 Online access to financial account	55	33.51	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	130	26.02	
3.2.1 Regulatory quality	131	0.00	○
3.2.2 ICT regulatory environment	98	68.62	
3.2.3 Regulation of emerging technologies	118	0.00	○
3.2.4 E-commerce legislation	126	0.00	○
3.2.5 Privacy protection by law content	77	61.46	
3rd sub-pillar: Inclusion	128	27.88	
3.3.1 E-Participation	128	17.29	○
3.3.2 Socioeconomic gap in use of digital payments	97	50.55	
3.3.3 Availability of local online content	129	10.34	○
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	108	33.34	

Indicator	Rank	Score	
B. People pillar	127	19.20	
1st sub-pillar: Individuals	124	15.75	
2.1.1 Mobile broadband internet traffic within the country	90	2.43	
2.1.2 ICT skills in the education system	130	0.89	○
2.1.3 Use of virtual social networks	129	1.66	○
2.1.4 Tertiary enrollment	118	3.32	
2.1.5 Adult literacy rate	83	70.47	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	112	25.50	
2.2.1 Firms with website	119	8.66	
2.2.2 GERD financed by business enterprise	105	0.00	○
2.2.3 Knowledge intensive employment	112	11.40	
2.2.4 Annual investment in telecommunication services	36	81.93	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	127	16.33	
2.3.1 Government online services	129	10.30	○
2.3.2 Publication and use of open data	87	11.76	
2.3.3 Government promotion of investment in emerging tech	121	7.91	
2.3.4 R&D expenditure by governments and higher education	53	35.36	

Indicator	Rank	Score	
D. Impact pillar	126	29.68	
1st sub-pillar: Economy	114	15.79	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	106	3.17	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	82	45.90	
4.1.5 Prevalence of gig economy	117	13.37	
4.1.6 ICT services exports	128	0.70	○
2nd sub-pillar: Quality of Life	117	44.83	
4.2.1 Happiness	110	37.97	
4.2.2 Freedom to make life choices	105	55.83	
4.2.3 Income inequality	87	52.51	
4.2.4 Healthy life expectancy at birth	123	33.00	
3rd sub-pillar: SDG Contribution	131	28.44	
4.3.1 SDG 3: Good Health and Well-Being	125	16.95	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	81	70.18	
4.3.4 SDG 7: Affordable and Clean Energy	130	0.00	○
4.3.5 SDG 11: Sustainable Cities and Communities	121	26.64	

NOTE: ● a strength and ○ a weakness.

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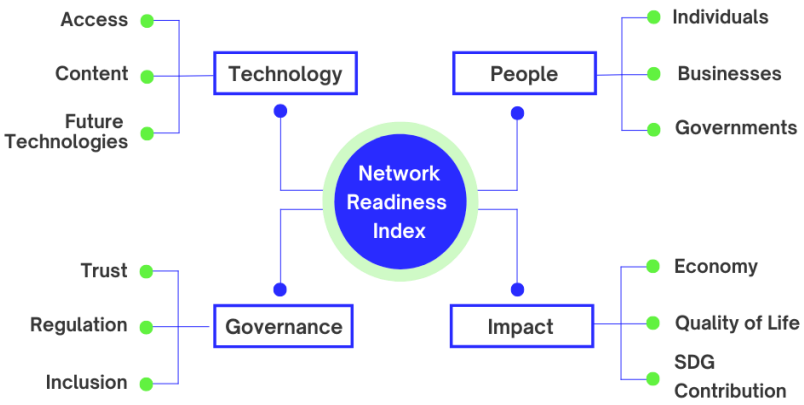
Network Readiness Index 2022 Costa Rica

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

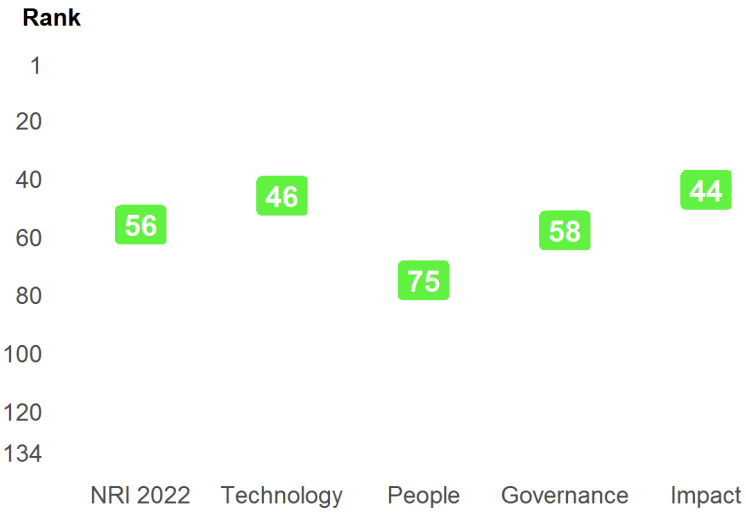
Figure 1: The NRI 2022 model



Global NRI position of Costa Rica

Costa Rica ranks 56th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Costa Rica global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Costa Rica relate to Regulation, Future Technologies and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Governments and Businesses sub-pillars.

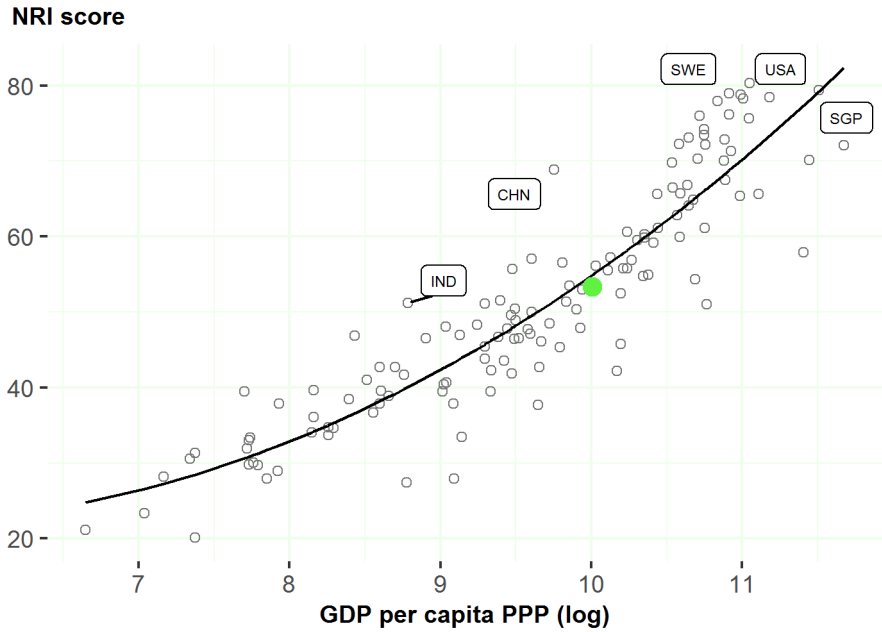
Table 1: Costa Rica rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	36	Quality of Life	58
Future Technologies	37	Content	65
Individuals	38	Trust	65
SDG Contribution	42	Inclusion	76
Access	50	Governments	81
Economy	55	Businesses	91

NRI score and income

Figure 3 shows the position of Costa Rica in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Costa Rica is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Costa Rica belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Costa Rica is ranked 9th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, governance and impact. At the sub-pillar level, it outperforms upper-middle-income countries in nine of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Trust, Regulation, Economy, Quality of Life and SDG Contribution.

The Americas

Costa Rica is ranked 6th within The Americas (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, technology, governance and impact. With regard to sub-pillars, it outperforms the average in The Americas in eight of the twelve sub-pillars: Access, Future Technologies, Individuals, Trust, Regulation, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Costa Rica against its income group and region, overall and by pillar

Table 2: Costa Rica scores vs. averages of its income group and region, overall and by pillar

Dimension	Costa Rica	Upper-middle-income countries	The Americas
NRI	53.34	49.66	50.09
Technology	50.26	43.11	44.16
People	42.11	44.94	43.67
Governance	60.45	57.08	56.24
Impact	60.54	53.50	56.30

Strongest and weakest indicators

The indicators where Costa Rica performs particularly well include 3.2.4 E-commerce legislation, 4.1.6 ICT services exports, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 4.2.3 Income inequality, 1.1.4 Population covered by at least a 3G mobile network, and 2.2.2 GERD financed by business enterprise.

Table 3: Strongest and weakest indicators of Costa Rica

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.3.2 SDG 4: Quality Education	57
4.1.6 ICT services exports	8	3.3.5 Rural gap in use of digital payments	87
4.3.4 SDG 7: Affordable and Clean Energy	9	2.2.2 GERD financed by business enterprise	89
3.3.4 Gender gap in Internet use	20	1.1.4 Population covered by at least a 3G mobile network	95
4.2.2 Freedom to make life choices	28	4.2.3 Income inequality	107
2.1.5 Adult literacy rate	30		
4.2.4 Healthy life expectancy at birth	31		
4.1.2 High-tech exports	33		
1.1.2 Handset prices	36		
4.2.1 Happiness	36		
3.2.2 ICT regulatory environment	38		

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NRI 2022 At-A-Glance: Costa Rica

Network Readiness Index — Rank: 56 (out of 131) — Score: 53.34

Pillar/sub-pillar	Rank	Score
A. Technology pillar	46	50.26
1st sub-pillar: Access	50	69.74
2nd sub-pillar: Content	65	36.81
3rd sub-pillar: Future Technologies	37	44.24
B. People pillar	75	42.11
1st sub-pillar: Individuals	38	54.16
2nd sub-pillar: Businesses	91	33.36
3rd sub-pillar: Governments	81	38.83

Pillar/sub-pillar	Rank	Score
C. Governance pillar	58	60.45
1st sub-pillar: Trust	65	45.10
2nd sub-pillar: Regulation	36	74.66
3rd sub-pillar: Inclusion	76	61.60
D. Impact pillar	44	60.54
1st sub-pillar: Economy	55	36.74
2nd sub-pillar: Quality of Life	58	70.66
3rd sub-pillar: SDG Contribution	42	74.23

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	46	50.26	
1st sub-pillar: Access	50	69.74	
1.1.1 Mobile tariffs	48	69.16	
1.1.2 Handset prices	36	70.31	●
1.1.3 FTTH/building Internet subscriptions	68	20.14	
1.1.4 Population covered by at least a 3G mobile network	95	97.97	○
1.1.5 International Internet bandwidth	43	74.57	
1.1.6 Internet access in schools	36	86.29	
2nd sub-pillar: Content	65	36.81	
1.2.1 GitHub commits	45	13.31	
1.2.2 Internet domain registrations	48	8.22	
1.2.3 Mobile apps development	57	81.76	
1.2.4 AI scientific publications	61	43.93	
3rd sub-pillar: Future Technologies	37	44.24	
1.3.1 Adoption of emerging technologies	43	57.76	
1.3.2 Investment in emerging technologies	48	48.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	38	26.71	

Indicator	Rank	Score	
C. Governance pillar	58	60.45	
1st sub-pillar: Trust	65	45.10	
3.1.1 Secure Internet servers	62	57.34	
3.1.2 Cybersecurity	82	66.88	
3.1.3 Online access to financial account	63	29.47	
3.1.4 Internet shopping	57	26.70	
2nd sub-pillar: Regulation	36	74.66	
3.2.1 Regulatory quality	50	53.07	
3.2.2 ICT regulatory environment	38	88.24	●
3.2.3 Regulation of emerging technologies	43	56.58	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	39	75.44	
3rd sub-pillar: Inclusion	76	61.60	
3.3.1 E-Participation	75	64.20	
3.3.2 Socioeconomic gap in use of digital payments	85	55.92	
3.3.3 Availability of local online content	65	60.34	
3.3.4 Gender gap in Internet use	20	75.01	●
3.3.5 Rural gap in use of digital payments	87	52.52	○

Indicator	Rank	Score	
B. People pillar	75	42.11	
1st sub-pillar: Individuals	38	54.16	
2.1.1 Mobile broadband internet traffic within the country	83	4.12	
2.1.2 ICT skills in the education system	45	56.21	
2.1.3 Use of virtual social networks	43	75.07	
2.1.4 Tertiary enrollment	55	38.11	
2.1.5 Adult literacy rate	30	97.28	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	91	33.36	
2.2.1 Firms with website	62	51.41	
2.2.2 GERD financed by business enterprise	89	2.79	○
2.2.3 Knowledge intensive employment	68	32.06	
2.2.4 Annual investment in telecommunication services	65	76.73	
2.2.5 GERD performed by business enterprise	58	3.79	
3rd sub-pillar: Governments	81	38.83	
2.3.1 Government online services	70	67.28	
2.3.2 Publication and use of open data	49	33.82	
2.3.3 Government promotion of investment in emerging tech	74	34.26	
2.3.4 R&D expenditure by governments and higher education	73	19.94	

Indicator	Rank	Score	
D. Impact pillar	44	60.54	
1st sub-pillar: Economy	55	36.74	
4.1.1 High-tech and medium-high-tech manufacturing	75	16.07	
4.1.2 High-tech exports	33	49.42	●
4.1.3 PCT patent applications	77	1.78	
4.1.4 Domestic market size	80	45.97	
4.1.5 Prevalence of gig economy	52	45.64	
4.1.6 ICT services exports	8	61.58	●
2nd sub-pillar: Quality of Life	58	70.66	
4.2.1 Happiness	36	75.32	●
4.2.2 Freedom to make life choices	28	86.72	●
4.2.3 Income inequality	107	34.42	○
4.2.4 Healthy life expectancy at birth	31	86.20	●
3rd sub-pillar: SDG Contribution	42	74.23	
4.3.1 SDG 3: Good Health and Well-Being	38	81.78	
4.3.2 SDG 4: Quality Education	57	35.38	○
4.3.3 SDG 5: Women's economic opportunity	49	80.70	
4.3.4 SDG 7: Affordable and Clean Energy	9	93.40	●
4.3.5 SDG 11: Sustainable Cities and Communities	38	79.86	

NOTE: ● a strength and ○ a weakness.

Sources

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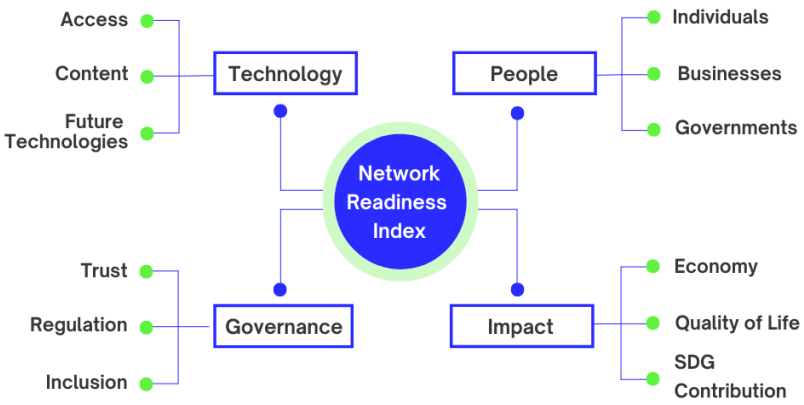
Network Readiness Index 2022 Cote d'Ivoire

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

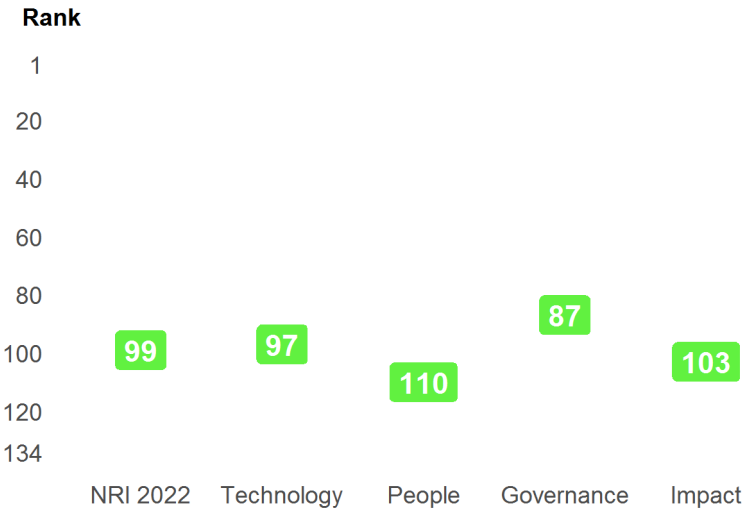
Figure 1: The NRI 2022 model



Global NRI position of Cote d'Ivoire

Cote d'Ivoire ranks 99th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Cote d'Ivoire global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Cote d'Ivoire relate to Access, Trust and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Governments and Content sub-pillars.

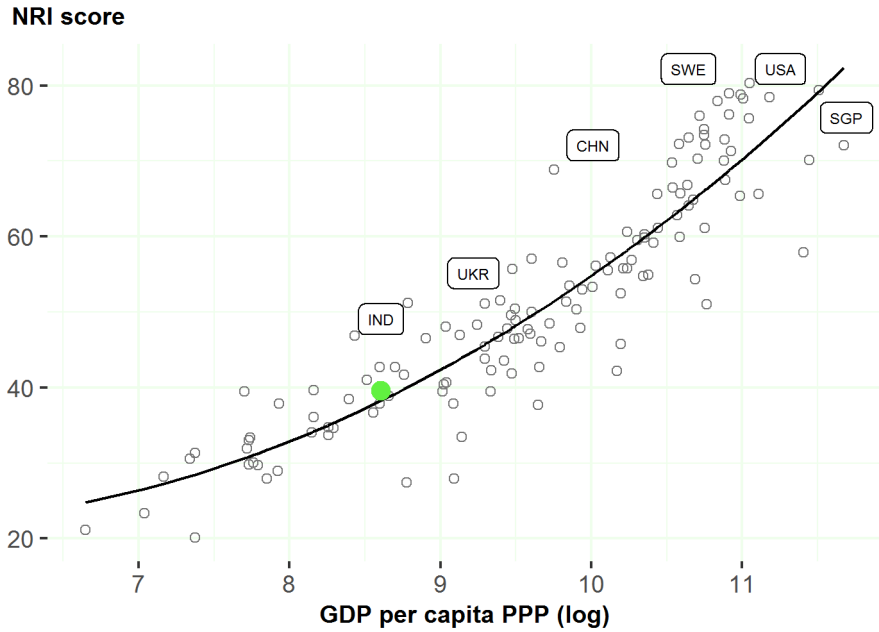
Table 1: Cote d'Ivoire rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	71	Future Technologies	102
Trust	72	SDG Contribution	103
Regulation	86	Quality of Life	105
Economy	86	Individuals	108
Businesses	95	Governments	109
Inclusion	100	Content	121

NRI score and income

Figure 3 shows the position of Cote d'Ivoire in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Cote d'Ivoire is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Cote d'Ivoire belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Cote d'Ivoire is ranked 21st in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: governance. At the sub-pillar level, it outperforms lower-middle-income countries in three of the twelve sub-pillars: Access, Trust and Regulation.

Africa

Cote d'Ivoire is ranked 6th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in nine of the twelve sub-pillars: Access, Individuals, Businesses, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Cote d'Ivoire against its income group and region, overall and by pillar

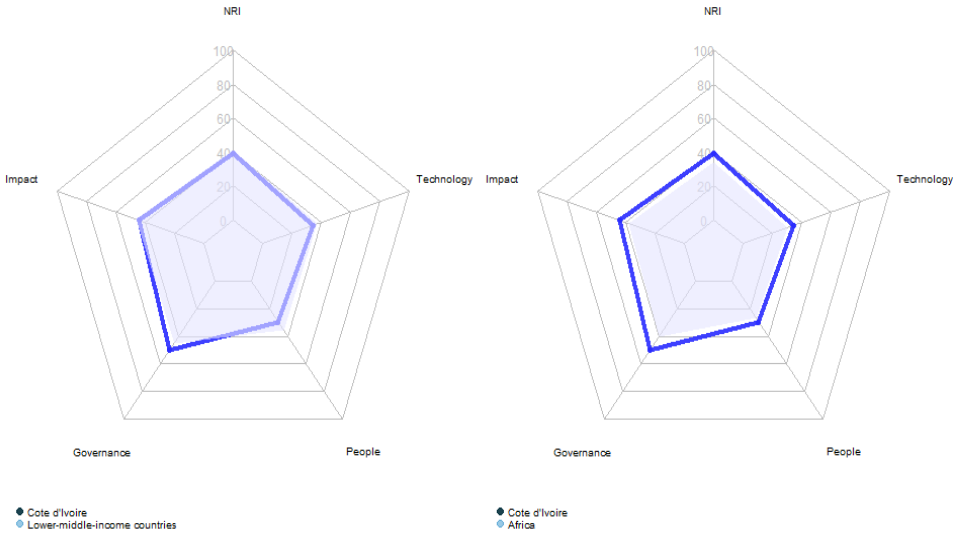


Table 2: Cote d'Ivoire scores vs. averages of its income group and region, overall and by pillar

Dimension	Cote d'Ivoire	Lower-middle-income countries	Africa
NRI	39.56	40.94	33.77
Technology	34.70	37.28	29.96
People	29.43	35.42	26.81
Governance	50.25	45.00	40.37
Impact	43.86	46.09	37.94

Strongest and weakest indicators

The indicators where Cote d'Ivoire performs particularly well include 3.2.4 E-commerce legislation, 4.3.4 SDG 7: Affordable and Clean Energy, and 3.2.3 Regulation of emerging technologies (Table 3). By contrast, the economy's weakest indicators include 4.3.5 SDG 11: Sustainable Cities and Communities, 2.2.1 Firms with website, and 1.3.4 Computer software spending.

Table 3: Strongest and weakest indicators of Cote d'Ivoire

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.1.3 PCT patent applications	99
4.3.4 SDG 7: Affordable and Clean Energy	44	2.3.4 R&D expenditure by governments and higher education	103
3.2.3 Regulation of emerging technologies	56	1.3.4 Computer software spending	115
2.3.3 Government promotion of investment in emerging technologies	58	2.2.1 Firms with website	117
3.3.2 Socioeconomic gap in use of digital payments	63	4.3.5 SDG 11: Sustainable Cities and Communities	125
2.1.1 Mobile broadband internet traffic within the country	64		
4.1.5 Prevalence of gig economy	64		
4.3.3 SDG 5: Women's economic opportunity	64		
4.1.2 High-tech exports	67		
4.1.4 Domestic market size	70		
1.1.2 Handset prices	72		

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NRI 2022 At-A-Glance: Cote d'Ivoire

Network Readiness Index Rank: 99 (out of 131) Score: 39.56

Pillar/sub-pillar	Rank	Score
A. Technology pillar	97	34.70
1st sub-pillar: Access	71	62.93
2nd sub-pillar: Content	121	18.72
3rd sub-pillar: Future Technologies	102	22.45
B. People pillar	110	29.43
1st sub-pillar: Individuals	108	31.59
2nd sub-pillar: Businesses	95	31.56
3rd sub-pillar: Governments	109	25.15

Pillar/sub-pillar	Rank	Score
C. Governance pillar	87	50.25
1st sub-pillar: Trust	72	41.13
2nd sub-pillar: Regulation	86	59.60
3rd sub-pillar: Inclusion	100	50.02
D. Impact pillar	103	43.86
1st sub-pillar: Economy	86	26.15
2nd sub-pillar: Quality of Life	105	52.36
3rd sub-pillar: SDG Contribution	103	53.07

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	97	34.70	
1st sub-pillar: Access	71	62.93	
1.1.1 Mobile tariffs	102	38.12	
1.1.2 Handset prices	72	48.83	●
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	79	98.79	
1.1.5 International Internet bandwidth	89	66.00	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	121	18.72	
1.2.1 GitHub commits	117	0.38	
1.2.2 Internet domain registrations	113	0.31	
1.2.3 Mobile apps development	121	47.21	
1.2.4 AI scientific publications	81	26.95	
3rd sub-pillar: Future Technologies	102	22.45	
1.3.1 Adoption of emerging technologies	88	37.49	
1.3.2 Investment in emerging technologies	100	28.50	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	115	1.36	○

Indicator	Rank	Score	
C. Governance pillar	87	50.25	
1st sub-pillar: Trust	72	41.13	
3.1.1 Secure Internet servers	110	32.26	
3.1.2 Cybersecurity	81	67.25	
3.1.3 Online access to financial account	72	23.87	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	86	59.60	
3.2.1 Regulatory quality	90	33.60	
3.2.2 ICT regulatory environment	106	62.74	
3.2.3 Regulation of emerging technologies	56	46.32	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	88	55.35	
3rd sub-pillar: Inclusion	100	50.02	
3.3.1 E-Participation	112	38.28	
3.3.2 Socioeconomic gap in use of digital payments	63	74.56	●
3.3.3 Availability of local online content	110	33.17	
3.3.4 Gender gap in Internet use	95	46.83	
3.3.5 Rural gap in use of digital payments	75	57.24	

Indicator	Rank	Score	
B. People pillar	110	29.43	
1st sub-pillar: Individuals	108	31.59	
2.1.1 Mobile broadband internet traffic within the country	64	8.19	●
2.1.2 ICT skills in the education system	85	37.57	
2.1.3 Use of virtual social networks	108	19.57	
2.1.4 Tertiary enrollment	110	5.58	
2.1.5 Adult literacy rate	65	87.02	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	95	31.56	
2.2.1 Firms with website	117	9.94	○
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	118	7.80	
2.2.4 Annual investment in telecommunication services	64	76.93	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	109	25.15	
2.3.1 Government online services	110	43.63	
2.3.2 Publication and use of open data	83	13.24	
2.3.3 Government promotion of investment in emerging tech	58	39.61	
2.3.4 R&D expenditure by governments and higher education	103	4.14	○

Indicator	Rank	Score	
D. Impact pillar	103	43.86	
1st sub-pillar: Economy	86	26.15	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	67	18.54	●
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	70	49.45	●
4.1.5 Prevalence of gig economy	64	40.99	●
4.1.6 ICT services exports	81	21.76	
2nd sub-pillar: Quality of Life	105	52.36	
4.2.1 Happiness	90	51.23	
4.2.2 Freedom to make life choices	98	58.01	
4.2.3 Income inequality	65	64.82	
4.2.4 Healthy life expectancy at birth	118	35.38	
3rd sub-pillar: SDG Contribution	103	53.07	
4.3.1 SDG 3: Good Health and Well-Being	116	28.21	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	64	76.32	●
4.3.4 SDG 7: Affordable and Clean Energy	44	83.29	●
4.3.5 SDG 11: Sustainable Cities and Communities	125	24.48	○

NOTE: ● a strength and ○ a weakness.

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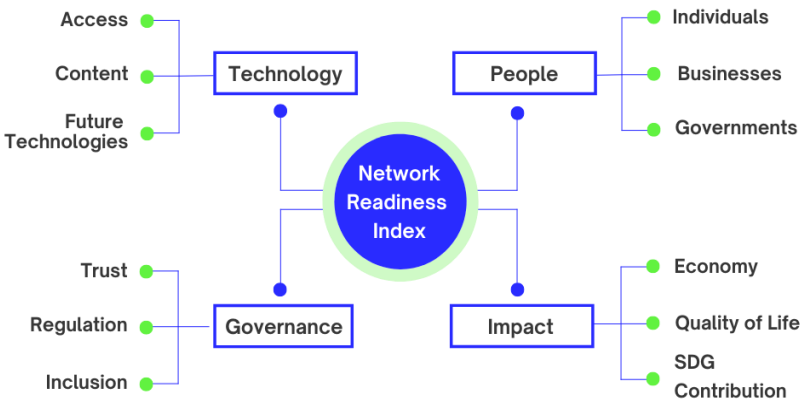
Network Readiness Index 2022 Croatia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

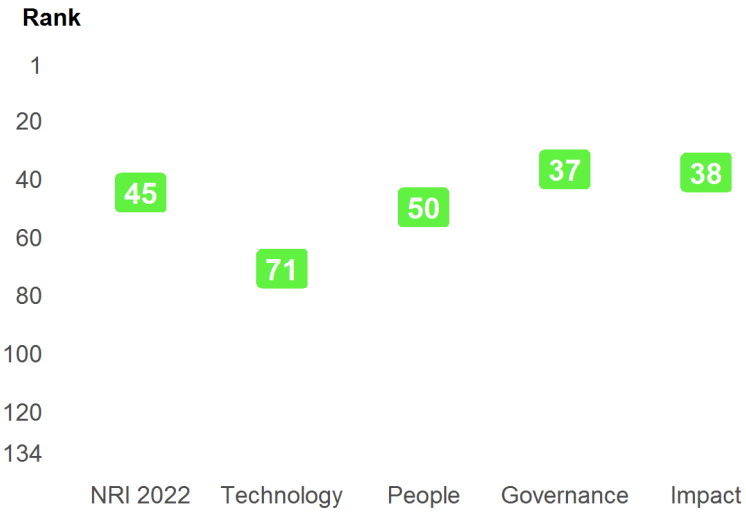
Figure 1: The NRI 2022 model



Global NRI position of Croatia

Croatia ranks 45th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Croatia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Croatia relate to Quality of Life, SDG Contribution and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Governments and Future Technologies sub-pillars.

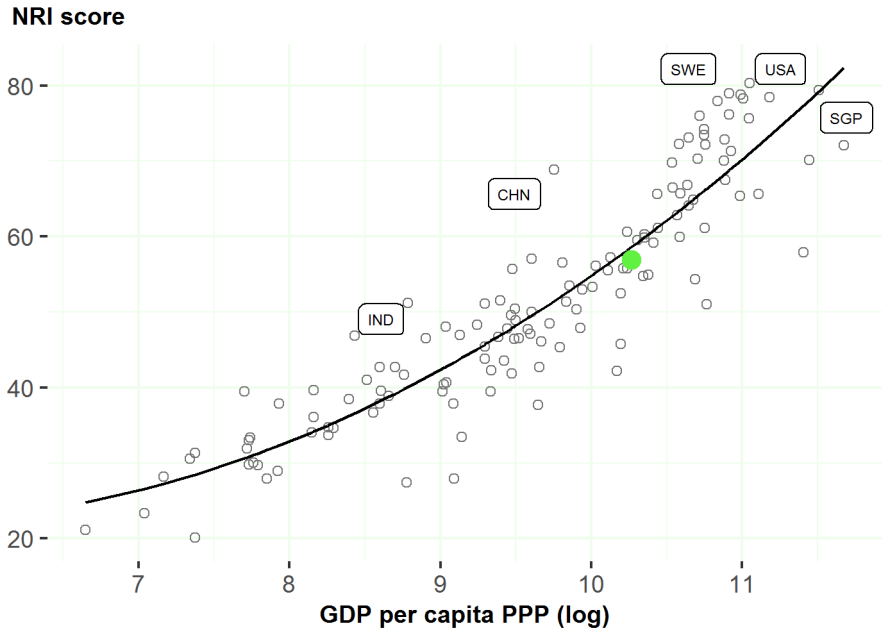
Table 1: Croatia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	28	Inclusion	46
SDG Contribution	38	Individuals	48
Businesses	39	Economy	62
Trust	39	Access	64
Content	40	Governments	71
Regulation	40	Future Technologies	107

NRI score and income

Figure 3 shows the position of Croatia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Croatia is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Croatia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Croatia is ranked 41st in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails high-income countries in all of them.

Europe

Croatia is ranked 29th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in two of the twelve sub-pillars: Individuals and Quality of Life.

Figure 4: Performance of Croatia against its income group and region, overall and by pillar

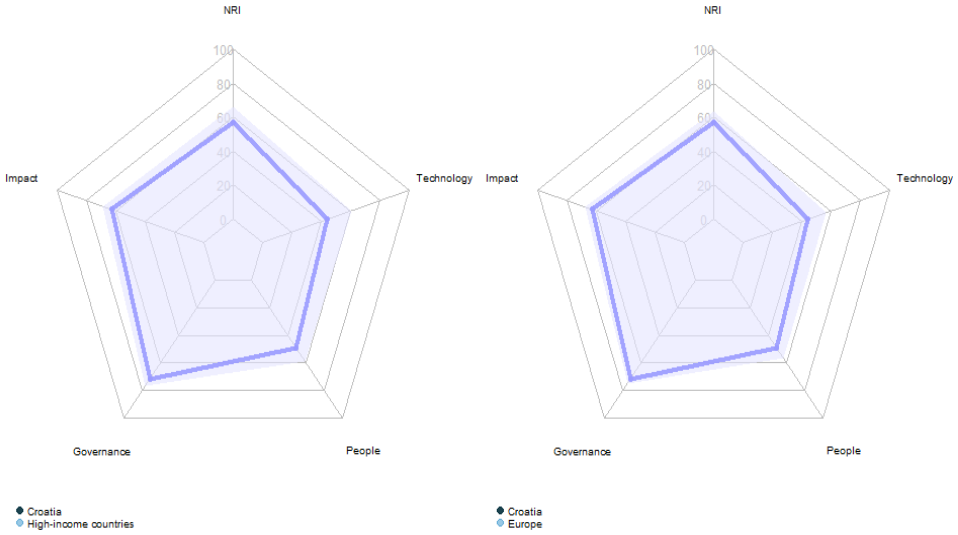


Table 2: Croatia scores vs. averages of its income group and region, overall and by pillar

Dimension	Croatia	High-income countries	Europe
NRI	56.86	66.21	63.72
Technology	43.69	60.28	56.43
People	49.37	58.83	56.35
Governance	71.68	76.89	74.79
Impact	62.71	68.86	67.30

Strongest and weakest indicators

The indicators where Croatia performs particularly well include 3.2.4 E-commerce legislation, 3.3.5 Rural gap in use of digital payments, and 1.1.1 Mobile tariffs (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 2.3.3 Government promotion of investment in emerging technologies, and 4.1.5 Prevalence of gig economy.

Table 3: Strongest and weakest indicators of Croatia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	45
3.3.5 Rural gap in use of digital payments	5	1.3.4 Computer software spending	97
1.1.1 Mobile tariffs	13	4.1.5 Prevalence of gig economy	104
3.2.2 ICT regulatory environment	14	2.3.3 Government promotion of investment in emerging technologies	107
4.2.3 Income inequality	15	1.3.2 Investment in emerging technologies	108
2.1.5 Adult literacy rate	17		
1.1.4 Population covered by at least a 3G mobile network	19		
3.3.1 E-Participation	23		
1.2.1 GitHub commits	25		
4.1.6 ICT services exports	27		
3.1.1 Secure Internet servers	30		

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NRI 2022 At-A-Glance: Croatia

Network Readiness Index — Rank: 45 (out of 131) — Score: 56.86

Pillar/sub-pillar	Rank	Score
A. Technology pillar	71	43.69
1st sub-pillar: Access	64	65.22
2nd sub-pillar: Content	40	45.42
3rd sub-pillar: Future Technologies	107	20.43
B. People pillar	50	49.37
1st sub-pillar: Individuals	48	51.82
2nd sub-pillar: Businesses	39	54.35
3rd sub-pillar: Governments	71	41.95

Pillar/sub-pillar	Rank	Score
C. Governance pillar	37	71.68
1st sub-pillar: Trust	39	66.74
2nd sub-pillar: Regulation	40	73.73
3rd sub-pillar: Inclusion	46	74.57
D. Impact pillar	38	62.71
1st sub-pillar: Economy	62	33.42
2nd sub-pillar: Quality of Life	28	79.91
3rd sub-pillar: SDG Contribution	38	74.81

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	71	43.69	
1st sub-pillar: Access	64	65.22	
1.1.1 Mobile tariffs	13	87.54	●
1.1.2 Handset prices	69	50.20	
1.1.3 FTTH/building Internet subscriptions	78	15.91	
1.1.4 Population covered by at least a 3G mobile network	19	100.00	●
1.1.5 International Internet bandwidth	52	72.47	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	40	45.42	
1.2.1 GitHub commits	25	38.29	●
1.2.2 Internet domain registrations	44	10.80	
1.2.3 Mobile apps development	39	87.19	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	107	20.43	
1.3.1 Adoption of emerging technologies	57	49.87	
1.3.2 Investment in emerging technologies	108	25.25	○
1.3.3 Robot density	45	1.63	○
1.3.4 Computer software spending	97	4.96	○
B. People pillar	50	49.37	

Indicator	Rank	Score	
C. Governance pillar	37	71.68	
1st sub-pillar: Trust	39	66.74	
3.1.1 Secure Internet servers	30	79.91	●
3.1.2 Cybersecurity	40	92.40	
3.1.3 Online access to financial account	38	43.89	
3.1.4 Internet shopping	39	50.74	
2nd sub-pillar: Regulation	40	73.73	
3.2.1 Regulatory quality	51	52.53	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Regulation of emerging technologies	69	42.37	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	35	79.61	
3rd sub-pillar: Inclusion	46	74.57	
3.3.1 E-Participation	23	88.89	●
3.3.2 Socioeconomic gap in use of digital payments	59	77.08	
3.3.3 Availability of local online content	56	65.87	
3.3.4 Gender gap in Internet use	82	60.55	
3.3.5 Rural gap in use of digital payments	5	80.46	●
D. Impact pillar	38	62.71	

Indicator	Rank	Score	
1st sub-pillar: Individuals	48	51.82	
2.1.1 Mobile broadband internet traffic within the country	53	11.55	
2.1.2 ICT skills in the education system	85	37.57	
2.1.3 Use of virtual social networks	68	66.11	
2.1.4 Tertiary enrollment	39	44.96	
2.1.5 Adult literacy rate	17	98.91	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	39	54.35	
2.2.1 Firms with website	30	75.56	
2.2.2 GERD financed by business enterprise	47	46.48	
2.2.3 Knowledge intensive employment	41	55.55	
2.2.4 Annual investment in telecommunication services	55	78.41	
2.2.5 GERD performed by business enterprise	37	15.75	
3rd sub-pillar: Governments	71	41.95	
2.3.1 Government online services	51	74.54	
2.3.2 Publication and use of open data	57	29.41	
2.3.3 Government promotion of investment in emerging tech	107	18.13	
2.3.4 R&D expenditure by governments and higher education	38	45.70	

Indicator	Rank	Score	
1st sub-pillar: Economy	62	33.42	
4.1.1 High-tech and medium-high-tech manufacturing	48	30.86	
4.1.2 High-tech exports	41	42.58	
4.1.3 PCT patent applications	39	11.19	
4.1.4 Domestic market size	76	47.07	
4.1.5 Prevalence of gig economy	104	23.55	○
4.1.6 ICT services exports	27	45.26	●
2nd sub-pillar: Quality of Life	28	79.91	
4.2.1 Happiness	39	73.15	
4.2.2 Freedom to make life choices	45	79.13	
4.2.3 Income inequality	15	85.68	●
4.2.4 Healthy life expectancy at birth	39	81.67	
3rd sub-pillar: SDG Contribution	38	74.81	
4.3.1 SDG 3: Good Health and Well-Being	57	73.09	
4.3.2 SDG 4: Quality Education	36	57.82	
4.3.3 SDG 5: Women's economic opportunity	27	91.23	
4.3.4 SDG 7: Affordable and Clean Energy	37	85.38	
4.3.5 SDG 11: Sustainable Cities and Communities	65	66.54	

NOTE: ● a strength and ○ a weakness.

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Network Readiness Index 2022 Cyprus

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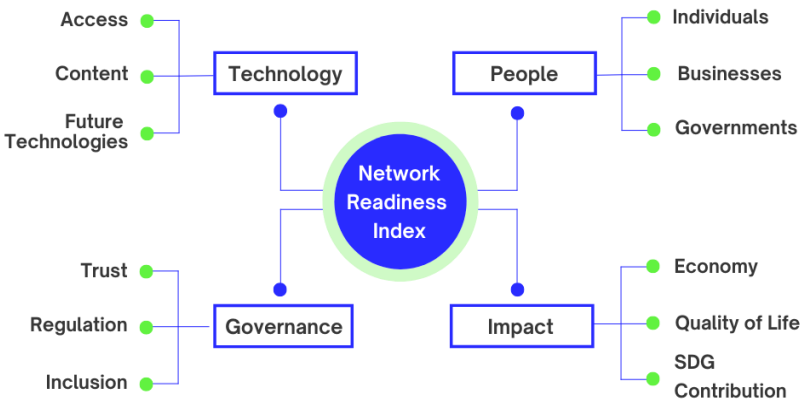
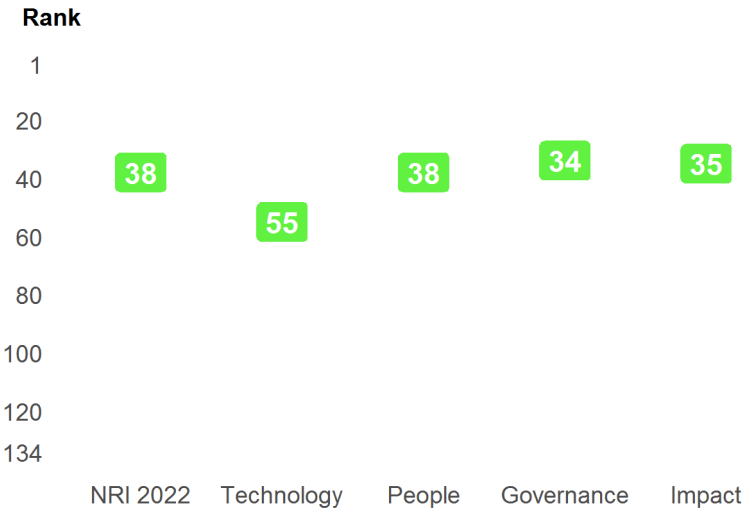
Figure 1: The NRI 2022 model



Global NRI position of Cyprus

Cyprus ranks 38th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Cyprus global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Cyprus relate to Individuals, Content and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Future Technologies and Access sub-pillars.

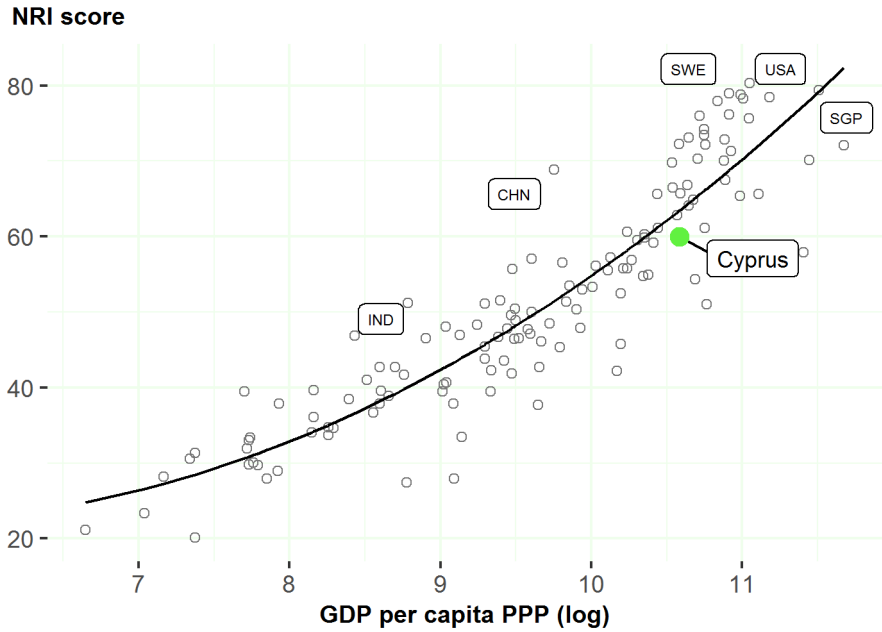
Table 1: Cyprus rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	13	Trust	41
Content	26	Businesses	46
Inclusion	30	Economy	52
SDG Contribution	31	Governments	53
Regulation	34	Future Technologies	70
Quality of Life	38	Access	78

NRI score and income

Figure 3 shows the position of Cyprus in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Cyprus is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Cyprus belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Cyprus is ranked 36th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in two of the twelve sub-pillars: Individuals and SDG Contribution.

Europe

Cyprus is ranked 26th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in three of the twelve sub-pillars: Individuals, Inclusion and SDG Contribution.

Figure 4: Performance of Cyprus against its income group and region, overall and by pillar

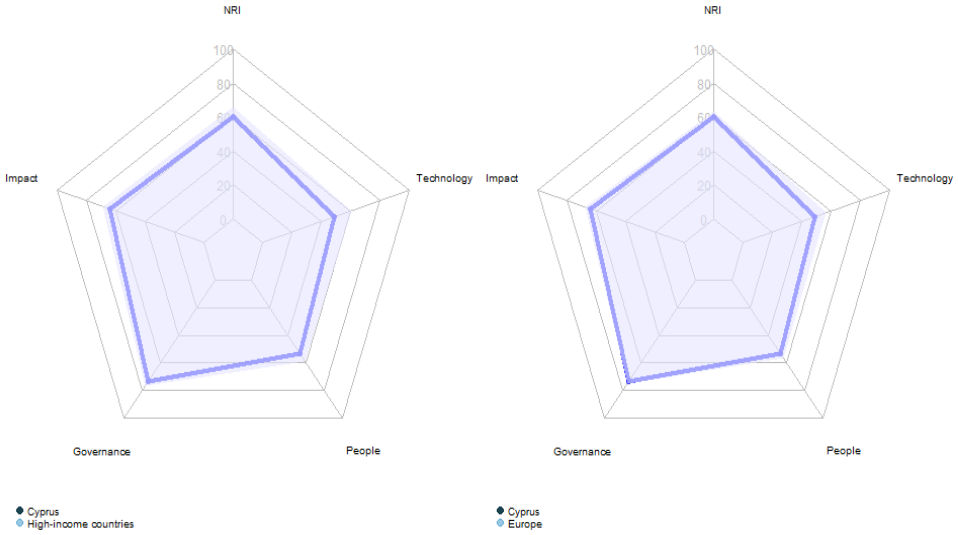


Table 2: Cyprus scores vs. averages of its income group and region, overall and by pillar

Dimension	Cyprus	High-income countries	Europe
NRI	59.95	66.21	63.72
Technology	48.61	60.28	56.43
People	53.38	58.83	56.35
Governance	73.67	76.89	74.79
Impact	64.15	68.86	67.30

Strongest and weakest indicators

The indicators where Cyprus performs particularly well include 1.2.3 Mobile apps development, 3.2.4 E-commerce legislation, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 2.1.1 Mobile broadband internet traffic within the country, and 4.2.2 Freedom to make life choices.

Table 3: Strongest and weakest indicators of Cyprus

Strongest indicators	Rank	Weakest indicators	Rank
1.2.3 Mobile apps development	1	2.2.4 Annual investment in telecommunication services	88
3.2.4 E-commerce legislation	1	1.1.3 FTTH/building Internet subscriptions	96
4.1.6 ICT services exports	2	4.2.2 Freedom to make life choices	97
2.1.3 Use of virtual social networks	3	2.1.1 Mobile broadband internet traffic within the country	108
4.2.4 Healthy life expectancy at birth	5	4.1.4 Domestic market size	111
2.1.4 Tertiary enrollment	11		
3.3.1 E-Participation	14		
1.2.2 Internet domain registrations	16		
2.3.1 Government online services	20		
4.3.5 SDG 11: Sustainable Cities and Communities	21		
4.1.3 PCT patent applications	22		

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NRI 2022 At-A-Glance: Cyprus

Network Readiness Index Rank: 38 (out of 131) Score: 59.95

Pillar/sub-pillar	Rank	Score
A. Technology pillar	55	48.61
1st sub-pillar: Access	78	59.73
2nd sub-pillar: Content	26	55.64
3rd sub-pillar: Future Technologies	70	30.46
B. People pillar	38	53.38
1st sub-pillar: Individuals	13	61.60
2nd sub-pillar: Businesses	46	51.41
3rd sub-pillar: Governments	53	47.12

Pillar/sub-pillar	Rank	Score
C. Governance pillar	34	73.67
1st sub-pillar: Trust	41	66.28
2nd sub-pillar: Regulation	34	75.55
3rd sub-pillar: Inclusion	30	79.17
D. Impact pillar	35	64.15
1st sub-pillar: Economy	52	37.57
2nd sub-pillar: Quality of Life	38	76.30
3rd sub-pillar: SDG Contribution	31	78.57

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	55	48.61	
1st sub-pillar: Access	78	59.73	
1.1.1 Mobile tariffs	77	50.71	
1.1.2 Handset prices	43	67.72	
1.1.3 FTTH/building Internet subscriptions	96	5.38	○
1.1.4 Population covered by at least a 3G mobile network	27	99.98	
1.1.5 International Internet bandwidth	42	74.88	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	26	55.64	
1.2.1 GitHub commits	40	15.65	
1.2.2 Internet domain registrations	16	51.27	●
1.2.3 Mobile apps development	1	100.00	●
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	70	30.46	
1.3.1 Adoption of emerging technologies	72	44.07	
1.3.2 Investment in emerging technologies	92	31.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	74	16.07	

Indicator	Rank	Score	
C. Governance pillar	34	73.67	
1st sub-pillar: Trust	41	66.28	
3.1.1 Secure Internet servers	27	80.80	
3.1.2 Cybersecurity	49	88.62	
3.1.3 Online access to financial account	42	42.11	
3.1.4 Internet shopping	38	53.60	
2nd sub-pillar: Regulation	34	75.55	
3.2.1 Regulatory quality	33	67.73	
3.2.2 ICT regulatory environment	56	85.49	
3.2.3 Regulation of emerging technologies	60	44.74	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	34	79.77	
3rd sub-pillar: Inclusion	30	79.17	
3.3.1 E-Participation	14	95.06	●
3.3.2 Socioeconomic gap in use of digital payments	50	83.94	
3.3.3 Availability of local online content	44	72.36	
3.3.4 Gender gap in Internet use	25	74.49	
3.3.5 Rural gap in use of digital payments	49	70.01	

Indicator	Rank	Score	
B. People pillar	38	53.38	
1st sub-pillar: Individuals	13	61.60	
2.1.1 Mobile broadband internet traffic within the country	108	0.78	○
2.1.2 ICT skills in the education system	47	55.62	
2.1.3 Use of virtual social networks	3	94.16	●
2.1.4 Tertiary enrollment	11	59.10	●
2.1.5 Adult literacy rate	24	98.33	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	46	51.41	
2.2.1 Firms with website	34	71.63	
2.2.2 GERD financed by business enterprise	50	45.00	
2.2.3 Knowledge intensive employment	36	58.17	
2.2.4 Annual investment in telecommunication services	88	72.55	○
2.2.5 GERD performed by business enterprise	45	9.71	
3rd sub-pillar: Governments	53	47.12	
2.3.1 Government online services	20	86.67	●
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	88	30.26	
2.3.4 R&D expenditure by governments and higher education	65	24.43	

Indicator	Rank	Score	
D. Impact pillar	35	64.15	
1st sub-pillar: Economy	52	37.57	
4.1.1 High-tech and medium-high-tech manufacturing	69	18.98	
4.1.2 High-tech exports	71	16.66	
4.1.3 PCT patent applications	22	37.39	●
4.1.4 Domestic market size	111	35.04	○
4.1.5 Prevalence of gig economy	86	33.72	
4.1.6 ICT services exports	2	83.64	●
2nd sub-pillar: Quality of Life	38	76.30	
4.2.1 Happiness	40	72.84	
4.2.2 Freedom to make life choices	97	58.10	○
4.2.3 Income inequality	28	79.90	
4.2.4 Healthy life expectancy at birth	5	94.37	●
3rd sub-pillar: SDG Contribution	31	78.57	
4.3.1 SDG 3: Good Health and Well-Being	33	82.64	
4.3.2 SDG 4: Quality Education	44	44.51	
4.3.3 SDG 5: Women's economic opportunity	32	87.72	
4.3.4 SDG 7: Affordable and Clean Energy	25	88.72	
4.3.5 SDG 11: Sustainable Cities and Communities	21	89.25	●

NOTE: ● a strength and ○ a weakness.

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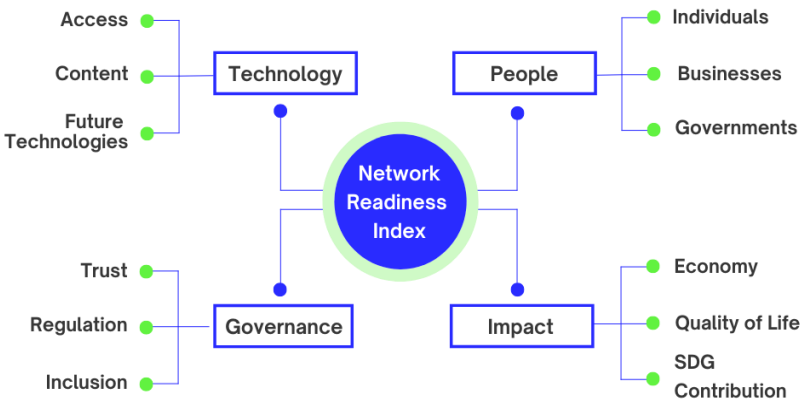
Network Readiness Index 2022 Czech Republic

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

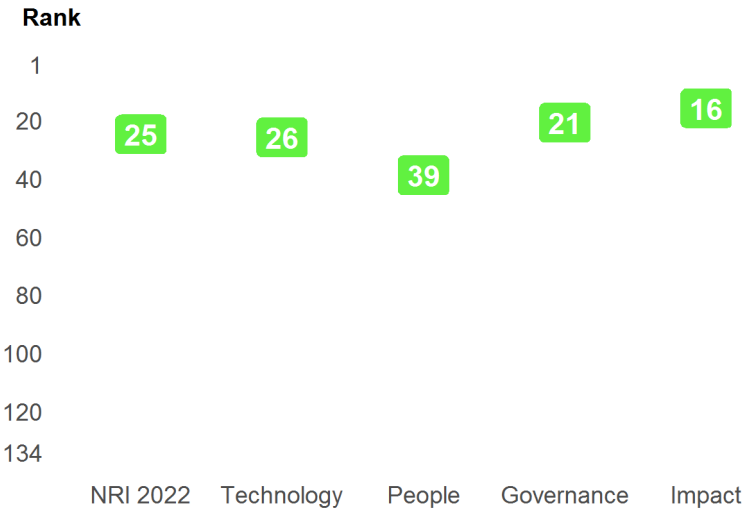
Figure 1: The NRI 2022 model



Global NRI position of Czech Republic

Czech Republic ranks 25th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Czech Republic global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Czech Republic relate to Quality of Life, Trust and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Access and Individuals sub-pillars.

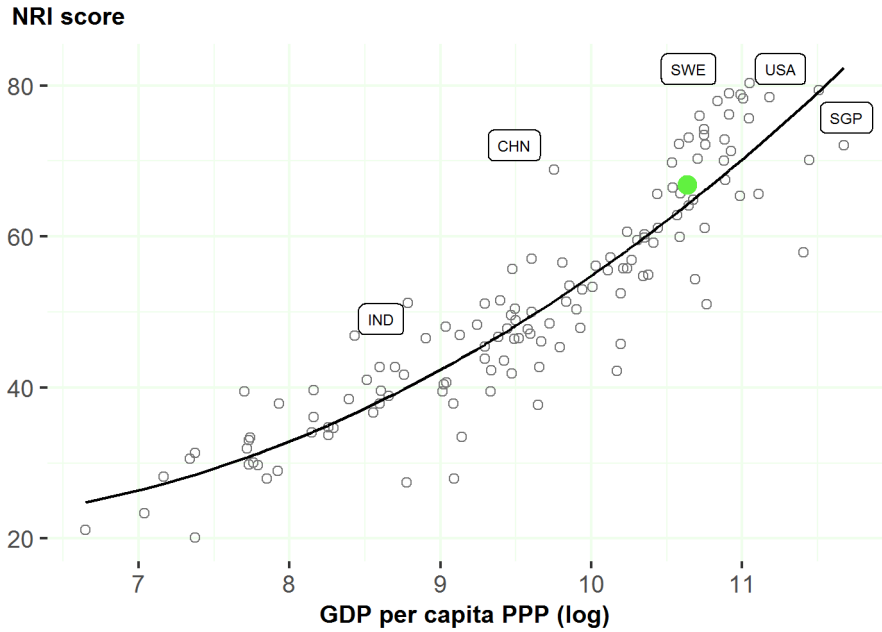
Table 1: Czech Republic rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	7	Businesses	31
Trust	15	Inclusion	33
Economy	18	Governments	34
Content	20	Future Technologies	36
Regulation	22	Access	54
SDG Contribution	30	Individuals	91

NRI score and income

Figure 3 shows the position of Czech Republic in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Czech Republic is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Czech Republic belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Czech Republic is ranked 24th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: nri.score, governance and impact. At the sub-pillar level, it outperforms high-income countries in six of the twelve sub-pillars: Content, Trust, Regulation, Economy, Quality of Life and SDG Contribution.

Europe

Czech Republic is ranked 17th within Europe (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, technology, governance and impact. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Czech Republic against its income group and region, overall and by pillar

Table 2: Czech Republic scores vs. averages of its income group and region, overall and by pillar

Dimension	Czech Republic	High-income countries	Europe
NRI	66.83	66.21	63.72
Technology	59.46	60.28	56.43
People	53.33	58.83	56.35
Governance	80.49	76.89	74.79
Impact	74.03	68.86	67.30

Strongest and weakest indicators

The indicators where Czech Republic performs particularly well include 3.2.4 E-commerce legislation, 4.1.1 High-tech and medium-high-tech manufacturing, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 3.1.2 Cybersecurity, 2.1.1 Mobile broadband internet traffic within the country, and 3.3.4 Gender gap in Internet use.

Table 3: Strongest and weakest indicators of Czech Republic

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	26
4.1.1 High-tech and medium-high-tech manufacturing	4	2.1.1 Mobile broadband internet traffic within the country	68
4.2.3 Income inequality	4	3.3.4 Gender gap in Internet use	68
4.1.2 High-tech exports	7	3.1.2 Cybersecurity	76
3.1.4 Internet shopping	9		
3.1.1 Secure Internet servers	12		
3.1.3 Online access to financial account	12		
2.2.1 Firms with website	14		
2.3.4 R&D expenditure by governments and higher education	14		
3.3.2 Socioeconomic gap in use of digital payments	14		
1.2.1 GitHub commits	15		

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NRI 2022 At-A-Glance: Czech Republic

Network Readiness Index Rank: 25 (out of 131) Score: 66.83

Pillar/sub-pillar	Rank	Score
A. Technology pillar	26	59.46
1st sub-pillar: Access	54	68.91
2nd sub-pillar: Content	20	65.11
3rd sub-pillar: Future Technologies	36	44.36
B. People pillar	39	53.33
1st sub-pillar: Individuals	91	41.29
2nd sub-pillar: Businesses	31	60.71
3rd sub-pillar: Governments	34	57.98

Pillar/sub-pillar	Rank	Score
C. Governance pillar	21	80.49
1st sub-pillar: Trust	15	81.13
2nd sub-pillar: Regulation	22	81.90
3rd sub-pillar: Inclusion	33	78.43
D. Impact pillar	16	74.03
1st sub-pillar: Economy	18	54.73
2nd sub-pillar: Quality of Life	7	88.48
3rd sub-pillar: SDG Contribution	30	78.87

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	26	59.46	
1st sub-pillar: Access	54	68.91	
1.1.1 Mobile tariffs	43	71.13	
1.1.2 Handset prices	23	74.44	
1.1.3 FTTH/building Internet subscriptions	51	28.69	
1.1.4 Population covered by at least a 3G mobile network	40	99.94	
1.1.5 International Internet bandwidth	68	70.35	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	20	65.11	
1.2.1 GitHub commits	15	56.72	●
1.2.2 Internet domain registrations	20	46.51	
1.2.3 Mobile apps development	30	92.11	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	36	44.36	
1.3.1 Adoption of emerging technologies	24	72.11	
1.3.2 Investment in emerging technologies	36	55.00	
1.3.3 Robot density	17	25.02	
1.3.4 Computer software spending	43	25.32	

Indicator	Rank	Score	
C. Governance pillar	21	80.49	
1st sub-pillar: Trust	15	81.13	
3.1.1 Secure Internet servers	12	88.74	●
3.1.2 Cybersecurity	76	73.92	○
3.1.3 Online access to financial account	12	75.65	●
3.1.4 Internet shopping	9	86.21	●
2nd sub-pillar: Regulation	22	81.90	
3.2.1 Regulatory quality	21	74.13	
3.2.2 ICT regulatory environment	45	87.06	
3.2.3 Regulation of emerging technologies	36	62.37	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	19	85.93	
3rd sub-pillar: Inclusion	33	78.43	
3.3.1 E-Participation	63	71.61	
3.3.2 Socioeconomic gap in use of digital payments	14	96.86	●
3.3.3 Availability of local online content	19	86.30	
3.3.4 Gender gap in Internet use	68	67.34	○
3.3.5 Rural gap in use of digital payments	48	70.07	

Indicator	Rank	Score	
B. People pillar	39	53.33	
1st sub-pillar: Individuals	91	41.29	
2.1.1 Mobile broadband internet traffic within the country	68	7.84	○
2.1.2 ICT skills in the education system	28	67.75	
2.1.3 Use of virtual social networks	59	69.81	
2.1.4 Tertiary enrollment	43	43.50	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	26	17.54	○
2nd sub-pillar: Businesses	31	60.71	
2.2.1 Firms with website	14	84.73	●
2.2.2 GERD financed by business enterprise	52	44.01	
2.2.3 Knowledge intensive employment	31	62.41	
2.2.4 Annual investment in telecommunication services	43	80.54	
2.2.5 GERD performed by business enterprise	20	31.87	
3rd sub-pillar: Governments	34	57.98	
2.3.1 Government online services	60	71.51	
2.3.2 Publication and use of open data	35	44.12	
2.3.3 Government promotion of investment in emerging tech	40	49.14	
2.3.4 R&D expenditure by governments and higher education	14	67.17	●

Indicator	Rank	Score	
D. Impact pillar	16	74.03	
1st sub-pillar: Economy	18	54.73	
4.1.1 High-tech and medium-high-tech manufacturing	4	80.00	●
4.1.2 High-tech exports	7	82.90	●
4.1.3 PCT patent applications	32	19.60	
4.1.4 Domestic market size	46	60.21	
4.1.5 Prevalence of gig economy	53	45.35	
4.1.6 ICT services exports	35	40.33	
2nd sub-pillar: Quality of Life	7	88.48	
4.2.1 Happiness	NA	NA	
4.2.2 Freedom to make life choices	NA	NA	
4.2.3 Income inequality	4	94.72	●
4.2.4 Healthy life expectancy at birth	36	82.23	
3rd sub-pillar: SDG Contribution	30	78.87	
4.3.1 SDG 3: Good Health and Well-Being	35	82.04	
4.3.2 SDG 4: Quality Education	23	67.13	
4.3.3 SDG 5: Women's economic opportunity	27	91.23	
4.3.4 SDG 7: Affordable and Clean Energy	74	76.61	
4.3.5 SDG 11: Sustainable Cities and Communities	43	77.34	

NOTE: ● a strength and ○ a weakness.

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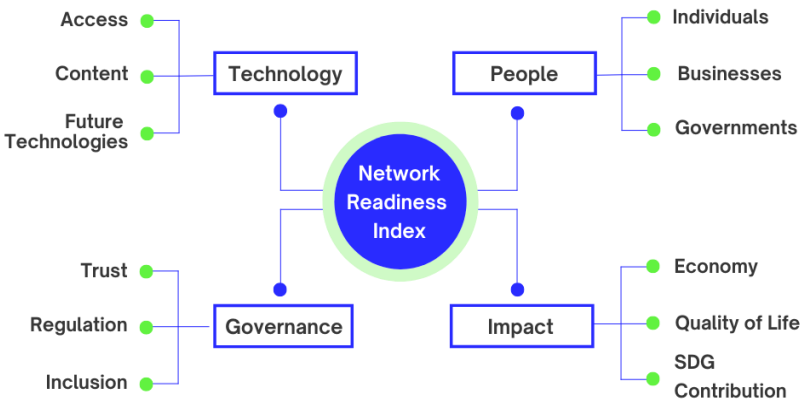
Network Readiness Index 2022 Denmark

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

Figure 1: The NRI 2022 model



Global NRI position of Denmark

Denmark ranks 6th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Denmark global ranking, overall and by pillar

Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Denmark relate to Governments, Trust and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Access and Individuals sub-pillars.

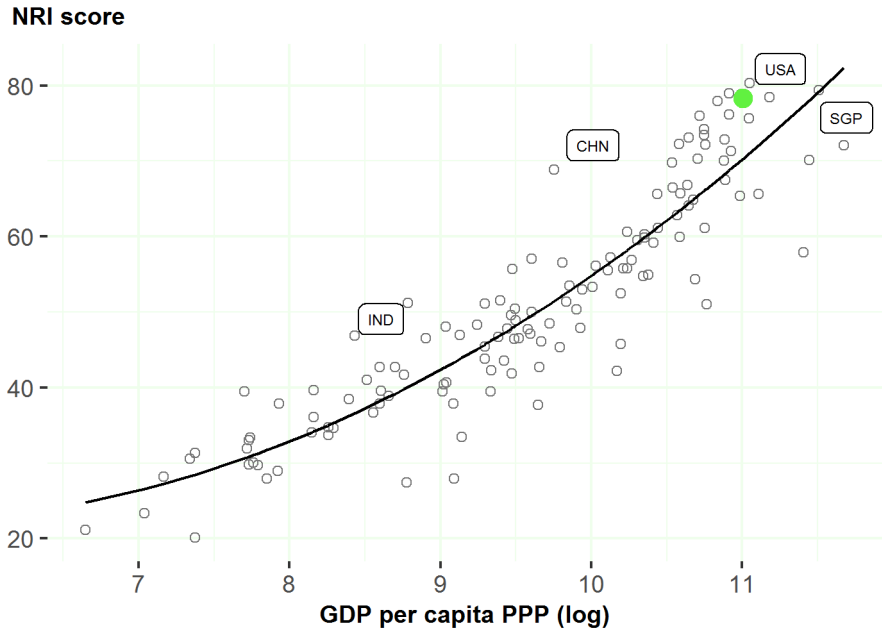
Table 1: Denmark rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	1	Businesses	9
Trust	1	Future Technologies	11
SDG Contribution	2	Inclusion	11
Quality of Life	3	Economy	16
Content	7	Access	35
Regulation	8	Individuals	54

NRI score and income

Figure 3 shows the position of Denmark in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Denmark is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Denmark belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Denmark is ranked 6th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Denmark is ranked 4th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Denmark against its income group and region, overall and by pillar

Table 2: Denmark scores vs. averages of its income group and region, overall and by pillar

Dimension	Denmark	High-income countries	Europe
NRI	78.26	66.21	63.72
Technology	71.16	60.28	56.43
People	71.89	58.83	56.35
Governance	90.19	76.89	74.79
Impact	79.80	68.86	67.30

Strongest and weakest indicators

The indicators where Denmark performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 1.2.3 Mobile apps development (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 1.1.3 FTTH/building Internet subscriptions, and 4.1.4 Domestic market size.

Table 3: Strongest and weakest indicators of Denmark

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.1.6 AI talent concentration	25
1.1.6 Internet access in schools	1	4.1.4 Domestic market size	51
1.2.3 Mobile apps development	1	1.1.3 FTTH/building Internet subscriptions	52
2.3.4 R&D expenditure by governments and higher education	1	1.1.5 International Internet bandwidth	73
3.1.1 Secure Internet servers	1		
3.2.4 E-commerce legislation	1		
4.3.3 SDG 5: Women's economic opportunity	1		
2.2.1 Firms with website	2		
3.1.3 Online access to financial account	2		
3.1.4 Internet shopping	2		
4.2.1 Happiness	2		
2.3.1 Government online services	3		
2.1.2 ICT skills in the education system	4		
1.2.2 Internet domain registrations	5		
3.2.1 Regulatory quality	6		

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NRI 2022 At-A-Glance: Denmark

Network Readiness Index — Rank: 6 (out of 131) — Score: 78.26

Pillar/sub-pillar	Rank	Score
A. Technology pillar	11	71.16
1st sub-pillar: Access	35	73.76
2nd sub-pillar: Content	7	78.45
3rd sub-pillar: Future Technologies	11	61.27
B. People pillar	7	71.89
1st sub-pillar: Individuals	54	51.07
2nd sub-pillar: Businesses	9	75.40
3rd sub-pillar: Governments	1	89.19

Pillar/sub-pillar	Rank	Score
C. Governance pillar	2	90.19
1st sub-pillar: Trust	1	97.41
2nd sub-pillar: Regulation	8	87.98
3rd sub-pillar: Inclusion	11	85.17
D. Impact pillar	7	79.80
1st sub-pillar: Economy	16	56.72
2nd sub-pillar: Quality of Life	3	92.85
3rd sub-pillar: SDG Contribution	2	89.82

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	11	71.16	
1st sub-pillar: Access	35	73.76	
1.1.1 Mobile tariffs	28	77.68	
1.1.2 Handset prices	46	66.39	
1.1.3 FTTH/building Internet subscriptions	52	28.57	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	73	69.91	○
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	7	78.45	
1.2.1 GitHub commits	18	52.92	
1.2.2 Internet domain registrations	5	82.43	●
1.2.3 Mobile apps development	1	100.00	●
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	11	61.27	
1.3.1 Adoption of emerging technologies	13	84.22	
1.3.2 Investment in emerging technologies	14	76.75	
1.3.3 Robot density	11	34.84	
1.3.4 Computer software spending	16	49.27	
B. People pillar	7	71.89	

Indicator	Rank	Score	
C. Governance pillar	2	90.19	
1st sub-pillar: Trust	1	97.41	
3.1.1 Secure Internet servers	1	100.00	●
3.1.2 Cybersecurity	39	92.47	
3.1.3 Online access to financial account	2	97.24	●
3.1.4 Internet shopping	2	99.93	●
2nd sub-pillar: Regulation	8	87.98	
3.2.1 Regulatory quality	6	88.80	●
3.2.2 ICT regulatory environment	6	96.47	
3.2.3 Regulation of emerging technologies	17	77.63	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	37	77.02	
3rd sub-pillar: Inclusion	11	85.17	
3.3.1 E-Participation	9	96.30	
3.3.2 Socioeconomic gap in use of digital payments	7	99.19	
3.3.3 Availability of local online content	34	79.09	
3.3.4 Gender gap in Internet use	24	74.74	
3.3.5 Rural gap in use of digital payments	15	76.53	
D. Impact pillar	7	79.80	

Indicator	Rank	Score	
1st sub-pillar: Individuals	54	51.07	
2.1.1 Mobile broadband internet traffic within the country	45	15.61	
2.1.2 ICT skills in the education system	4	86.98	●
2.1.3 Use of virtual social networks	23	79.84	
2.1.4 Tertiary enrollment	19	54.57	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	25	18.32	○
2nd sub-pillar: Businesses	9	75.40	
2.2.1 Firms with website	2	96.20	●
2.2.2 GERD financed by business enterprise	14	73.71	
2.2.3 Knowledge intensive employment	10	75.68	
2.2.4 Annual investment in telecommunication services	30	83.11	
2.2.5 GERD performed by business enterprise	11	48.32	
3rd sub-pillar: Governments	1	89.19	
2.3.1 Government online services	3	96.97	●
2.3.2 Publication and use of open data	14	70.59	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	1	100.00	●

Indicator	Rank	Score	
1st sub-pillar: Economy	16	56.72	
4.1.1 High-tech and medium-high-tech manufacturing	15	63.63	
4.1.2 High-tech exports	34	49.34	
4.1.3 PCT patent applications	8	70.64	
4.1.4 Domestic market size	51	57.87	○
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	34	42.11	
2nd sub-pillar: Quality of Life	3	92.85	
4.2.1 Happiness	2	98.30	●
4.2.2 Freedom to make life choices	7	94.64	
4.2.3 Income inequality	11	88.69	
4.2.4 Healthy life expectancy at birth	18	89.75	
3rd sub-pillar: SDG Contribution	2	89.82	
4.3.1 SDG 3: Good Health and Well-Being	17	92.69	
4.3.2 SDG 4: Quality Education	17	69.32	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	7	94.32	
4.3.5 SDG 11: Sustainable Cities and Communities	15	92.79	

NOTE: ● a strength and ○ a weakness.

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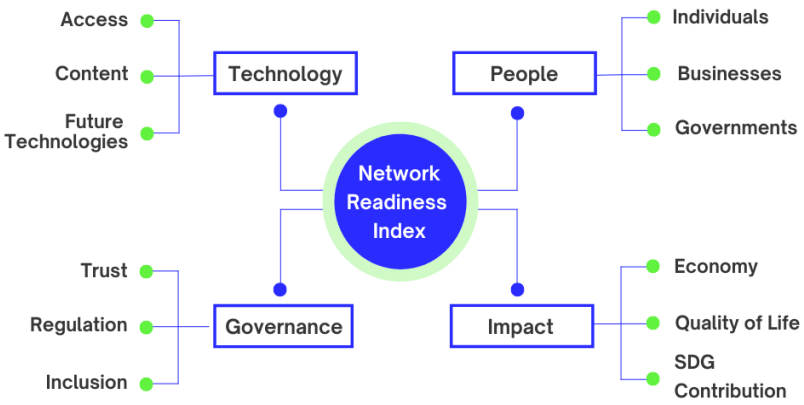
Network Readiness Index 2022 Dominican Republic

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

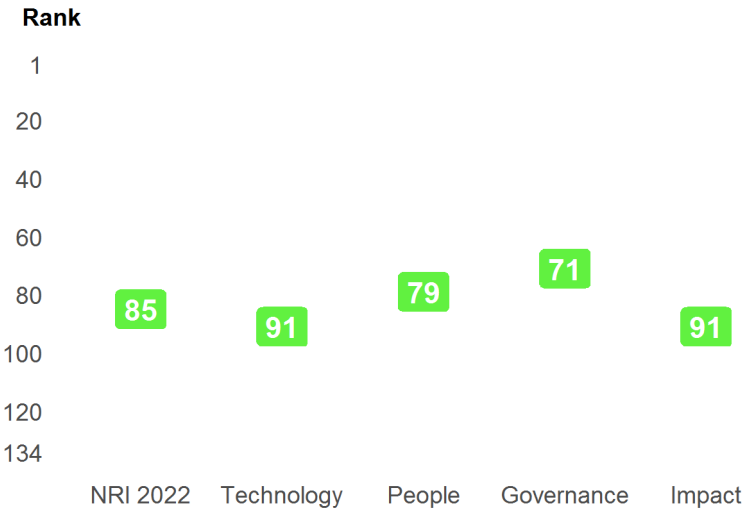
Figure 1: The NRI 2022 model



Global NRI position of Dominican Republic

Dominican Republic ranks 85th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology and Impact.

Figure 2: Dominican Republic global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Dominican Republic relate to Regulation, Governments and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Businesses and SDG Contribution sub-pillars.

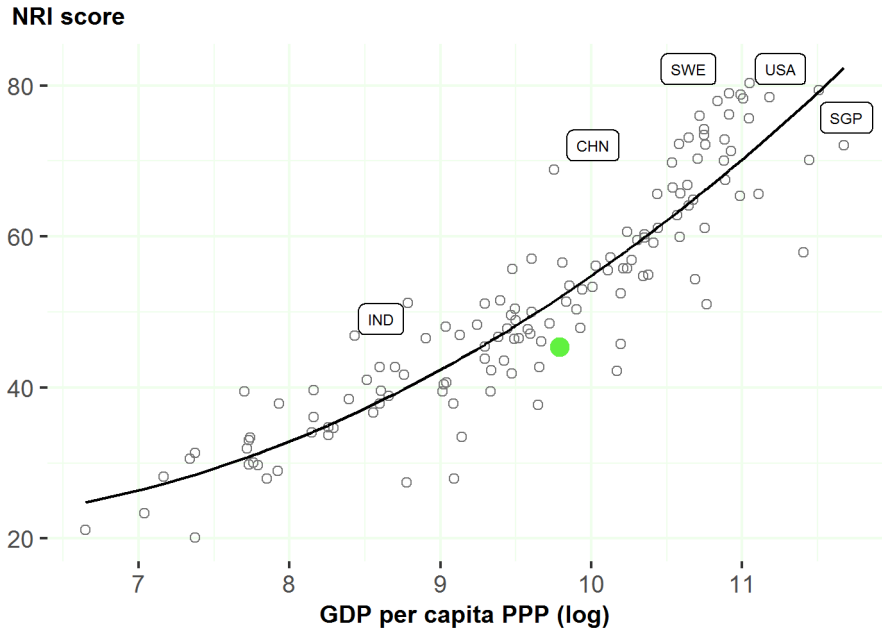
Table 1: Dominican Republic rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	47	Economy	84
Governments	59	Trust	93
Quality of Life	63	Future Technologies	94
Individuals	67	Content	106
Inclusion	77	Businesses	106
Access	81	SDG Contribution	113

NRI score and income

Figure 3 shows the position of Dominican Republic in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Dominican Republic is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Dominican Republic belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Dominican Republic is ranked 26th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in three of the twelve sub-pillars: Governments, Regulation and Quality of Life.

The Americas

Dominican Republic is ranked 13th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in three of the twelve sub-pillars: Governments, Regulation and Quality of Life.

Figure 4: Performance of Dominican Republic against its income group and region, overall and by pillar

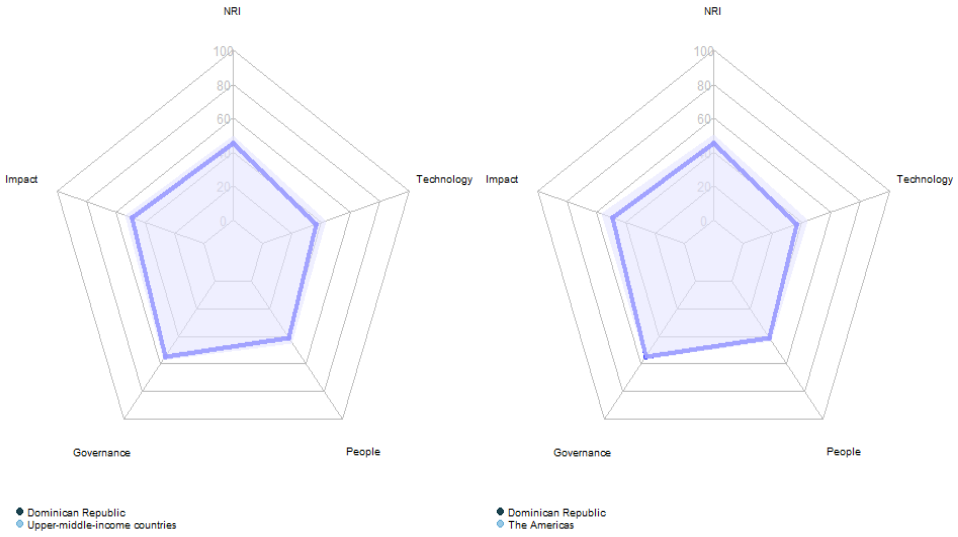


Table 2: Dominican Republic scores vs. averages of its income group and region, overall and by pillar

Dimension	Dominican Republic	Upper-middle-income countries	The Americas
NRI	45.33	49.66	50.09
Technology	36.45	43.11	44.16
People	41.33	44.94	43.67
Governance	54.82	57.08	56.24
Impact	48.72	53.50	56.30

Strongest and weakest indicators

The indicators where Dominican Republic performs particularly well include 3.2.4 E-commerce legislation, 3.2.2 ICT regulatory environment, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 4.3.5 SDG 11: Sustainable Cities and Communities, 1.3.4 Computer software spending, and 2.1.2 ICT skills in the education system.

Table 3: Strongest and weakest indicators of Dominican Republic

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.3.2 SDG 4: Quality Education	78
3.2.2 ICT regulatory environment	5	1.2.4 AI scientific publications	84
4.3.4 SDG 7: Affordable and Clean Energy	8	2.1.2 ICT skills in the education system	111
3.2.5 Privacy protection by law content	10	1.3.4 Computer software spending	113
3.3.4 Gender gap in Internet use	27	4.3.5 SDG 11: Sustainable Cities and Communities	129
4.2.2 Freedom to make life choices	38		
2.1.1 Mobile broadband internet traffic within the country	39		
1.1.4 Population covered by at least a 3G mobile network	47		
2.1.4 Tertiary enrollment	47		
2.3.1 Government online services	48		
1.1.2 Handset prices	50		

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NRI 2022 At-A-Glance: Dominican Republic

Network Readiness Index Rank: 85 (out of 131) Score: 45.33

Pillar/sub-pillar	Rank	Score
A. Technology pillar	91	36.45
1st sub-pillar: Access	81	58.74
2nd sub-pillar: Content	106	24.34
3rd sub-pillar: Future Technologies	94	26.26
B. People pillar	79	41.33
1st sub-pillar: Individuals	67	47.89
2nd sub-pillar: Businesses	106	29.59
3rd sub-pillar: Governments	59	46.51

Pillar/sub-pillar	Rank	Score
C. Governance pillar	71	54.82
1st sub-pillar: Trust	93	33.77
2nd sub-pillar: Regulation	47	70.96
3rd sub-pillar: Inclusion	77	59.71
D. Impact pillar	91	48.72
1st sub-pillar: Economy	84	27.04
2nd sub-pillar: Quality of Life	63	68.90
3rd sub-pillar: SDG Contribution	113	50.22

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	91	36.45	
1st sub-pillar: Access	81	58.74	
1.1.1 Mobile tariffs	83	48.16	
1.1.2 Handset prices	50	63.79	●
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	47	99.84	●
1.1.5 International Internet bandwidth	NA	NA	
1.1.6 Internet access in schools	62	23.16	
2nd sub-pillar: Content	106	24.34	
1.2.1 GitHub commits	78	3.54	
1.2.2 Internet domain registrations	84	1.74	
1.2.3 Mobile apps development	89	69.37	
1.2.4 AI scientific publications	84	22.69	○
3rd sub-pillar: Future Technologies	94	26.26	
1.3.1 Adoption of emerging technologies	62	48.00	
1.3.2 Investment in emerging technologies	98	29.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	113	1.77	○

Indicator	Rank	Score	
C. Governance pillar	71	54.82	
1st sub-pillar: Trust	93	33.77	
3.1.1 Secure Internet servers	98	38.65	
3.1.2 Cybersecurity	74	74.61	
3.1.3 Online access to financial account	99	12.98	
3.1.4 Internet shopping	87	8.84	
2nd sub-pillar: Regulation	47	70.96	
3.2.1 Regulatory quality	73	40.80	
3.2.2 ICT regulatory environment	5	97.06	●
3.2.3 Regulation of emerging technologies	92	26.58	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	10	90.37	●
3rd sub-pillar: Inclusion	77	59.71	
3.3.1 E-Participation	50	76.54	
3.3.2 Socioeconomic gap in use of digital payments	105	43.97	
3.3.3 Availability of local online content	68	60.10	
3.3.4 Gender gap in Internet use	27	74.43	●
3.3.5 Rural gap in use of digital payments	98	43.53	

Indicator	Rank	Score	
B. People pillar	79	41.33	
1st sub-pillar: Individuals	67	47.89	
2.1.1 Mobile broadband internet traffic within the country	39	17.74	●
2.1.2 ICT skills in the education system	111	25.15	○
2.1.3 Use of virtual social networks	72	64.07	
2.1.4 Tertiary enrollment	47	40.49	●
2.1.5 Adult literacy rate	55	92.02	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	106	29.59	
2.2.1 Firms with website	84	37.55	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	92	21.64	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	59	46.51	
2.3.1 Government online services	48	75.76	●
2.3.2 Publication and use of open data	55	32.35	
2.3.3 Government promotion of investment in emerging tech	85	31.43	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	91	48.72	
1st sub-pillar: Economy	84	27.04	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	49	34.59	
4.1.3 PCT patent applications	96	0.18	
4.1.4 Domestic market size	61	52.75	
4.1.5 Prevalence of gig economy	79	35.47	
4.1.6 ICT services exports	97	12.21	
2nd sub-pillar: Quality of Life	63	68.90	
4.2.1 Happiness	53	68.59	
4.2.2 Freedom to make life choices	38	82.10	●
4.2.3 Income inequality	78	58.79	
4.2.4 Healthy life expectancy at birth	85	66.11	
3rd sub-pillar: SDG Contribution	113	50.22	
4.3.1 SDG 3: Good Health and Well-Being	84	61.36	
4.3.2 SDG 4: Quality Education	78	3.62	○
4.3.3 SDG 5: Women's economic opportunity	49	80.70	
4.3.4 SDG 7: Affordable and Clean Energy	8	93.65	●
4.3.5 SDG 11: Sustainable Cities and Communities	129	11.76	○

NOTE: ● a strength and ○ a weakness.

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Network Readiness Index 2022 Ecuador

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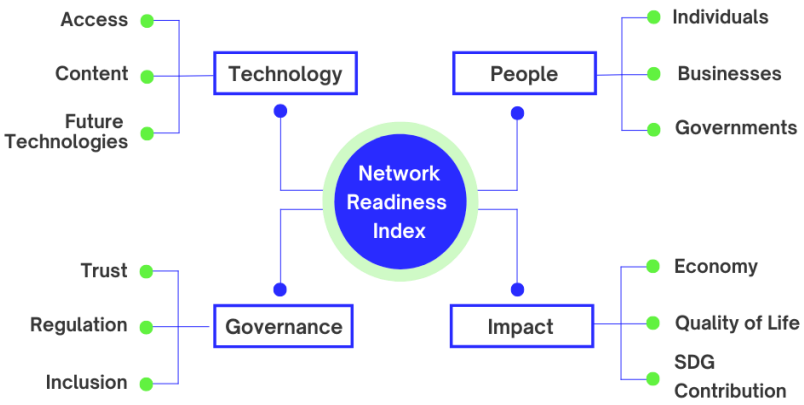
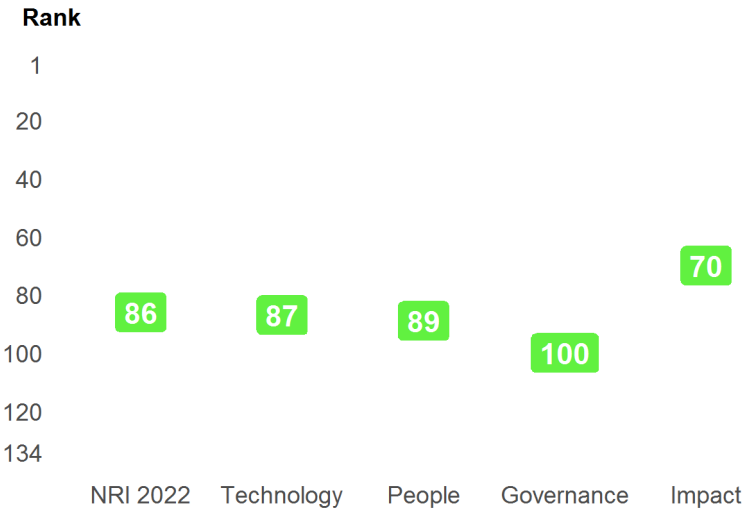
Figure 1: The NRI 2022 model



Global NRI position of Ecuador

Ecuador ranks 86th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Ecuador global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Ecuador relate to SDG Contribution, Individuals and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Economy and Businesses sub-pillars.

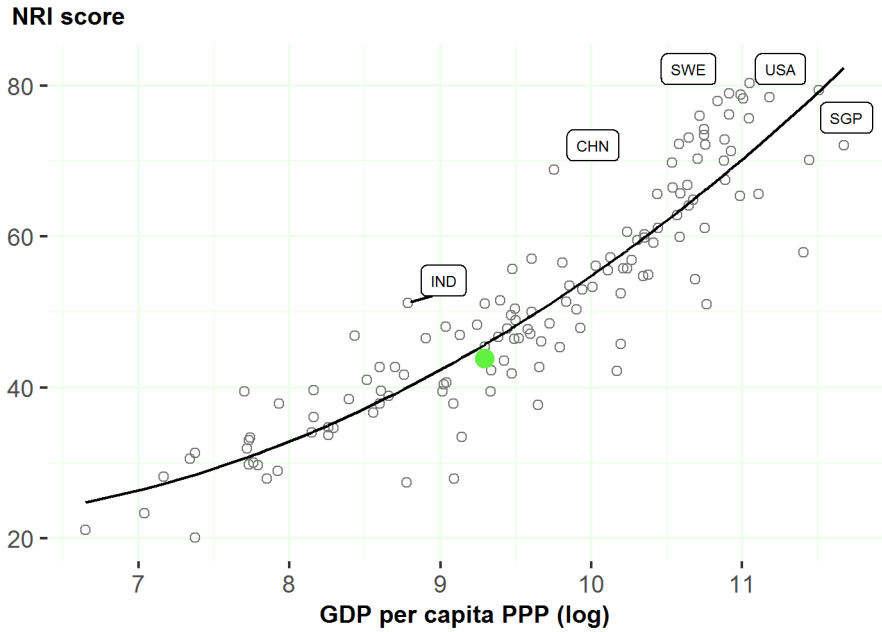
Table 1: Ecuador rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	24	Access	89
Individuals	70	Future Technologies	89
Content	78	Regulation	96
Inclusion	78	Trust	108
Quality of Life	83	Economy	113
Governments	85	Businesses	114

NRI score and income

Figure 3 shows the position of Ecuador in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Ecuador is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Ecuador belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Ecuador is ranked 27th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: impact. At the sub-pillar level, it outperforms upper-middle-income countries in one of the twelve sub-pillars: SDG Contribution.

The Americas

Ecuador is ranked 14th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in one of the twelve sub-pillars: SDG Contribution.

Figure 4: Performance of Ecuador against its income group and region, overall and by pillar

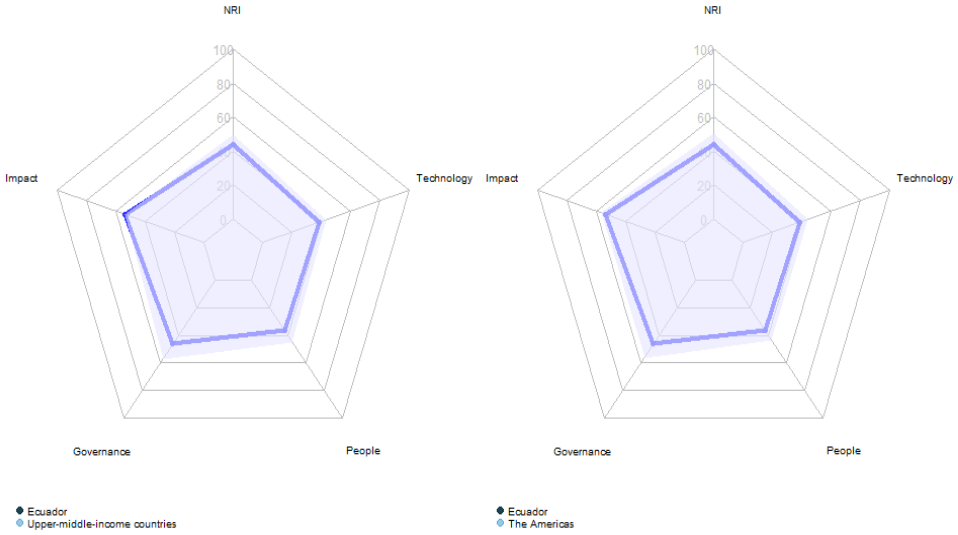


Table 2: Ecuador scores vs. averages of its income group and region, overall and by pillar

Dimension	Ecuador	Upper-middle-income countries	The Americas
NRI	43.81	49.66	50.09
Technology	38.62	43.11	44.16
People	36.37	44.94	43.67
Governance	46.33	57.08	56.24
Impact	53.94	53.50	56.30

Strongest and weakest indicators

The indicators where Ecuador performs particularly well include 3.2.4 E-commerce legislation, 1.1.3 FTTH/building Internet subscriptions, and 2.2.1 Firms with website (Table 3). By contrast, the economy's weakest indicators include 3.2.1 Regulatory quality, 4.1.5 Prevalence of gig economy, and 3.1.3 Online access to financial account.

Table 3: Strongest and weakest indicators of Ecuador

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.2 GERD financed by business enterprise	102
1.1.3 FTTH/building Internet subscriptions	17	4.2.3 Income inequality	102
2.2.1 Firms with website	25	3.1.3 Online access to financial account	109
4.3.1 SDG 3: Good Health and Well-Being	29	4.1.5 Prevalence of gig economy	116
4.3.3 SDG 5: Women's economic opportunity	37	3.2.1 Regulatory quality	119
2.1.3 Use of virtual social networks	39		
2.3.1 Government online services	40		
4.2.4 Healthy life expectancy at birth	42		
4.3.4 SDG 7: Affordable and Clean Energy	42		
3.3.1 E-Participation	48		
4.3.5 SDG 11: Sustainable Cities and Communities	51		

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NRI 2022 At-A-Glance: Ecuador

Network Readiness Index — Rank: 86 (out of 131) — Score: 43.81

Pillar/sub-pillar	Rank	Score
A. Technology pillar	87	38.62
1st sub-pillar: Access	89	55.43
2nd sub-pillar: Content	78	33.16
3rd sub-pillar: Future Technologies	89	27.28
B. People pillar	89	36.37
1st sub-pillar: Individuals	70	47.46
2nd sub-pillar: Businesses	114	25.23
3rd sub-pillar: Governments	85	36.41

Pillar/sub-pillar	Rank	Score
C. Governance pillar	100	46.33
1st sub-pillar: Trust	108	24.40
2nd sub-pillar: Regulation	96	55.49
3rd sub-pillar: Inclusion	78	59.10
D. Impact pillar	70	53.94
1st sub-pillar: Economy	113	16.03
2nd sub-pillar: Quality of Life	83	63.56
3rd sub-pillar: SDG Contribution	24	82.22

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	87	38.62	
1st sub-pillar: Access	89	55.43	
1.1.1 Mobile tariffs	98	40.51	
1.1.2 Handset prices	84	44.47	
1.1.3 FTTH/building Internet subscriptions	17	45.76	●
1.1.4 Population covered by at least a 3G mobile network	94	98.26	
1.1.5 International Internet bandwidth	105	62.46	
1.1.6 Internet access in schools	54	41.10	
2nd sub-pillar: Content	78	33.16	
1.2.1 GitHub commits	77	3.61	
1.2.2 Internet domain registrations	87	1.40	
1.2.3 Mobile apps development	84	72.11	
1.2.4 AI scientific publications	46	55.52	
3rd sub-pillar: Future Technologies	89	27.28	
1.3.1 Adoption of emerging technologies	82	38.94	
1.3.2 Investment in emerging technologies	113	23.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	65	19.64	

Indicator	Rank	Score	
C. Governance pillar	100	46.33	
1st sub-pillar: Trust	108	24.40	
3.1.1 Secure Internet servers	79	47.40	
3.1.2 Cybersecurity	110	25.00	
3.1.3 Online access to financial account	109	9.80	○
3.1.4 Internet shopping	75	15.40	
2nd sub-pillar: Regulation	96	55.49	
3.2.1 Regulatory quality	119	17.33	○
3.2.2 ICT regulatory environment	76	76.47	
3.2.3 Regulation of emerging technologies	98	23.42	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	81	60.21	
3rd sub-pillar: Inclusion	78	59.10	
3.3.1 E-Participation	48	79.01	●
3.3.2 Socioeconomic gap in use of digital payments	91	54.30	
3.3.3 Availability of local online content	101	39.18	
3.3.4 Gender gap in Internet use	50	70.52	
3.3.5 Rural gap in use of digital payments	88	52.47	

Indicator	Rank	Score	
B. People pillar	89	36.37	
1st sub-pillar: Individuals	70	47.46	
2.1.1 Mobile broadband internet traffic within the country	72	7.15	
2.1.2 ICT skills in the education system	98	31.07	
2.1.3 Use of virtual social networks	39	75.75	●
2.1.4 Tertiary enrollment	65	31.48	
2.1.5 Adult literacy rate	57	91.83	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	114	25.23	
2.2.1 Firms with website	25	79.48	●
2.2.2 GERD financed by business enterprise	102	0.19	○
2.2.3 Knowledge intensive employment	100	16.35	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	55	4.91	
3rd sub-pillar: Governments	85	36.41	
2.3.1 Government online services	40	80.61	●
2.3.2 Publication and use of open data	69	22.06	
2.3.3 Government promotion of investment in emerging tech	102	21.66	
2.3.4 R&D expenditure by governments and higher education	69	21.29	

Indicator	Rank	Score	
D. Impact pillar	70	53.94	
1st sub-pillar: Economy	113	16.03	
4.1.1 High-tech and medium-high-tech manufacturing	81	12.25	
4.1.2 High-tech exports	96	5.65	
4.1.3 PCT patent applications	68	3.07	
4.1.4 Domestic market size	64	52.01	
4.1.5 Prevalence of gig economy	116	14.53	○
4.1.6 ICT services exports	108	8.65	
2nd sub-pillar: Quality of Life	83	63.56	
4.2.1 Happiness	75	57.98	
4.2.2 Freedom to make life choices	58	75.60	
4.2.3 Income inequality	102	39.45	○
4.2.4 Healthy life expectancy at birth	42	81.20	●
3rd sub-pillar: SDG Contribution	24	82.22	
4.3.1 SDG 3: Good Health and Well-Being	29	85.26	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	37	85.09	●
4.3.4 SDG 7: Affordable and Clean Energy	42	83.79	●
4.3.5 SDG 11: Sustainable Cities and Communities	51	74.75	●

NOTE: ● a strength and ○ a weakness.

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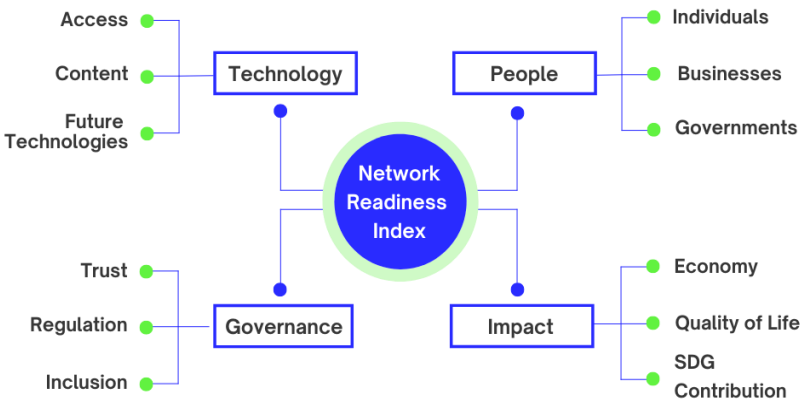
Network Readiness Index 2022 Egypt

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

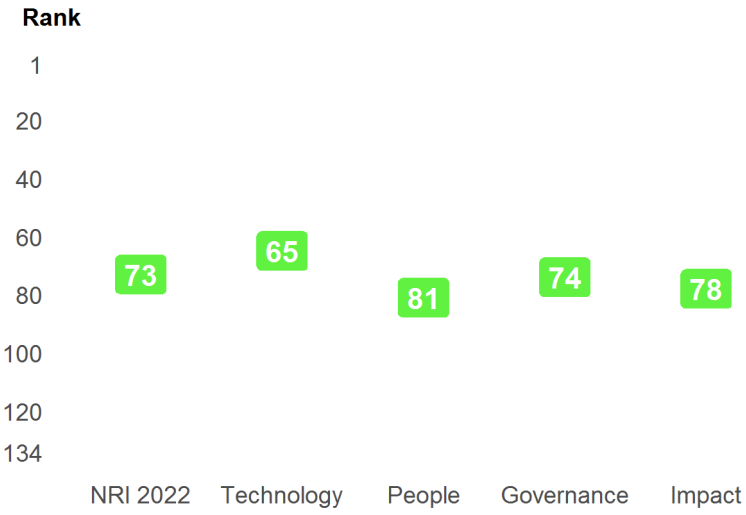
Figure 1: The NRI 2022 model



Global NRI position of Egypt

Egypt ranks 73rd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Egypt global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Egypt relate to Access, Economy and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Regulation and Quality of Life sub-pillars.

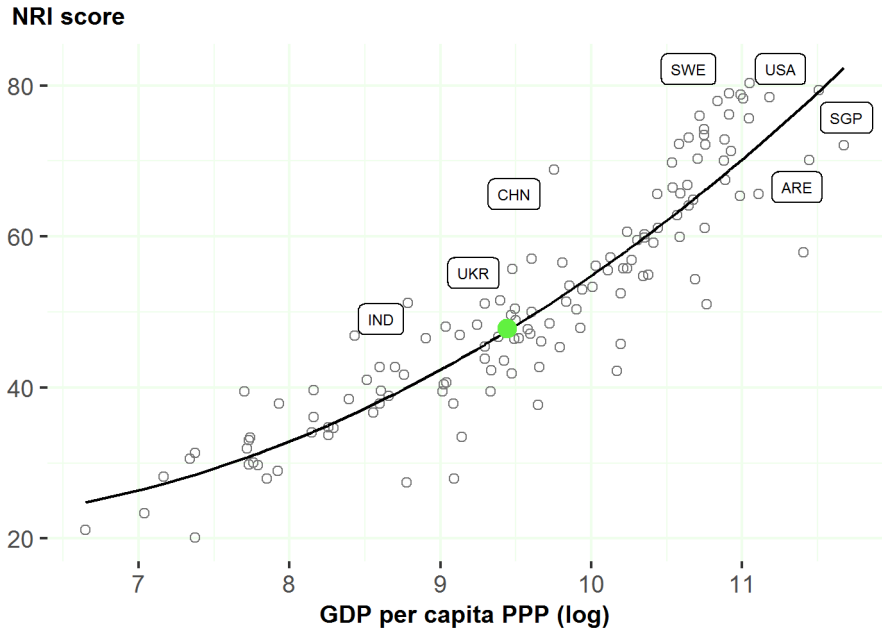
Table 1: Egypt rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	46	SDG Contribution	81
Economy	51	Individuals	85
Governments	65	Future Technologies	86
Trust	70	Businesses	92
Content	72	Regulation	93
Inclusion	75	Quality of Life	96

NRI score and income

Figure 3 shows the position of Egypt in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Egypt is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Egypt belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Egypt is ranked 6th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Arab States

Egypt is ranked 8th within Arab States (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Arab States in four of the twelve sub-pillars: Access, Governments, Economy and SDG Contribution.

Figure 4: Performance of Egypt against its income group and region, overall and by pillar

Table 2: Egypt scores vs. averages of its income group and region, overall and by pillar

Dimension	Egypt	Lower-middle-income countries	Arab States
NRI	47.76	40.94	51.21
Technology	44.53	37.28	47.66
People	40.41	35.42	47.11
Governance	54.00	45.00	56.68
Impact	52.08	46.09	53.39

Strongest and weakest indicators

The indicators where Egypt performs particularly well include 3.2.4 E-commerce legislation, 4.1.5 Prevalence of gig economy, and 1.1.1 Mobile tariffs (Table 3). By contrast, the economy's weakest indicators include 4.3.3 SDG 5: Women's economic opportunity, 3.1.3 Online access to financial account, and 4.2.1 Happiness.

Table 3: Strongest and weakest indicators of Egypt

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	55
4.1.5 Prevalence of gig economy	7	3.1.1 Secure Internet servers	113
1.1.1 Mobile tariffs	14	4.2.1 Happiness	115
1.1.5 International Internet bandwidth	18	3.1.3 Online access to financial account	122
2.3.4 R&D expenditure by governments and higher education	18	4.3.3 SDG 5: Women's economic opportunity	127
4.1.4 Domestic market size	20		
1.2.4 AI scientific publications	22		
3.1.2 Cybersecurity	30		
4.2.3 Income inequality	30		
2.2.4 Annual investment in telecommunication services	32		
3.3.3 Availability of local online content	35		

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NRI 2022 At-A-Glance: Egypt

Network Readiness Index — Rank: 73 (out of 131) — Score: 47.76

Pillar/sub-pillar	Rank	Score
A. Technology pillar	65	44.53
1st sub-pillar: Access	46	70.77
2nd sub-pillar: Content	72	35.04
3rd sub-pillar: Future Technologies	86	27.78
B. People pillar	81	40.41
1st sub-pillar: Individuals	85	42.84
2nd sub-pillar: Businesses	92	33.25
3rd sub-pillar: Governments	65	45.15

Pillar/sub-pillar	Rank	Score
C. Governance pillar	74	54.00
1st sub-pillar: Trust	70	42.99
2nd sub-pillar: Regulation	93	57.28
3rd sub-pillar: Inclusion	75	61.72
D. Impact pillar	78	52.08
1st sub-pillar: Economy	51	38.09
2nd sub-pillar: Quality of Life	96	57.66
3rd sub-pillar: SDG Contribution	81	60.50

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	65	44.53	
1st sub-pillar: Access	46	70.77	
1.1.1 Mobile tariffs	14	86.35	●
1.1.2 Handset prices	68	50.86	
1.1.3 FTTH/building Internet subscriptions	41	35.20	
1.1.4 Population covered by at least a 3G mobile network	47	99.84	
1.1.5 International Internet bandwidth	18	81.08	●
1.1.6 Internet access in schools	40	71.28	
2nd sub-pillar: Content	72	35.04	
1.2.1 GitHub commits	96	1.80	
1.2.2 Internet domain registrations	98	0.79	
1.2.3 Mobile apps development	99	63.66	
1.2.4 AI scientific publications	22	73.91	●
3rd sub-pillar: Future Technologies	86	27.78	
1.3.1 Adoption of emerging technologies	48	54.92	
1.3.2 Investment in emerging technologies	74	37.00	
1.3.3 Robot density	55	0.10	○
1.3.4 Computer software spending	68	19.12	

Indicator	Rank	Score	
C. Governance pillar	74	54.00	
1st sub-pillar: Trust	70	42.99	
3.1.1 Secure Internet servers	113	30.20	○
3.1.2 Cybersecurity	30	95.40	●
3.1.3 Online access to financial account	122	3.38	○
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	93	57.28	
3.2.1 Regulatory quality	109	22.67	
3.2.2 ICT regulatory environment	39	87.65	
3.2.3 Regulation of emerging technologies	84	31.58	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	111	44.51	
3rd sub-pillar: Inclusion	75	61.72	
3.3.1 E-Participation	96	49.38	
3.3.2 Socioeconomic gap in use of digital payments	107	42.95	
3.3.3 Availability of local online content	35	78.61	●
3.3.4 Gender gap in Internet use	64	67.89	
3.3.5 Rural gap in use of digital payments	50	69.77	

Indicator	Rank	Score	
B. People pillar	81	40.41	
1st sub-pillar: Individuals	85	42.84	
2.1.1 Mobile broadband internet traffic within the country	34	21.20	
2.1.2 ICT skills in the education system	42	60.36	
2.1.3 Use of virtual social networks	96	44.40	
2.1.4 Tertiary enrollment	75	25.33	
2.1.5 Adult literacy rate	91	62.91	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	92	33.25	
2.2.1 Firms with website	82	38.01	
2.2.2 GERD financed by business enterprise	87	4.81	
2.2.3 Knowledge intensive employment	55	39.95	
2.2.4 Annual investment in telecommunication services	32	82.77	●
2.2.5 GERD performed by business enterprise	77	0.73	
3rd sub-pillar: Governments	65	45.15	
2.3.1 Government online services	91	55.76	
2.3.2 Publication and use of open data	83	13.24	
2.3.3 Government promotion of investment in emerging tech	43	47.75	
2.3.4 R&D expenditure by governments and higher education	18	63.86	●

Indicator	Rank	Score	
D. Impact pillar	78	52.08	
1st sub-pillar: Economy	51	38.09	
4.1.1 High-tech and medium-high-tech manufacturing	55	28.29	
4.1.2 High-tech exports	83	12.25	
4.1.3 PCT patent applications	79	1.53	
4.1.4 Domestic market size	20	70.83	●
4.1.5 Prevalence of gig economy	7	85.17	●
4.1.6 ICT services exports	62	30.44	
2nd sub-pillar: Quality of Life	96	57.66	
4.2.1 Happiness	115	32.89	○
4.2.2 Freedom to make life choices	104	55.86	
4.2.3 Income inequality	30	79.15	●
4.2.4 Healthy life expectancy at birth	91	62.73	
3rd sub-pillar: SDG Contribution	81	60.50	
4.3.1 SDG 3: Good Health and Well-Being	70	68.03	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	127	22.81	○
4.3.4 SDG 7: Affordable and Clean Energy	54	82.54	
4.3.5 SDG 11: Sustainable Cities and Communities	57	68.63	

NOTE: ● a strength and ○ a weakness.

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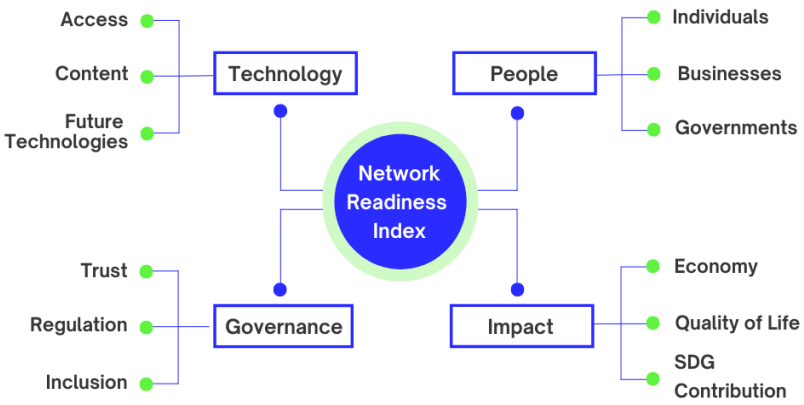
Network Readiness Index 2022
El Salvador

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

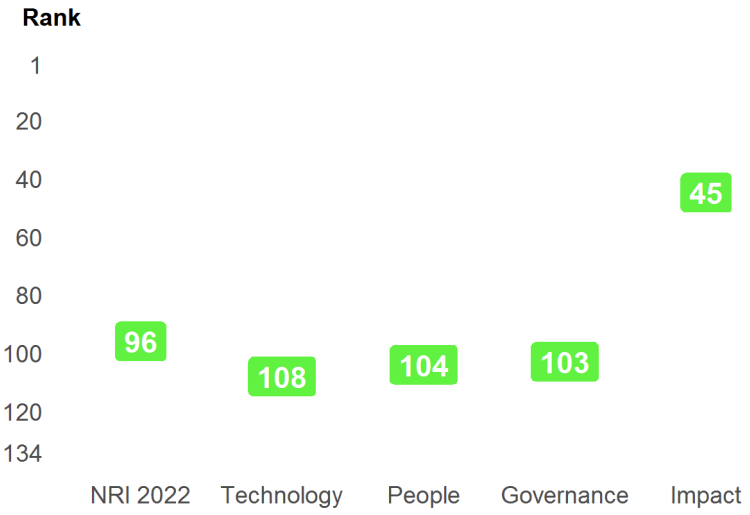
Figure 1: The NRI 2022 model



Global NRI position of El Salvador

El Salvador ranks 96th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: El Salvador global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of El Salvador relate to SDG Contribution, Quality of Life and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Governments and Content sub-pillars.

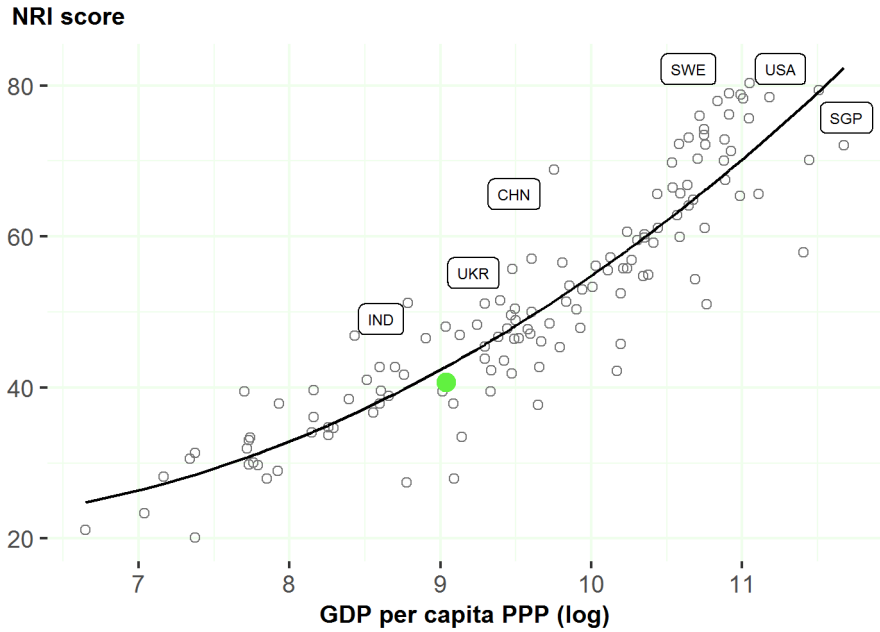
Table 1: El Salvador rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	33	Individuals	97
Quality of Life	46	Inclusion	106
Economy	85	Future Technologies	109
Businesses	88	Trust	117
Access	91	Governments	119
Regulation	94	Content	120

NRI score and income

Figure 3 shows the position of El Salvador in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, El Salvador is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. El Salvador belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Lower-middle-income countries

El Salvador is ranked 18th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: impact. At the sub-pillar level, it outperforms lower-middle-income countries in four of the twelve sub-pillars: Businesses, Regulation, Quality of Life and SDG Contribution.

The Americas

El Salvador is ranked 17th within The Americas (Figure 4, right panel). It has a score above the regional average in one of the four pillars: impact. With regard to sub-pillars, it outperforms the average in The Americas in two of the twelve sub-pillars: Quality of Life and SDG Contribution.

Figure 4: Performance of El Salvador against its income group and region, overall and by pillar

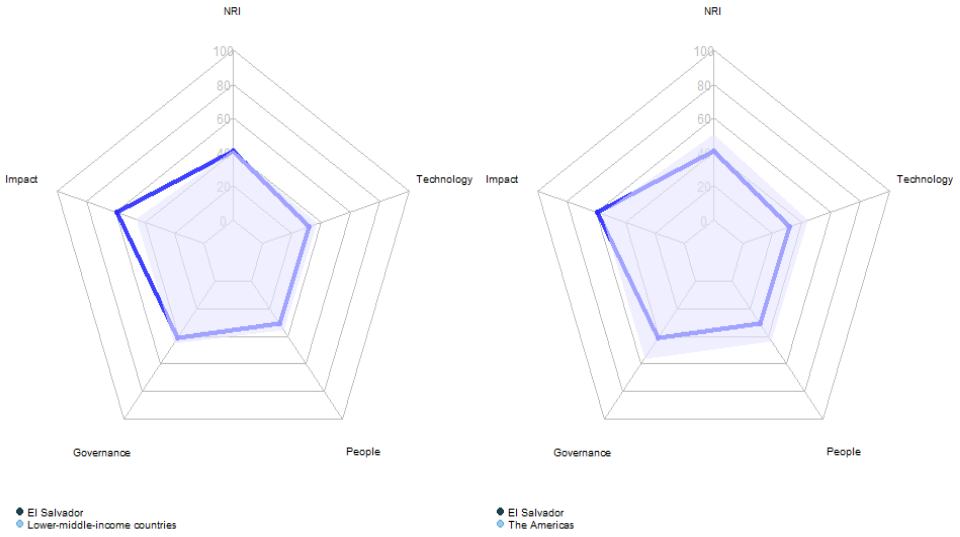


Table 2: El Salvador scores vs. averages of its income group and region, overall and by pillar

Dimension	El Salvador	Lower-middle-income countries	The Americas
NRI	40.66	40.94	50.09
Technology	31.52	37.28	44.16
People	30.80	35.42	43.67
Governance	40.93	45.00	56.24
Impact	59.39	46.09	56.30

Strongest and weakest indicators

The indicators where El Salvador performs particularly well include 3.2.5 Privacy protection by law content, 4.2.2 Freedom to make life choices, and 4.2.1 Happiness (Table 3). By contrast, the economy's weakest indicators include 2.3.3 Government promotion of investment in emerging technologies, 3.1.2 Cybersecurity, and 3.3.2 Socioeconomic gap in use of digital payments.

Table 3: Strongest and weakest indicators of El Salvador

Strongest indicators	Rank	Weakest indicators	Rank
3.2.5 Privacy protection by law content	5	1.2.4 AI scientific publications	99
4.2.2 Freedom to make life choices	15	4.1.3 PCT patent applications	99
4.2.1 Happiness	34	3.1.2 Cybersecurity	122
4.3.3 SDG 5: Women's economic opportunity	40	3.3.2 Socioeconomic gap in use of digital payments	122
4.1.6 ICT services exports	47	2.3.3 Government promotion of investment in emerging technologies	124
4.3.1 SDG 3: Good Health and Well-Being	47		
4.1.2 High-tech exports	50		
4.3.4 SDG 7: Affordable and Clean Energy	50		
2.2.2 GERD financed by business enterprise	55		
4.3.5 SDG 11: Sustainable Cities and Communities	67		

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NRI 2022 At-A-Glance: El Salvador

Network Readiness Index — Rank: 96 (out of 131) — Score: 40.66

Pillar/sub-pillar	Rank	Score
A. Technology pillar	108	31.52
1st sub-pillar: Access	91	55.04
2nd sub-pillar: Content	120	19.41
3rd sub-pillar: Future Technologies	109	20.11
B. People pillar	104	30.80
1st sub-pillar: Individuals	97	37.31
2nd sub-pillar: Businesses	88	34.19
3rd sub-pillar: Governments	119	20.90

Pillar/sub-pillar	Rank	Score
C. Governance pillar	103	40.93
1st sub-pillar: Trust	117	19.24
2nd sub-pillar: Regulation	94	56.81
3rd sub-pillar: Inclusion	106	46.75
D. Impact pillar	45	59.39
1st sub-pillar: Economy	85	26.19
2nd sub-pillar: Quality of Life	46	74.28
3rd sub-pillar: SDG Contribution	33	77.68

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	108	31.52	
1st sub-pillar: Access	91	55.04	
1.1.1 Mobile tariffs	104	36.99	
1.1.2 Handset prices	74	48.44	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	99	97.25	
1.1.5 International Internet bandwidth	78	69.25	
1.1.6 Internet access in schools	61	23.24	
2nd sub-pillar: Content	120	19.41	
1.2.1 GitHub commits	79	3.45	
1.2.2 Internet domain registrations	82	1.83	
1.2.3 Mobile apps development	82	72.36	
1.2.4 AI scientific publications	99	0.00	○
3rd sub-pillar: Future Technologies	109	20.11	
1.3.1 Adoption of emerging technologies	91	36.60	
1.3.2 Investment in emerging technologies	121	19.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	99	4.74	

Indicator	Rank	Score	
C. Governance pillar	103	40.93	
1st sub-pillar: Trust	117	19.24	
3.1.1 Secure Internet servers	97	39.14	
3.1.2 Cybersecurity	122	11.77	○
3.1.3 Online access to financial account	91	16.25	
3.1.4 Internet shopping	83	9.80	
2nd sub-pillar: Regulation	94	56.81	
3.2.1 Regulatory quality	75	40.53	
3.2.2 ICT regulatory environment	104	65.29	
3.2.3 Regulation of emerging technologies	104	18.95	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	5	92.60	●
3rd sub-pillar: Inclusion	106	46.75	
3.3.1 E-Participation	73	66.67	
3.3.2 Socioeconomic gap in use of digital payments	122	30.53	○
3.3.3 Availability of local online content	107	35.82	
3.3.4 Gender gap in Internet use	83	60.51	
3.3.5 Rural gap in use of digital payments	102	40.24	

Indicator	Rank	Score	
B. People pillar	104	30.80	
1st sub-pillar: Individuals	97	37.31	
2.1.1 Mobile broadband internet traffic within the country	98	1.54	
2.1.2 ICT skills in the education system	122	13.31	
2.1.3 Use of virtual social networks	70	65.34	
2.1.4 Tertiary enrollment	84	19.21	
2.1.5 Adult literacy rate	64	87.14	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	88	34.19	
2.2.1 Firms with website	81	38.12	
2.2.2 GERD financed by business enterprise	55	38.92	●
2.2.3 Knowledge intensive employment	99	16.42	
2.2.4 Annual investment in telecommunication services	69	76.12	
2.2.5 GERD performed by business enterprise	70	1.35	
3rd sub-pillar: Governments	119	20.90	
2.3.1 Government online services	90	56.37	
2.3.2 Publication and use of open data	83	13.24	
2.3.3 Government promotion of investment in emerging tech	124	5.86	
2.3.4 R&D expenditure by governments and higher education	91	8.14	

Indicator	Rank	Score	
D. Impact pillar	45	59.39	
1st sub-pillar: Economy	85	26.19	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	50	34.10	●
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	96	40.02	
4.1.5 Prevalence of gig economy	111	19.19	
4.1.6 ICT services exports	47	37.66	●
2nd sub-pillar: Quality of Life	46	74.28	
4.2.1 Happiness	34	75.73	●
4.2.2 Freedom to make life choices	15	91.50	●
4.2.3 Income inequality	74	60.80	
4.2.4 Healthy life expectancy at birth	76	69.10	
3rd sub-pillar: SDG Contribution	33	77.68	
4.3.1 SDG 3: Good Health and Well-Being	47	77.37	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	40	84.21	●
4.3.4 SDG 7: Affordable and Clean Energy	50	82.87	●
4.3.5 SDG 11: Sustainable Cities and Communities	67	66.27	●

NOTE: ● a strength and ○ a weakness.

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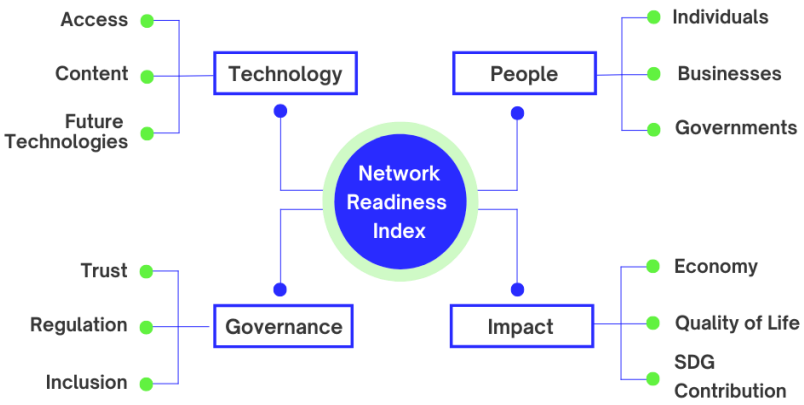
Network Readiness Index 2022 Estonia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

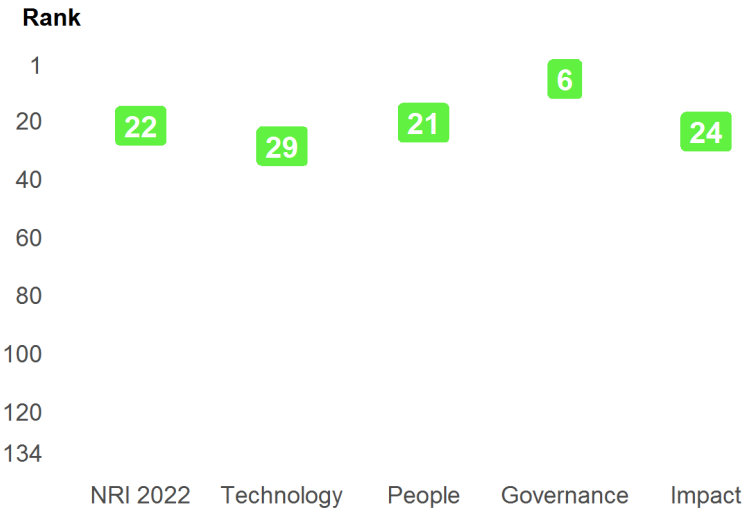
Figure 1: The NRI 2022 model



Global NRI position of Estonia

Estonia ranks 22nd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Estonia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Estonia relate to Inclusion, Regulation and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Access and Future Technologies sub-pillars.

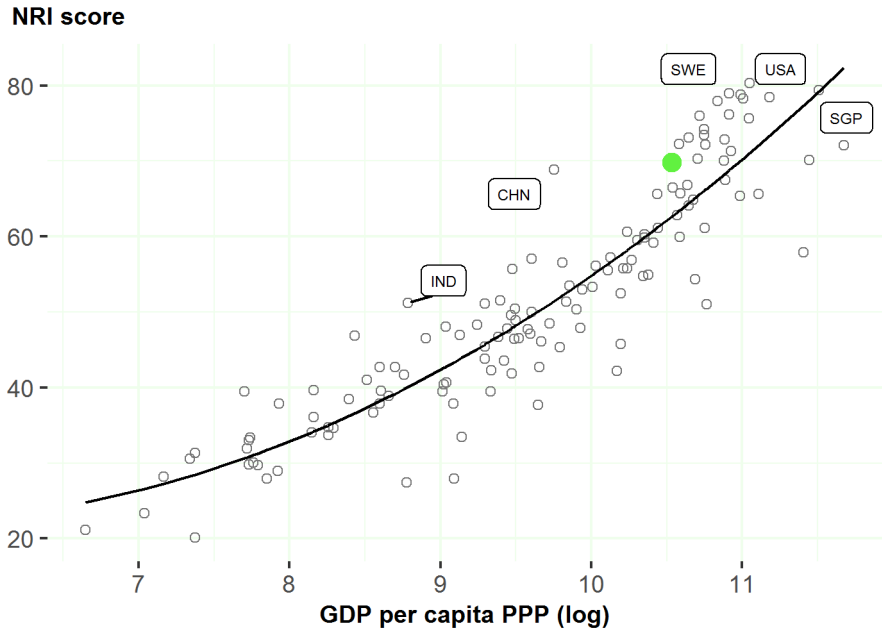
Table 1: Estonia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	3	Individuals	23
Regulation	6	Economy	24
Trust	7	SDG Contribution	26
Quality of Life	16	Businesses	27
Governments	20	Access	44
Content	21	Future Technologies	49

NRI score and income

Figure 3 shows the position of Estonia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Estonia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Estonia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Estonia is ranked 22nd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, people, governance and impact. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Content, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Europe

Estonia is ranked 15th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in eleven of the twelve sub-pillars: Access, Content, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Estonia against its income group and region, overall and by pillar

Table 2: Estonia scores vs. averages of its income group and region, overall and by pillar

Dimension	Estonia	High-income countries	Europe
NRI	69.79	66.21	63.72
Technology	57.91	60.28	56.43
People	62.24	58.83	56.35
Governance	87.83	76.89	74.79
Impact	71.19	68.86	67.30

Strongest and weakest indicators

The indicators where Estonia performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 4.1.4 Domestic market size, and 2.2.4 Annual investment in telecommunication services.

Table 3: Strongest and weakest indicators of Estonia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	1.1.3 FTTH/building Internet subscriptions	75
1.1.6 Internet access in schools	1	2.2.4 Annual investment in telecommunication services	84
3.2.4 E-commerce legislation	1	4.1.4 Domestic market size	99
3.3.1 E-Participation	1	1.1.5 International Internet bandwidth	100
2.3.1 Government online services	2		
2.1.5 Adult literacy rate	3		
3.1.2 Cybersecurity	4		
4.3.2 SDG 4: Quality Education	4		
2.1.2 ICT skills in the education system	5		
3.1.1 Secure Internet servers	8		
3.1.3 Online access to financial account	8		
4.2.2 Freedom to make life choices	10		
2.2.3 Knowledge intensive employment	12		

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NRI 2022 At-A-Glance: Estonia

Network Readiness Index Rank: 22 (out of 131) Score: 69.79

Pillar/sub-pillar	Rank	Score
A. Technology pillar	29	57.91
1st sub-pillar: Access	44	71.48
2nd sub-pillar: Content	21	64.60
3rd sub-pillar: Future Technologies	49	37.65
B. People pillar	21	62.24
1st sub-pillar: Individuals	23	58.10
2nd sub-pillar: Businesses	27	63.14
3rd sub-pillar: Governments	20	65.49

Pillar/sub-pillar	Rank	Score
C. Governance pillar	6	87.83
1st sub-pillar: Trust	7	87.96
2nd sub-pillar: Regulation	6	88.39
3rd sub-pillar: Inclusion	3	87.13
D. Impact pillar	24	71.19
1st sub-pillar: Economy	24	47.51
2nd sub-pillar: Quality of Life	16	83.97
3rd sub-pillar: SDG Contribution	26	82.09

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	29	57.91	
1st sub-pillar: Access	44	71.48	
1.1.1 Mobile tariffs	47	69.63	
1.1.2 Handset prices	19	77.81	
1.1.3 FTTH/building Internet subscriptions	75	17.98	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	100	63.47	○
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	21	64.60	
1.2.1 GitHub commits	14	57.82	
1.2.2 Internet domain registrations	23	38.66	
1.2.3 Mobile apps development	14	97.31	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	49	37.65	
1.3.1 Adoption of emerging technologies	22	73.19	
1.3.2 Investment in emerging technologies	35	58.75	
1.3.3 Robot density	37	5.05	
1.3.4 Computer software spending	78	13.61	

Indicator	Rank	Score	
C. Governance pillar	6	87.83	
1st sub-pillar: Trust	7	87.96	
3.1.1 Secure Internet servers	8	90.51	●
3.1.2 Cybersecurity	4	99.47	●
3.1.3 Online access to financial account	8	82.82	●
3.1.4 Internet shopping	14	79.02	
2nd sub-pillar: Regulation	6	88.39	
3.2.1 Regulatory quality	14	82.13	
3.2.2 ICT regulatory environment	29	91.18	
3.2.3 Regulation of emerging technologies	11	81.32	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	15	87.33	
3rd sub-pillar: Inclusion	3	87.13	
3.3.1 E-Participation	1	100.00	●
3.3.2 Socioeconomic gap in use of digital payments	13	97.51	
3.3.3 Availability of local online content	20	86.06	
3.3.4 Gender gap in Internet use	15	75.49	
3.3.5 Rural gap in use of digital payments	14	76.59	

Indicator	Rank	Score	
B. People pillar	21	62.24	
1st sub-pillar: Individuals	23	58.10	
2.1.1 Mobile broadband internet traffic within the country	74	6.26	
2.1.2 ICT skills in the education system	5	86.69	●
2.1.3 Use of virtual social networks	47	74.00	
2.1.4 Tertiary enrollment	27	49.39	
2.1.5 Adult literacy rate	3	99.89	●
2.1.6 AI talent concentration	11	32.36	
2nd sub-pillar: Businesses	27	63.14	
2.2.1 Firms with website	21	81.21	
2.2.2 GERD financed by business enterprise	32	60.73	
2.2.3 Knowledge intensive employment	12	74.94	●
2.2.4 Annual investment in telecommunication services	84	72.97	○
2.2.5 GERD performed by business enterprise	22	25.86	
3rd sub-pillar: Governments	20	65.49	
2.3.1 Government online services	2	99.39	●
2.3.2 Publication and use of open data	41	38.24	
2.3.3 Government promotion of investment in emerging tech	35	51.84	
2.3.4 R&D expenditure by governments and higher education	11	72.49	

Indicator	Rank	Score	
D. Impact pillar	24	71.19	
1st sub-pillar: Economy	24	47.51	
4.1.1 High-tech and medium-high-tech manufacturing	41	39.30	
4.1.2 High-tech exports	17	62.84	
4.1.3 PCT patent applications	28	29.53	
4.1.4 Domestic market size	99	38.88	○
4.1.5 Prevalence of gig economy	27	63.37	
4.1.6 ICT services exports	17	51.12	
2nd sub-pillar: Quality of Life	16	83.97	
4.2.1 Happiness	25	77.91	
4.2.2 Freedom to make life choices	10	93.35	●
4.2.3 Income inequality	25	80.90	
4.2.4 Healthy life expectancy at birth	33	83.73	
3rd sub-pillar: SDG Contribution	26	82.09	
4.3.1 SDG 3: Good Health and Well-Being	41	80.73	
4.3.2 SDG 4: Quality Education	4	78.94	●
4.3.3 SDG 5: Women's economic opportunity	11	96.49	
4.3.4 SDG 7: Affordable and Clean Energy	83	73.52	
4.3.5 SDG 11: Sustainable Cities and Communities	35	80.79	

NOTE: ● a strength and ○ a weakness.

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Network Readiness Index 2022 Eswatini

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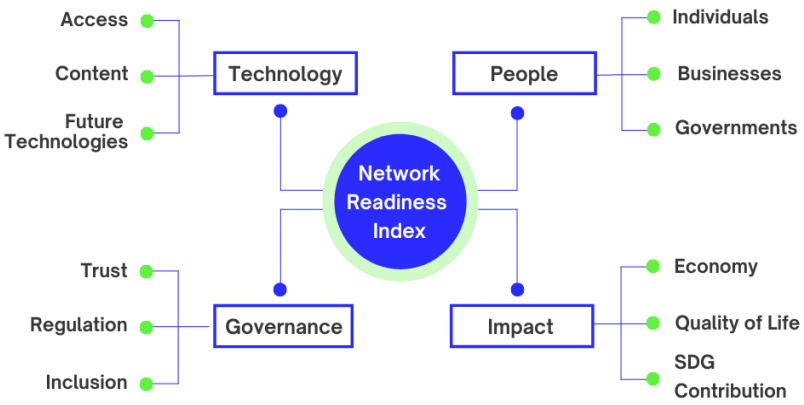
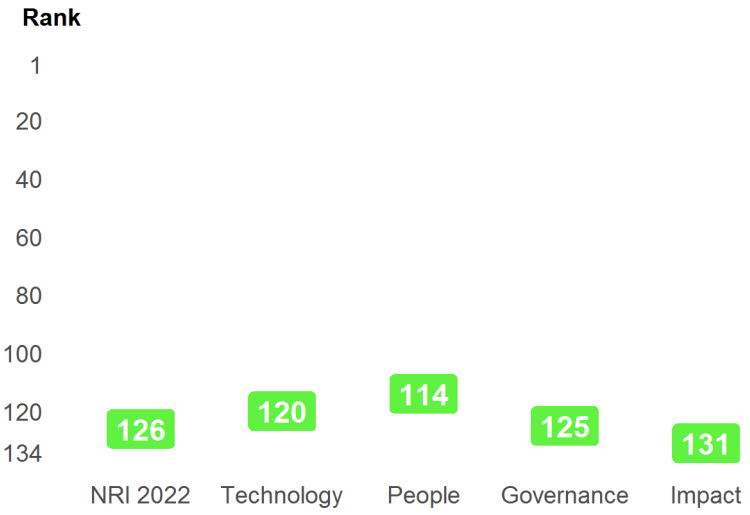
Figure 1: The NRI 2022 model



Global NRI position of Eswatini

Eswatini ranks 126th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Eswatini global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Eswatini relate to Individuals, Trust and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Economy and Quality of Life sub-pillars.

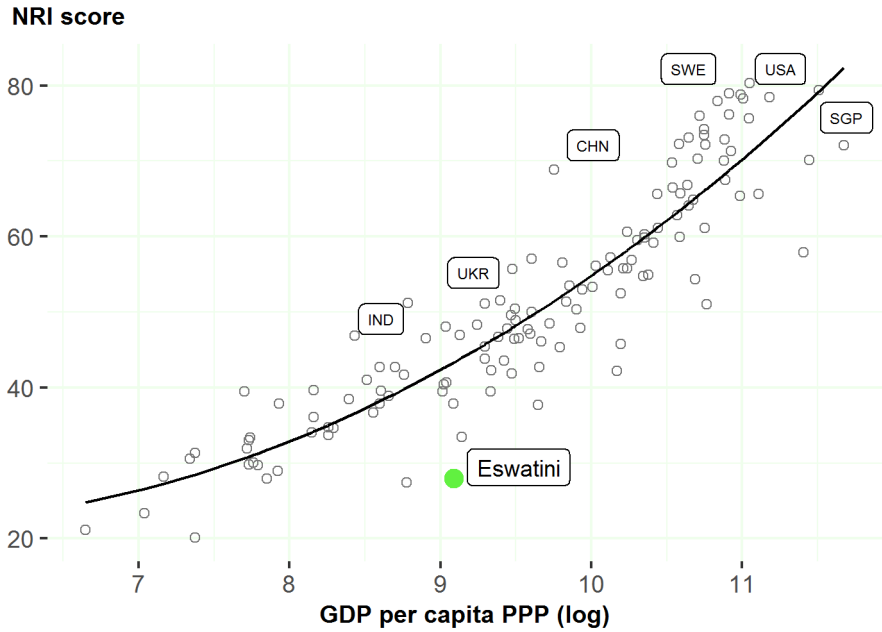
Table 1: Eswatini rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	98	Governments	120
Trust	104	Future Technologies	121
Access	111	Inclusion	122
Businesses	111	Regulation	125
Content	116	Economy	131
SDG Contribution	116	Quality of Life	131

NRI score and income

Figure 3 shows the position of Eswatini in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Eswatini is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Eswatini belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Eswatini is ranked 34th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails lower-middle-income countries in all of them.

Africa

Eswatini is ranked 26th within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: people. With regard to sub-pillars, it outperforms the average in Africa in one of the twelve sub-pillars: Individuals.

Figure 4: Performance of Eswatini against its income group and region, overall and by pillar

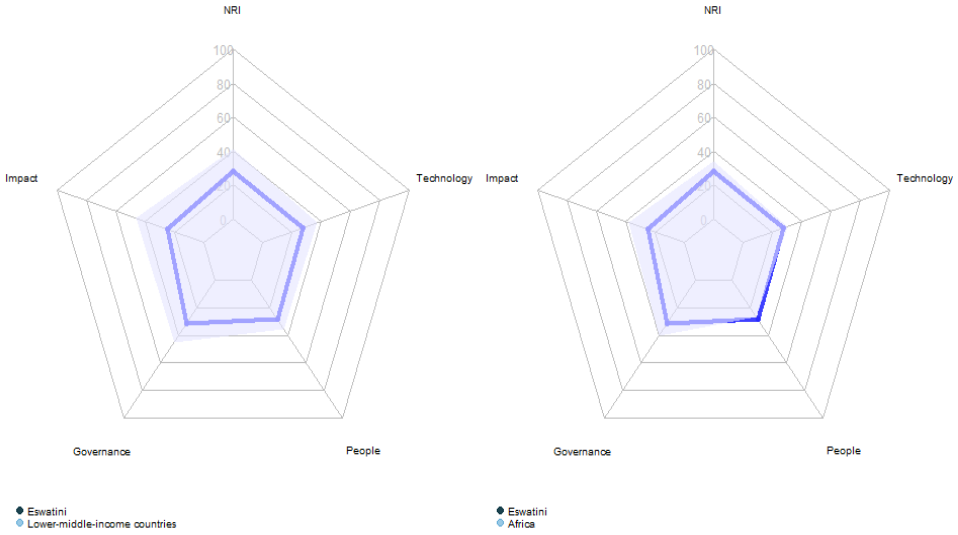


Table 2: Eswatini scores vs. averages of its income group and region, overall and by pillar

Dimension	Eswatini	Lower-middle-income countries	Africa
NRI	27.95	40.94	33.77
Technology	27.57	37.28	29.96
People	28.54	35.42	26.81
Governance	31.11	45.00	40.37
Impact	24.58	46.09	37.94

Strongest and weakest indicators

The indicators where Eswatini performs particularly well include 1.1.6 Internet access in schools, 2.2.1 Firms with website, and 2.2.2 GERD financed by business enterprise (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 1.3.2 Investment in emerging technologies, and 4.2.4 Healthy life expectancy at birth.

Table 3: Strongest and weakest indicators of Eswatini

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	44	4.1.3 PCT patent applications	99
2.2.1 Firms with website	50	2.3.2 Publication and use of open data	105
2.2.2 GERD financed by business enterprise	64	3.2.4 E-commerce legislation	126
2.1.5 Adult literacy rate	68	1.3.2 Investment in emerging technologies	129
2.3.4 R&D expenditure by governments and higher education	82	4.2.4 Healthy life expectancy at birth	129
2.2.3 Knowledge intensive employment	84	1.1.5 International Internet bandwidth	130
1.1.2 Handset prices	88		
4.3.4 SDG 7: Affordable and Clean Energy	90		
1.1.1 Mobile tariffs	97		
4.3.1 SDG 3: Good Health and Well-Being	98		

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NRI 2022 At-A-Glance: Eswatini

Network Readiness Index Rank: 126 (out of 131) Score: 27.95

Pillar/sub-pillar	Rank	Score
A. Technology pillar	120	27.57
1st sub-pillar: Access	111	44.73
2nd sub-pillar: Content	116	20.74
3rd sub-pillar: Future Technologies	121	17.26
B. People pillar	114	28.54
1st sub-pillar: Individuals	98	36.19
2nd sub-pillar: Businesses	111	28.61
3rd sub-pillar: Governments	120	20.81

Pillar/sub-pillar	Rank	Score
C. Governance pillar	125	31.11
1st sub-pillar: Trust	104	27.15
2nd sub-pillar: Regulation	125	33.88
3rd sub-pillar: Inclusion	122	32.30
D. Impact pillar	131	24.58
1st sub-pillar: Economy	131	6.97
2nd sub-pillar: Quality of Life	131	20.29
3rd sub-pillar: SDG Contribution	116	46.46

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	120	27.57	
1st sub-pillar: Access	111	44.73	
1.1.1 Mobile tariffs	97	42.34	●
1.1.2 Handset prices	88	43.13	●
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	125	75.06	
1.1.5 International Internet bandwidth	130	0.00	○
1.1.6 Internet access in schools	44	63.11	●
2nd sub-pillar: Content	116	20.74	
1.2.1 GitHub commits	110	0.67	
1.2.2 Internet domain registrations	106	0.58	
1.2.3 Mobile apps development	111	55.33	
1.2.4 AI scientific publications	82	26.38	
3rd sub-pillar: Future Technologies	121	17.26	
1.3.1 Adoption of emerging technologies	114	22.76	
1.3.2 Investment in emerging technologies	129	11.75	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	125	31.11	
1st sub-pillar: Trust	104	27.15	
3.1.1 Secure Internet servers	100	37.51	
3.1.2 Cybersecurity	118	16.79	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	125	33.88	
3.2.1 Regulatory quality	101	26.13	
3.2.2 ICT regulatory environment	111	61.96	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	126	0.00	○
3.2.5 Privacy protection by law content	103	47.42	
3rd sub-pillar: Inclusion	122	32.30	
3.3.1 E-Participation	104	43.21	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	124	21.39	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	NA	NA	

Indicator	Rank	Score	
B. People pillar	114	28.54	
1st sub-pillar: Individuals	98	36.19	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	109	25.74	
2.1.3 Use of virtual social networks	101	30.48	
2.1.4 Tertiary enrollment	117	3.42	
2.1.5 Adult literacy rate	68	85.12	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	111	28.61	
2.2.1 Firms with website	50	61.23	●
2.2.2 GERD financed by business enterprise	64	27.59	●
2.2.3 Knowledge intensive employment	84	25.57	●
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	90	0.04	
3rd sub-pillar: Governments	120	20.81	
2.3.1 Government online services	105	47.27	
2.3.2 Publication and use of open data	105	0.00	○
2.3.3 Government promotion of investment in emerging tech	104	20.27	
2.3.4 R&D expenditure by governments and higher education	82	15.71	●

Indicator	Rank	Score	
D. Impact pillar	131	24.58	
1st sub-pillar: Economy	131	6.97	
4.1.1 High-tech and medium-high-tech manufacturing	104	1.47	
4.1.2 High-tech exports	101	4.87	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	127	20.25	
4.1.5 Prevalence of gig economy	120	10.17	
4.1.6 ICT services exports	122	5.09	
2nd sub-pillar: Quality of Life	131	20.29	
4.2.1 Happiness	NA	NA	
4.2.2 Freedom to make life choices	NA	NA	
4.2.3 Income inequality	114	21.11	
4.2.4 Healthy life expectancy at birth	129	19.48	○
3rd sub-pillar: SDG Contribution	116	46.46	
4.3.1 SDG 3: Good Health and Well-Being	98	48.90	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	126	24.56	
4.3.4 SDG 7: Affordable and Clean Energy	90	72.01	●
4.3.5 SDG 11: Sustainable Cities and Communities	108	40.37	

NOTE: ● a strength and ○ a weakness.

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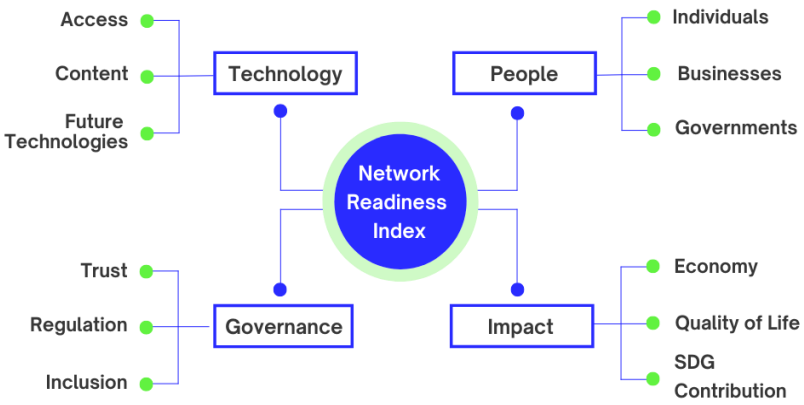
Network Readiness Index 2022 Ethiopia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

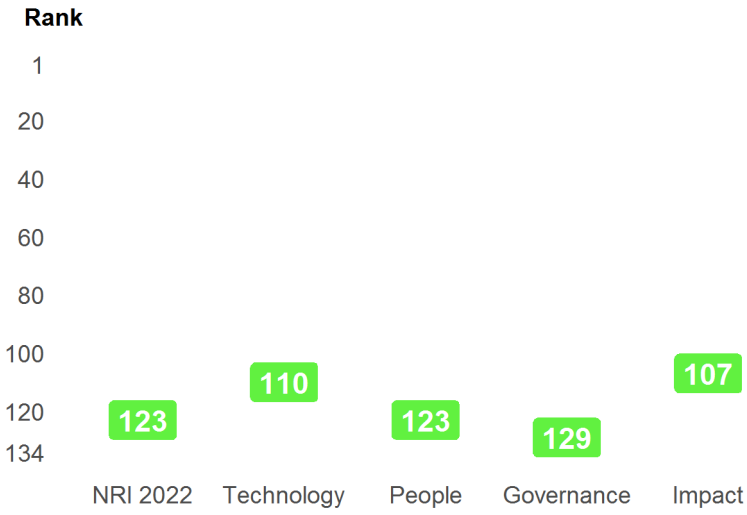
Figure 1: The NRI 2022 model



Global NRI position of Ethiopia

Ethiopia ranks 123rd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Ethiopia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Ethiopia relate to Economy, Quality of Life and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Regulation and Trust sub-pillars.

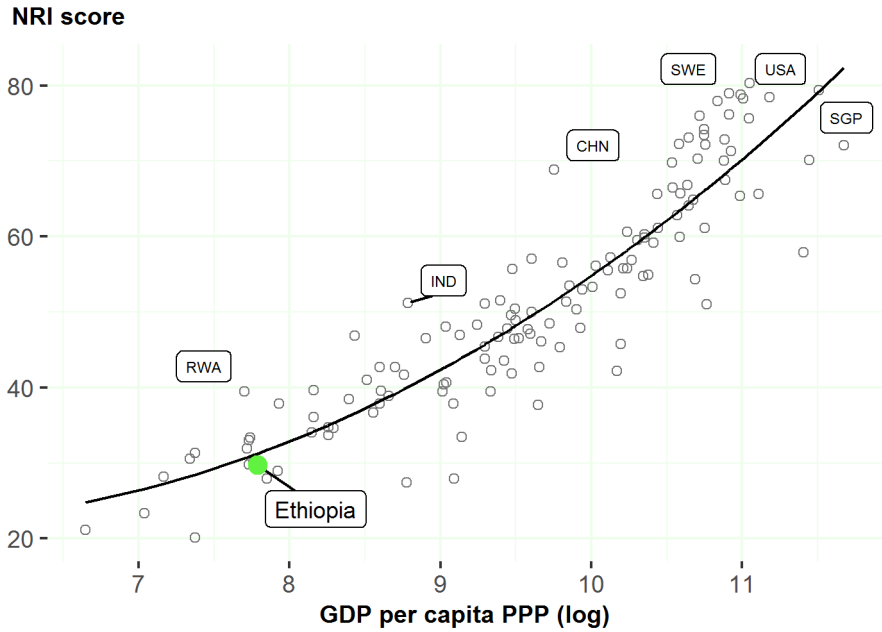
Table 1: Ethiopia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	89	Businesses	120
Quality of Life	95	SDG Contribution	120
Content	101	Individuals	123
Access	104	Inclusion	125
Governments	107	Regulation	127
Future Technologies	116	Trust	130

NRI score and income

Figure 3 shows the position of Ethiopia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Ethiopia is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Ethiopia belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Ethiopia is ranked 9th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, people and impact. At the sub-pillar level, it outperforms low-income countries in six of the twelve sub-pillars: Access, Content, Individuals, Governments, Economy and Quality of Life.

Africa

Ethiopia is ranked 23rd within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: technology and impact. With regard to sub-pillars, it outperforms the average in Africa in four of the twelve sub-pillars: Access, Content, Economy and Quality of Life.

Figure 4: Performance of Ethiopia against its income group and region, overall and by pillar

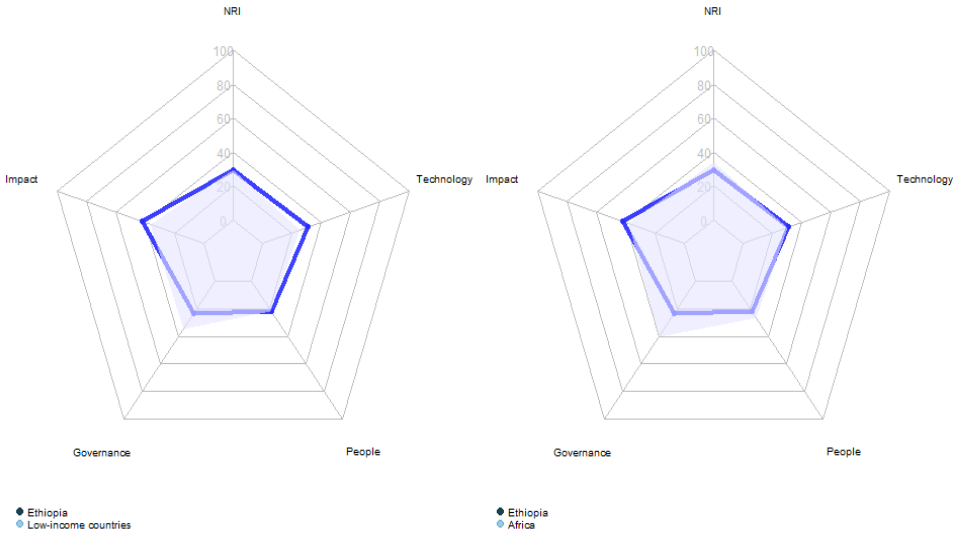


Table 2: Ethiopia scores vs. averages of its income group and region, overall and by pillar

Dimension	Ethiopia	Low-income countries	Africa
NRI	29.68	29.49	33.77
Technology	30.97	25.43	29.96
People	21.92	21.74	26.81
Governance	23.51	34.28	40.37
Impact	42.30	36.50	37.94

Strongest and weakest indicators

The indicators where Ethiopia performs particularly well include 1.2.4 AI scientific publications, 4.2.3 Income inequality, and 2.2.4 Annual investment in telecommunication services (Table 3). By contrast, the economy's weakest indicators include 1.2.2 Internet domain registrations, 3.2.2 ICT regulatory environment, 2.1.3 Use of virtual social networks, and 3.1.1 Secure Internet servers.

Table 3: Strongest and weakest indicators of Ethiopia

Strongest indicators	Rank	Weakest indicators	Rank
1.2.4 AI scientific publications	33	3.1.4 Internet shopping	114
4.2.3 Income inequality	52	1.3.4 Computer software spending	122
2.2.4 Annual investment in telecommunication services	53	3.1.3 Online access to financial account	123
4.1.4 Domestic market size	56	2.1.3 Use of virtual social networks	128
2.3.4 R&D expenditure by governments and higher education	67	3.1.1 Secure Internet servers	128
2.1.1 Mobile broadband internet traffic within the country	69	3.2.2 ICT regulatory environment	129
4.1.1 High-tech and medium-high-tech manufacturing	76	1.2.2 Internet domain registrations	131
4.2.2 Freedom to make life choices	83		
4.1.6 ICT services exports	84		
4.3.3 SDG 5: Women's economic opportunity	90		

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NRI 2022 At-A-Glance: Ethiopia

Network Readiness Index Rank: 123 (out of 131) Score: 29.68

Pillar/sub-pillar	Rank	Score
A. Technology pillar	110	30.97
1st sub-pillar: Access	104	48.97
2nd sub-pillar: Content	101	25.92
3rd sub-pillar: Future Technologies	116	18.01
B. People pillar	123	21.92
1st sub-pillar: Individuals	123	17.45
2nd sub-pillar: Businesses	120	22.75
3rd sub-pillar: Governments	107	25.57

Pillar/sub-pillar	Rank	Score
C. Governance pillar	129	23.51
1st sub-pillar: Trust	130	10.19
2nd sub-pillar: Regulation	127	29.10
3rd sub-pillar: Inclusion	125	31.25
D. Impact pillar	107	42.30
1st sub-pillar: Economy	89	25.45
2nd sub-pillar: Quality of Life	95	57.93
3rd sub-pillar: SDG Contribution	120	43.52

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	110	30.97	
1st sub-pillar: Access	104	48.97	
1.1.1 Mobile tariffs	117	27.10	
1.1.2 Handset prices	124	19.53	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	109	94.53	
1.1.5 International Internet bandwidth	117	54.71	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	101	25.92	
1.2.1 GitHub commits	121	0.30	
1.2.2 Internet domain registrations	131	0.00	○
1.2.3 Mobile apps development	126	38.53	
1.2.4 AI scientific publications	33	64.87	●
3rd sub-pillar: Future Technologies	116	18.01	
1.3.1 Adoption of emerging technologies	112	25.79	
1.3.2 Investment in emerging technologies	101	28.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	122	0.00	○

Indicator	Rank	Score	
C. Governance pillar	129	23.51	
1st sub-pillar: Trust	130	10.19	
3.1.1 Secure Internet servers	128	14.30	○
3.1.2 Cybersecurity	109	26.47	
3.1.3 Online access to financial account	123	0.00	○
3.1.4 Internet shopping	114	0.00	○
2nd sub-pillar: Regulation	127	29.10	
3.2.1 Regulatory quality	122	15.47	
3.2.2 ICT regulatory environment	129	22.35	○
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	118	33.33	
3.2.5 Privacy protection by law content	108	45.26	
3rd sub-pillar: Inclusion	125	31.25	
3.3.1 E-Participation	118	30.86	
3.3.2 Socioeconomic gap in use of digital payments	125	13.40	
3.3.3 Availability of local online content	111	30.53	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	90	50.20	

Indicator	Rank	Score	
B. People pillar	123	21.92	
1st sub-pillar: Individuals	123	17.45	
2.1.1 Mobile broadband internet traffic within the country	69	7.40	●
2.1.2 ICT skills in the education system	95	34.02	
2.1.3 Use of virtual social networks	128	1.95	○
2.1.4 Tertiary enrollment	107	5.93	
2.1.5 Adult literacy rate	100	37.93	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	120	22.75	
2.2.1 Firms with website	96	29.23	
2.2.2 GERD financed by business enterprise	95	1.82	
2.2.3 Knowledge intensive employment	123	3.57	
2.2.4 Annual investment in telecommunication services	53	78.96	●
2.2.5 GERD performed by business enterprise	86	0.16	
3rd sub-pillar: Governments	107	25.57	
2.3.1 Government online services	116	34.55	
2.3.2 Publication and use of open data	78	16.18	
2.3.3 Government promotion of investment in emerging tech	92	29.47	
2.3.4 R&D expenditure by governments and higher education	67	22.08	●

Indicator	Rank	Score	
D. Impact pillar	107	42.30	
1st sub-pillar: Economy	89	25.45	
4.1.1 High-tech and medium-high-tech manufacturing	76	15.76	●
4.1.2 High-tech exports	91	7.56	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	56	55.75	●
4.1.5 Prevalence of gig economy	96	27.91	
4.1.6 ICT services exports	84	20.30	●
2nd sub-pillar: Quality of Life	95	57.93	
4.2.1 Happiness	100	42.21	
4.2.2 Freedom to make life choices	83	66.74	●
4.2.3 Income inequality	52	70.35	●
4.2.4 Healthy life expectancy at birth	102	52.43	
3rd sub-pillar: SDG Contribution	120	43.52	
4.3.1 SDG 3: Good Health and Well-Being	127	16.26	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	90	67.54	●
4.3.4 SDG 7: Affordable and Clean Energy	118	48.12	
4.3.5 SDG 11: Sustainable Cities and Communities	105	42.15	

NOTE: ● a strength and ○ a weakness.

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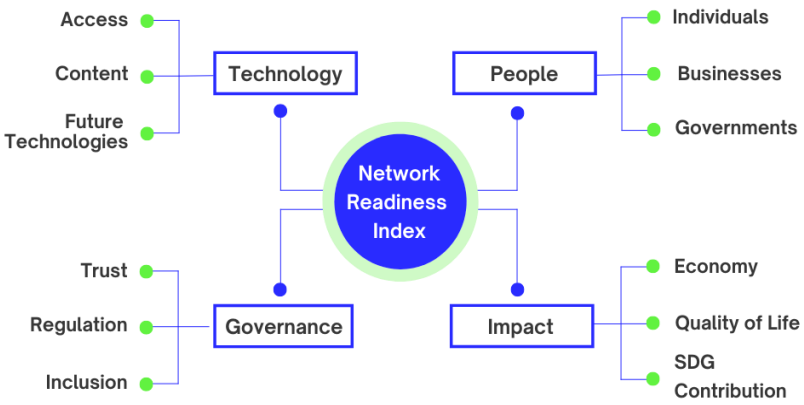
Network Readiness Index 2022 Finland

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

Figure 1: The NRI 2022 model



Global NRI position of Finland

Finland ranks 7th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance and Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Finland global ranking, overall and by pillar

Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Finland relate to Quality of Life, Regulation and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, SDG Contribution and Access sub-pillars.

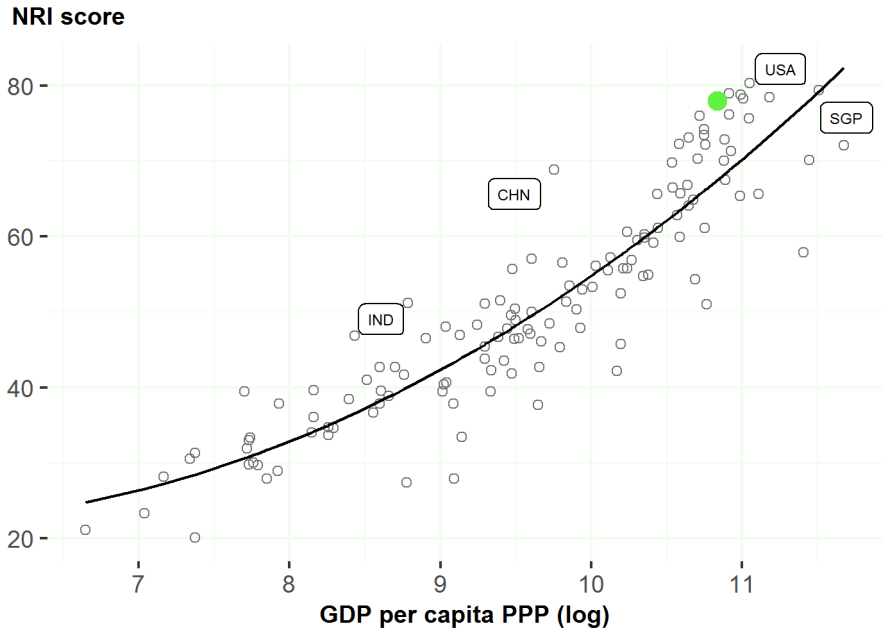
Table 1: Finland rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	1	Businesses	11
Regulation	3	Economy	12
Trust	5	Individuals	14
Governments	6	Content	17
Future Technologies	8	SDG Contribution	18
Inclusion	8	Access	19

NRI score and income

Figure 3 shows the position of Finland in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Finland is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Finland belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Finland is ranked 7th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it has a higher score than the average of high-income countries in all of them.

Europe

Finland is ranked 5th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Finland against its income group and region, overall and by pillar

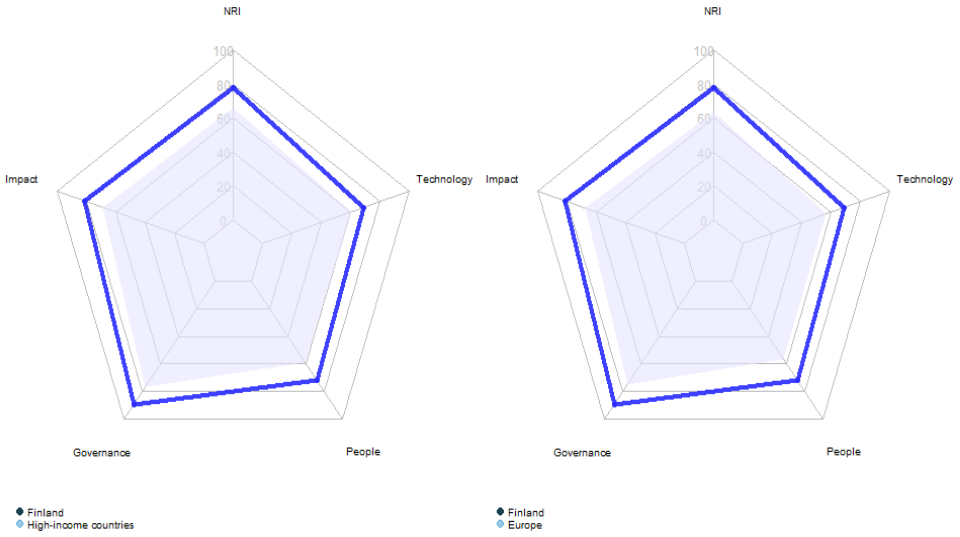


Table 2: Finland scores vs. averages of its income group and region, overall and by pillar

Dimension	Finland	High-income countries	Europe
NRI	77.90	66.21	63.72
Technology	68.53	60.28	56.43
People	71.98	58.83	56.35
Governance	89.71	76.89	74.79
Impact	81.37	68.86	67.30

Strongest and weakest indicators

The indicators where Finland performs particularly well include 1.1.6 Internet access in schools, 2.1.2 ICT skills in the education system, and 2.2.1 Firms with website (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 1.1.5 International Internet bandwidth, 1.1.3 FTTH/building Internet subscriptions, and 3.3.4 Gender gap in Internet use.

Table 3: Strongest and weakest indicators of Finland

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	1.1.3 FTTH/building Internet subscriptions	47
2.1.2 ICT skills in the education system	1	3.3.4 Gender gap in Internet use	47
2.2.1 Firms with website	1	1.1.5 International Internet bandwidth	81
3.2.4 E-commerce legislation	1	4.3.4 SDG 7: Affordable and Clean Energy	98
4.2.1 Happiness	1		
3.2.3 Regulation of emerging technologies	2		
4.2.2 Freedom to make life choices	2		
1.3.1 Adoption of emerging technologies	3		
2.3.1 Government online services	3		
3.1.3 Online access to financial account	3		
3.2.1 Regulatory quality	3		
4.1.6 ICT services exports	5		

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NRI 2022 At-A-Glance: Finland

Network Readiness Index — Rank: 7 (out of 131) — Score: 77.90

Pillar/sub-pillar	Rank	Score
A. Technology pillar	13	68.53
1st sub-pillar: Access	19	76.37
2nd sub-pillar: Content	17	66.35
3rd sub-pillar: Future Technologies	8	62.87
B. People pillar	6	71.98
1st sub-pillar: Individuals	14	60.80
2nd sub-pillar: Businesses	11	74.37
3rd sub-pillar: Governments	6	80.76

Pillar/sub-pillar	Rank	Score
C. Governance pillar	3	89.71
1st sub-pillar: Trust	5	90.29
2nd sub-pillar: Regulation	3	93.09
3rd sub-pillar: Inclusion	8	85.77
D. Impact pillar	3	81.37
1st sub-pillar: Economy	12	64.33
2nd sub-pillar: Quality of Life	1	94.50
3rd sub-pillar: SDG Contribution	18	85.28

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	13	68.53	
1st sub-pillar: Access	19	76.37	
1.1.1 Mobile tariffs	27	77.74	
1.1.2 Handset prices	18	81.08	
1.1.3 FTTH/building Internet subscriptions	47	30.40	○
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	81	69.06	○
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	17	66.35	
1.2.1 GitHub commits	11	69.25	
1.2.2 Internet domain registrations	24	33.51	
1.2.3 Mobile apps development	19	96.29	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	8	62.87	
1.3.1 Adoption of emerging technologies	3	96.95	●
1.3.2 Investment in emerging technologies	5	87.75	
1.3.3 Robot density	20	23.89	
1.3.4 Computer software spending	19	42.89	
B. People pillar	6	71.98	

Indicator	Rank	Score	
C. Governance pillar	3	89.71	
1st sub-pillar: Trust	5	90.29	
3.1.1 Secure Internet servers	9	90.25	
3.1.2 Cybersecurity	29	95.71	
3.1.3 Online access to financial account	3	93.95	●
3.1.4 Internet shopping	12	81.24	
2nd sub-pillar: Regulation	3	93.09	
3.2.1 Regulatory quality	3	90.40	●
3.2.2 ICT regulatory environment	6	96.47	
3.2.3 Regulation of emerging technologies	2	94.47	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	22	84.09	
3rd sub-pillar: Inclusion	8	85.77	
3.3.1 E-Participation	14	95.06	
3.3.2 Socioeconomic gap in use of digital payments	22	95.97	
3.3.3 Availability of local online content	13	90.14	
3.3.4 Gender gap in Internet use	47	70.95	○
3.3.5 Rural gap in use of digital payments	13	76.73	
D. Impact pillar	3	81.37	

Indicator	Rank	Score	
1st sub-pillar: Individuals	14	60.80	
2.1.1 Mobile broadband internet traffic within the country	28	27.63	
2.1.2 ICT skills in the education system	1	100.00	●
2.1.3 Use of virtual social networks	24	79.75	
2.1.4 Tertiary enrollment	8	62.14	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	10	34.50	
2nd sub-pillar: Businesses	11	74.37	
2.2.1 Firms with website	1	100.00	●
2.2.2 GERD financed by business enterprise	22	67.19	
2.2.3 Knowledge intensive employment	17	73.26	
2.2.4 Annual investment in telecommunication services	48	79.67	
2.2.5 GERD performed by business enterprise	10	51.74	
3rd sub-pillar: Governments	6	80.76	
2.3.1 Government online services	3	96.97	●
2.3.2 Publication and use of open data	23	57.35	
2.3.3 Government promotion of investment in emerging tech	7	83.08	
2.3.4 R&D expenditure by governments and higher education	7	85.65	

Indicator	Rank	Score	
1st sub-pillar: Economy	12	64.33	
4.1.1 High-tech and medium-high-tech manufacturing	19	58.58	
4.1.2 High-tech exports	37	44.16	
4.1.3 PCT patent applications	5	87.37	
4.1.4 Domestic market size	57	55.58	
4.1.5 Prevalence of gig economy	23	64.83	
4.1.6 ICT services exports	5	75.48	●
2nd sub-pillar: Quality of Life	1	94.50	
4.2.1 Happiness	1	100.00	●
4.2.2 Freedom to make life choices	2	99.68	●
4.2.3 Income inequality	11	88.69	
4.2.4 Healthy life expectancy at birth	19	89.62	
3rd sub-pillar: SDG Contribution	18	85.28	
4.3.1 SDG 3: Good Health and Well-Being	22	89.99	
4.3.2 SDG 4: Quality Education	8	75.36	
4.3.3 SDG 5: Women's economic opportunity	11	96.49	
4.3.4 SDG 7: Affordable and Clean Energy	98	67.67	○
4.3.5 SDG 11: Sustainable Cities and Communities	5	96.88	

NOTE: ● a strength and ○ a weakness.

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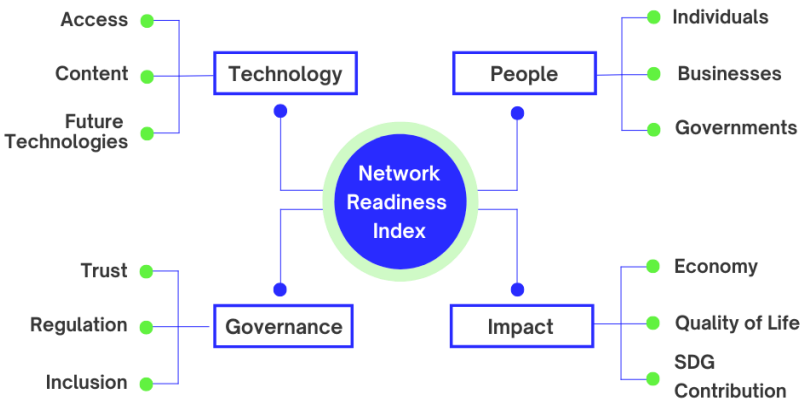
Network Readiness Index 2022 France

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

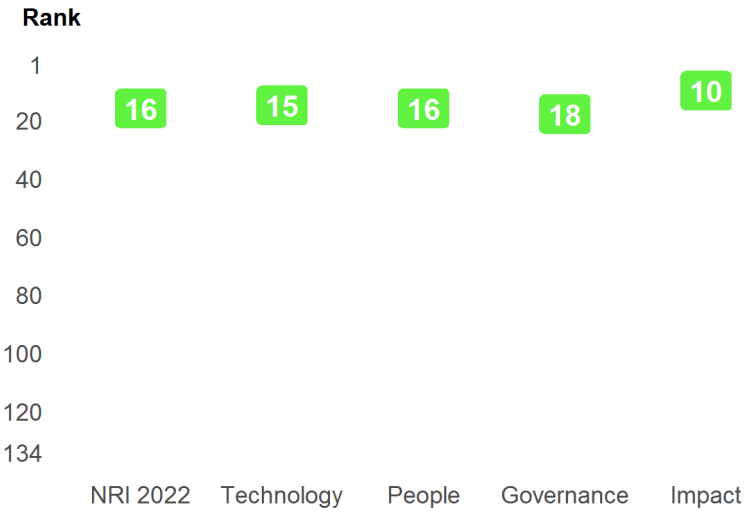
Figure 1: The NRI 2022 model



Global NRI position of France

France ranks 16th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: France global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of France relate to Access, Governments and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Content and Individuals sub-pillars.

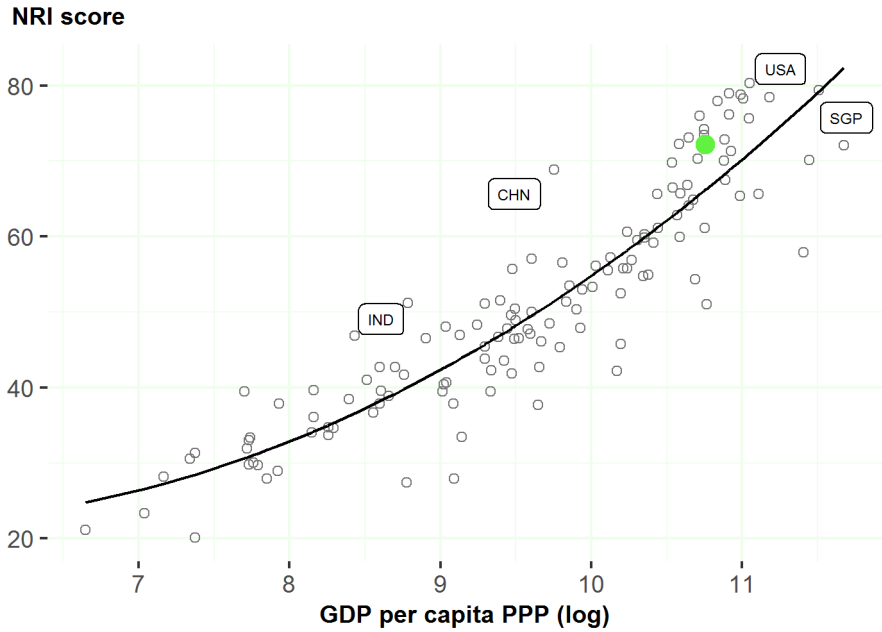
Table 1: France rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	3	Regulation	16
Governments	5	Inclusion	18
Economy	14	Quality of Life	20
SDG Contribution	14	Trust	26
Businesses	15	Content	28
Future Technologies	16	Individuals	75

NRI score and income

Figure 3 shows the position of France in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, France is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. France belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

France is ranked 16th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in ten of the twelve sub-pillars: Access, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

France is ranked 10th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Access, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of France against its income group and region, overall and by pillar

Table 2: France scores vs. averages of its income group and region, overall and by pillar

Dimension	France	High-income countries	Europe
NRI	72.19	66.21	63.72
Technology	65.71	60.28	56.43
People	65.43	58.83	56.35
Governance	81.09	76.89	74.79
Impact	76.55	68.86	67.30

Strongest and weakest indicators

The indicators where France performs particularly well include 3.2.4 E-commerce legislation, 4.3.3 SDG 5: Women's economic opportunity, and 2.3.2 Publication and use of open data (Table 3). By contrast, the economy's weakest indicators include 3.3.4 Gender gap in Internet use, 1.1.1 Mobile tariffs, and 1.1.4 Population covered by at least a 3G mobile network.

Table 3: Strongest and weakest indicators of France

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	22
4.3.3 SDG 5: Women's economic opportunity	1	1.1.1 Mobile tariffs	55
2.3.2 Publication and use of open data	4	1.1.4 Population covered by at least a 3G mobile network	55
2.2.4 Annual investment in telecommunication services	6	3.3.4 Gender gap in Internet use	60
3.2.2 ICT regulatory environment	8		
4.2.4 Healthy life expectancy at birth	8		
3.2.3 Regulation of emerging technologies	9		
4.1.4 Domestic market size	9		
4.1.1 High-tech and medium-high-tech manufacturing	10		
2.3.3 Government promotion of investment in emerging technologies	12		
1.1.2 Handset prices	13		

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NRI 2022 At-A-Glance: France

Network Readiness Index — Rank: 16 (out of 131) — Score: 72.19

Pillar/sub-pillar	Rank	Score
A. Technology pillar	15	65.71
1st sub-pillar: Access	3	85.83
2nd sub-pillar: Content	28	55.06
3rd sub-pillar: Future Technologies	16	56.24
B. People pillar	16	65.43
1st sub-pillar: Individuals	75	46.11
2nd sub-pillar: Businesses	15	69.35
3rd sub-pillar: Governments	5	80.83

Pillar/sub-pillar	Rank	Score
C. Governance pillar	18	81.09
1st sub-pillar: Trust	26	75.66
2nd sub-pillar: Regulation	16	84.48
3rd sub-pillar: Inclusion	18	83.12
D. Impact pillar	10	76.55
1st sub-pillar: Economy	14	60.80
2nd sub-pillar: Quality of Life	20	82.04
3rd sub-pillar: SDG Contribution	14	86.79

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	15	65.71	
1st sub-pillar: Access	3	85.83	
1.1.1 Mobile tariffs	55	67.07	○
1.1.2 Handset prices	13	83.83	●
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	55	99.68	○
1.1.5 International Internet bandwidth	27	79.55	
1.1.6 Internet access in schools	31	99.00	
2nd sub-pillar: Content	28	55.06	
1.2.1 GitHub commits	23	41.35	
1.2.2 Internet domain registrations	25	30.94	
1.2.3 Mobile apps development	28	92.89	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	16	56.24	
1.3.1 Adoption of emerging technologies	14	83.82	
1.3.2 Investment in emerging technologies	22	67.25	
1.3.3 Robot density	19	24.29	
1.3.4 Computer software spending	14	49.60	

Indicator	Rank	Score	
C. Governance pillar	18	81.09	
1st sub-pillar: Trust	26	75.66	
3.1.1 Secure Internet servers	21	83.77	
3.1.2 Cybersecurity	14	97.56	
3.1.3 Online access to financial account	21	60.62	
3.1.4 Internet shopping	28	60.69	
2nd sub-pillar: Regulation	16	84.48	
3.2.1 Regulatory quality	25	73.07	
3.2.2 ICT regulatory environment	8	95.88	●
3.2.3 Regulation of emerging technologies	9	81.84	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	49	71.63	
3rd sub-pillar: Inclusion	18	83.12	
3.3.1 E-Participation	18	90.13	
3.3.2 Socioeconomic gap in use of digital payments	17	96.60	
3.3.3 Availability of local online content	28	83.65	
3.3.4 Gender gap in Internet use	60	69.06	○
3.3.5 Rural gap in use of digital payments	18	76.15	

Indicator	Rank	Score	
B. People pillar	16	65.43	
1st sub-pillar: Individuals	75	46.11	
2.1.1 Mobile broadband internet traffic within the country	17	38.41	
2.1.2 ICT skills in the education system	51	52.66	
2.1.3 Use of virtual social networks	44	74.98	
2.1.4 Tertiary enrollment	36	45.39	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	22	19.10	○
2nd sub-pillar: Businesses	15	69.35	
2.2.1 Firms with website	36	70.47	
2.2.2 GERD financed by business enterprise	18	70.18	
2.2.3 Knowledge intensive employment	15	73.55	
2.2.4 Annual investment in telecommunication services	6	91.60	●
2.2.5 GERD performed by business enterprise	15	40.93	
3rd sub-pillar: Governments	5	80.83	
2.3.1 Government online services	18	87.88	
2.3.2 Publication and use of open data	4	94.12	●
2.3.3 Government promotion of investment in emerging tech	12	74.76	
2.3.4 R&D expenditure by governments and higher education	16	66.56	

Indicator	Rank	Score	
D. Impact pillar	10	76.55	
1st sub-pillar: Economy	14	60.80	
4.1.1 High-tech and medium-high-tech manufacturing	10	68.90	●
4.1.2 High-tech exports	15	64.57	
4.1.3 PCT patent applications	15	49.78	
4.1.4 Domestic market size	9	79.44	●
4.1.5 Prevalence of gig economy	21	66.86	
4.1.6 ICT services exports	50	35.26	
2nd sub-pillar: Quality of Life	20	82.04	
4.2.1 Happiness	23	79.73	
4.2.2 Freedom to make life choices	49	78.30	
4.2.3 Income inequality	33	76.88	
4.2.4 Healthy life expectancy at birth	8	93.27	●
3rd sub-pillar: SDG Contribution	14	86.79	
4.3.1 SDG 3: Good Health and Well-Being	20	91.09	
4.3.2 SDG 4: Quality Education	25	66.41	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	43	83.54	
4.3.5 SDG 11: Sustainable Cities and Communities	14	92.93	

NOTE: ● a strength and ○ a weakness.

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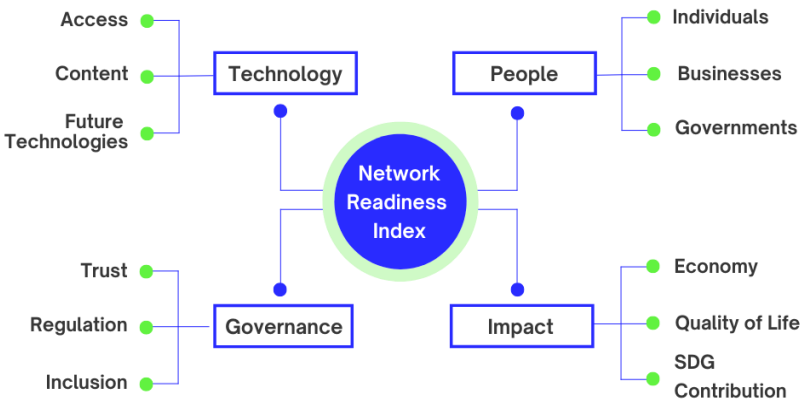
Network Readiness Index 2022 Gambia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

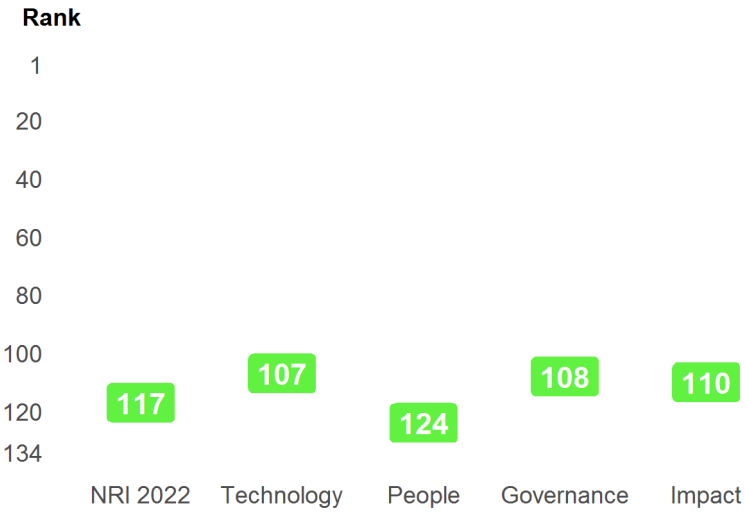
Figure 1: The NRI 2022 model



Global NRI position of Gambia

Gambia ranks 117th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Gambia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Gambia relate to Regulation, Future Technologies and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Governments and Inclusion sub-pillars.

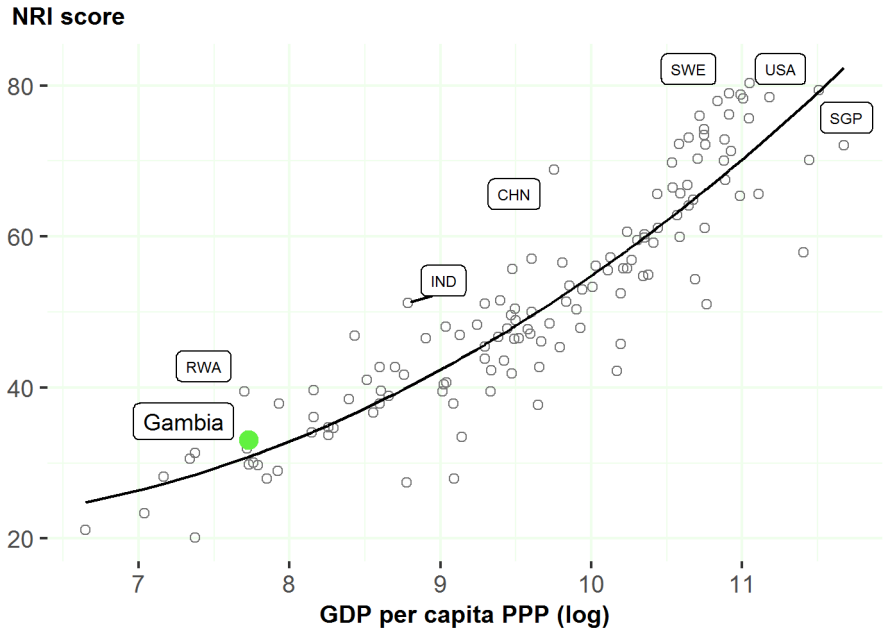
Table 1: Gambia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	49	Individuals	116
Future Technologies	53	Economy	116
Quality of Life	102	Businesses	124
SDG Contribution	106	Content	125
Access	112	Governments	129
Trust	113	Inclusion	129

NRI score and income

Figure 3 shows the position of Gambia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Gambia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Gambia belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Gambia is ranked 4th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, governance and impact. At the sub-pillar level, it outperforms low-income countries in seven of the twelve sub-pillars: Access, Future Technologies, Individuals, Trust, Regulation, Quality of Life and SDG Contribution.

Africa

Gambia is ranked 17th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: technology and impact. With regard to sub-pillars, it outperforms the average in Africa in four of the twelve sub-pillars: Future Technologies, Regulation, Quality of Life and SDG Contribution.

Figure 4: Performance of Gambia against its income group and region, overall and by pillar

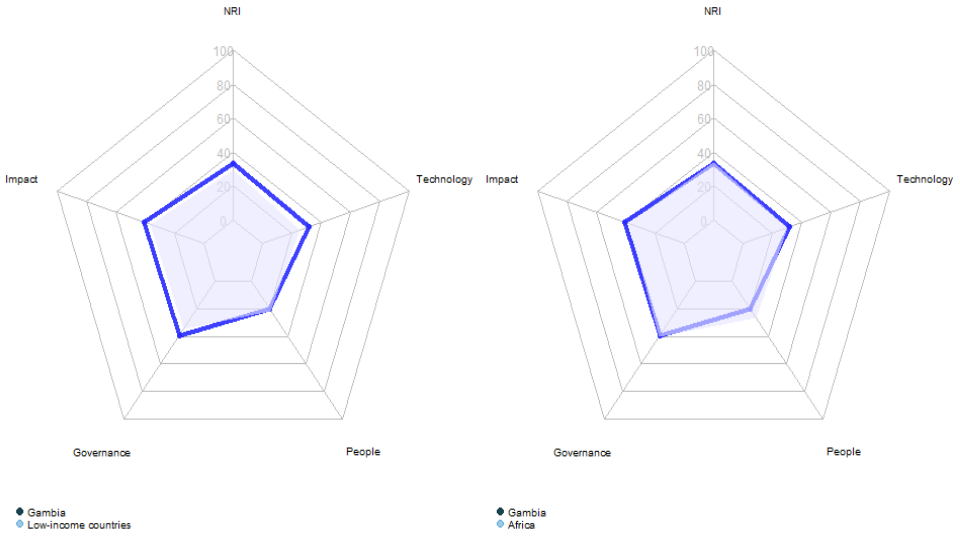


Table 2: Gambia scores vs. averages of its income group and region, overall and by pillar

Dimension	Gambia	Low-income countries	Africa
NRI	33.06	29.49	33.77
Technology	31.93	25.43	29.96
People	20.33	21.74	26.81
Governance	39.34	34.28	40.37
Impact	40.64	36.50	37.94

Strongest and weakest indicators

The indicators where Gambia performs particularly well include 3.2.4 E-commerce legislation, 3.2.5 Privacy protection by law content, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 2.3.1 Government online services, 3.3.1 E-Participation, and 4.1.4 Domestic market size.

Table 3: Strongest and weakest indicators of Gambia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.1.3 PCT patent applications	99
3.2.5 Privacy protection by law content	18	4.1.2 High-tech exports	122
4.3.4 SDG 7: Affordable and Clean Energy	34	2.1.4 Tertiary enrollment	126
4.2.3 Income inequality	60	1.1.2 Handset prices	128
4.1.6 ICT services exports	67	4.1.4 Domestic market size	129
4.1.5 Prevalence of gig economy	71	2.3.1 Government online services	130
2.1.2 ICT skills in the education system	72	3.3.1 E-Participation	130
1.3.2 Investment in emerging technologies	76		
2.3.3 Government promotion of investment in emerging technologies	86		
4.2.1 Happiness	89		

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NRI 2022 At-A-Glance: Gambia

Network Readiness Index Rank: 117 (out of 131) Score: 33.06

Pillar/sub-pillar	Rank	Score
A. Technology pillar	107	31.93
1st sub-pillar: Access	112	44.36
2nd sub-pillar: Content	125	15.51
3rd sub-pillar: Future Technologies	53	35.91
B. People pillar	124	20.33
1st sub-pillar: Individuals	116	23.56
2nd sub-pillar: Businesses	124	21.86
3rd sub-pillar: Governments	129	15.57

Pillar/sub-pillar	Rank	Score
C. Governance pillar	108	39.34
1st sub-pillar: Trust	113	22.08
2nd sub-pillar: Regulation	49	69.72
3rd sub-pillar: Inclusion	129	26.22
D. Impact pillar	110	40.64
1st sub-pillar: Economy	116	15.61
2nd sub-pillar: Quality of Life	102	53.82
3rd sub-pillar: SDG Contribution	106	52.49

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	107	31.93	
1st sub-pillar: Access	112	44.36	
1.1.1 Mobile tariffs	125	14.19	
1.1.2 Handset prices	128	17.05	○
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	106	95.74	
1.1.5 International Internet bandwidth	124	50.46	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	125	15.51	
1.2.1 GitHub commits	116	0.38	
1.2.2 Internet domain registrations	117	0.23	
1.2.3 Mobile apps development	116	51.59	
1.2.4 AI scientific publications	95	9.85	
3rd sub-pillar: Future Technologies	53	35.91	
1.3.1 Adoption of emerging technologies	94	35.57	
1.3.2 Investment in emerging technologies	76	36.25	•
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	108	39.34	
1st sub-pillar: Trust	113	22.08	
3.1.1 Secure Internet servers	117	26.87	
3.1.2 Cybersecurity	106	30.93	
3.1.3 Online access to financial account	113	8.45	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	49	69.72	
3.2.1 Regulatory quality	109	22.67	
3.2.2 ICT regulatory environment	93	70.20	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	18	86.02	•
3rd sub-pillar: Inclusion	129	26.22	
3.3.1 E-Participation	130	0.00	○
3.3.2 Socioeconomic gap in use of digital payments	110	41.16	
3.3.3 Availability of local online content	104	37.50	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	NA	NA	

Indicator	Rank	Score	
B. People pillar	124	20.33	
1st sub-pillar: Individuals	116	23.56	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	72	42.31	●
2.1.3 Use of virtual social networks	111	14.61	
2.1.4 Tertiary enrollment	126	0.68	○
2.1.5 Adult literacy rate	101	36.65	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	124	21.86	
2.2.1 Firms with website	110	14.90	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	108	12.88	
2.2.4 Annual investment in telecommunication services	110	59.64	
2.2.5 GERD performed by business enterprise	93	0.02	
3rd sub-pillar: Governments	129	15.57	
2.3.1 Government online services	130	0.00	○
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	86	31.15	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	110	40.64	
1st sub-pillar: Economy	116	15.61	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	122	0.00	○
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	129	11.26	○
4.1.5 Prevalence of gig economy	71	37.50	●
4.1.6 ICT services exports	67	29.27	●
2nd sub-pillar: Quality of Life	102	53.82	
4.2.1 Happiness	89	53.15	●
4.2.2 Freedom to make life choices	109	51.15	
4.2.3 Income inequality	60	68.09	●
4.2.4 Healthy life expectancy at birth	110	42.87	
3rd sub-pillar: SDG Contribution	106	52.49	
4.3.1 SDG 3: Good Health and Well-Being	113	32.03	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	107	57.02	
4.3.4 SDG 7: Affordable and Clean Energy	34	86.22	●
4.3.5 SDG 11: Sustainable Cities and Communities	115	34.70	

NOTE: ● a strength and ○ a weakness.

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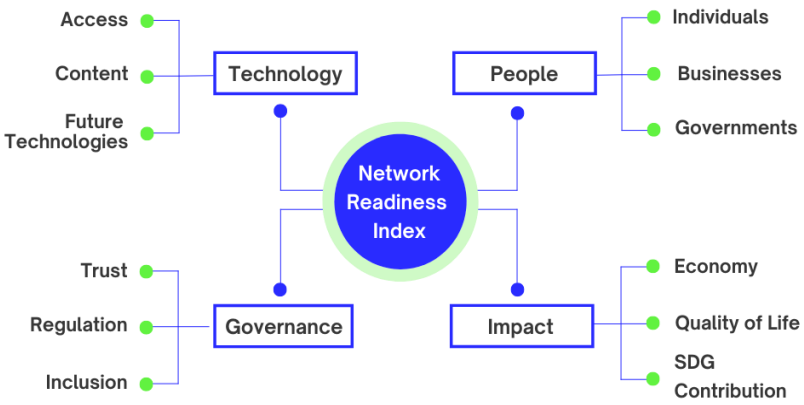
Network Readiness Index 2022 Georgia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

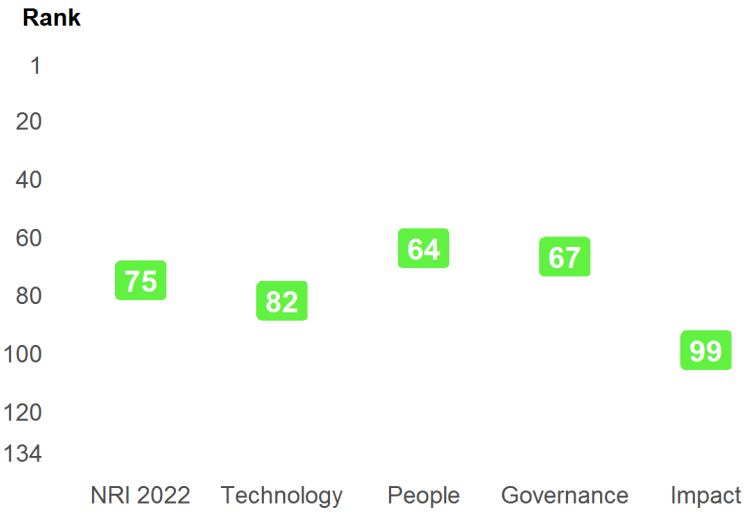
Figure 1: The NRI 2022 model



Global NRI position of Georgia

Georgia ranks 75th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Georgia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Georgia relate to Individuals, Access and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, SDG Contribution and Future Technologies sub-pillars.

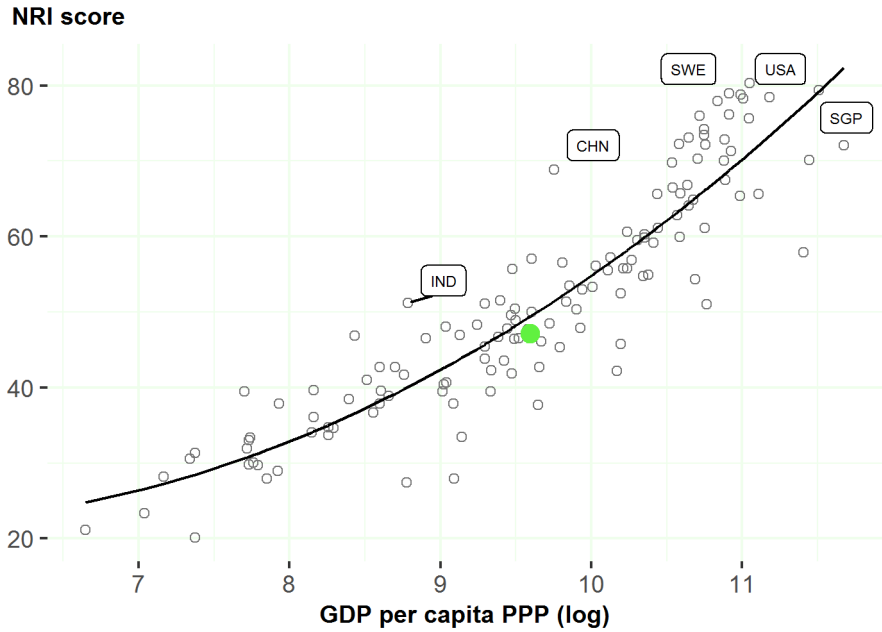
Table 1: Georgia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	28	Regulation	76
Access	48	Governments	78
Trust	68	Quality of Life	81
Businesses	69	Economy	100
Inclusion	71	SDG Contribution	101
Content	73	Future Technologies	114

NRI score and income

Figure 3 shows the position of Georgia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Georgia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Georgia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

Upper-middle-income countries

Georgia is ranked 22nd in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: people. At the sub-pillar level, it outperforms upper-middle-income countries in three of the twelve sub-pillars: Access, Individuals and Trust.

Europe

Georgia is ranked 39th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in one of the twelve sub-pillars: Individuals.

Figure 4: Performance of Georgia against its income group and region, overall and by pillar

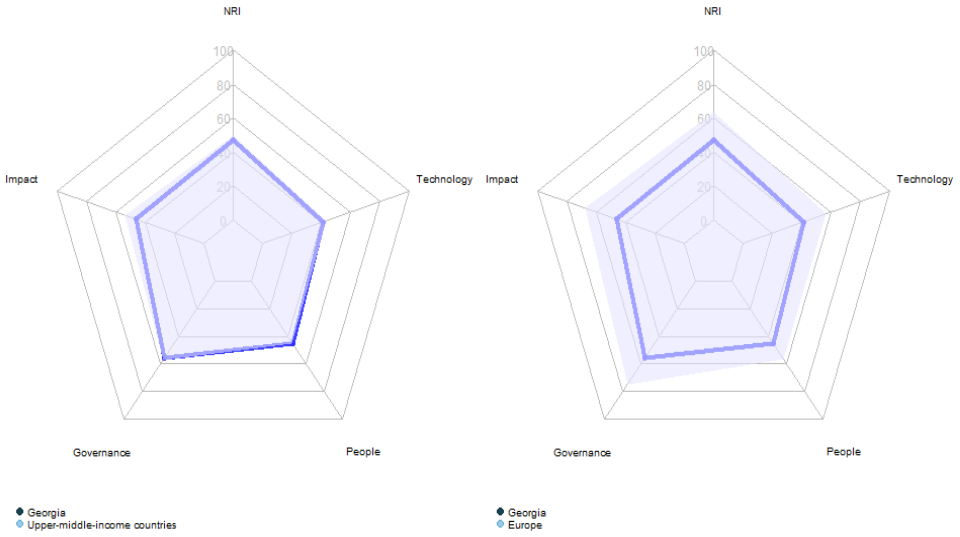


Table 2: Georgia scores vs. averages of its income group and region, overall and by pillar

Dimension	Georgia	Upper-middle-income countries	Europe
NRI	47.14	49.66	63.72
Technology	40.94	43.11	56.43
People	45.29	44.94	56.35
Governance	56.02	57.08	74.79
Impact	46.30	53.50	67.30

Strongest and weakest indicators

The indicators where Georgia performs particularly well include 1.1.6 Internet access in schools, 2.1.5 Adult literacy rate, and 1.1.4 Population covered by at least a 3G mobile network (Table 3). By contrast, the economy's weakest indicators include 4.3.5 SDG 11: Sustainable Cities and Communities, 3.2.4 E-commerce legislation, and 2.2.2 GERD financed by business enterprise.

Table 3: Strongest and weakest indicators of Georgia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	4.3.2 SDG 4: Quality Education	69
2.1.5 Adult literacy rate	12	4.1.1 High-tech and medium-high-tech manufacturing	83
1.1.4 Population covered by at least a 3G mobile network	24	2.2.2 GERD financed by business enterprise	92
2.1.3 Use of virtual social networks	26	3.2.4 E-commerce legislation	118
3.2.2 ICT regulatory environment	27	4.3.5 SDG 11: Sustainable Cities and Communities	126
3.2.1 Regulatory quality	28		
1.1.3 FTTH/building Internet subscriptions	29		
2.1.4 Tertiary enrollment	40		
4.1.3 PCT patent applications	41		
2.1.2 ICT skills in the education system	49		

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NRI 2022 At-A-Glance: Georgia

Network Readiness Index Rank: 75 (out of 131) Score: 47.14

Pillar/sub-pillar	Rank	Score
A. Technology pillar	82	40.94
1st sub-pillar: Access	48	70.04
2nd sub-pillar: Content	73	34.34
3rd sub-pillar: Future Technologies	114	18.44
B. People pillar	64	45.29
1st sub-pillar: Individuals	28	56.16
2nd sub-pillar: Businesses	69	40.18
3rd sub-pillar: Governments	78	39.54

Pillar/sub-pillar	Rank	Score
C. Governance pillar	67	56.02
1st sub-pillar: Trust	68	44.75
2nd sub-pillar: Regulation	76	61.06
3rd sub-pillar: Inclusion	71	62.26
D. Impact pillar	99	46.30
1st sub-pillar: Economy	100	21.06
2nd sub-pillar: Quality of Life	81	64.22
3rd sub-pillar: SDG Contribution	101	53.61

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	82	40.94	
1st sub-pillar: Access	48	70.04	
1.1.1 Mobile tariffs	57	66.22	
1.1.2 Handset prices	86	44.01	
1.1.3 FTTH/building Internet subscriptions	29	39.62	•
1.1.4 Population covered by at least a 3G mobile network	24	99.99	•
1.1.5 International Internet bandwidth	67	70.38	
1.1.6 Internet access in schools	1	100.00	•
2nd sub-pillar: Content	73	34.34	
1.2.1 GitHub commits	54	8.21	
1.2.2 Internet domain registrations	60	4.96	
1.2.3 Mobile apps development	55	82.20	
1.2.4 AI scientific publications	64	41.98	
3rd sub-pillar: Future Technologies	114	18.44	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	97	30.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	93	6.89	

Indicator	Rank	Score	
C. Governance pillar	67	56.02	
1st sub-pillar: Trust	68	44.75	
3.1.1 Secure Internet servers	50	65.11	
3.1.2 Cybersecurity	63	80.73	
3.1.3 Online access to financial account	93	15.90	
3.1.4 Internet shopping	70	17.26	
2nd sub-pillar: Regulation	76	61.06	
3.2.1 Regulatory quality	28	70.67	•
3.2.2 ICT regulatory environment	27	92.35	•
3.2.3 Regulation of emerging technologies	58	45.79	
3.2.4 E-commerce legislation	118	33.33	○
3.2.5 Privacy protection by law content	69	63.16	
3rd sub-pillar: Inclusion	71	62.26	
3.3.1 E-Participation	78	62.97	
3.3.2 Socioeconomic gap in use of digital payments	64	73.20	
3.3.3 Availability of local online content	81	51.68	
3.3.4 Gender gap in Internet use	51	70.48	
3.3.5 Rural gap in use of digital payments	86	52.98	

Indicator	Rank	Score	
B. People pillar	64	45.29	
1st sub-pillar: Individuals	28	56.16	
2.1.1 Mobile broadband internet traffic within the country	80	4.95	
2.1.2 ICT skills in the education system	49	53.25	●
2.1.3 Use of virtual social networks	26	78.87	●
2.1.4 Tertiary enrollment	40	44.25	●
2.1.5 Adult literacy rate	12	99.46	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	69	40.18	
2.2.1 Firms with website	66	48.18	
2.2.2 GERD financed by business enterprise	92	2.06	○
2.2.3 Knowledge intensive employment	59	36.54	
2.2.4 Annual investment in telecommunication services	80	73.95	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	78	39.54	
2.3.1 Government online services	85	57.57	
2.3.2 Publication and use of open data	45	36.76	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	66	24.29	

Indicator	Rank	Score	
D. Impact pillar	99	46.30	
1st sub-pillar: Economy	100	21.06	
4.1.1 High-tech and medium-high-tech manufacturing	83	12.19	○
4.1.2 High-tech exports	74	16.26	
4.1.3 PCT patent applications	41	10.54	●
4.1.4 Domestic market size	97	39.91	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	74	26.41	
2nd sub-pillar: Quality of Life	81	64.22	
4.2.1 Happiness	94	48.66	
4.2.2 Freedom to make life choices	78	68.16	
4.2.3 Income inequality	48	71.61	
4.2.4 Healthy life expectancy at birth	78	68.46	
3rd sub-pillar: SDG Contribution	101	53.61	
4.3.1 SDG 3: Good Health and Well-Being	86	60.44	
4.3.2 SDG 4: Quality Education	69	24.30	○
4.3.3 SDG 5: Women's economic opportunity	53	79.82	
4.3.4 SDG 7: Affordable and Clean Energy	68	79.03	
4.3.5 SDG 11: Sustainable Cities and Communities	126	24.47	○

NOTE: ● a strength and ○ a weakness.

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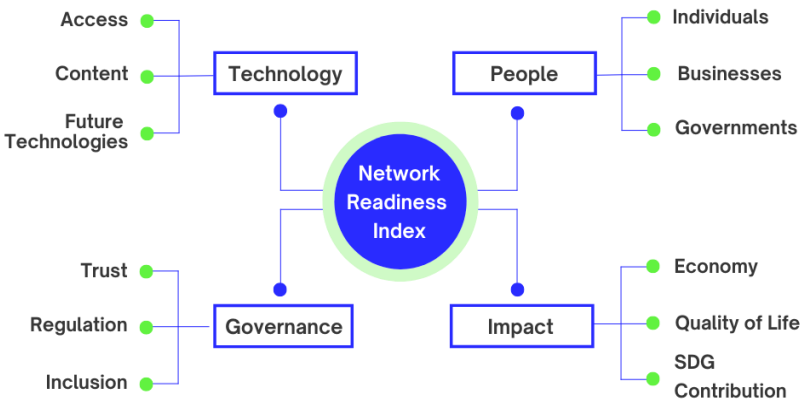
Network Readiness Index 2022 Germany

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

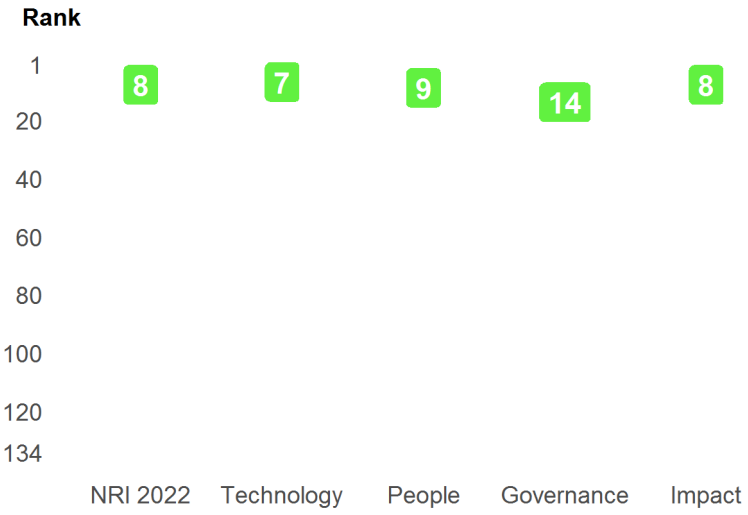
Figure 1: The NRI 2022 model



Global NRI position of Germany

Germany ranks 8th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Germany global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Germany relate to Future Technologies, Businesses and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Quality of Life and Individuals sub-pillars.

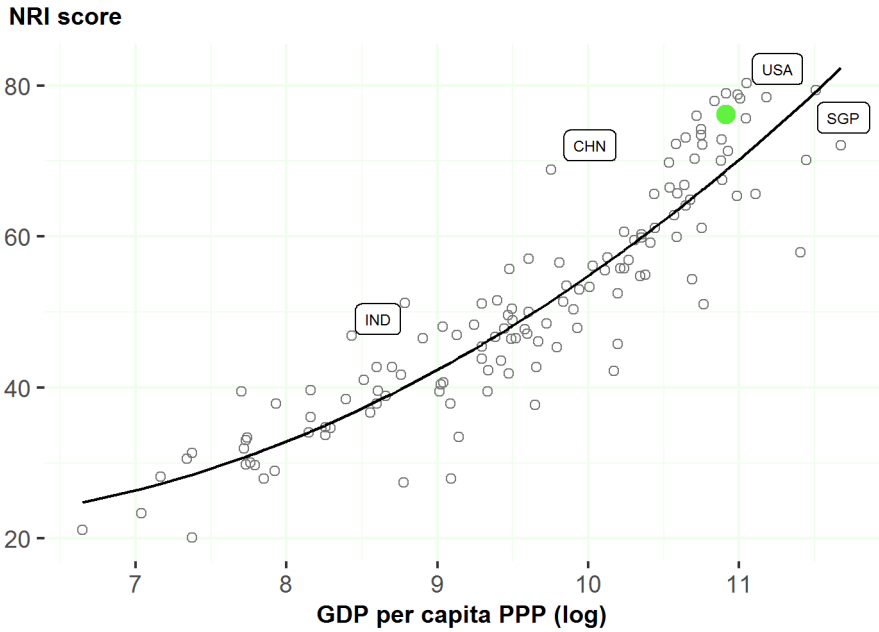
Table 1: Germany rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	5	Trust	13
Businesses	7	SDG Contribution	13
Economy	8	Access	17
Governments	11	Inclusion	24
Regulation	11	Quality of Life	30
Content	12	Individuals	37

NRI score and income

Figure 3 shows the position of Germany in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Germany is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Germany belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Germany is ranked 8th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Europe

Germany is ranked 6th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Germany against its income group and region, overall and by pillar

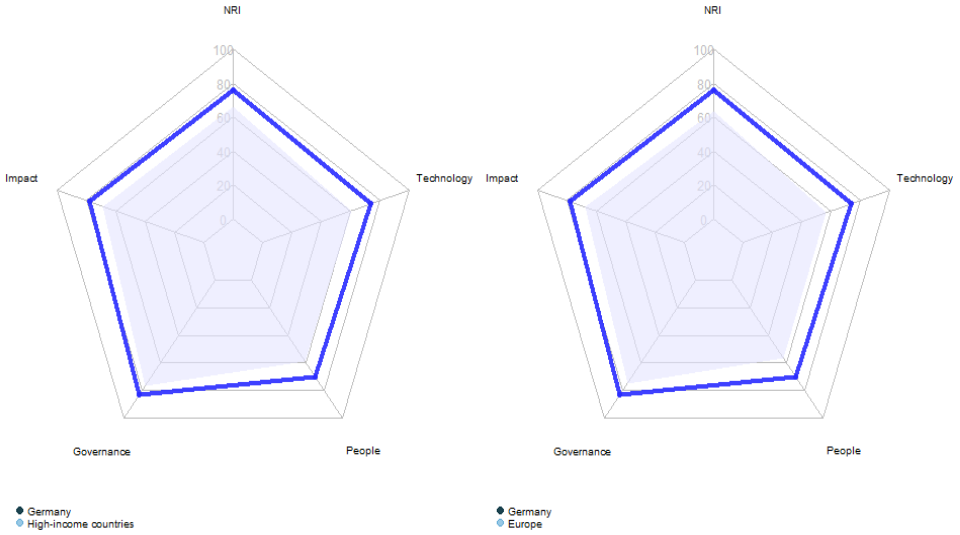


Table 2: Germany scores vs. averages of its income group and region, overall and by pillar

Dimension	Germany	High-income countries	Europe
NRI	76.11	66.21	63.72
Technology	73.49	60.28	56.43
People	69.93	58.83	56.35
Governance	83.28	76.89	74.79
Impact	77.73	68.86	67.30

Strongest and weakest indicators

The indicators where Germany performs particularly well include 3.2.4 E-commerce legislation, 1.1.1 Mobile tariffs, and 3.3.2 Socioeconomic gap in use of digital payments (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 2.1.2 ICT skills in the education system, and 3.3.1 E-Participation.

Table 3: Strongest and weakest indicators of Germany

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	49
1.1.1 Mobile tariffs	2	3.3.1 E-Participation	56
3.3.2 Socioeconomic gap in use of digital payments	2	2.1.2 ICT skills in the education system	64
2.3.4 R&D expenditure by governments and higher education	3	4.2.2 Freedom to make life choices	76
1.3.3 Robot density	4		
2.2.4 Annual investment in telecommunication services	5		
4.1.4 Domestic market size	5		
1.2.2 Internet domain registrations	7		
1.3.2 Investment in emerging technologies	7		
3.1.1 Secure Internet servers	7		
4.1.1 High-tech and medium-high-tech manufacturing	7		

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NRI 2022 At-A-Glance: Germany

Network Readiness Index — Rank: 8 (out of 131) — Score: 76.11

Pillar/sub-pillar	Rank	Score
A. Technology pillar	7	73.49
1st sub-pillar: Access	17	77.49
2nd sub-pillar: Content	12	73.88
3rd sub-pillar: Future Technologies	5	69.11
B. People pillar	9	69.93
1st sub-pillar: Individuals	37	54.23
2nd sub-pillar: Businesses	7	77.98
3rd sub-pillar: Governments	11	77.59

Pillar/sub-pillar	Rank	Score
C. Governance pillar	14	83.28
1st sub-pillar: Trust	13	82.27
2nd sub-pillar: Regulation	11	86.74
3rd sub-pillar: Inclusion	24	80.84
D. Impact pillar	8	77.73
1st sub-pillar: Economy	8	66.77
2nd sub-pillar: Quality of Life	30	79.45
3rd sub-pillar: SDG Contribution	13	86.98

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	7	73.49	
1st sub-pillar: Access	17	77.49	
1.1.1 Mobile tariffs	2	96.87	●
1.1.2 Handset prices	25	73.90	
1.1.3 FTTH/building Internet subscriptions	39	35.79	
1.1.4 Population covered by at least a 3G mobile network	39	99.95	
1.1.5 International Internet bandwidth	19	80.95	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	12	73.88	
1.2.1 GitHub commits	17	53.38	
1.2.2 Internet domain registrations	7	70.64	●
1.2.3 Mobile apps development	13	97.62	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	5	69.11	
1.3.1 Adoption of emerging technologies	9	85.48	
1.3.2 Investment in emerging technologies	7	86.75	●
1.3.3 Robot density	4	59.18	●
1.3.4 Computer software spending	18	45.02	
B. People pillar	9	69.93	

Indicator	Rank	Score	
C. Governance pillar	14	83.28	
1st sub-pillar: Trust	13	82.27	
3.1.1 Secure Internet servers	7	91.67	●
3.1.2 Cybersecurity	18	97.36	
3.1.3 Online access to financial account	14	71.20	
3.1.4 Internet shopping	21	68.85	
2nd sub-pillar: Regulation	11	86.74	
3.2.1 Regulatory quality	13	83.20	
3.2.2 ICT regulatory environment	20	93.53	
3.2.3 Regulation of emerging technologies	21	74.21	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	26	82.77	
3rd sub-pillar: Inclusion	24	80.84	
3.3.1 E-Participation	56	74.07	○
3.3.2 Socioeconomic gap in use of digital payments	2	99.90	●
3.3.3 Availability of local online content	26	84.38	
3.3.4 Gender gap in Internet use	49	70.63	○
3.3.5 Rural gap in use of digital payments	27	75.20	
D. Impact pillar	8	77.73	

Indicator	Rank	Score	
1st sub-pillar: Individuals	37	54.23	
2.1.1 Mobile broadband internet traffic within the country	21	34.44	
2.1.2 ICT skills in the education system	64	46.75	○
2.1.3 Use of virtual social networks	19	81.01	
2.1.4 Tertiary enrollment	28	48.91	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	5	60.04	
2nd sub-pillar: Businesses	7	77.98	
2.2.1 Firms with website	8	92.28	
2.2.2 GERD financed by business enterprise	8	79.78	
2.2.3 Knowledge intensive employment	21	70.85	
2.2.4 Annual investment in telecommunication services	5	91.61	●
2.2.5 GERD performed by business enterprise	9	55.40	
3rd sub-pillar: Governments	11	77.59	
2.3.1 Government online services	58	72.73	
2.3.2 Publication and use of open data	11	73.53	
2.3.3 Government promotion of investment in emerging tech	14	73.41	
2.3.4 R&D expenditure by governments and higher education	3	90.68	●

Indicator	Rank	Score	
1st sub-pillar: Economy	8	66.77	
4.1.1 High-tech and medium-high-tech manufacturing	7	75.40	●
4.1.2 High-tech exports	14	65.52	
4.1.3 PCT patent applications	10	65.31	
4.1.4 Domestic market size	5	83.13	●
4.1.5 Prevalence of gig economy	12	78.20	
4.1.6 ICT services exports	55	33.08	
2nd sub-pillar: Quality of Life	30	79.45	
4.2.1 Happiness	21	81.48	
4.2.2 Freedom to make life choices	76	68.39	○
4.2.3 Income inequality	31	78.64	
4.2.4 Healthy life expectancy at birth	23	89.27	
3rd sub-pillar: SDG Contribution	13	86.98	
4.3.1 SDG 3: Good Health and Well-Being	11	94.24	
4.3.2 SDG 4: Quality Education	18	69.07	
4.3.3 SDG 5: Women's economic opportunity	11	96.49	
4.3.4 SDG 7: Affordable and Clean Energy	28	87.97	
4.3.5 SDG 11: Sustainable Cities and Communities	26	87.12	

NOTE: ● a strength and ○ a weakness.

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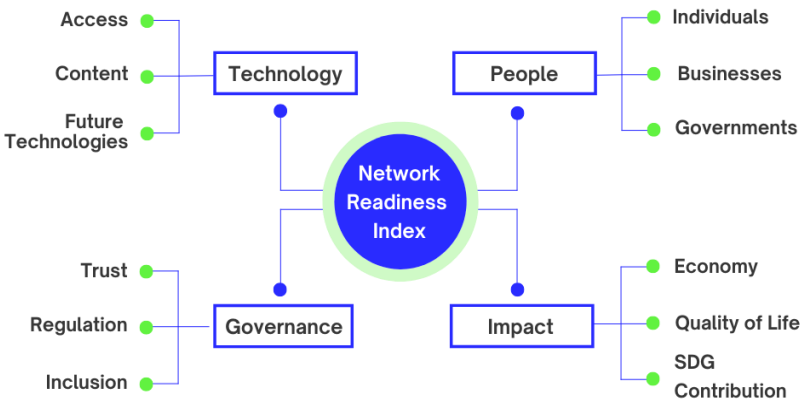
Network Readiness Index 2022 Ghana

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

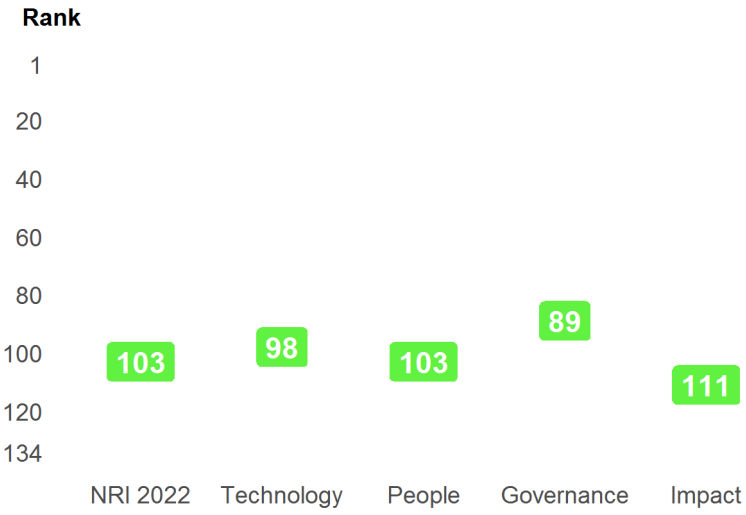
Figure 1: The NRI 2022 model



Global NRI position of Ghana

Ghana ranks 103rd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Ghana global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Ghana relate to Regulation, Trust and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Inclusion and Businesses sub-pillars.

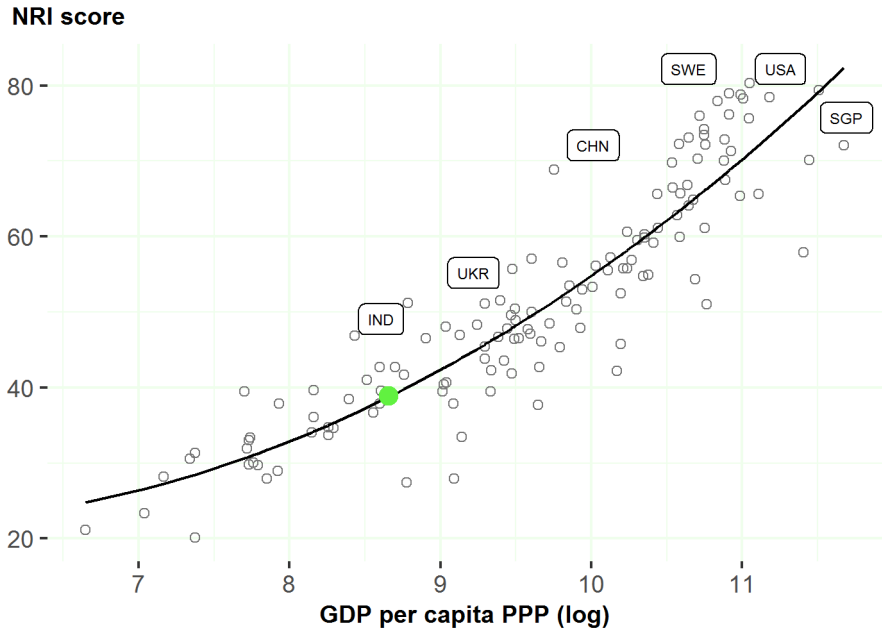
Table 1: Ghana rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	55	Economy	103
Trust	76	Individuals	106
Governments	84	Access	108
Future Technologies	88	Quality of Life	111
Content	91	Inclusion	115
SDG Contribution	96	Businesses	118

NRI score and income

Figure 3 shows the position of Ghana in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Ghana is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Ghana belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Ghana is ranked 24th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: governance. At the sub-pillar level, it outperforms lower-middle-income countries in four of the twelve sub-pillars: Content, Governments, Trust and Regulation.

Africa

Ghana is ranked 8th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in nine of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Quality of Life and SDG Contribution.

Figure 4: Performance of Ghana against its income group and region, overall and by pillar

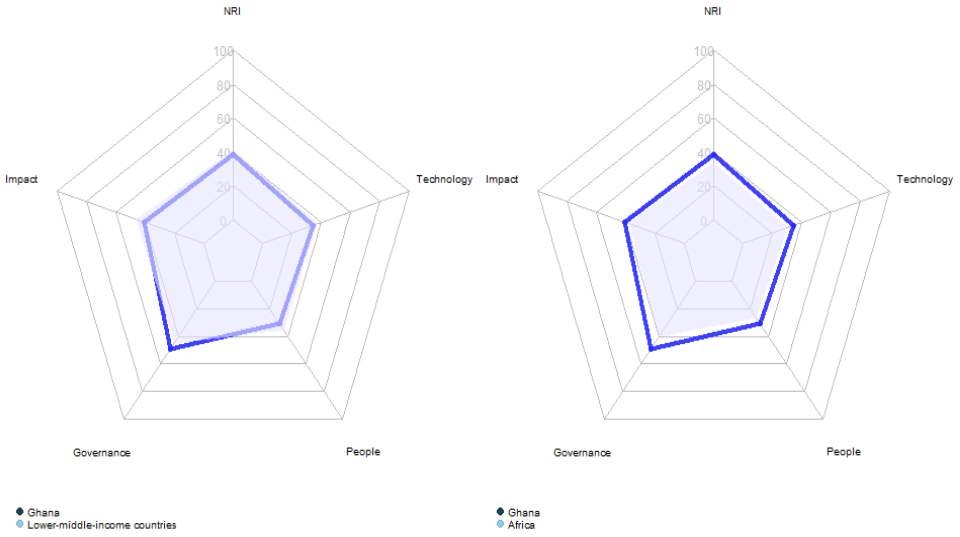


Table 2: Ghana scores vs. averages of its income group and region, overall and by pillar

Dimension	Ghana	Lower-middle-income countries	Africa
NRI	38.89	40.94	33.77
Technology	34.65	37.28	29.96
People	30.83	35.42	26.81
Governance	49.54	45.00	40.37
Impact	40.53	46.09	37.94

Strongest and weakest indicators

The indicators where Ghana performs particularly well include 3.2.4 E-commerce legislation, 3.2.5 Privacy protection by law content, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 1.3.4 Computer software spending, 1.1.3 FTTH/building Internet subscriptions, 2.2.2 GERD financed by business enterprise, and 3.3.4 Gender gap in Internet use.

Table 3: Strongest and weakest indicators of Ghana

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.5 GERD performed by business enterprise	95
3.2.5 Privacy protection by law content	14	2.2.2 GERD financed by business enterprise	103
4.3.4 SDG 7: Affordable and Clean Energy	31	3.3.4 Gender gap in Internet use	103
1.2.4 AI scientific publications	41	1.1.3 FTTH/building Internet subscriptions	105
1.3.2 Investment in emerging technologies	44	1.3.4 Computer software spending	119
2.1.1 Mobile broadband internet traffic within the country	51		
3.1.2 Cybersecurity	51		
1.1.5 International Internet bandwidth	54		
2.3.4 R&D expenditure by governments and higher education	55		
3.1.3 Online access to financial account	57		
1.1.1 Mobile tariffs	62		

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NRI 2022 At-A-Glance: Ghana

Network Readiness Index Rank: 103 (out of 131) Score: 38.89

Pillar/sub-pillar	Rank	Score
A. Technology pillar	98	34.65
1st sub-pillar: Access	108	47.00
2nd sub-pillar: Content	91	29.58
3rd sub-pillar: Future Technologies	88	27.36
B. People pillar	103	30.83
1st sub-pillar: Individuals	106	32.34
2nd sub-pillar: Businesses	118	23.28
3rd sub-pillar: Governments	84	36.89

Pillar/sub-pillar	Rank	Score
C. Governance pillar	89	49.54
1st sub-pillar: Trust	76	40.31
2nd sub-pillar: Regulation	55	67.38
3rd sub-pillar: Inclusion	115	40.93
D. Impact pillar	111	40.53
1st sub-pillar: Economy	103	18.50
2nd sub-pillar: Quality of Life	111	48.60
3rd sub-pillar: SDG Contribution	96	54.48

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	98	34.65	
1st sub-pillar: Access	108	47.00	
1.1.1 Mobile tariffs	62	61.71	●
1.1.2 Handset prices	94	40.87	
1.1.3 FTTH/building Internet subscriptions	105	0.00	○
1.1.4 Population covered by at least a 3G mobile network	84	98.61	
1.1.5 International Internet bandwidth	54	72.43	●
1.1.6 Internet access in schools	70	8.41	
2nd sub-pillar: Content	91	29.58	
1.2.1 GitHub commits	102	1.40	
1.2.2 Internet domain registrations	107	0.42	
1.2.3 Mobile apps development	110	57.60	
1.2.4 AI scientific publications	41	58.90	●
3rd sub-pillar: Future Technologies	88	27.36	
1.3.1 Adoption of emerging technologies	97	32.17	
1.3.2 Investment in emerging technologies	44	49.25	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	119	0.68	○

Indicator	Rank	Score	
C. Governance pillar	89	49.54	
1st sub-pillar: Trust	76	40.31	
3.1.1 Secure Internet servers	109	32.54	
3.1.2 Cybersecurity	51	86.46	●
3.1.3 Online access to financial account	57	32.31	●
3.1.4 Internet shopping	82	9.92	
2nd sub-pillar: Regulation	55	67.38	
3.2.1 Regulatory quality	72	41.07	
3.2.2 ICT regulatory environment	76	76.47	
3.2.3 Regulation of emerging technologies	83	31.84	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	14	87.53	●
3rd sub-pillar: Inclusion	115	40.93	
3.3.1 E-Participation	80	61.73	
3.3.2 Socioeconomic gap in use of digital payments	76	64.96	
3.3.3 Availability of local online content	104	37.50	
3.3.4 Gender gap in Internet use	103	0.66	○
3.3.5 Rural gap in use of digital payments	103	39.78	

Indicator	Rank	Score	
B. People pillar	103	30.83	
1st sub-pillar: Individuals	106	32.34	
2.1.1 Mobile broadband internet traffic within the country	51	12.80	●
2.1.2 ICT skills in the education system	75	40.83	
2.1.3 Use of virtual social networks	106	23.47	
2.1.4 Tertiary enrollment	97	11.56	
2.1.5 Adult literacy rate	79	73.04	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	118	23.28	
2.2.1 Firms with website	98	27.38	
2.2.2 GERD financed by business enterprise	103	0.07	○
2.2.3 Knowledge intensive employment	110	11.85	
2.2.4 Annual investment in telecommunication services	62	77.08	
2.2.5 GERD performed by business enterprise	95	0.01	○
3rd sub-pillar: Governments	84	36.89	
2.3.1 Government online services	78	62.43	
2.3.2 Publication and use of open data	65	25.00	
2.3.3 Government promotion of investment in emerging tech	98	26.73	
2.3.4 R&D expenditure by governments and higher education	55	33.39	●

Indicator	Rank	Score	
D. Impact pillar	111	40.53	
1st sub-pillar: Economy	103	18.50	
4.1.1 High-tech and medium-high-tech manufacturing	82	12.21	
4.1.2 High-tech exports	118	0.88	
4.1.3 PCT patent applications	94	0.21	
4.1.4 Domestic market size	66	51.45	
4.1.5 Prevalence of gig economy	75	36.63	
4.1.6 ICT services exports	106	9.63	
2nd sub-pillar: Quality of Life	111	48.60	
4.2.1 Happiness	107	39.16	
4.2.2 Freedom to make life choices	93	60.24	
4.2.3 Income inequality	93	48.99	
4.2.4 Healthy life expectancy at birth	106	46.02	
3rd sub-pillar: SDG Contribution	96	54.48	
4.3.1 SDG 3: Good Health and Well-Being	117	27.64	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	95	64.91	
4.3.4 SDG 7: Affordable and Clean Energy	31	87.22	●
4.3.5 SDG 11: Sustainable Cities and Communities	111	38.13	

NOTE: ● a strength and ○ a weakness.

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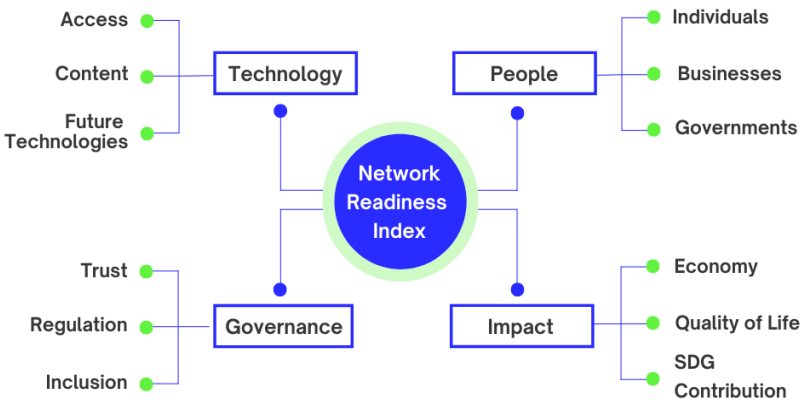
Network Readiness Index 2022 Greece

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

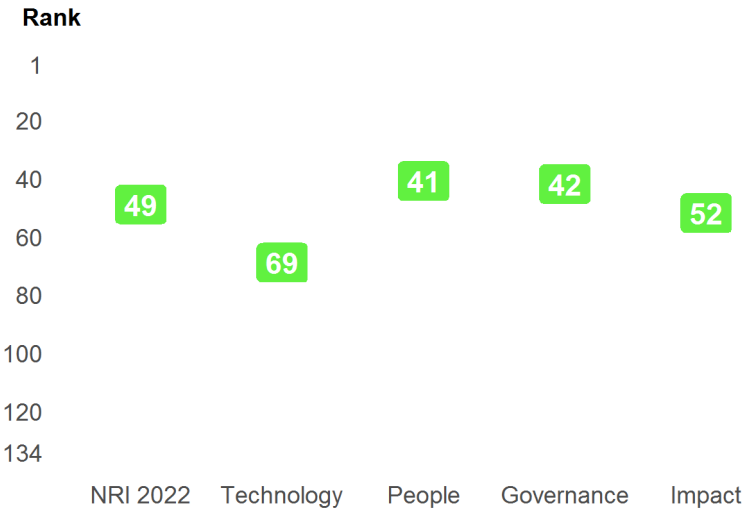
Figure 1: The NRI 2022 model



Global NRI position of Greece

Greece ranks 49th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Greece global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Greece relate to Individuals, SDG Contribution and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Economy and Access sub-pillars.

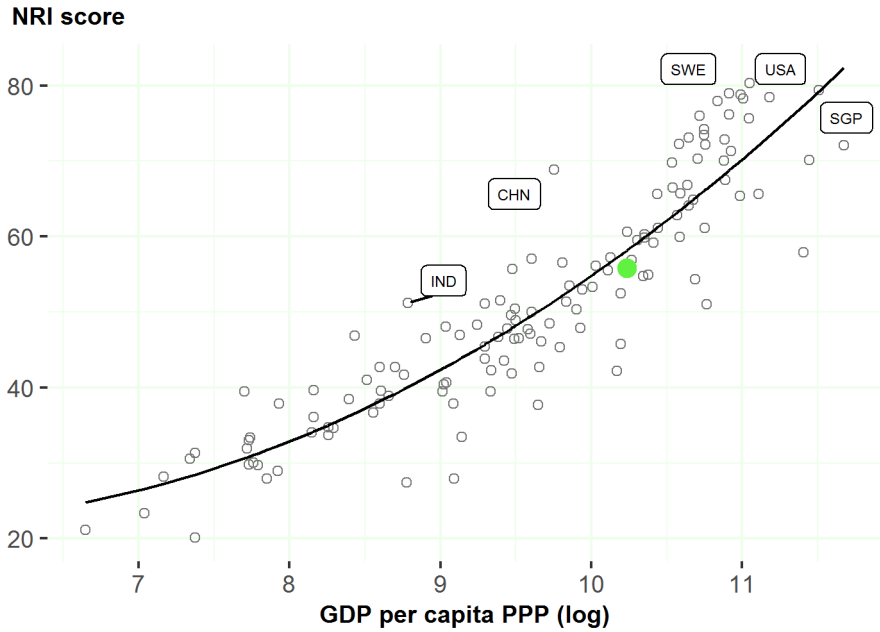
Table 1: Greece rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	20	Inclusion	54
SDG Contribution	35	Governments	62
Trust	42	Quality of Life	70
Regulation	42	Future Technologies	73
Businesses	45	Economy	73
Content	48	Access	77

NRI score and income

Figure 3 shows the position of Greece in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Greece is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Greece belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Greece is ranked 43rd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in one of the twelve sub-pillars: Individuals.

Europe

Greece is ranked 31st within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in one of the twelve sub-pillars: Individuals.

Figure 4: Performance of Greece against its income group and region, overall and by pillar

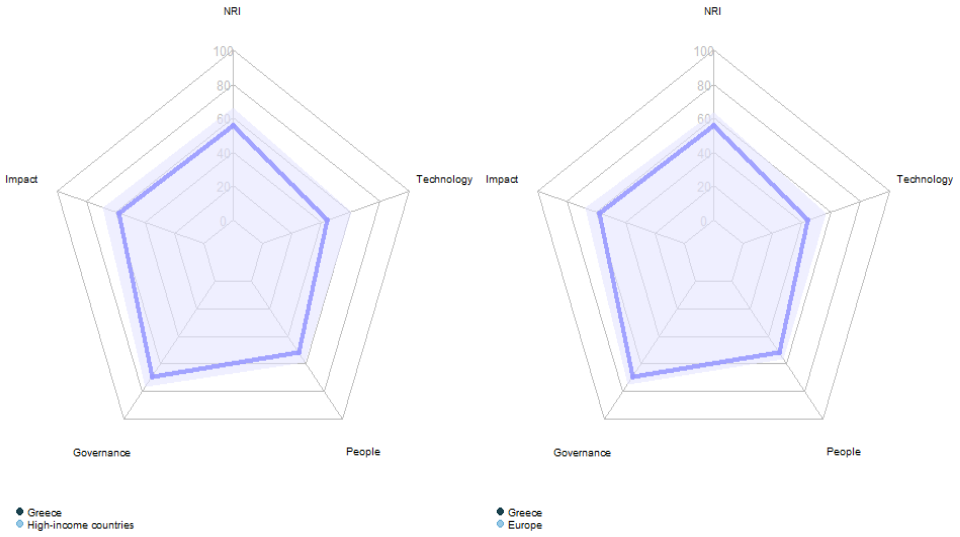


Table 2: Greece scores vs. averages of its income group and region, overall and by pillar

Dimension	Greece	High-income countries	Europe
NRI	55.74	66.21	63.72
Technology	44.11	60.28	56.43
People	51.94	58.83	56.35
Governance	69.15	76.89	74.79
Impact	57.76	68.86	67.30

Strongest and weakest indicators

The indicators where Greece performs particularly well include 2.1.4 Tertiary enrollment, 3.2.4 E-commerce legislation, and 1.3.4 Computer software spending (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 1.3.2 Investment in emerging technologies, and 2.3.3 Government promotion of investment in emerging technologies.

Table 3: Strongest and weakest indicators of Greece

Strongest indicators	Rank	Weakest indicators	Rank
2.1.4 Tertiary enrollment	1	1.1.3 FTTH/building Internet subscriptions	102
3.2.4 E-commerce legislation	1	4.1.5 Prevalence of gig economy	105
1.3.4 Computer software spending	7	2.3.3 Government promotion of investment in emerging technologies	108
2.1.6 AI talent concentration	7	1.3.2 Investment in emerging technologies	111
4.3.3 SDG 5: Women's economic opportunity	11	4.2.2 Freedom to make life choices	121
3.1.4 Internet shopping	20		
4.2.4 Healthy life expectancy at birth	24		
2.3.4 R&D expenditure by governments and higher education	25		
4.3.4 SDG 7: Affordable and Clean Energy	32		
1.1.5 International Internet bandwidth	35		
3.2.2 ICT regulatory environment	35		

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NRI 2022 At-A-Glance: Greece

Network Readiness Index — Rank: 49 (out of 131) — Score: 55.74

Pillar/sub-pillar	Rank	Score
A. Technology pillar	69	44.11
1st sub-pillar: Access	77	60.50
2nd sub-pillar: Content	48	41.82
3rd sub-pillar: Future Technologies	73	30.01
B. People pillar	41	51.94
1st sub-pillar: Individuals	20	58.32
2nd sub-pillar: Businesses	45	51.71
3rd sub-pillar: Governments	62	45.79

Pillar/sub-pillar	Rank	Score
C. Governance pillar	42	69.15
1st sub-pillar: Trust	42	65.13
2nd sub-pillar: Regulation	42	71.80
3rd sub-pillar: Inclusion	54	70.53
D. Impact pillar	52	57.76
1st sub-pillar: Economy	73	29.42
2nd sub-pillar: Quality of Life	70	67.00
3rd sub-pillar: SDG Contribution	35	76.87

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	69	44.11	
1st sub-pillar: Access	77	60.50	
1.1.1 Mobile tariffs	71	54.95	
1.1.2 Handset prices	41	68.49	
1.1.3 FTTH/building Internet subscriptions	102	2.45	○
1.1.4 Population covered by at least a 3G mobile network	44	99.90	
1.1.5 International Internet bandwidth	35	76.70	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	48	41.82	
1.2.1 GitHub commits	38	20.23	
1.2.2 Internet domain registrations	38	17.04	
1.2.3 Mobile apps development	37	88.18	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	73	30.01	
1.3.1 Adoption of emerging technologies	85	38.50	
1.3.2 Investment in emerging technologies	111	23.50	○
1.3.3 Robot density	42	2.85	
1.3.4 Computer software spending	7	55.21	●

Indicator	Rank	Score	
C. Governance pillar	42	69.15	
1st sub-pillar: Trust	42	65.13	
3.1.1 Secure Internet servers	44	72.57	
3.1.2 Cybersecurity	35	93.87	
3.1.3 Online access to financial account	74	23.33	
3.1.4 Internet shopping	20	70.73	●
2nd sub-pillar: Regulation	42	71.80	
3.2.1 Regulatory quality	43	55.73	
3.2.2 ICT regulatory environment	35	89.80	●
3.2.3 Regulation of emerging technologies	66	42.89	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	55	70.56	
3rd sub-pillar: Inclusion	54	70.53	
3.3.1 E-Participation	49	77.78	
3.3.2 Socioeconomic gap in use of digital payments	43	86.52	
3.3.3 Availability of local online content	63	61.30	
3.3.4 Gender gap in Internet use	77	63.32	
3.3.5 Rural gap in use of digital payments	65	63.76	

Indicator	Rank	Score	
B. People pillar	41	51.94	
1st sub-pillar: Individuals	20	58.32	
2.1.1 Mobile broadband internet traffic within the country	58	8.82	
2.1.2 ICT skills in the education system	85	37.57	
2.1.3 Use of virtual social networks	67	66.41	
2.1.4 Tertiary enrollment	1	100.00	●
2.1.5 Adult literacy rate	29	97.38	
2.1.6 AI talent concentration	7	39.77	●
2nd sub-pillar: Businesses	45	51.71	
2.2.1 Firms with website	52	60.73	
2.2.2 GERD financed by business enterprise	41	49.65	
2.2.3 Knowledge intensive employment	45	47.92	
2.2.4 Annual investment in telecommunication services	35	82.06	
2.2.5 GERD performed by business enterprise	34	18.22	
3rd sub-pillar: Governments	62	45.79	
2.3.1 Government online services	64	69.70	
2.3.2 Publication and use of open data	38	41.18	
2.3.3 Government promotion of investment in emerging tech	108	17.76	
2.3.4 R&D expenditure by governments and higher education	25	54.51	●

Indicator	Rank	Score	
D. Impact pillar	52	57.76	
1st sub-pillar: Economy	73	29.42	
4.1.1 High-tech and medium-high-tech manufacturing	64	22.07	
4.1.2 High-tech exports	47	36.07	
4.1.3 PCT patent applications	43	9.85	
4.1.4 Domestic market size	53	57.02	
4.1.5 Prevalence of gig economy	105	23.26	○
4.1.6 ICT services exports	69	28.24	
2nd sub-pillar: Quality of Life	70	67.00	
4.2.1 Happiness	51	69.90	
4.2.2 Freedom to make life choices	121	33.78	○
4.2.3 Income inequality	41	75.13	
4.2.4 Healthy life expectancy at birth	24	89.21	●
3rd sub-pillar: SDG Contribution	35	76.87	
4.3.1 SDG 3: Good Health and Well-Being	40	80.83	
4.3.2 SDG 4: Quality Education	42	50.59	
4.3.3 SDG 5: Women's economic opportunity	11	96.49	●
4.3.4 SDG 7: Affordable and Clean Energy	32	86.80	●
4.3.5 SDG 11: Sustainable Cities and Communities	56	69.65	

NOTE: ● a strength and ○ a weakness.

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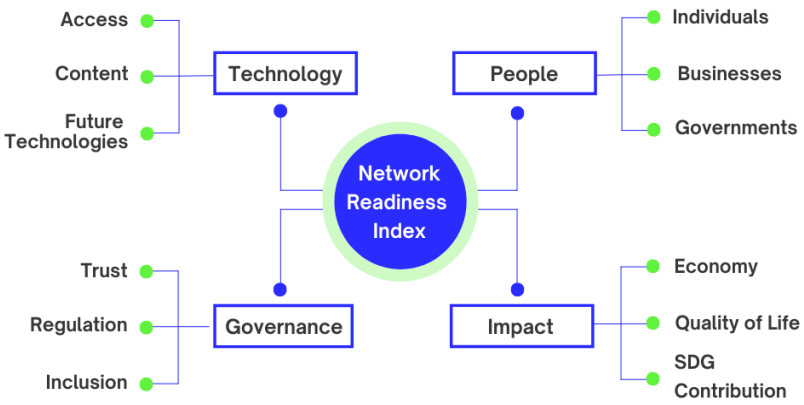
Network Readiness Index 2022 Guatemala

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

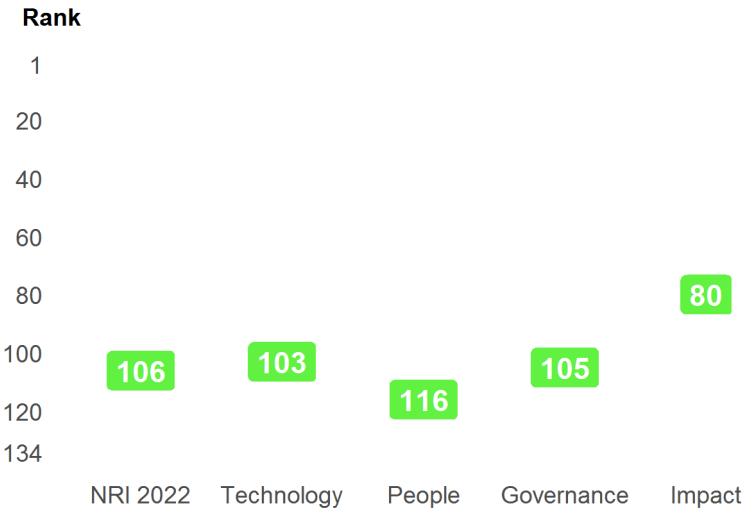
Figure 1: The NRI 2022 model



Global NRI position of Guatemala

Guatemala ranks 106th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Guatemala global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Guatemala relate to Economy, SDG Contribution and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Trust and Businesses sub-pillars.

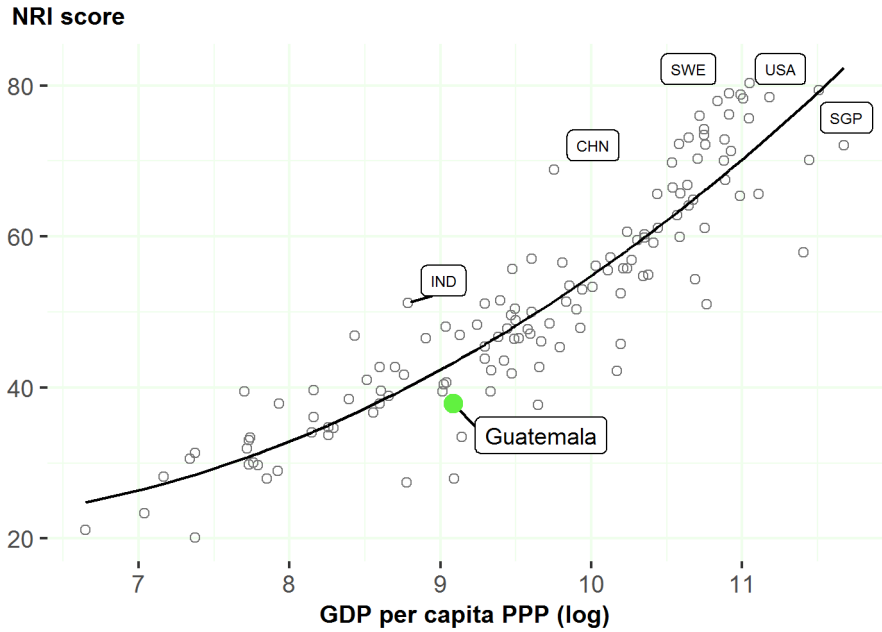
Table 1: Guatemala rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	76	Regulation	100
SDG Contribution	77	Access	105
Quality of Life	79	Content	105
Future Technologies	92	Governments	117
Individuals	95	Trust	124
Inclusion	98	Businesses	125

NRI score and income

Figure 3 shows the position of Guatemala in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Guatemala is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Guatemala belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Guatemala is ranked 30th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in one of the twelve sub-pillars: Quality of Life.

The Americas

Guatemala is ranked 20th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Guatemala against its income group and region, overall and by pillar

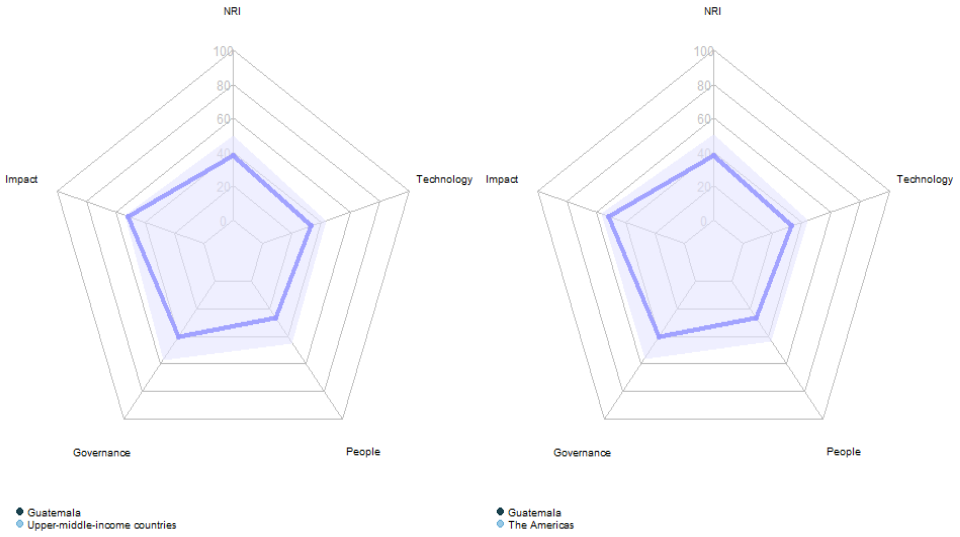


Table 2: Guatemala scores vs. averages of its income group and region, overall and by pillar

Dimension	Guatemala	Upper-middle-income countries	The Americas
NRI	37.85	49.66	50.09
Technology	33.21	43.11	44.16
People	26.46	44.94	43.67
Governance	40.29	57.08	56.24
Impact	51.45	53.50	56.30

Strongest and weakest indicators

The indicators where Guatemala performs particularly well include 3.2.4 E-commerce legislation, 4.2.2 Freedom to make life choices, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 3.1.2 Cybersecurity, and 2.3.3 Government promotion of investment in emerging technologies.

Table 3: Strongest and weakest indicators of Guatemala

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.3.4 R&D expenditure by governments and higher education	111
4.2.2 Freedom to make life choices	21	1.3.4 Computer software spending	116
4.1.6 ICT services exports	24	2.3.3 Government promotion of investment in emerging technologies	119
4.2.1 Happiness	41	3.1.2 Cybersecurity	123
2.2.1 Firms with website	57	3.2.2 ICT regulatory environment	125
4.1.2 High-tech exports	63		
3.3.5 Rural gap in use of digital payments	64		
4.1.4 Domestic market size	69		
1.3.2 Investment in emerging technologies	72		
1.2.2 Internet domain registrations	74		
4.3.4 SDG 7: Affordable and Clean Energy	75		

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NRI 2022 At-A-Glance: Guatemala

Network Readiness Index Rank: 106 (out of 131) Score: 37.85

Pillar/sub-pillar	Rank	Score
A. Technology pillar	103	33.21
1st sub-pillar: Access	105	48.31
2nd sub-pillar: Content	105	24.69
3rd sub-pillar: Future Technologies	92	26.64
B. People pillar	116	26.46
1st sub-pillar: Individuals	95	37.84
2nd sub-pillar: Businesses	125	20.30
3rd sub-pillar: Governments	117	21.25

Pillar/sub-pillar	Rank	Score
C. Governance pillar	105	40.29
1st sub-pillar: Trust	124	15.59
2nd sub-pillar: Regulation	100	53.95
3rd sub-pillar: Inclusion	98	51.32
D. Impact pillar	80	51.45
1st sub-pillar: Economy	76	28.85
2nd sub-pillar: Quality of Life	79	64.81
3rd sub-pillar: SDG Contribution	77	60.68

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	103	33.21	
1st sub-pillar: Access	105	48.31	
1.1.1 Mobile tariffs	119	26.23	
1.1.2 Handset prices	81	45.09	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	89	98.33	
1.1.5 International Internet bandwidth	103	62.81	
1.1.6 Internet access in schools	69	9.12	
2nd sub-pillar: Content	105	24.69	
1.2.1 GitHub commits	82	3.22	
1.2.2 Internet domain registrations	74	2.86	●
1.2.3 Mobile apps development	93	67.07	
1.2.4 AI scientific publications	83	25.59	
3rd sub-pillar: Future Technologies	92	26.64	
1.3.1 Adoption of emerging technologies	78	41.14	
1.3.2 Investment in emerging technologies	72	37.50	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	116	1.27	○
B. People pillar	116	26.46	

Indicator	Rank	Score	
C. Governance pillar	105	40.29	
1st sub-pillar: Trust	124	15.59	
3.1.1 Secure Internet servers	101	37.29	
3.1.2 Cybersecurity	123	11.60	○
3.1.3 Online access to financial account	114	7.65	
3.1.4 Internet shopping	93	5.83	
2nd sub-pillar: Regulation	100	53.95	
3.2.1 Regulatory quality	85	36.53	
3.2.2 ICT regulatory environment	125	52.55	○
3.2.3 Regulation of emerging technologies	103	20.26	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	80	60.42	
3rd sub-pillar: Inclusion	98	51.32	
3.3.1 E-Participation	99	48.15	
3.3.2 Socioeconomic gap in use of digital payments	98	50.12	
3.3.3 Availability of local online content	102	38.70	
3.3.4 Gender gap in Internet use	89	55.79	
3.3.5 Rural gap in use of digital payments	64	63.86	●
D. Impact pillar	80	51.45	

Indicator	Rank	Score	
1st sub-pillar: Individuals	95	37.84	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	120	14.79	
2.1.3 Use of virtual social networks	91	47.32	
2.1.4 Tertiary enrollment	94	13.91	
2.1.5 Adult literacy rate	77	75.32	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	125	20.30	
2.2.1 Firms with website	57	56.03	●
2.2.2 GERD financed by business enterprise	75	13.67	
2.2.3 Knowledge intensive employment	111	11.43	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	89	0.07	
3rd sub-pillar: Governments	117	21.25	
2.3.1 Government online services	101	49.70	
2.3.2 Publication and use of open data	61	26.47	
2.3.3 Government promotion of investment in emerging tech	119	8.83	
2.3.4 R&D expenditure by governments and higher education	111	0.00	○

Indicator	Rank	Score	
1st sub-pillar: Economy	76	28.85	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	63	26.92	●
4.1.3 PCT patent applications	93	0.49	
4.1.4 Domestic market size	69	49.75	●
4.1.5 Prevalence of gig economy	110	19.77	
4.1.6 ICT services exports	24	47.35	●
2nd sub-pillar: Quality of Life	79	64.81	
4.2.1 Happiness	41	72.72	●
4.2.2 Freedom to make life choices	21	89.09	●
4.2.3 Income inequality	105	36.93	
4.2.4 Healthy life expectancy at birth	93	60.50	
3rd sub-pillar: SDG Contribution	77	60.68	
4.3.1 SDG 3: Good Health and Well-Being	99	47.29	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	106	58.77	
4.3.4 SDG 7: Affordable and Clean Energy	75	75.61	●
4.3.5 SDG 11: Sustainable Cities and Communities	75	61.06	

NOTE: ● a strength and ○ a weakness.

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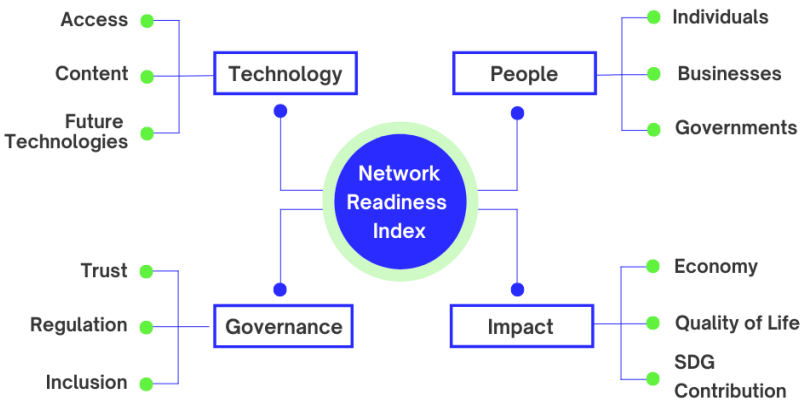
Network Readiness Index 2022 Guinea

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

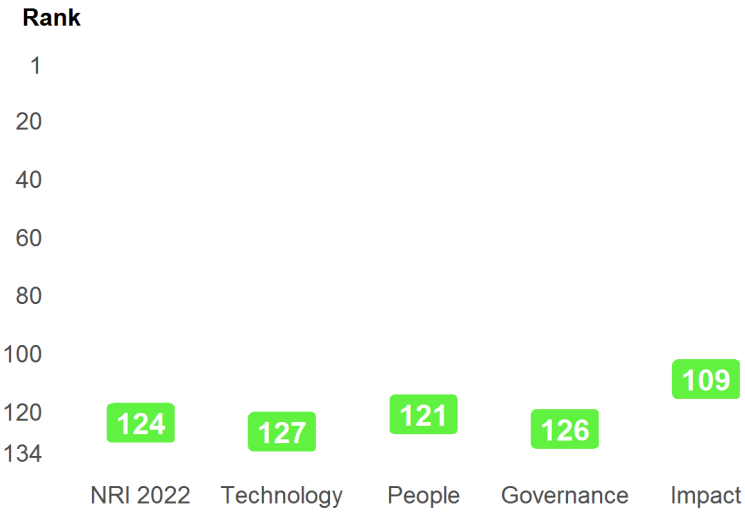
Figure 1: The NRI 2022 model



Global NRI position of Guinea

Guinea ranks 124th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Guinea global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Guinea relate to Economy, Future Technologies and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Content and Inclusion sub-pillars.

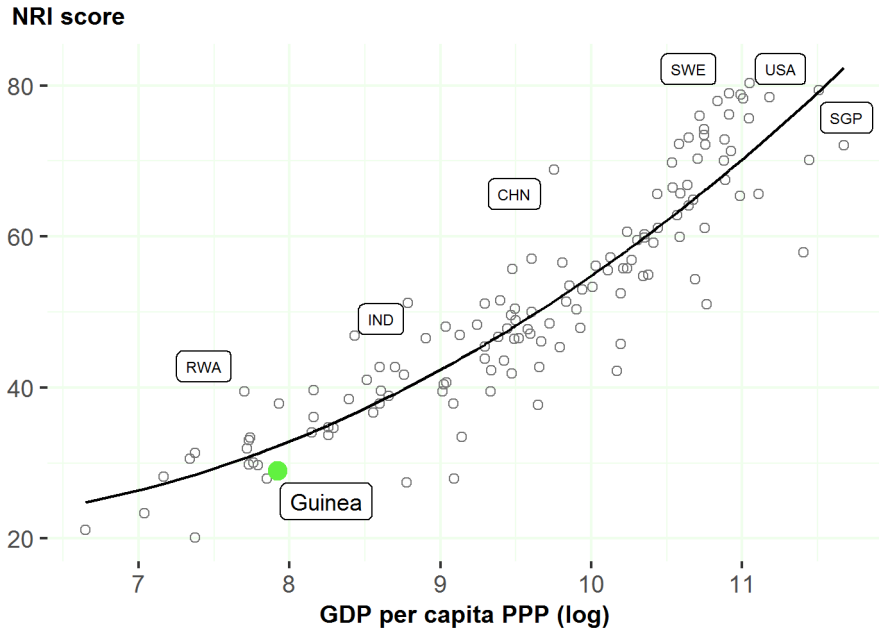
Table 1: Guinea rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	75	SDG Contribution	125
Future Technologies	82	Access	127
Businesses	102	Individuals	127
Quality of Life	103	Trust	128
Governments	106	Content	129
Regulation	110	Inclusion	130

NRI score and income

Figure 3 shows the position of Guinea in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Guinea is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Guinea belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Guinea is ranked 10th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: people and impact. At the sub-pillar level, it outperforms low-income countries in six of the twelve sub-pillars: Future Technologies, Businesses, Governments, Regulation, Economy and Quality of Life.

Africa

Guinea is ranked 24th within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: impact. With regard to sub-pillars, it outperforms the average in Africa in four of the twelve sub-pillars: Future Technologies, Businesses, Economy and Quality of Life.

Figure 4: Performance of Guinea against its income group and region, overall and by pillar

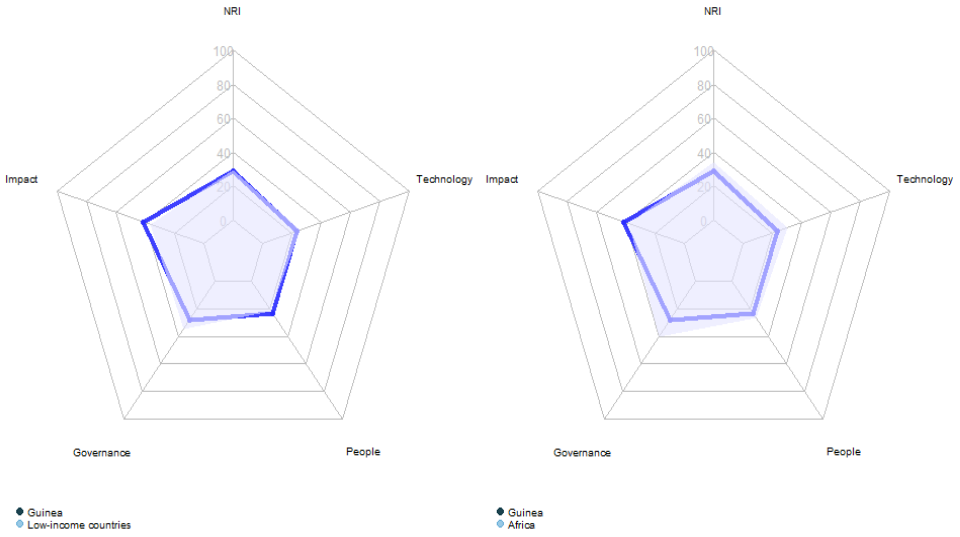


Table 2: Guinea scores vs. averages of its income group and region, overall and by pillar

Dimension	Guinea	Low-income countries	Africa
NRI	28.92	29.49	33.77
Technology	23.24	25.43	29.96
People	23.10	21.74	26.81
Governance	27.96	34.28	40.37
Impact	41.40	36.50	37.94

Strongest and weakest indicators

The indicators where Guinea performs particularly well include 3.2.5 Privacy protection by law content, 4.2.3 Income inequality, and 4.1.5 Prevalence of gig economy (Table 3). By contrast, the economy's weakest indicators include 1.1.4 Population covered by at least a 3G mobile network, 1.2.3 Mobile apps development, 1.2.2 Internet domain registrations, 3.3.3 Availability of local online content, and 4.3.1 SDG 3: Good Health and Well-Being.

Table 3: Strongest and weakest indicators of Guinea

Strongest indicators	Rank	Weakest indicators	Rank
3.2.5 Privacy protection by law content	11	1.1.6 Internet access in schools	79
4.2.3 Income inequality	19	4.1.3 PCT patent applications	99
4.1.5 Prevalence of gig economy	35	3.3.4 Gender gap in Internet use	104
1.3.2 Investment in emerging technologies	53	1.2.2 Internet domain registrations	128
4.1.6 ICT services exports	78	3.3.3 Availability of local online content	128
2.3.3 Government promotion of investment in emerging technologies	83	4.3.1 SDG 3: Good Health and Well-Being	128
3.1.3 Online access to financial account	86	1.2.3 Mobile apps development	129
4.2.1 Happiness	92	1.1.4 Population covered by at least a 3G mobile network	130
1.3.1 Adoption of emerging technologies	93		
4.3.3 SDG 5: Women's economic opportunity	100		

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NRI 2022 At-A-Glance: Guinea

Network Readiness Index Rank: 124 (out of 131) Score: 28.92

Pillar/sub-pillar	Rank	Score
A. Technology pillar	127	23.24
1st sub-pillar: Access	127	34.38
2nd sub-pillar: Content	129	6.85
3rd sub-pillar: Future Technologies	82	28.48
B. People pillar	121	23.10
1st sub-pillar: Individuals	127	13.50
2nd sub-pillar: Businesses	102	30.12
3rd sub-pillar: Governments	106	25.68

Pillar/sub-pillar	Rank	Score
C. Governance pillar	126	27.96
1st sub-pillar: Trust	128	14.03
2nd sub-pillar: Regulation	110	48.79
3rd sub-pillar: Inclusion	130	21.04
D. Impact pillar	109	41.40
1st sub-pillar: Economy	75	29.08
2nd sub-pillar: Quality of Life	103	53.67
3rd sub-pillar: SDG Contribution	125	41.45

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	127	23.24	
1st sub-pillar: Access	127	34.38	
1.1.1 Mobile tariffs	106	36.26	
1.1.2 Handset prices	118	29.30	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	130	51.91	○
1.1.5 International Internet bandwidth	119	54.45	
1.1.6 Internet access in schools	79	0.00	○
2nd sub-pillar: Content	129	6.85	
1.2.1 GitHub commits	127	0.06	
1.2.2 Internet domain registrations	128	0.04	○
1.2.3 Mobile apps development	129	20.45	○
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	82	28.48	
1.3.1 Adoption of emerging technologies	93	36.01	●
1.3.2 Investment in emerging technologies	53	45.75	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	104	3.69	
B. People pillar	121	23.10	

Indicator	Rank	Score	
C. Governance pillar	126	27.96	
1st sub-pillar: Trust	128	14.03	
3.1.1 Secure Internet servers	127	15.53	
3.1.2 Cybersecurity	115	19.13	
3.1.3 Online access to financial account	86	16.91	●
3.1.4 Internet shopping	100	4.56	
2nd sub-pillar: Regulation	110	48.79	
3.2.1 Regulatory quality	118	18.93	
3.2.2 ICT regulatory environment	115	60.39	
3.2.3 Regulation of emerging technologies	111	8.95	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	11	89.04	●
3rd sub-pillar: Inclusion	130	21.04	
3.3.1 E-Participation	123	28.39	
3.3.2 Socioeconomic gap in use of digital payments	100	49.14	
3.3.3 Availability of local online content	128	10.58	○
3.3.4 Gender gap in Internet use	104	0.00	○
3.3.5 Rural gap in use of digital payments	119	17.10	
D. Impact pillar	109	41.40	

Indicator	Rank	Score	Indicator	Rank	Score	
1st sub-pillar: Individuals	127	13.50	*1st sub-pillar: Economy*	75	29.08	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
2.1.2 ICT skills in the education system	121	14.20	4.1.2 High-tech exports	NA	NA	
2.1.3 Use of virtual social networks	112	13.92	4.1.3 PCT patent applications	99	0.00	○
2.1.4 Tertiary enrollment	116	3.61	4.1.4 Domestic market size	110	35.52	
2.1.5 Adult literacy rate	103	22.28	4.1.5 Prevalence of gig economy	35	58.43	●
2.1.6 AI talent concentration	NA	NA	4.1.6 ICT services exports	78	22.36	●
2nd sub-pillar: Businesses	102	30.12	*2nd sub-pillar: Quality of Life*	103	53.67	
2.2.1 Firms with website	115	10.98	4.2.1 Happiness	92	49.25	●
2.2.2 GERD financed by business enterprise	NA	NA	4.2.2 Freedom to make life choices	110	51.10	
2.2.3 Knowledge intensive employment	116	8.30	4.2.3 Income inequality	19	83.92	●
2.2.4 Annual investment in telecommunication services	97	71.09	4.2.4 Healthy life expectancy at birth	125	30.41	
2.2.5 GERD performed by business enterprise	NA	NA	*3rd sub-pillar: SDG Contribution*	125	41.45	
3rd sub-pillar: Governments	106	25.68	4.3.1 SDG 3: Good Health and Well-Being	128	14.73	○
2.3.1 Government online services	126	19.39	4.3.2 SDG 4: Quality Education	NA	NA	
2.3.2 Publication and use of open data	NA	NA	4.3.3 SDG 5: Women's economic opportunity	100	63.16	●
2.3.3 Government promotion of investment in emerging tech	83	31.97	4.3.4 SDG 7: Affordable and Clean Energy	103	64.49	
2.3.4 R&D expenditure by governments and higher education	NA	NA	4.3.5 SDG 11: Sustainable Cities and Communities	127	23.41	

NOTE: ● a strength and ○ a weakness.

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Network Readiness Index 2022 Honduras

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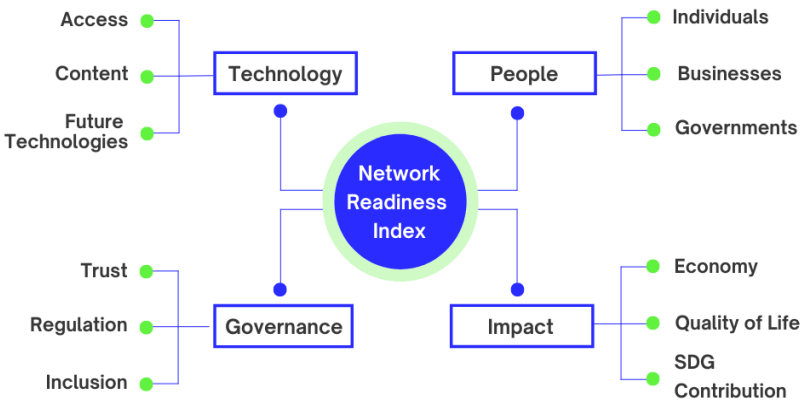
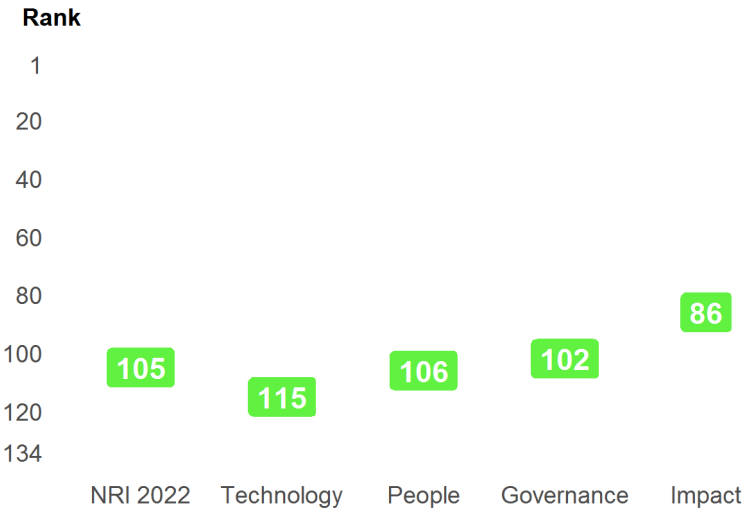
Figure 1: The NRI 2022 model



Global NRI position of Honduras

Honduras ranks 105th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Honduras global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Honduras relate to SDG Contribution, Future Technologies and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Access and Trust sub-pillars.

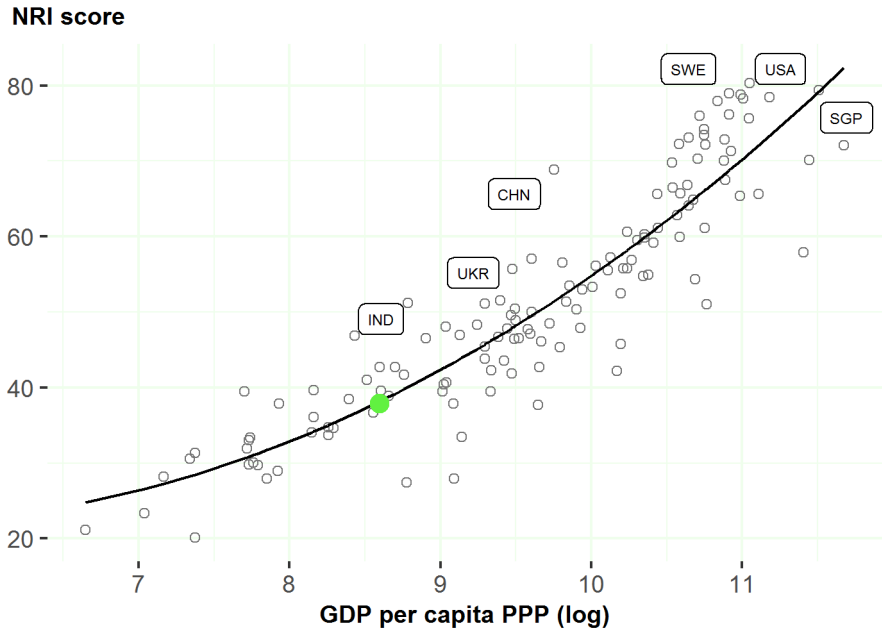
Table 1: Honduras rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	59	Individuals	104
Future Technologies	83	Economy	106
Businesses	83	Governments	114
Inclusion	84	Content	119
Quality of Life	85	Access	123
Regulation	88	Trust	127

NRI score and income

Figure 3 shows the position of Honduras in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Honduras is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Honduras belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Lower-middle-income countries

Honduras is ranked 26th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: impact. At the sub-pillar level, it outperforms lower-middle-income countries in six of the twelve sub-pillars: Future Technologies, Businesses, Regulation, Inclusion, Quality of Life and SDG Contribution.

The Americas

Honduras is ranked 19th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Honduras against its income group and region, overall and by pillar

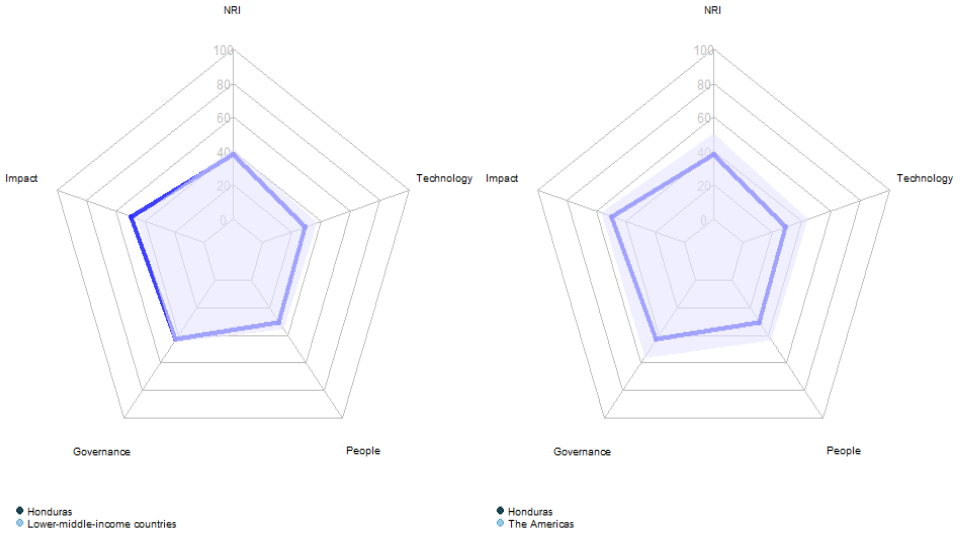


Table 2: Honduras scores vs. averages of its income group and region, overall and by pillar

Dimension	Honduras	Lower-middle-income countries	The Americas
NRI	37.90	40.94	50.09
Technology	28.93	37.28	44.16
People	30.40	35.42	43.67
Governance	42.97	45.00	56.24
Impact	49.30	46.09	56.30

Strongest and weakest indicators

The indicators where Honduras performs particularly well include 3.2.4 E-commerce legislation, 3.3.4 Gender gap in Internet use, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 3.1.2 Cybersecurity, 1.1.1 Mobile tariffs, and 2.1.2 ICT skills in the education system.

Table 3: Strongest and weakest indicators of Honduras

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.2.4 AI scientific publications	94
3.3.4 Gender gap in Internet use	5	2.3.4 R&D expenditure by governments and higher education	110
3.2.5 Privacy protection by law content	41	1.1.1 Mobile tariffs	127
4.2.1 Happiness	48	2.1.2 ICT skills in the education system	127
4.2.2 Freedom to make life choices	51	3.1.2 Cybersecurity	129
4.3.5 SDG 11: Sustainable Cities and Communities	52		
1.3.4 Computer software spending	60		
2.1.1 Mobile broadband internet traffic within the country	60		
4.1.6 ICT services exports	65		
1.1.5 International Internet bandwidth	72		
3.2.2 ICT regulatory environment	76		

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NRI 2022 At-A-Glance: Honduras

Network Readiness Index Rank: 105 (out of 131) Score: 37.90

Pillar/sub-pillar	Rank	Score
A. Technology pillar	115	28.93
1st sub-pillar: Access	123	39.05
2nd sub-pillar: Content	119	19.43
3rd sub-pillar: Future Technologies	83	28.30
B. People pillar	106	30.40
1st sub-pillar: Individuals	104	32.82
2nd sub-pillar: Businesses	83	35.77
3rd sub-pillar: Governments	114	22.62

Pillar/sub-pillar	Rank	Score
C. Governance pillar	102	42.97
1st sub-pillar: Trust	127	14.08
2nd sub-pillar: Regulation	88	58.97
3rd sub-pillar: Inclusion	84	55.85
D. Impact pillar	86	49.30
1st sub-pillar: Economy	106	18.30
2nd sub-pillar: Quality of Life	85	62.00
3rd sub-pillar: SDG Contribution	59	67.60

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	115	28.93	
1st sub-pillar: Access	123	39.05	
1.1.1 Mobile tariffs	127	9.53	○
1.1.2 Handset prices	107	36.34	
1.1.3 FTTH/building Internet subscriptions	89	9.67	
1.1.4 Population covered by at least a 3G mobile network	118	92.67	
1.1.5 International Internet bandwidth	72	69.97	●
1.1.6 Internet access in schools	65	16.14	
2nd sub-pillar: Content	119	19.43	
1.2.1 GitHub commits	101	1.69	
1.2.2 Internet domain registrations	108	0.41	
1.2.3 Mobile apps development	96	65.10	
1.2.4 AI scientific publications	94	10.51	○
3rd sub-pillar: Future Technologies	83	28.30	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	78	35.75	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	60	20.85	●

Indicator	Rank	Score	
C. Governance pillar	102	42.97	
1st sub-pillar: Trust	127	14.08	
3.1.1 Secure Internet servers	102	36.67	
3.1.2 Cybersecurity	129	0.48	○
3.1.3 Online access to financial account	108	9.92	
3.1.4 Internet shopping	86	9.23	
2nd sub-pillar: Regulation	88	58.97	
3.2.1 Regulatory quality	100	27.73	
3.2.2 ICT regulatory environment	76	76.47	●
3.2.3 Regulation of emerging technologies	106	16.32	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	41	74.35	●
3rd sub-pillar: Inclusion	84	55.85	
3.3.1 E-Participation	101	46.91	
3.3.2 Socioeconomic gap in use of digital payments	101	49.12	
3.3.3 Availability of local online content	97	43.51	
3.3.4 Gender gap in Internet use	5	84.66	●
3.3.5 Rural gap in use of digital payments	81	55.03	

Indicator	Rank	Score	
B. People pillar	106	30.40	
1st sub-pillar: Individuals	104	32.82	
2.1.1 Mobile broadband internet traffic within the country	60	8.63	●
2.1.2 ICT skills in the education system	127	8.28	○
2.1.3 Use of virtual social networks	94	45.76	
2.1.4 Tertiary enrollment	89	16.17	
2.1.5 Adult literacy rate	67	85.23	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	83	35.77	
2.2.1 Firms with website	79	39.28	
2.2.2 GERD financed by business enterprise	76	12.82	
2.2.3 Knowledge intensive employment	101	16.22	
2.2.4 Annual investment in telecommunication services	76	74.78	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	114	22.62	
2.3.1 Government online services	108	44.85	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	110	0.40	○

Indicator	Rank	Score	
D. Impact pillar	86	49.30	
1st sub-pillar: Economy	106	18.30	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	107	3.07	
4.1.3 PCT patent applications	91	0.69	
4.1.4 Domestic market size	98	39.36	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	65	30.06	●
2nd sub-pillar: Quality of Life	85	62.00	
4.2.1 Happiness	48	70.07	●
4.2.2 Freedom to make life choices	51	77.98	●
4.2.3 Income inequality	104	37.19	
4.2.4 Healthy life expectancy at birth	90	62.78	
3rd sub-pillar: SDG Contribution	59	67.60	
4.3.1 SDG 3: Good Health and Well-Being	90	56.85	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	95	64.91	
4.3.4 SDG 7: Affordable and Clean Energy	78	75.10	
4.3.5 SDG 11: Sustainable Cities and Communities	52	73.53	●

NOTE: ● a strength and ○ a weakness.

Sources

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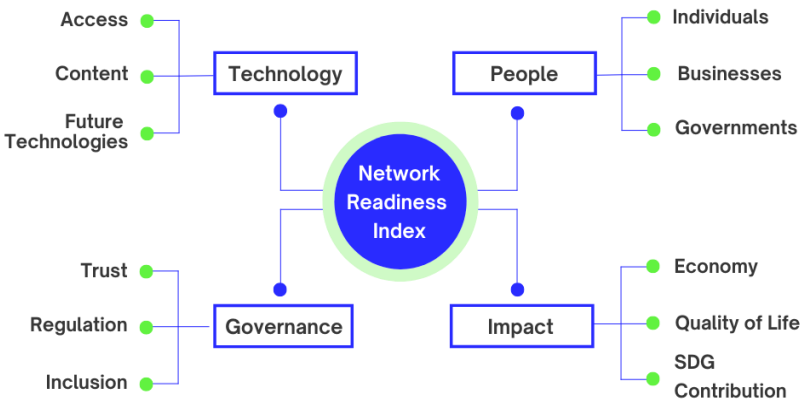
Network Readiness Index 2022 Hong Kong (China)

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

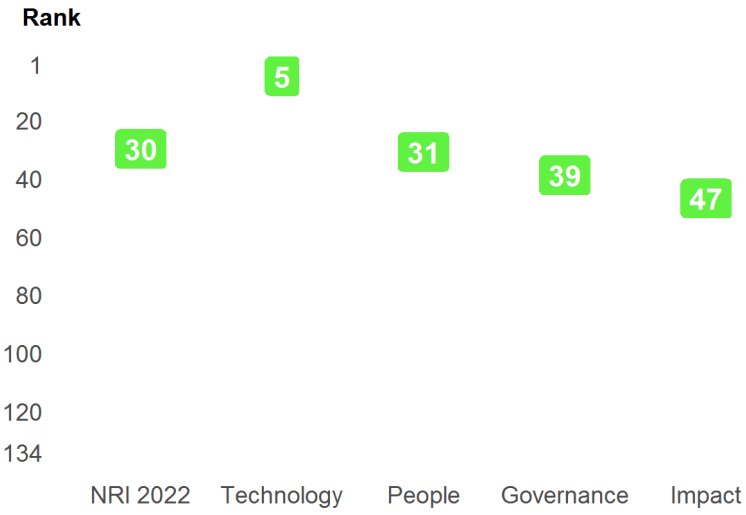
Figure 1: The NRI 2022 model



Global NRI position of Hong Kong (China)

Hong Kong (China) ranks 30th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Hong Kong (China) global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Hong Kong (China) relate to Content, SDG Contribution and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Regulation and Quality of Life sub-pillars.

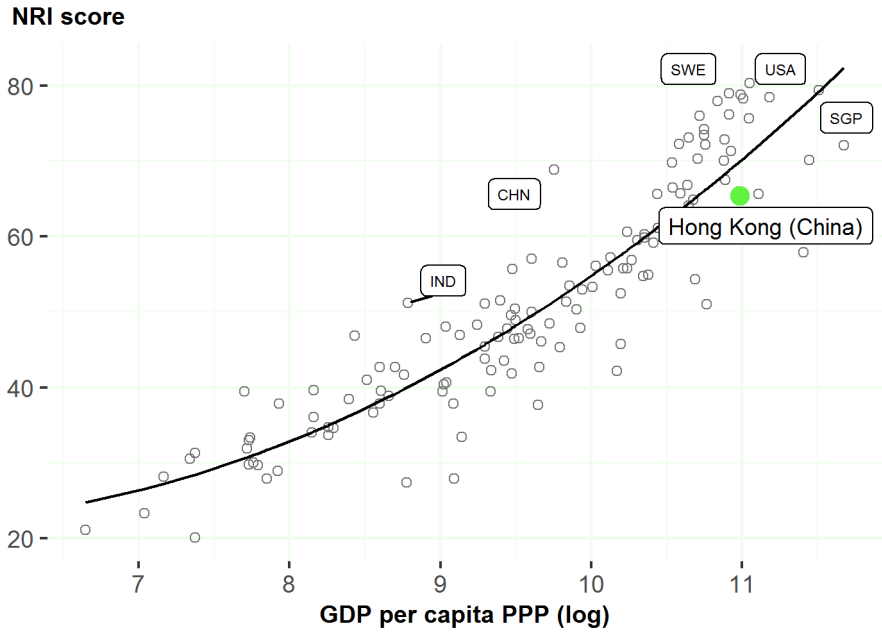
Table 1: Hong Kong (China) rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	4	Trust	30
SDG Contribution	5	Individuals	31
Access	7	Businesses	40
Future Technologies	15	Economy	60
Governments	26	Regulation	73
Inclusion	27	Quality of Life	104

NRI score and income

Figure 3 shows the position of Hong Kong (China) in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Hong Kong (China) is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Hong Kong (China) belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

Hong Kong (China) is ranked 29th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: technology. At the sub-pillar level, it outperforms high-income countries in six of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Inclusion and SDG Contribution.

Asia & Pacific

Hong Kong (China) is ranked 7th within Asia & Pacific (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, technology, people and governance. With regard to sub-pillars, it outperforms the average in Asia & Pacific in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion and SDG Contribution.

Figure 4: Performance of Hong Kong (China) against its income group and region, overall and by pillar

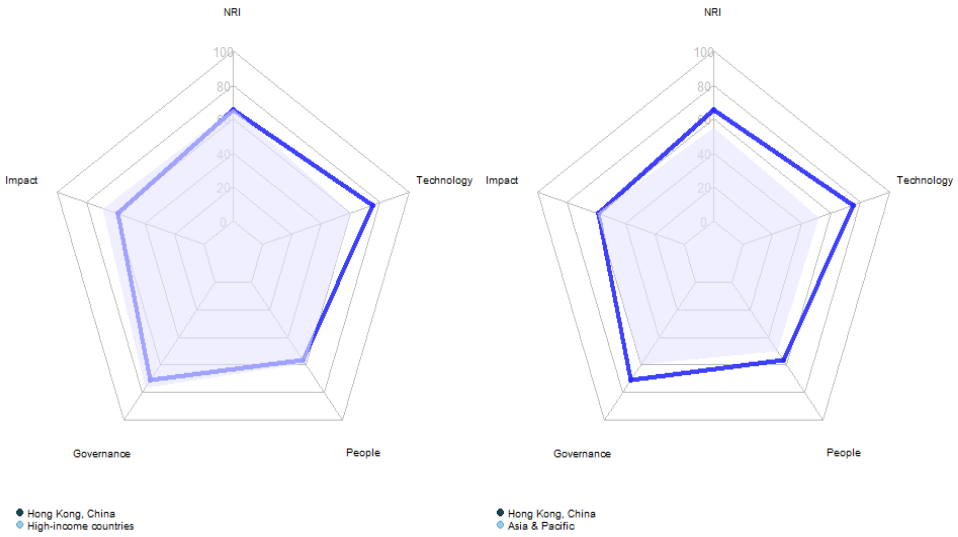


Table 2: Hong Kong (China) scores vs. averages of its income group and region, overall and by pillar

Dimension	Hong Kong (China)	High-income countries	Asia & Pacific
NRI	65.40	66.21	55.18
Technology	75.18	60.28	51.78
People	56.82	58.83	50.21
Governance	70.87	76.89	59.66
Impact	58.73	68.86	59.07

Strongest and weakest indicators

The indicators where Hong Kong (China) performs particularly well include 1.1.5 International Internet bandwidth, 1.2.1 GitHub commits, and 1.2.3 Mobile apps development (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 4.2.2 Freedom to make life choices, and 4.1.2 High-tech exports.

Table 3: Strongest and weakest indicators of Hong Kong (China)

Strongest indicators	Rank	Weakest indicators	Rank
1.1.5 International Internet bandwidth	1	4.2.1 Happiness	79
1.2.1 GitHub commits	1	4.1.6 ICT services exports	99
1.2.3 Mobile apps development	1	4.1.2 High-tech exports	109
4.3.4 SDG 7: Affordable and Clean Energy	1	4.2.2 Freedom to make life choices	113
4.3.2 SDG 4: Quality Education	3	3.2.5 Privacy protection by law content	130
3.2.1 Regulatory quality	6		
3.3.3 Availability of local online content	8		
2.3.3 Government promotion of investment in emerging technologies	9		
3.1.1 Secure Internet servers	11		
1.1.1 Mobile tariffs	12		

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NRI 2022 At-A-Glance: Hong Kong (China)

Network Readiness Index Rank: 30 (out of 131) Score: 65.40

Pillar/sub-pillar	Rank	Score
A. Technology pillar	5	75.18
1st sub-pillar: Access	7	84.49
2nd sub-pillar: Content	4	83.90
3rd sub-pillar: Future Technologies	15	57.14
B. People pillar	31	56.82
1st sub-pillar: Individuals	31	55.78
2nd sub-pillar: Businesses	40	54.08
3rd sub-pillar: Governments	26	60.59

Pillar/sub-pillar	Rank	Score
C. Governance pillar	39	70.87
1st sub-pillar: Trust	30	70.80
2nd sub-pillar: Regulation	73	62.06
3rd sub-pillar: Inclusion	27	79.75
D. Impact pillar	47	58.73
1st sub-pillar: Economy	60	34.60
2nd sub-pillar: Quality of Life	104	52.88
3rd sub-pillar: SDG Contribution	5	88.69

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	5	75.18	
1st sub-pillar: Access	7	84.49	
1.1.1 Mobile tariffs	12	87.90	●
1.1.2 Handset prices	14	83.55	
1.1.3 FTTH/building Internet subscriptions	37	36.29	
1.1.4 Population covered by at least a 3G mobile network	55	99.68	
1.1.5 International Internet bandwidth	1	100.00	●
1.1.6 Internet access in schools	30	99.54	
2nd sub-pillar: Content	4	83.90	
1.2.1 GitHub commits	1	100.00	●
1.2.2 Internet domain registrations	12	54.80	
1.2.3 Mobile apps development	1	100.00	●
1.2.4 AI scientific publications	12	80.79	
3rd sub-pillar: Future Technologies	15	57.14	
1.3.1 Adoption of emerging technologies	19	76.65	
1.3.2 Investment in emerging technologies	15	74.75	
1.3.3 Robot density	7	45.26	
1.3.4 Computer software spending	28	31.92	
B. People pillar	31	56.82	

Indicator	Rank	Score	
C. Governance pillar	39	70.87	
1st sub-pillar: Trust	30	70.80	
3.1.1 Secure Internet servers	11	89.09	●
3.1.2 Cybersecurity	NA	NA	
3.1.3 Online access to financial account	29	52.51	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	73	62.06	
3.2.1 Regulatory quality	6	88.80	●
3.2.2 ICT regulatory environment	72	80.98	
3.2.3 Regulation of emerging technologies	28	67.37	
3.2.4 E-commerce legislation	NA	NA	
3.2.5 Privacy protection by law content	130	11.09	○
3rd sub-pillar: Inclusion	27	79.75	
3.3.1 E-Participation	NA	NA	
3.3.2 Socioeconomic gap in use of digital payments	44	85.93	
3.3.3 Availability of local online content	8	93.27	●
3.3.4 Gender gap in Internet use	56	69.55	
3.3.5 Rural gap in use of digital payments	47	70.25	
D. Impact pillar	47	58.73	

Indicator	Rank	Score	Indicator	Rank	Score	
1st sub-pillar: Individuals	31	55.78	*1st sub-pillar: Economy*	60	34.60	
2.1.1 Mobile broadband internet traffic within the country	48	14.41	4.1.1 High-tech and medium-high-tech manufacturing	51	30.04	
2.1.2 ICT skills in the education system	25	69.82	4.1.2 High-tech exports	109	2.53	○
2.1.3 Use of virtual social networks	15	82.57	4.1.3 PCT patent applications	NA	NA	
2.1.4 Tertiary enrollment	16	56.31	4.1.4 Domestic market size	45	60.61	
2.1.5 Adult literacy rate	NA	NA	4.1.5 Prevalence of gig economy	18	68.90	
2.1.6 AI talent concentration	NA	NA	4.1.6 ICT services exports	99	10.94	○
2nd sub-pillar: Businesses	40	54.08	*2nd sub-pillar: Quality of Life*	104	52.88	
2.2.1 Firms with website	NA	NA	4.2.1 Happiness	79	55.96	○
2.2.2 GERD financed by business enterprise	31	60.89	4.2.2 Freedom to make life choices	113	49.80	○
2.2.3 Knowledge intensive employment	29	63.80	4.2.3 Income inequality	NA	NA	
2.2.4 Annual investment in telecommunication services	38	81.44	4.2.4 Healthy life expectancy at birth	NA	NA	
2.2.5 GERD performed by business enterprise	43	10.18	*3rd sub-pillar: SDG Contribution*	5	88.69	
3rd sub-pillar: Governments	26	60.59	4.3.1 SDG 3: Good Health and Well-Being	NA	NA	
2.3.1 Government online services	NA	NA	4.3.2 SDG 4: Quality Education	3	80.99	●
2.3.2 Publication and use of open data	NA	NA	4.3.3 SDG 5: Women's economic opportunity	37	85.09	
2.3.3 Government promotion of investment in emerging tech	9	78.29	4.3.4 SDG 7: Affordable and Clean Energy	1	100.00	●
2.3.4 R&D expenditure by governments and higher education	46	42.90	4.3.5 SDG 11: Sustainable Cities and Communities	NA	NA	

NOTE: ● a strength and ○ a weakness.

Sources

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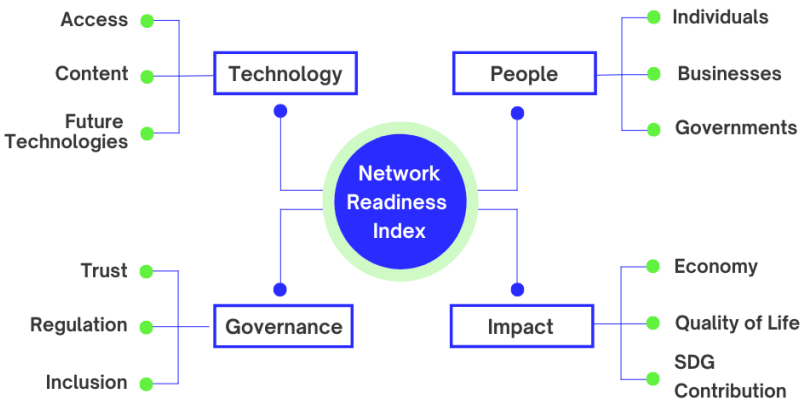
Network Readiness Index 2022 Hungary

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

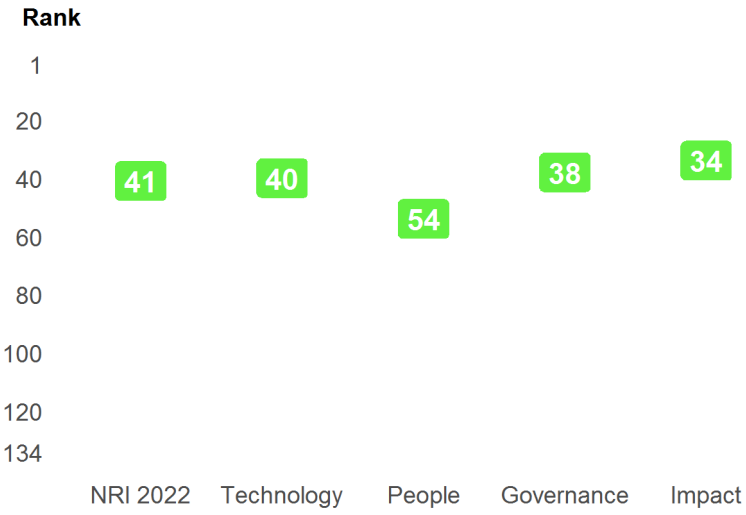
Figure 1: The NRI 2022 model



Global NRI position of Hungary

Hungary ranks 41st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Hungary global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Hungary relate to Economy, Content and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Individuals and Future Technologies sub-pillars.

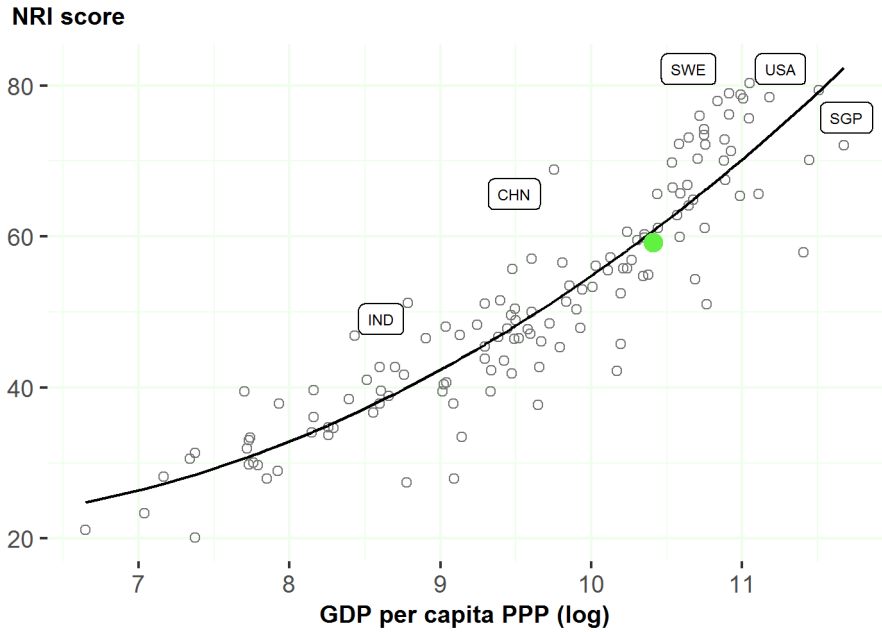
Table 1: Hungary rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	27	Businesses	38
Content	32	Quality of Life	52
Trust	32	Inclusion	57
Access	34	Governments	68
Regulation	35	Individuals	72
SDG Contribution	37	Future Technologies	79

NRI score and income

Figure 3 shows the position of Hungary in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Hungary is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Hungary belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Hungary is ranked 38th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in one of the twelve sub-pillars: Access.

Europe

Hungary is ranked 28th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in three of the twelve sub-pillars: Access, Trust and Economy.

Figure 4: Performance of Hungary against its income group and region, overall and by pillar

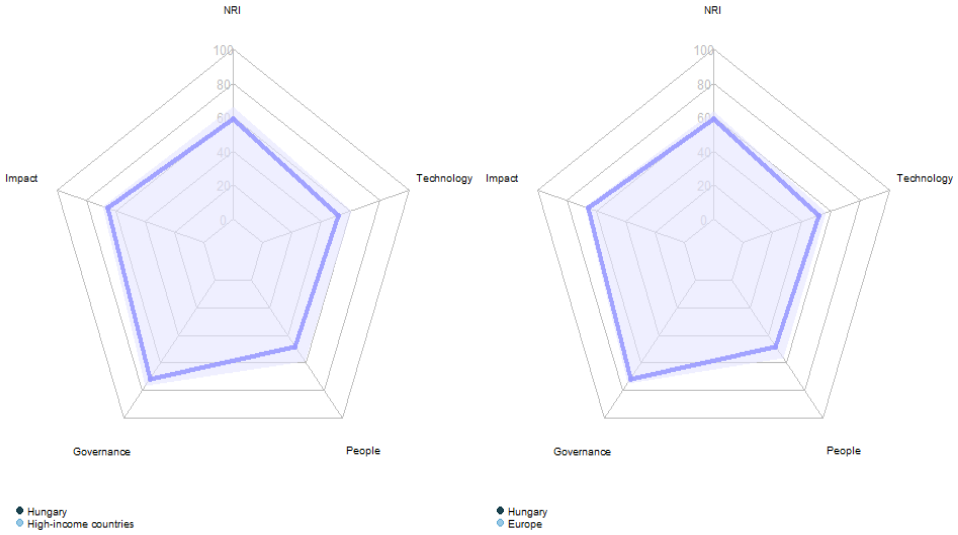


Table 2: Hungary scores vs. averages of its income group and region, overall and by pillar

Dimension	Hungary	High-income countries	Europe
NRI	59.20	66.21	63.72
Technology	51.50	60.28	56.43
People	48.48	58.83	56.35
Governance	71.66	76.89	74.79
Impact	65.15	68.86	67.30

Strongest and weakest indicators

The indicators where Hungary performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 4.1.1 High-tech and medium-high-tech manufacturing (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 4.1.5 Prevalence of gig economy, and 4.2.2 Freedom to make life choices.

Table 3: Strongest and weakest indicators of Hungary

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.3.2 Publication and use of open data	69
3.2.4 E-commerce legislation	1	4.2.2 Freedom to make life choices	94
4.1.1 High-tech and medium-high-tech manufacturing	5	4.1.5 Prevalence of gig economy	99
4.1.2 High-tech exports	10	1.3.2 Investment in emerging technologies	101
3.2.2 ICT regulatory environment	14		
2.1.5 Adult literacy rate	18		
2.2.5 GERD performed by business enterprise	19		
3.3.4 Gender gap in Internet use	19		
4.3.3 SDG 5: Women's economic opportunity	20		
4.2.3 Income inequality	21		
3.1.1 Secure Internet servers	23		
1.2.2 Internet domain registrations	26		

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NRI 2022 At-A-Glance: Hungary

Network Readiness Index Rank: 41 (out of 131) Score: 59.20

Pillar/sub-pillar	Rank	Score
A. Technology pillar	40	51.50
1st sub-pillar: Access	34	73.96
2nd sub-pillar: Content	32	51.13
3rd sub-pillar: Future Technologies	79	29.42
B. People pillar	54	48.48
1st sub-pillar: Individuals	72	46.88
2nd sub-pillar: Businesses	38	54.93
3rd sub-pillar: Governments	68	43.63

Pillar/sub-pillar	Rank	Score
C. Governance pillar	38	71.66
1st sub-pillar: Trust	32	70.67
2nd sub-pillar: Regulation	35	75.53
3rd sub-pillar: Inclusion	57	68.78
D. Impact pillar	34	65.15
1st sub-pillar: Economy	27	46.75
2nd sub-pillar: Quality of Life	52	72.91
3rd sub-pillar: SDG Contribution	37	75.79

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	40	51.50	
1st sub-pillar: Access	34	73.96	
1.1.1 Mobile tariffs	40	72.18	
1.1.2 Handset prices	39	68.60	
1.1.3 FTTH/building Internet subscriptions	42	33.69	
1.1.4 Population covered by at least a 3G mobile network	53	99.74	
1.1.5 International Internet bandwidth	77	69.56	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	32	51.13	
1.2.1 GitHub commits	27	36.23	
1.2.2 Internet domain registrations	26	29.27	●
1.2.3 Mobile apps development	38	87.87	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	79	29.42	
1.3.1 Adoption of emerging technologies	63	47.82	
1.3.2 Investment in emerging technologies	101	28.25	○
1.3.3 Robot density	22	17.11	
1.3.4 Computer software spending	46	24.51	

Indicator	Rank	Score	
C. Governance pillar	38	71.66	
1st sub-pillar: Trust	32	70.67	
3.1.1 Secure Internet servers	23	82.98	●
3.1.2 Cybersecurity	43	91.13	
3.1.3 Online access to financial account	39	43.79	
3.1.4 Internet shopping	25	64.77	
2nd sub-pillar: Regulation	35	75.53	
3.2.1 Regulatory quality	48	53.87	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Regulation of emerging technologies	46	55.53	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	42	74.14	
3rd sub-pillar: Inclusion	57	68.78	
3.3.1 E-Participation	73	66.67	
3.3.2 Socioeconomic gap in use of digital payments	54	81.42	
3.3.3 Availability of local online content	58	65.38	
3.3.4 Gender gap in Internet use	19	75.01	●
3.3.5 Rural gap in use of digital payments	80	55.43	

Indicator	Rank	Score	
B. People pillar	54	48.48	
1st sub-pillar: Individuals	72	46.88	
2.1.1 Mobile broadband internet traffic within the country	55	10.87	
2.1.2 ICT skills in the education system	66	44.97	
2.1.3 Use of virtual social networks	57	70.40	
2.1.4 Tertiary enrollment	61	34.55	
2.1.5 Adult literacy rate	18	98.87	●
2.1.6 AI talent concentration	18	21.64	
2nd sub-pillar: Businesses	38	54.93	
2.2.1 Firms with website	49	62.29	
2.2.2 GERD financed by business enterprise	25	65.42	
2.2.3 Knowledge intensive employment	33	59.75	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	19	32.28	●
3rd sub-pillar: Governments	68	43.63	
2.3.1 Government online services	54	73.94	
2.3.2 Publication and use of open data	69	22.06	○
2.3.3 Government promotion of investment in emerging tech	47	46.49	
2.3.4 R&D expenditure by governments and higher education	56	32.02	

Indicator	Rank	Score	
D. Impact pillar	34	65.15	
1st sub-pillar: Economy	27	46.75	
4.1.1 High-tech and medium-high-tech manufacturing	5	79.47	●
4.1.2 High-tech exports	10	71.37	●
4.1.3 PCT patent applications	38	11.32	
4.1.4 Domestic market size	52	57.59	
4.1.5 Prevalence of gig economy	99	27.33	○
4.1.6 ICT services exports	53	33.43	
2nd sub-pillar: Quality of Life	52	72.91	
4.2.1 Happiness	44	72.08	
4.2.2 Freedom to make life choices	94	59.77	○
4.2.3 Income inequality	21	82.91	●
4.2.4 Healthy life expectancy at birth	47	76.88	
3rd sub-pillar: SDG Contribution	37	75.79	
4.3.1 SDG 3: Good Health and Well-Being	60	72.65	
4.3.2 SDG 4: Quality Education	33	60.77	
4.3.3 SDG 5: Women's economic opportunity	20	95.61	●
4.3.4 SDG 7: Affordable and Clean Energy	57	81.70	
4.3.5 SDG 11: Sustainable Cities and Communities	61	68.19	

NOTE: ● a strength and ○ a weakness.

Sources

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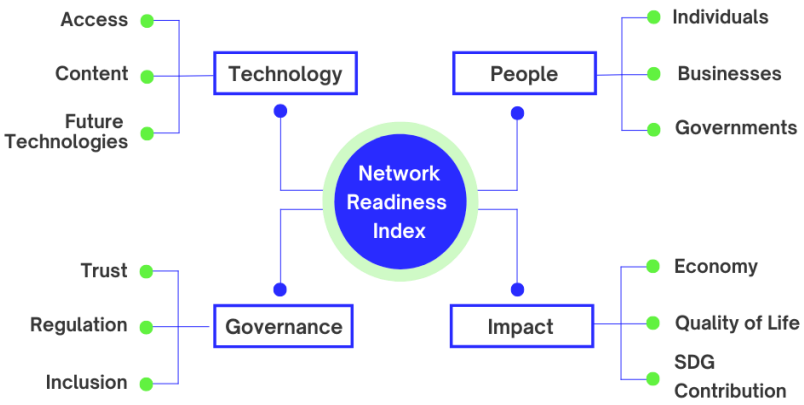
Network Readiness Index 2022 Iceland

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

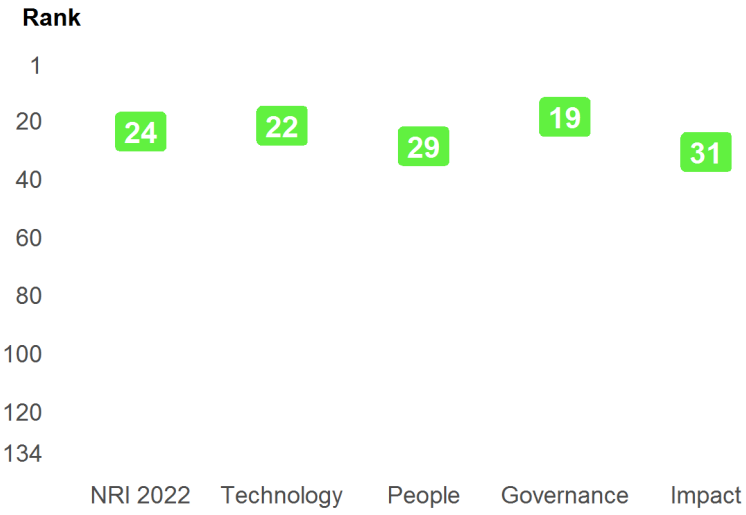
Figure 1: The NRI 2022 model



Global NRI position of Iceland

Iceland ranks 24th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Iceland global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Iceland relate to Quality of Life, Content and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Individuals and Access sub-pillars.

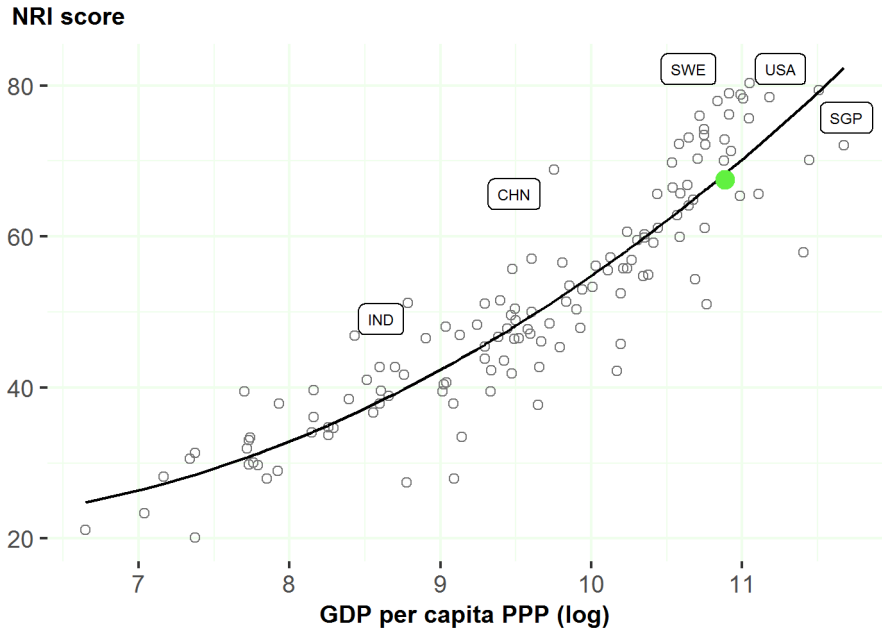
Table 1: Iceland rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	2	Regulation	33
Content	6	Future Technologies	34
Trust	11	SDG Contribution	45
Inclusion	19	Economy	58
Businesses	21	Individuals	63
Governments	33	Access	66

NRI score and income

Figure 3 shows the position of Iceland in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Iceland is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Iceland belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Iceland is ranked 23rd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: nri.score, technology and governance. At the sub-pillar level, it outperforms high-income countries in five of the twelve sub-pillars: Content, Businesses, Trust, Inclusion and Quality of Life.

Europe

Iceland is ranked 16th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in seven of the twelve sub-pillars: Content, Future Technologies, Businesses, Governments, Trust, Inclusion and Quality of Life.

Figure 4: Performance of Iceland against its income group and region, overall and by pillar

Table 2: Iceland scores vs. averages of its income group and region, overall and by pillar

Dimension	Iceland	High-income countries	Europe
NRI	67.48	66.21	63.72
Technology	63.52	60.28	56.43
People	57.98	58.83	56.35
Governance	80.76	76.89	74.79
Impact	67.68	68.86	67.30

Strongest and weakest indicators

The indicators where Iceland performs particularly well include 1.2.3 Mobile apps development, 4.3.3 SDG 5: Women's economic opportunity, and 4.3.5 SDG 11: Sustainable Cities and Communities (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 4.1.4 Domestic market size, and 2.2.4 Annual investment in telecommunication services.

Table 3: Strongest and weakest indicators of Iceland

Strongest indicators	Rank	Weakest indicators	Rank
1.2.3 Mobile apps development	1	3.2.4 E-commerce legislation	87
4.3.3 SDG 5: Women's economic opportunity	1	1.1.3 FTTH/building Internet subscriptions	88
4.3.5 SDG 11: Sustainable Cities and Communities	1	2.2.4 Annual investment in telecommunication services	92
3.3.2 Socioeconomic gap in use of digital payments	4	4.1.4 Domestic market size	125
4.2.1 Happiness	4	4.3.4 SDG 7: Affordable and Clean Energy	129
2.1.3 Use of virtual social networks	5		
1.2.2 Internet domain registrations	6		
2.2.3 Knowledge intensive employment	6		
1.2.1 GitHub commits	7		
2.1.2 ICT skills in the education system	7		
4.3.1 SDG 3: Good Health and Well-Being	7		
4.2.3 Income inequality	8		

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NRI 2022 At-A-Glance: Iceland

Network Readiness Index Rank: 24 (out of 131) Score: 67.48

Pillar/sub-pillar	Rank	Score
A. Technology pillar	22	63.52
1st sub-pillar: Access	66	63.91
2nd sub-pillar: Content	6	82.08
3rd sub-pillar: Future Technologies	34	44.55
B. People pillar	29	57.98
1st sub-pillar: Individuals	63	49.49
2nd sub-pillar: Businesses	21	65.98
3rd sub-pillar: Governments	33	58.46

Pillar/sub-pillar	Rank	Score
C. Governance pillar	19	80.76
1st sub-pillar: Trust	11	84.11
2nd sub-pillar: Regulation	33	75.66
3rd sub-pillar: Inclusion	19	82.52
D. Impact pillar	31	67.68
1st sub-pillar: Economy	58	36.24
2nd sub-pillar: Quality of Life	2	93.61
3rd sub-pillar: SDG Contribution	45	73.19

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	22	63.52	
1st sub-pillar: Access	66	63.91	
1.1.1 Mobile tariffs	60	63.27	
1.1.2 Handset prices	17	82.53	
1.1.3 FTTH/building Internet subscriptions	88	9.80	○
1.1.4 Population covered by at least a 3G mobile network	24	99.99	
1.1.5 International Internet bandwidth	97	63.98	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	6	82.08	
1.2.1 GitHub commits	7	71.41	●
1.2.2 Internet domain registrations	6	74.84	●
1.2.3 Mobile apps development	1	100.00	●
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	34	44.55	
1.3.1 Adoption of emerging technologies	16	78.69	
1.3.2 Investment in emerging technologies	24	65.75	
1.3.3 Robot density	35	5.70	
1.3.4 Computer software spending	35	28.06	

Indicator	Rank	Score	
C. Governance pillar	19	80.76	
1st sub-pillar: Trust	11	84.11	
3.1.1 Secure Internet servers	10	89.63	
3.1.2 Cybersecurity	66	79.45	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	10	83.24	
2nd sub-pillar: Regulation	33	75.66	
3.2.1 Regulatory quality	17	79.73	
3.2.2 ICT regulatory environment	45	87.06	
3.2.3 Regulation of emerging technologies	23	73.68	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	51	71.14	
3rd sub-pillar: Inclusion	19	82.52	
3.3.1 E-Participation	50	76.54	
3.3.2 Socioeconomic gap in use of digital payments	4	99.45	●
3.3.3 Availability of local online content	33	79.33	
3.3.4 Gender gap in Internet use	23	74.75	
3.3.5 Rural gap in use of digital payments	NA	NA	

Indicator	Rank	Score	
B. People pillar	29	57.98	
1st sub-pillar: Individuals	63	49.49	
2.1.1 Mobile broadband internet traffic within the country	92	1.70	
2.1.2 ICT skills in the education system	7	84.91	●
2.1.3 Use of virtual social networks	5	90.46	●
2.1.4 Tertiary enrollment	23	51.68	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	24	18.71	
2nd sub-pillar: Businesses	21	65.98	
2.2.1 Firms with website	16	84.42	
2.2.2 GERD financed by business enterprise	42	47.74	
2.2.3 Knowledge intensive employment	6	81.44	●
2.2.4 Annual investment in telecommunication services	92	72.17	○
2.2.5 GERD performed by business enterprise	13	44.11	
3rd sub-pillar: Governments	33	58.46	
2.3.1 Government online services	42	78.79	
2.3.2 Publication and use of open data	38	41.18	
2.3.3 Government promotion of investment in emerging tech	46	46.91	
2.3.4 R&D expenditure by governments and higher education	15	66.97	

Indicator	Rank	Score	
D. Impact pillar	31	67.68	
1st sub-pillar: Economy	58	36.24	
4.1.1 High-tech and medium-high-tech manufacturing	78	13.55	
4.1.2 High-tech exports	59	27.56	
4.1.3 PCT patent applications	23	36.33	
4.1.4 Domestic market size	125	28.91	○
4.1.5 Prevalence of gig economy	29	62.21	
4.1.6 ICT services exports	20	48.92	
2nd sub-pillar: Quality of Life	2	93.61	
4.2.1 Happiness	4	95.91	●
4.2.2 Freedom to make life choices	12	92.91	
4.2.3 Income inequality	8	92.71	●
4.2.4 Healthy life expectancy at birth	9	92.92	
3rd sub-pillar: SDG Contribution	45	73.19	
4.3.1 SDG 3: Good Health and Well-Being	7	95.84	●
4.3.2 SDG 4: Quality Education	30	61.58	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	129	8.52	○
4.3.5 SDG 11: Sustainable Cities and Communities	1	100.00	●

NOTE: ● a strength and ○ a weakness.

Sources

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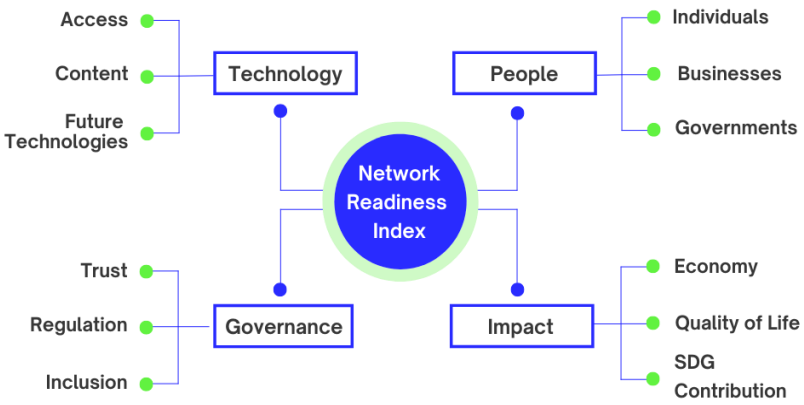
Network Readiness Index 2022 India

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

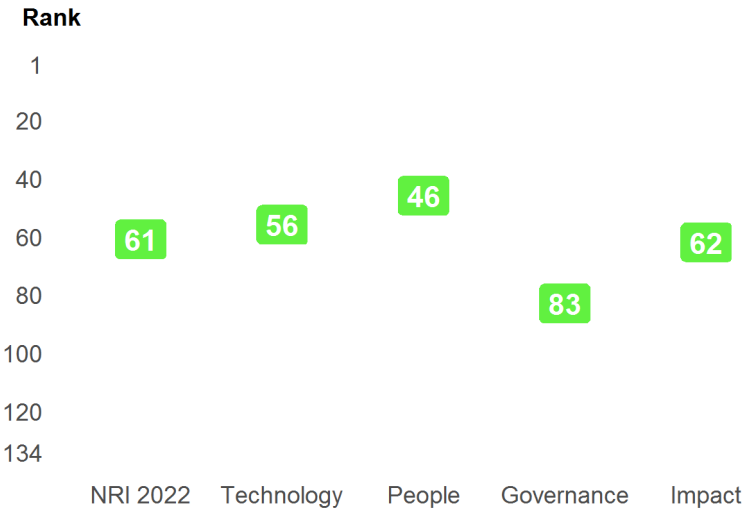
Figure 1: The NRI 2022 model



Global NRI position of India

India ranks 61st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: India global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of India relate to Economy, Individuals and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Inclusion and Quality of Life sub-pillars.

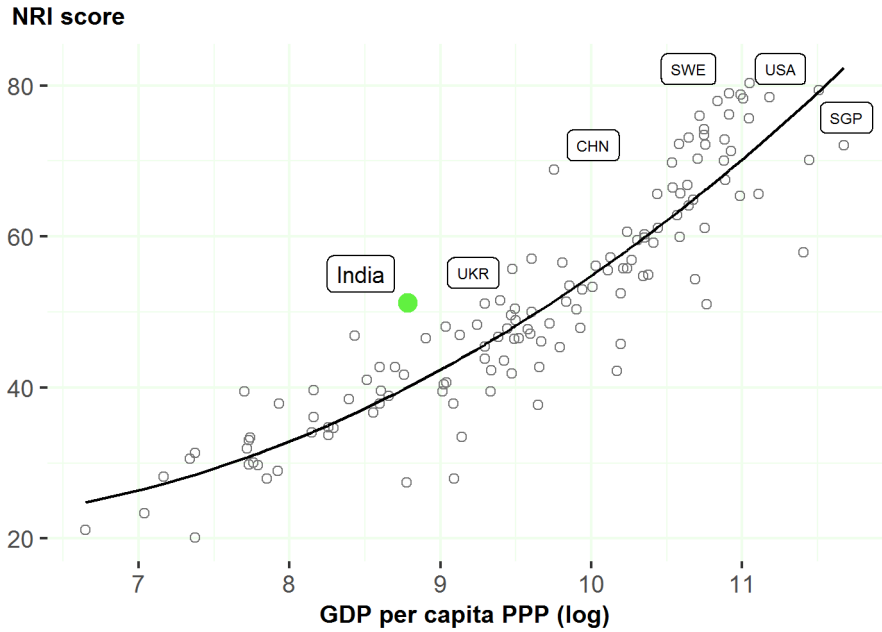
Table 1: India rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	23	Businesses	64
Individuals	30	Trust	73
Governments	39	Regulation	80
Content	49	SDG Contribution	89
Access	59	Inclusion	97
Future Technologies	59	Quality of Life	97

NRI score and income

Figure 3 shows the position of India in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, India is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. India belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

India is ranked 3rd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it has a higher score than the average of lower-middle-income countries in all of them.

Asia & Pacific

India is ranked 11th within Asia & Pacific (Figure 4, right panel). It has a score above the regional average in one of the four pillars: people. With regard to sub-pillars, it outperforms the average in Asia & Pacific in four of the twelve sub-pillars: Individuals, Governments, Regulation and Economy.

Figure 4: Performance of India against its income group and region, overall and by pillar

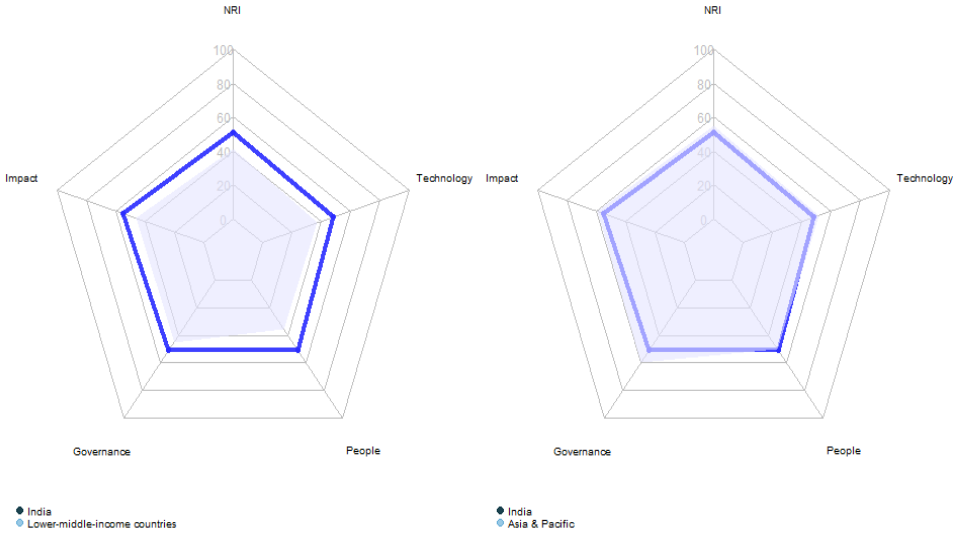


Table 2: India scores vs. averages of its income group and region, overall and by pillar

Dimension	India	Lower-middle-income countries	Asia & Pacific
NRI	51.19	40.94	55.18
Technology	47.84	37.28	51.78
People	50.90	35.42	50.21
Governance	50.96	45.00	59.66
Impact	55.07	46.09	59.07

Strongest and weakest indicators

The indicators where India performs particularly well include 2.1.6 AI talent concentration, 1.1.5 International Internet bandwidth, and 2.1.1 Mobile broadband internet traffic within the country (Table 3). By contrast, the economy's weakest indicators include 4.2.1 Happiness, 3.1.3 Online access to financial account, and 3.3.4 Gender gap in Internet use.

Table 3: Strongest and weakest indicators of India

Strongest indicators	Rank	Weakest indicators	Rank
2.1.6 AI talent concentration	1	1.1.6 Internet access in schools	71
1.1.5 International Internet bandwidth	2	3.2.4 E-commerce legislation	87
2.1.1 Mobile broadband internet traffic within the country	2	3.3.4 Gender gap in Internet use	102
2.2.4 Annual investment in telecommunication services	3	3.1.3 Online access to financial account	117
4.1.4 Domestic market size	3	4.2.1 Happiness	121
4.1.6 ICT services exports	4		
1.1.3 FTTH/building Internet subscriptions	5		
1.2.4 AI scientific publications	5		
3.1.2 Cybersecurity	15		
1.3.2 Investment in emerging technologies	26		

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NRI 2022 At-A-Glance: India

Network Readiness Index — Rank: 61 (out of 131) — Score: 51.19

Pillar/sub-pillar	Rank	Score
A. Technology pillar	56	47.84
1st sub-pillar: Access	59	67.44
2nd sub-pillar: Content	49	41.58
3rd sub-pillar: Future Technologies	59	34.49
B. People pillar	46	50.90
1st sub-pillar: Individuals	30	55.84
2nd sub-pillar: Businesses	64	42.86
3rd sub-pillar: Governments	39	54.01

Pillar/sub-pillar	Rank	Score
C. Governance pillar	83	50.96
1st sub-pillar: Trust	73	40.56
2nd sub-pillar: Regulation	80	60.65
3rd sub-pillar: Inclusion	97	51.68
D. Impact pillar	62	55.07
1st sub-pillar: Economy	23	50.22
2nd sub-pillar: Quality of Life	97	57.58
3rd sub-pillar: SDG Contribution	89	57.43

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	56	47.84	
1st sub-pillar: Access	59	67.44	
1.1.1 Mobile tariffs	41	71.85	
1.1.2 Handset prices	53	62.30	
1.1.3 FTTH/building Internet subscriptions	5	68.28	●
1.1.4 Population covered by at least a 3G mobile network	68	99.57	
1.1.5 International Internet bandwidth	2	94.73	●
1.1.6 Internet access in schools	71	7.90	○
2nd sub-pillar: Content	49	41.58	
1.2.1 GitHub commits	66	5.43	
1.2.2 Internet domain registrations	104	0.68	
1.2.3 Mobile apps development	81	72.44	
1.2.4 AI scientific publications	5	87.79	●
3rd sub-pillar: Future Technologies	59	34.49	
1.3.1 Adoption of emerging technologies	53	51.54	
1.3.2 Investment in emerging technologies	26	64.25	●
1.3.3 Robot density	49	0.99	
1.3.4 Computer software spending	59	21.18	

Indicator	Rank	Score	
C. Governance pillar	83	50.96	
1st sub-pillar: Trust	73	40.56	
3.1.1 Secure Internet servers	69	49.26	
3.1.2 Cybersecurity	15	97.46	●
3.1.3 Online access to financial account	117	5.99	○
3.1.4 Internet shopping	84	9.53	
2nd sub-pillar: Regulation	80	60.65	
3.2.1 Regulatory quality	81	37.33	
3.2.2 ICT regulatory environment	64	83.53	
3.2.3 Regulation of emerging technologies	34	63.95	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	92	51.79	
3rd sub-pillar: Inclusion	97	51.68	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	90	54.30	
3.3.3 Availability of local online content	72	58.17	
3.3.4 Gender gap in Internet use	102	11.15	○
3.3.5 Rural gap in use of digital payments	92	49.60	

Indicator	Rank	Score	
B. People pillar	46	50.90	
1st sub-pillar: Individuals	30	55.84	
2.1.1 Mobile broadband internet traffic within the country	2	90.53	●
2.1.2 ICT skills in the education system	102	29.29	
2.1.3 Use of virtual social networks	102	29.31	
2.1.4 Tertiary enrollment	85	18.88	
2.1.5 Adult literacy rate	88	67.04	
2.1.6 AI talent concentration	1	100.00	●
2nd sub-pillar: Businesses	64	42.86	
2.2.1 Firms with website	70	45.52	
2.2.2 GERD financed by business enterprise	49	45.46	
2.2.3 Knowledge intensive employment	88	23.89	
2.2.4 Annual investment in telecommunication services	3	93.12	●
2.2.5 GERD performed by business enterprise	50	6.30	
3rd sub-pillar: Governments	39	54.01	
2.3.1 Government online services	24	84.84	
2.3.2 Publication and use of open data	22	58.82	
2.3.3 Government promotion of investment in emerging tech	70	35.47	
2.3.4 R&D expenditure by governments and higher education	51	36.89	

Indicator	Rank	Score	
D. Impact pillar	62	55.07	
1st sub-pillar: Economy	23	50.22	
4.1.1 High-tech and medium-high-tech manufacturing	37	45.09	
4.1.2 High-tech exports	38	43.45	
4.1.3 PCT patent applications	52	7.68	
4.1.4 Domestic market size	3	90.42	●
4.1.5 Prevalence of gig economy	71	37.50	
4.1.6 ICT services exports	4	77.18	●
2nd sub-pillar: Quality of Life	97	57.58	
4.2.1 Happiness	121	24.56	○
4.2.2 Freedom to make life choices	36	83.24	
4.2.3 Income inequality	58	68.59	
4.2.4 Healthy life expectancy at birth	99	53.91	
3rd sub-pillar: SDG Contribution	89	57.43	
4.3.1 SDG 3: Good Health and Well-Being	94	53.96	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	99	64.04	
4.3.4 SDG 7: Affordable and Clean Energy	77	75.27	
4.3.5 SDG 11: Sustainable Cities and Communities	112	36.45	

NOTE: ● a strength and ○ a weakness.

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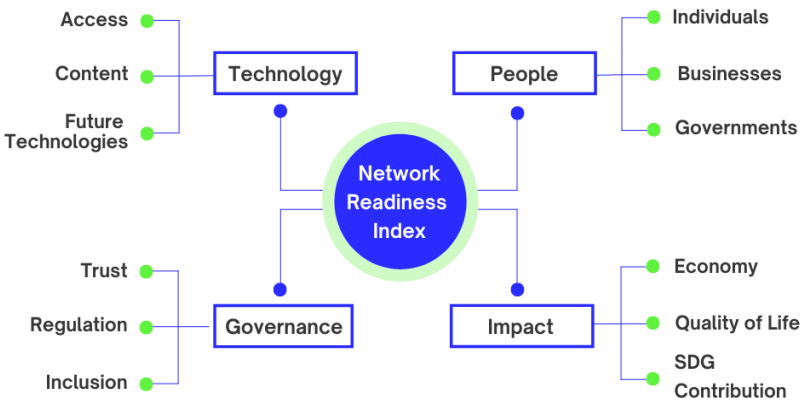
Network Readiness Index 2022 Indonesia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

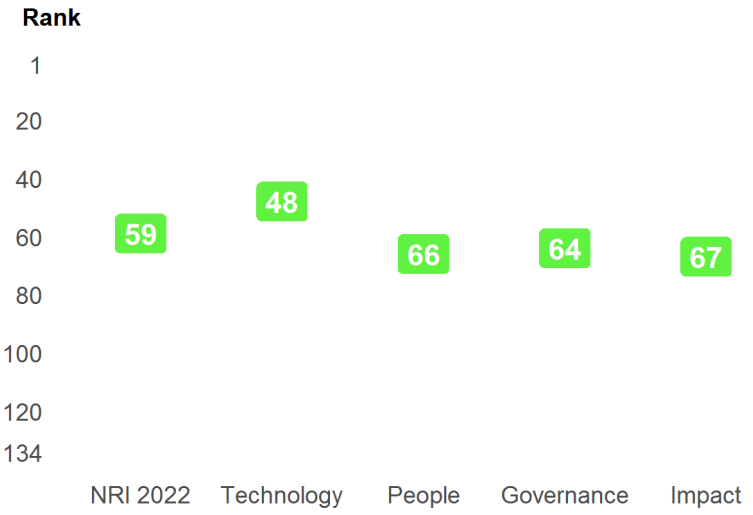
Figure 1: The NRI 2022 model



Global NRI position of Indonesia

Indonesia ranks 59th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Indonesia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Indonesia relate to Individuals, Access and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, SDG Contribution and Businesses sub-pillars.

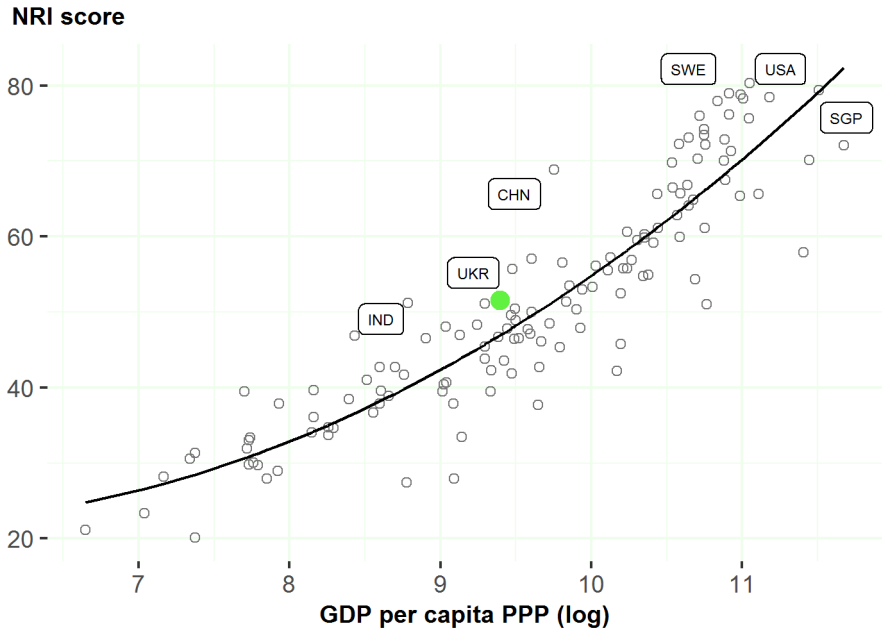
Table 1: Indonesia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	10	Quality of Life	65
Access	36	Content	66
Economy	44	Inclusion	70
Future Technologies	45	Regulation	79
Governments	56	SDG Contribution	97
Trust	64	Businesses	115

NRI score and income

Figure 3 shows the position of Indonesia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Indonesia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Indonesia belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Indonesia is ranked 2nd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Asia & Pacific

Indonesia is ranked 10th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in three of the twelve sub-pillars: Access, Individuals and Regulation.

Figure 4: Performance of Indonesia against its income group and region, overall and by pillar

Table 2: Indonesia scores vs. averages of its income group and region, overall and by pillar

Dimension	Indonesia	Lower-middle-income countries	Asia & Pacific
NRI	51.51	40.94	55.18
Technology	49.82	37.28	51.78
People	45.05	35.42	50.21
Governance	56.93	45.00	59.66
Impact	54.26	46.09	59.07

Strongest and weakest indicators

The indicators where Indonesia performs particularly well include 3.2.4 E-commerce legislation, 2.1.1 Mobile broadband internet traffic within the country, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 2.2.1 Firms with website, and 3.3.5 Rural gap in use of digital payments.

Table 3: Strongest and weakest indicators of Indonesia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	51
2.1.1 Mobile broadband internet traffic within the country	5	4.3.2 SDG 4: Quality Education	71
1.1.3 FTTH/building Internet subscriptions	7	3.3.5 Rural gap in use of digital payments	110
1.1.5 International Internet bandwidth	7	2.2.1 Firms with website	112
4.1.4 Domestic market size	7	3.2.2 ICT regulatory environment	122
2.2.4 Annual investment in telecommunication services	16		
4.1.5 Prevalence of gig economy	17		
2.1.2 ICT skills in the education system	19		
1.3.4 Computer software spending	24		
2.3.3 Government promotion of investment in emerging technologies	25		
1.3.2 Investment in emerging technologies	28		

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NRI 2022 At-A-Glance: Indonesia

Network Readiness Index Rank: 59 (out of 131) Score: 51.51

Pillar/sub-pillar	Rank	Score
A. Technology pillar	48	49.82
1st sub-pillar: Access	36	73.55
2nd sub-pillar: Content	66	36.61
3rd sub-pillar: Future Technologies	45	39.30
B. People pillar	66	45.05
1st sub-pillar: Individuals	10	63.47
2nd sub-pillar: Businesses	115	24.74
3rd sub-pillar: Governments	56	46.94

Pillar/sub-pillar	Rank	Score
C. Governance pillar	64	56.93
1st sub-pillar: Trust	64	47.73
2nd sub-pillar: Regulation	79	60.71
3rd sub-pillar: Inclusion	70	62.35
D. Impact pillar	67	54.26
1st sub-pillar: Economy	44	40.72
2nd sub-pillar: Quality of Life	65	67.80
3rd sub-pillar: SDG Contribution	97	54.25

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	48	49.82	
1st sub-pillar: Access	36	73.55	
1.1.1 Mobile tariffs	36	73.22	
1.1.2 Handset prices	100	38.29	
1.1.3 FTTH/building Internet subscriptions	7	67.26	●
1.1.4 Population covered by at least a 3G mobile network	81	98.74	
1.1.5 International Internet bandwidth	7	90.25	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	66	36.61	
1.2.1 GitHub commits	71	4.34	
1.2.2 Internet domain registrations	95	1.07	
1.2.3 Mobile apps development	83	72.28	
1.2.4 AI scientific publications	27	68.73	
3rd sub-pillar: Future Technologies	45	39.30	
1.3.1 Adoption of emerging technologies	41	59.47	
1.3.2 Investment in emerging technologies	28	62.75	●
1.3.3 Robot density	51	0.76	○
1.3.4 Computer software spending	24	34.21	●

Indicator	Rank	Score	
C. Governance pillar	64	56.93	
1st sub-pillar: Trust	64	47.73	
3.1.1 Secure Internet servers	58	60.15	
3.1.2 Cybersecurity	31	94.79	
3.1.3 Online access to financial account	94	14.96	
3.1.4 Internet shopping	61	21.01	
2nd sub-pillar: Regulation	79	60.71	
3.2.1 Regulatory quality	68	43.20	
3.2.2 ICT regulatory environment	122	56.47	○
3.2.3 Regulation of emerging technologies	37	62.11	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	114	41.77	
3rd sub-pillar: Inclusion	70	62.35	
3.3.1 E-Participation	56	74.07	
3.3.2 Socioeconomic gap in use of digital payments	56	78.99	
3.3.3 Availability of local online content	46	70.19	
3.3.4 Gender gap in Internet use	87	57.52	
3.3.5 Rural gap in use of digital payments	110	30.99	○

Indicator	Rank	Score	
B. People pillar	66	45.05	
1st sub-pillar: Individuals	10	63.47	
2.1.1 Mobile broadband internet traffic within the country	5	62.86	●
2.1.2 ICT skills in the education system	19	72.19	●
2.1.3 Use of virtual social networks	74	63.88	
2.1.4 Tertiary enrollment	77	23.56	
2.1.5 Adult literacy rate	41	94.88	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	115	24.74	
2.2.1 Firms with website	112	12.71	○
2.2.2 GERD financed by business enterprise	80	9.81	
2.2.3 Knowledge intensive employment	105	14.06	
2.2.4 Annual investment in telecommunication services	16	86.71	●
2.2.5 GERD performed by business enterprise	82	0.43	
3rd sub-pillar: Governments	56	46.94	
2.3.1 Government online services	70	67.28	
2.3.2 Publication and use of open data	36	42.65	
2.3.3 Government promotion of investment in emerging tech	25	60.34	
2.3.4 R&D expenditure by governments and higher education	76	17.50	

Indicator	Rank	Score	
D. Impact pillar	67	54.26	
1st sub-pillar: Economy	44	40.72	
4.1.1 High-tech and medium-high-tech manufacturing	43	38.29	
4.1.2 High-tech exports	45	40.31	
4.1.3 PCT patent applications	98	0.09	
4.1.4 Domestic market size	7	80.03	●
4.1.5 Prevalence of gig economy	17	69.77	●
4.1.6 ICT services exports	89	15.83	
2nd sub-pillar: Quality of Life	65	67.80	
4.2.1 Happiness	76	57.95	
4.2.2 Freedom to make life choices	29	86.41	
4.2.3 Income inequality	66	64.57	
4.2.4 Healthy life expectancy at birth	92	62.27	
3rd sub-pillar: SDG Contribution	97	54.25	
4.3.1 SDG 3: Good Health and Well-Being	97	49.89	
4.3.2 SDG 4: Quality Education	71	22.43	○
4.3.3 SDG 5: Women's economic opportunity	113	50.00	
4.3.4 SDG 7: Affordable and Clean Energy	39	84.63	
4.3.5 SDG 11: Sustainable Cities and Communities	69	64.30	

NOTE: ● a strength and ○ a weakness.

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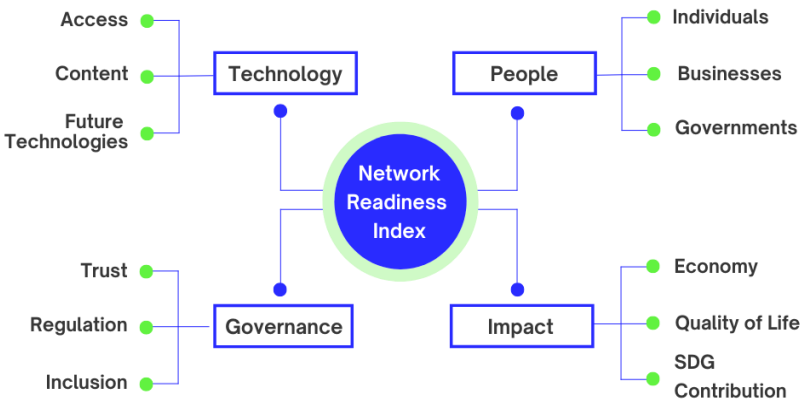
Network Readiness Index 2022 Iran, Islamic Rep.

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

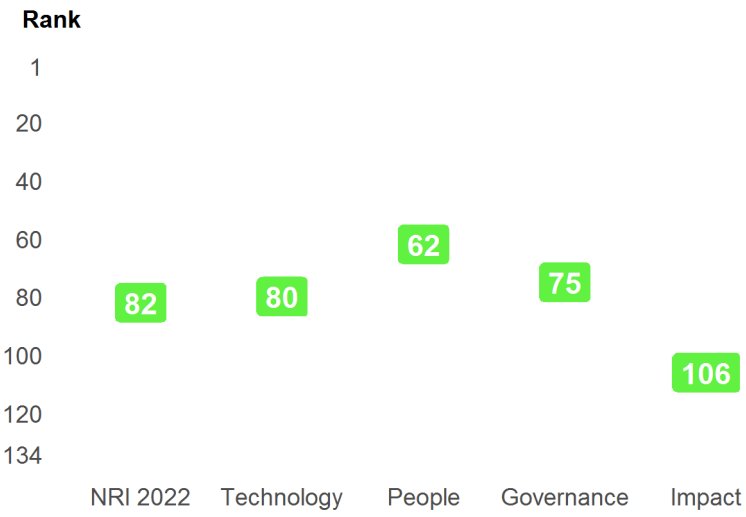
Figure 1: The NRI 2022 model



Global NRI position of Iran, Islamic Rep.

Iran, Islamic Rep. ranks 82nd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Iran, Islamic Rep. global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Iran, Islamic Rep. relate to Trust, Governments and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Regulation and SDG Contribution sub-pillars.

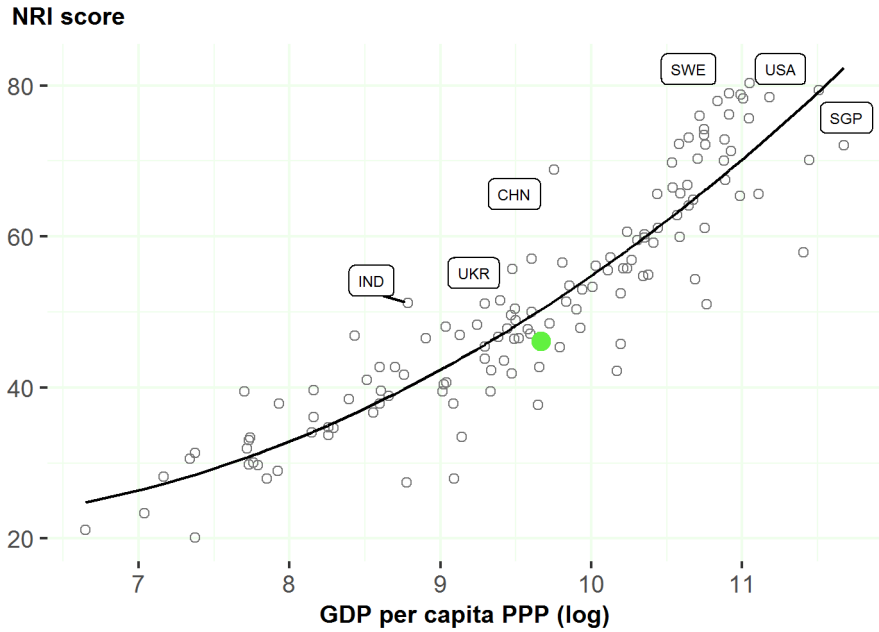
Table 1: Iran, Islamic Rep. rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	44	Businesses	70
Governments	47	Inclusion	74
Content	62	Access	92
Future Technologies	64	Quality of Life	101
Individuals	64	Regulation	121
Economy	65	SDG Contribution	124

NRI score and income

Figure 3 shows the position of Iran, Islamic Rep. in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Iran, Islamic Rep. is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Iran, Islamic Rep. belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Iran, Islamic Rep. is ranked 10th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, people and governance. At the sub-pillar level, it outperforms lower-middle-income countries in eight of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion and Economy.

Asia & Pacific

Iran, Islamic Rep. is ranked 15th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in one of the twelve sub-pillars: Trust.

Figure 4: Performance of Iran, Islamic Rep. against its income group and region, overall and by pillar

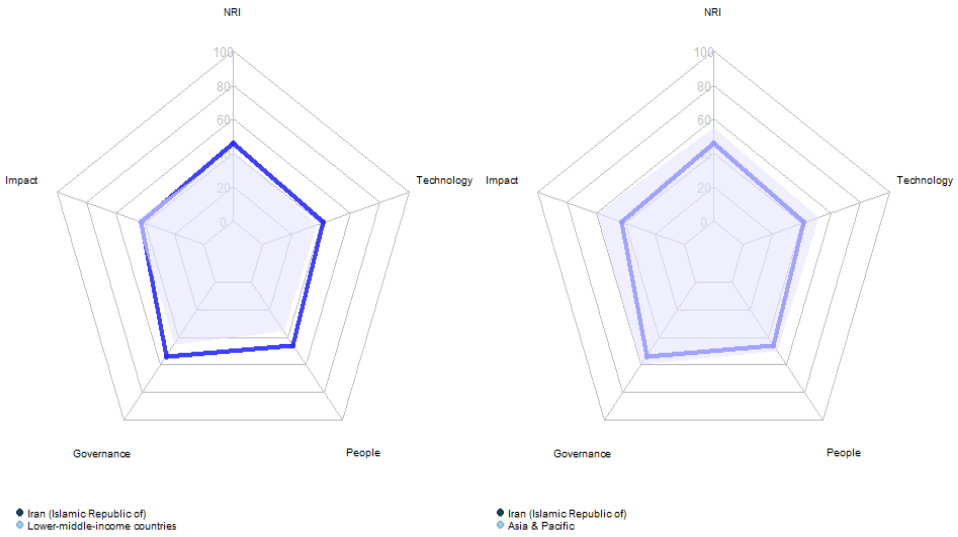


Table 2: Iran, Islamic Rep. scores vs. averages of its income group and region, overall and by pillar

Dimension	Iran, Islamic Rep.	Lower-middle-income countries	Asia & Pacific
NRI	46.07	40.94	55.18
Technology	41.57	37.28	51.78
People	46.02	35.42	50.21
Governance	53.92	45.00	59.66
Impact	42.79	46.09	59.07

Strongest and weakest indicators

The indicators where Iran, Islamic Rep. performs particularly well include 3.3.5 Rural gap in use of digital payments, 1.2.4 AI scientific publications, and 2.1.1 Mobile broadband internet traffic within the country (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 3.2.1 Regulatory quality, and 4.3.3 SDG 5: Women's economic opportunity.

Table 3: Strongest and weakest indicators of Iran, Islamic Rep.

Strongest indicators	Rank	Weakest indicators	Rank
3.3.5 Rural gap in use of digital payments	9	4.1.6 ICT services exports	124
1.2.4 AI scientific publications	10	4.3.4 SDG 7: Affordable and Clean Energy	127
2.1.1 Mobile broadband internet traffic within the country	12	4.3.3 SDG 5: Women's economic opportunity	129
1.1.1 Mobile tariffs	19	3.2.1 Regulatory quality	130
2.2.4 Annual investment in telecommunication services	19	3.2.5 Privacy protection by law content	131
4.1.4 Domestic market size	22		
1.1.5 International Internet bandwidth	23		
2.3.4 R&D expenditure by governments and higher education	23		
1.3.4 Computer software spending	30		
3.1.3 Online access to financial account	33		

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NRI 2022 At-A-Glance: Iran, Islamic Rep.

Network Readiness Index Rank: 82 (out of 131) Score: 46.07

Pillar/sub-pillar	Rank	Score
A. Technology pillar	80	41.57
1st sub-pillar: Access	92	54.99
2nd sub-pillar: Content	62	37.33
3rd sub-pillar: Future Technologies	64	32.40
B. People pillar	62	46.02
1st sub-pillar: Individuals	64	49.25
2nd sub-pillar: Businesses	70	39.69
3rd sub-pillar: Governments	47	49.12

Pillar/sub-pillar	Rank	Score
C. Governance pillar	75	53.92
1st sub-pillar: Trust	44	64.55
2nd sub-pillar: Regulation	121	35.17
3rd sub-pillar: Inclusion	74	62.02
D. Impact pillar	106	42.79
1st sub-pillar: Economy	65	32.26
2nd sub-pillar: Quality of Life	101	53.87
3rd sub-pillar: SDG Contribution	124	42.25

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	80	41.57	
1st sub-pillar: Access	92	54.99	
1.1.1 Mobile tariffs	19	82.25	●
1.1.2 Handset prices	99	38.35	
1.1.3 FTTH/building Internet subscriptions	64	23.66	
1.1.4 Population covered by at least a 3G mobile network	109	94.53	
1.1.5 International Internet bandwidth	23	80.58	●
1.1.6 Internet access in schools	67	10.55	
2nd sub-pillar: Content	62	37.33	
1.2.1 GitHub commits	103	1.36	
1.2.2 Internet domain registrations	56	5.65	
1.2.3 Mobile apps development	106	58.40	
1.2.4 AI scientific publications	10	83.89	●
3rd sub-pillar: Future Technologies	64	32.40	
1.3.1 Adoption of emerging technologies	81	39.26	
1.3.2 Investment in emerging technologies	103	27.75	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	30	30.19	●

Indicator	Rank	Score	
C. Governance pillar	75	53.92	
1st sub-pillar: Trust	44	64.55	
3.1.1 Secure Internet servers	55	62.18	
3.1.2 Cybersecurity	62	80.74	
3.1.3 Online access to financial account	33	50.73	●
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	121	35.17	
3.2.1 Regulatory quality	130	2.13	○
3.2.2 ICT regulatory environment	58	84.71	
3.2.3 Regulation of emerging technologies	101	22.37	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	131	0.00	○
3rd sub-pillar: Inclusion	74	62.02	
3.3.1 E-Participation	103	44.45	
3.3.2 Socioeconomic gap in use of digital payments	39	88.98	
3.3.3 Availability of local online content	92	47.84	
3.3.4 Gender gap in Internet use	92	50.09	
3.3.5 Rural gap in use of digital payments	9	78.75	●

Indicator	Rank	Score	
B. People pillar	62	46.02	
1st sub-pillar: Individuals	64	49.25	
2.1.1 Mobile broadband internet traffic within the country	12	44.75	●
2.1.2 ICT skills in the education system	101	30.47	
2.1.3 Use of virtual social networks	88	51.12	
2.1.4 Tertiary enrollment	52	38.49	
2.1.5 Adult literacy rate	73	81.42	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	70	39.69	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	78	28.39	
2.2.4 Annual investment in telecommunication services	19	85.22	●
2.2.5 GERD performed by business enterprise	53	5.47	
3rd sub-pillar: Governments	47	49.12	
2.3.1 Government online services	85	57.57	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	76	33.71	
2.3.4 R&D expenditure by governments and higher education	23	56.09	●

Indicator	Rank	Score	
D. Impact pillar	106	42.79	
1st sub-pillar: Economy	65	32.26	
4.1.1 High-tech and medium-high-tech manufacturing	29	50.02	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	40	10.99	
4.1.4 Domestic market size	22	69.36	●
4.1.5 Prevalence of gig economy	101	26.16	
4.1.6 ICT services exports	124	4.75	○
2nd sub-pillar: Quality of Life	101	53.87	
4.2.1 Happiness	96	46.46	
4.2.2 Freedom to make life choices	119	39.75	
4.2.3 Income inequality	83	55.53	
4.2.4 Healthy life expectancy at birth	61	73.75	
3rd sub-pillar: SDG Contribution	124	42.25	
4.3.1 SDG 3: Good Health and Well-Being	43	79.11	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	129	3.51	○
4.3.4 SDG 7: Affordable and Clean Energy	127	18.13	○
4.3.5 SDG 11: Sustainable Cities and Communities	60	68.25	

NOTE: ● a strength and ○ a weakness.

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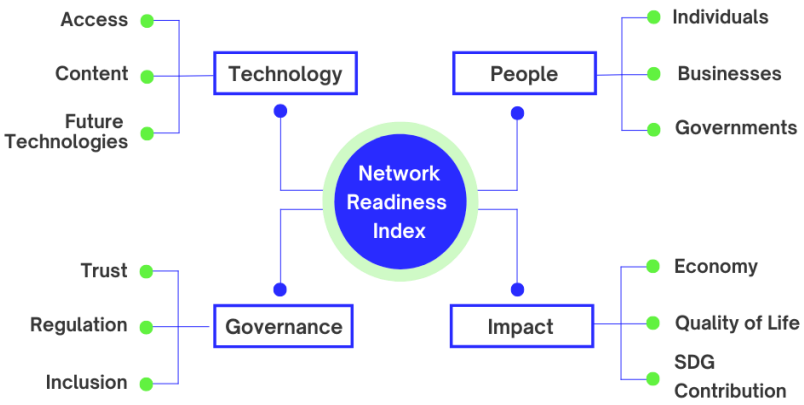
Network Readiness Index 2022 Ireland

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

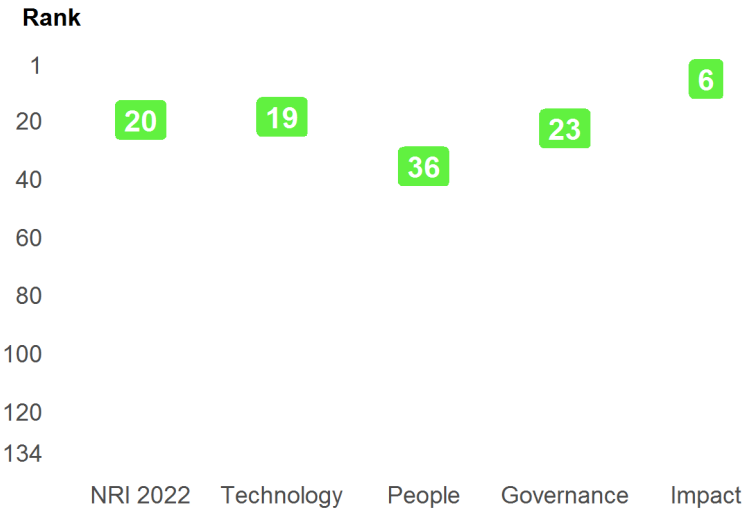
Figure 1: The NRI 2022 model



Global NRI position of Ireland

Ireland ranks 20th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Ireland global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Ireland relate to SDG Contribution, Economy and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Governments and Individuals sub-pillars.

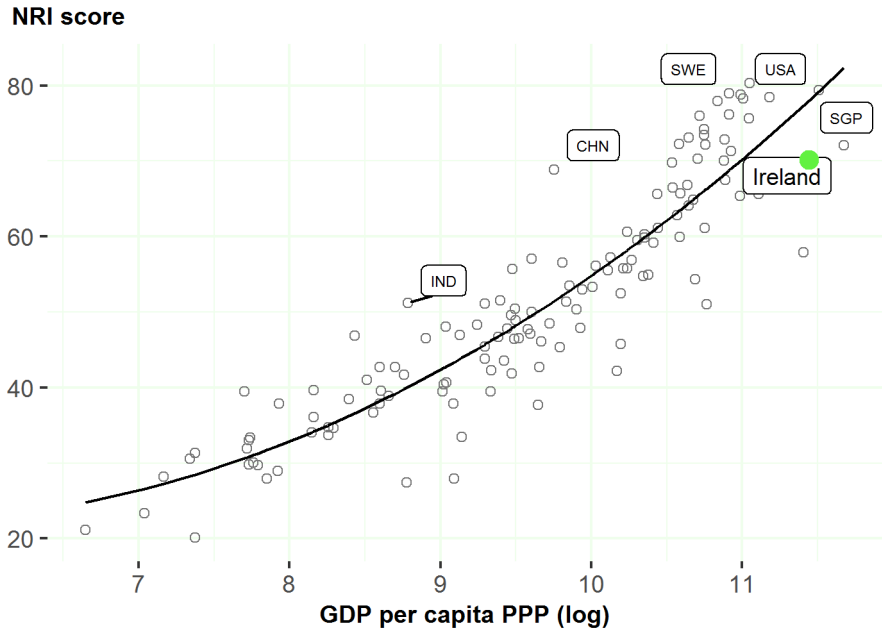
Table 1: Ireland rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	1	Future Technologies	21
Economy	9	Inclusion	23
Content	15	Regulation	28
Businesses	17	Access	31
Quality of Life	18	Governments	41
Trust	20	Individuals	68

NRI score and income

Figure 3 shows the position of Ireland in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Ireland is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Ireland belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Ireland is ranked 20th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, governance and impact. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Trust, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Ireland is ranked 13th within Europe (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, technology, governance and impact. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Ireland against its income group and region, overall and by pillar

Table 2: Ireland scores vs. averages of its income group and region, overall and by pillar

Dimension	Ireland	High-income countries	Europe
NRI	70.15	66.21	63.72
Technology	64.91	60.28	56.43
People	55.90	58.83	56.35
Governance	79.27	76.89	74.79
Impact	80.51	68.86	67.30

Strongest and weakest indicators

The indicators where Ireland performs particularly well include 1.2.3 Mobile apps development, 3.2.4 E-commerce legislation, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 1.1.4 Population covered by at least a 3G mobile network, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Strongest and weakest indicators of Ireland

Strongest indicators	Rank	Weakest indicators	Rank
1.2.3 Mobile apps development	1	2.1.1 Mobile broadband internet traffic within the country	77
3.2.4 E-commerce legislation	1	1.1.3 FTTH/building Internet subscriptions	85
4.1.6 ICT services exports	1	1.1.4 Population covered by at least a 3G mobile network	89
4.3.3 SDG 5: Women's economic opportunity	1	3.2.5 Privacy protection by law content	98
4.3.4 SDG 7: Affordable and Clean Energy	1		
1.1.1 Mobile tariffs	3		
1.3.4 Computer software spending	4		
3.2.2 ICT regulatory environment	4		
4.3.5 SDG 11: Sustainable Cities and Communities	4		
1.1.2 Handset prices	5		
3.1.1 Secure Internet servers	6		
4.1.1 High-tech and medium-high-tech manufacturing	6		

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NRI 2022 At-A-Glance: Ireland

Network Readiness Index — Rank: 20 (out of 131) — Score: 70.15

Pillar/sub-pillar	Rank	Score
A. Technology pillar	19	64.91
1st sub-pillar: Access	31	74.32
2nd sub-pillar: Content	15	68.24
3rd sub-pillar: Future Technologies	21	52.18
B. People pillar	36	55.90
1st sub-pillar: Individuals	68	47.79
2nd sub-pillar: Businesses	17	67.97
3rd sub-pillar: Governments	41	51.94

Pillar/sub-pillar	Rank	Score
C. Governance pillar	23	79.27
1st sub-pillar: Trust	20	78.06
2nd sub-pillar: Regulation	28	78.19
3rd sub-pillar: Inclusion	23	81.54
D. Impact pillar	6	80.51
1st sub-pillar: Economy	9	66.56
2nd sub-pillar: Quality of Life	18	83.49
3rd sub-pillar: SDG Contribution	1	91.47

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	19	64.91	
1st sub-pillar: Access	31	74.32	
1.1.1 Mobile tariffs	3	95.88	●
1.1.2 Handset prices	5	97.08	●
1.1.3 FTTH/building Internet subscriptions	85	12.47	○
1.1.4 Population covered by at least a 3G mobile network	89	98.33	○
1.1.5 International Internet bandwidth	84	67.86	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	15	68.24	
1.2.1 GitHub commits	13	62.79	
1.2.2 Internet domain registrations	22	41.93	
1.2.3 Mobile apps development	1	100.00	●
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	21	52.18	
1.3.1 Adoption of emerging technologies	26	71.34	
1.3.2 Investment in emerging technologies	18	70.50	
1.3.3 Robot density	32	7.96	
1.3.4 Computer software spending	4	58.91	●
B. People pillar	36	55.90	

Indicator	Rank	Score	
C. Governance pillar	23	79.27	
1st sub-pillar: Trust	20	78.06	
3.1.1 Secure Internet servers	6	93.04	●
3.1.2 Cybersecurity	54	85.61	
3.1.3 Online access to financial account	32	50.93	
3.1.4 Internet shopping	11	82.66	
2nd sub-pillar: Regulation	28	78.19	
3.2.1 Regulatory quality	16	80.27	
3.2.2 ICT regulatory environment	4	97.65	●
3.2.3 Regulation of emerging technologies	35	62.89	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	98	50.16	○
3rd sub-pillar: Inclusion	23	81.54	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	25	93.94	
3.3.3 Availability of local online content	38	77.16	
3.3.4 Gender gap in Internet use	13	76.96	
3.3.5 Rural gap in use of digital payments	31	74.48	
D. Impact pillar	6	80.51	

Indicator	Rank	Score	
1st sub-pillar: Individuals	68	47.79	
2.1.1 Mobile broadband internet traffic within the country	77	5.74	○
2.1.2 ICT skills in the education system	17	77.51	
2.1.3 Use of virtual social networks	48	73.71	
2.1.4 Tertiary enrollment	26	50.04	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	12	31.97	
2nd sub-pillar: Businesses	17	67.97	
2.2.1 Firms with website	17	84.18	
2.2.2 GERD financed by business enterprise	11	77.67	
2.2.3 Knowledge intensive employment	16	73.40	
2.2.4 Annual investment in telecommunication services	41	80.73	
2.2.5 GERD performed by business enterprise	26	23.88	
3rd sub-pillar: Governments	41	51.94	
2.3.1 Government online services	46	76.37	
2.3.2 Publication and use of open data	30	48.53	
2.3.3 Government promotion of investment in emerging tech	27	57.74	
2.3.4 R&D expenditure by governments and higher education	63	25.11	

Indicator	Rank	Score	
1st sub-pillar: Economy	9	66.56	
4.1.1 High-tech and medium-high-tech manufacturing	6	77.76	●
4.1.2 High-tech exports	20	59.35	
4.1.3 PCT patent applications	21	38.62	
4.1.4 Domestic market size	40	61.98	
4.1.5 Prevalence of gig economy	31	61.63	
4.1.6 ICT services exports	1	100.00	●
2nd sub-pillar: Quality of Life	18	83.49	
4.2.1 Happiness	19	82.78	
4.2.2 Freedom to make life choices	44	79.89	
4.2.3 Income inequality	24	81.41	
4.2.4 Healthy life expectancy at birth	17	89.89	
3rd sub-pillar: SDG Contribution	1	91.47	
4.3.1 SDG 3: Good Health and Well-Being	24	89.29	
4.3.2 SDG 4: Quality Education	10	70.71	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	1	100.00	●
4.3.5 SDG 11: Sustainable Cities and Communities	4	97.34	●

NOTE: ● a strength and ○ a weakness.

Sources

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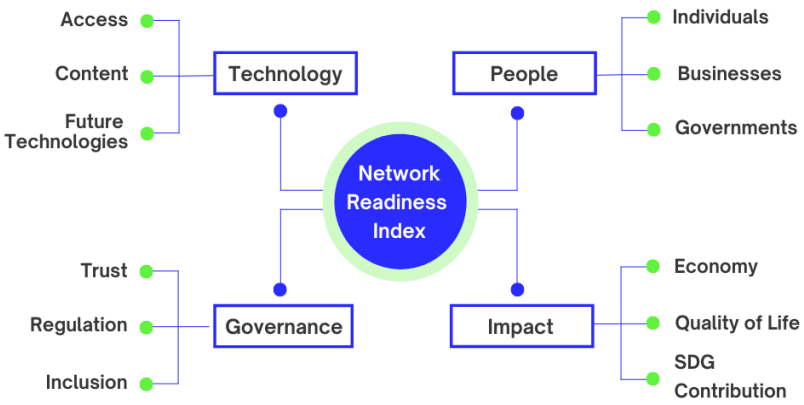
Network Readiness Index 2022 Israel

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

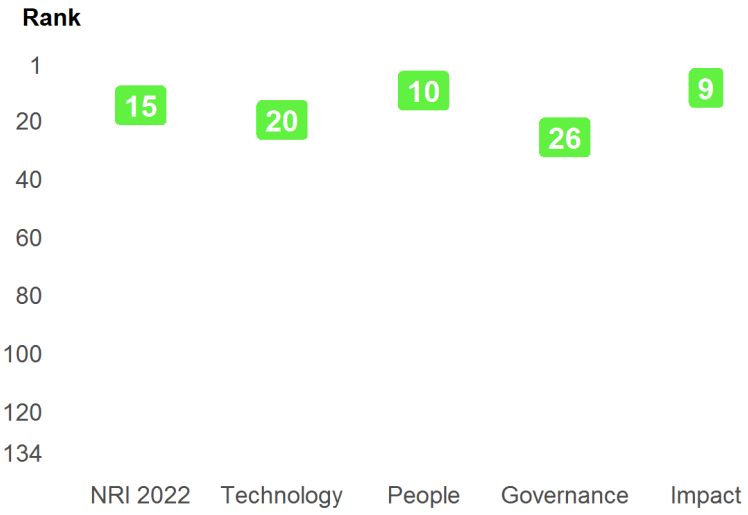
Figure 1: The NRI 2022 model



Global NRI position of Israel

Israel ranks 15th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Israel global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Israel relate to Individuals, Economy and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Inclusion and Access sub-pillars.

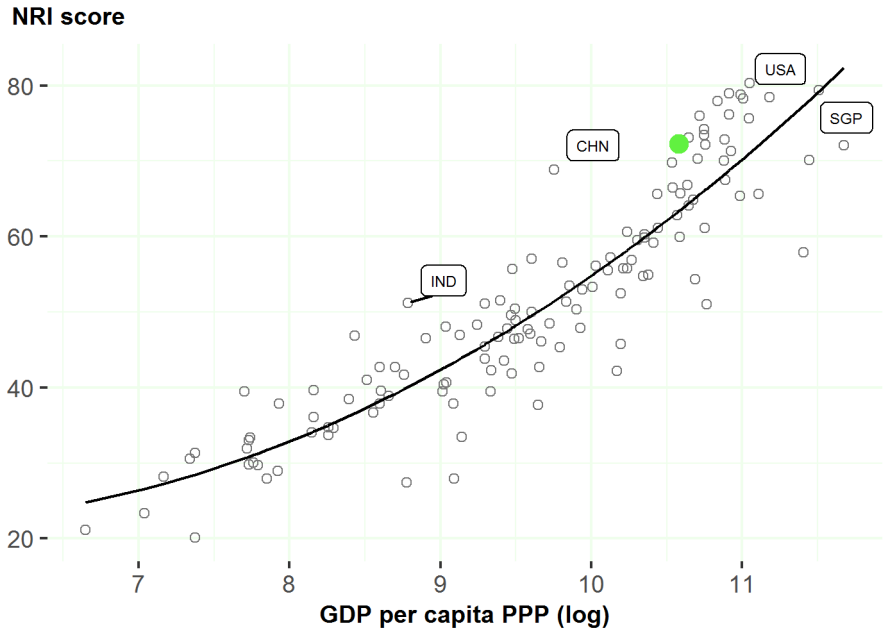
Table 1: Israel rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	2	Governments	21
Economy	4	Quality of Life	22
Businesses	13	SDG Contribution	27
Future Technologies	17	Trust	31
Content	19	Inclusion	32
Regulation	19	Access	40

NRI score and income

Figure 3 shows the position of Israel in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Israel is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Israel belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Israel is ranked 15th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Governments, Regulation, Economy, Quality of Life and SDG Contribution.

Europe

Israel is ranked 9th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Israel against its income group and region, overall and by pillar

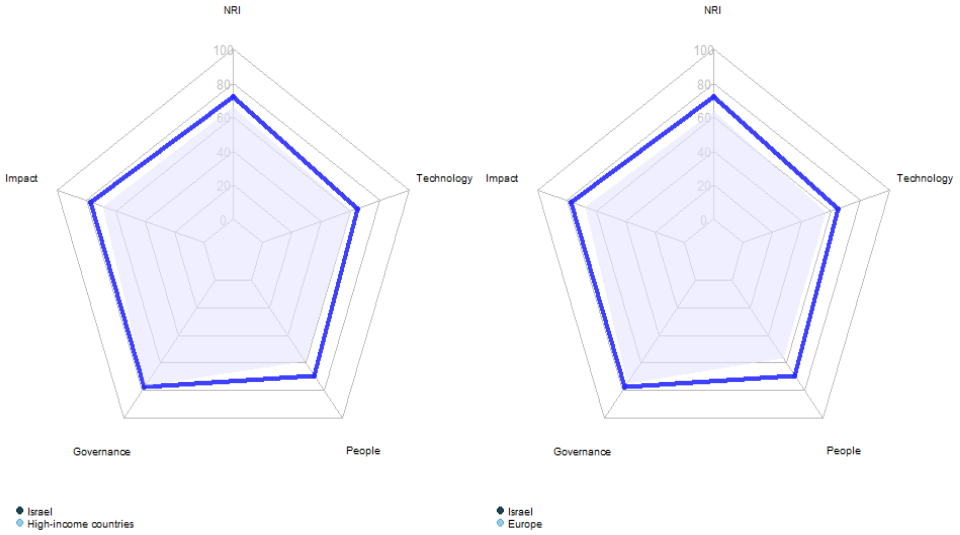


Table 2: Israel scores vs. averages of its income group and region, overall and by pillar

Dimension	Israel	High-income countries	Europe
NRI	72.20	66.21	63.72
Technology	64.64	60.28	56.43
People	69.25	58.83	56.35
Governance	77.63	76.89	74.79
Impact	77.27	68.86	67.30

Strongest and weakest indicators

The indicators where Israel performs particularly well include 2.1.6 AI talent concentration, 2.2.5 GERD performed by business enterprise, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 1.1.5 International Internet bandwidth, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Strongest and weakest indicators of Israel

Strongest indicators	Rank	Weakest indicators	Rank
2.1.6 AI talent concentration	1	4.2.3 Income inequality	72
2.2.5 GERD performed by business enterprise	1	1.1.3 FTTH/building Internet subscriptions	73
3.2.4 E-commerce legislation	1	1.1.5 International Internet bandwidth	82
1.3.2 Investment in emerging technologies	2	3.2.2 ICT regulatory environment	90
4.1.6 ICT services exports	3		
4.2.1 Happiness	3		
1.3.1 Adoption of emerging technologies	4		
3.2.3 Regulation of emerging technologies	4		
3.3.3 Availability of local online content	5		
2.3.3 Government promotion of investment in emerging technologies	6		
4.1.3 PCT patent applications	6		
4.2.4 Healthy life expectancy at birth	6		

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NRI 2022 At-A-Glance: Israel

Network Readiness Index Rank: 15 (out of 131) Score: 72.20

Pillar/sub-pillar	Rank	Score
A. Technology pillar	20	64.64
1st sub-pillar: Access	40	72.50
2nd sub-pillar: Content	19	65.32
3rd sub-pillar: Future Technologies	17	56.12
B. People pillar	10	69.25
1st sub-pillar: Individuals	2	73.77
2nd sub-pillar: Businesses	13	70.79
3rd sub-pillar: Governments	21	63.20

Pillar/sub-pillar	Rank	Score
C. Governance pillar	26	77.63
1st sub-pillar: Trust	31	70.75
2nd sub-pillar: Regulation	19	83.42
3rd sub-pillar: Inclusion	32	78.73
D. Impact pillar	9	77.27
1st sub-pillar: Economy	4	69.04
2nd sub-pillar: Quality of Life	22	81.77
3rd sub-pillar: SDG Contribution	27	80.99

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	20	64.64	
1st sub-pillar: Access	40	72.50	
1.1.1 Mobile tariffs	8	89.40	
1.1.2 Handset prices	28	72.89	
1.1.3 FTTH/building Internet subscriptions	73	19.13	○
1.1.4 Population covered by at least a 3G mobile network	55	99.68	
1.1.5 International Internet bandwidth	82	68.89	○
1.1.6 Internet access in schools	37	85.00	
2nd sub-pillar: Content	19	65.32	
1.2.1 GitHub commits	9	69.68	
1.2.2 Internet domain registrations	39	15.57	
1.2.3 Mobile apps development	11	98.62	
1.2.4 AI scientific publications	16	77.38	
3rd sub-pillar: Future Technologies	17	56.12	
1.3.1 Adoption of emerging technologies	4	96.84	●
1.3.2 Investment in emerging technologies	2	96.25	●
1.3.3 Robot density	27	10.63	
1.3.4 Computer software spending	61	20.74	

Indicator	Rank	Score	
C. Governance pillar	26	77.63	
1st sub-pillar: Trust	31	70.75	
3.1.1 Secure Internet servers	41	75.18	
3.1.2 Cybersecurity	44	90.77	
3.1.3 Online access to financial account	25	58.49	
3.1.4 Internet shopping	34	58.58	
2nd sub-pillar: Regulation	19	83.42	
3.2.1 Regulatory quality	21	74.13	
3.2.2 ICT regulatory environment	90	71.18	○
3.2.3 Regulation of emerging technologies	4	91.58	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	32	80.21	
3rd sub-pillar: Inclusion	32	78.73	
3.3.1 E-Participation	64	70.37	
3.3.2 Socioeconomic gap in use of digital payments	37	89.70	
3.3.3 Availability of local online content	5	95.91	●
3.3.4 Gender gap in Internet use	40	72.10	
3.3.5 Rural gap in use of digital payments	61	65.55	

Indicator	Rank	Score	
B. People pillar	10	69.25	
1st sub-pillar: Individuals	2	73.77	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	12	80.77	
2.1.3 Use of virtual social networks	46	74.39	
2.1.4 Tertiary enrollment	49	39.92	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	1	100.00	●
2nd sub-pillar: Businesses	13	70.79	
2.2.1 Firms with website	51	60.94	
2.2.2 GERD financed by business enterprise	44	47.09	
2.2.3 Knowledge intensive employment	11	75.14	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	1	100.00	●
3rd sub-pillar: Governments	21	63.20	
2.3.1 Government online services	54	73.94	
2.3.2 Publication and use of open data	31	47.06	
2.3.3 Government promotion of investment in emerging tech	6	83.26	
2.3.4 R&D expenditure by governments and higher education	34	48.54	

Indicator	Rank	Score	
D. Impact pillar	9	77.27	
1st sub-pillar: Economy	4	69.04	
4.1.1 High-tech and medium-high-tech manufacturing	38	44.31	
4.1.2 High-tech exports	13	67.14	
4.1.3 PCT patent applications	6	77.62	●
4.1.4 Domestic market size	48	59.16	
4.1.5 Prevalence of gig economy	8	84.30	
4.1.6 ICT services exports	3	81.69	●
2nd sub-pillar: Quality of Life	22	81.77	
4.2.1 Happiness	3	96.14	●
4.2.2 Freedom to make life choices	59	75.39	
4.2.3 Income inequality	72	61.31	○
4.2.4 Healthy life expectancy at birth	6	94.25	●
3rd sub-pillar: SDG Contribution	27	80.99	
4.3.1 SDG 3: Good Health and Well-Being	19	91.69	
4.3.2 SDG 4: Quality Education	38	55.21	
4.3.3 SDG 5: Women's economic opportunity	74	72.81	
4.3.4 SDG 7: Affordable and Clean Energy	17	90.06	
4.3.5 SDG 11: Sustainable Cities and Communities	10	95.18	

NOTE: ● a strength and ○ a weakness.

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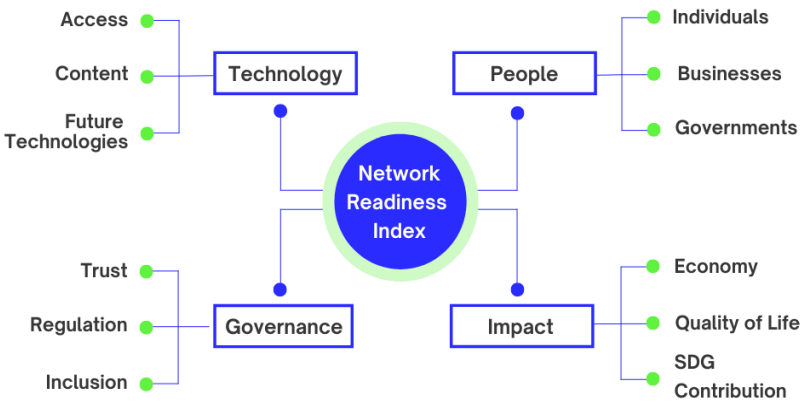
Network Readiness Index 2022 Italy

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

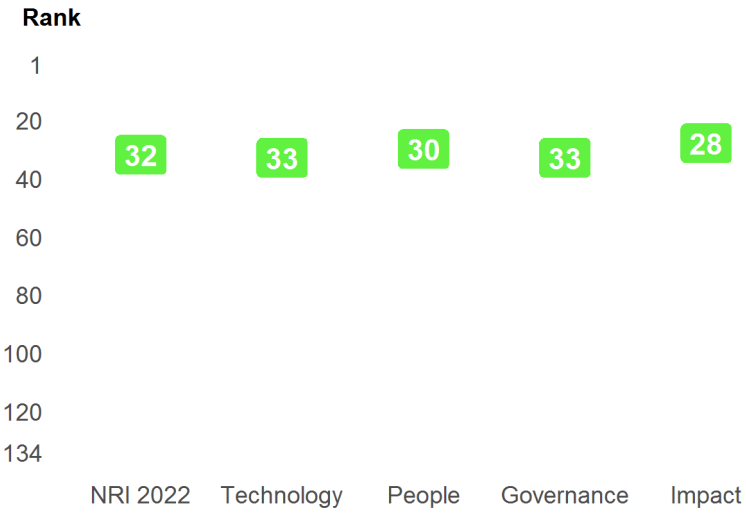
Figure 1: The NRI 2022 model



Global NRI position of Italy

Italy ranks 32nd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology and Governance.

Figure 2: Italy global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Italy relate to SDG Contribution, Economy and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Individuals and Quality of Life sub-pillars.

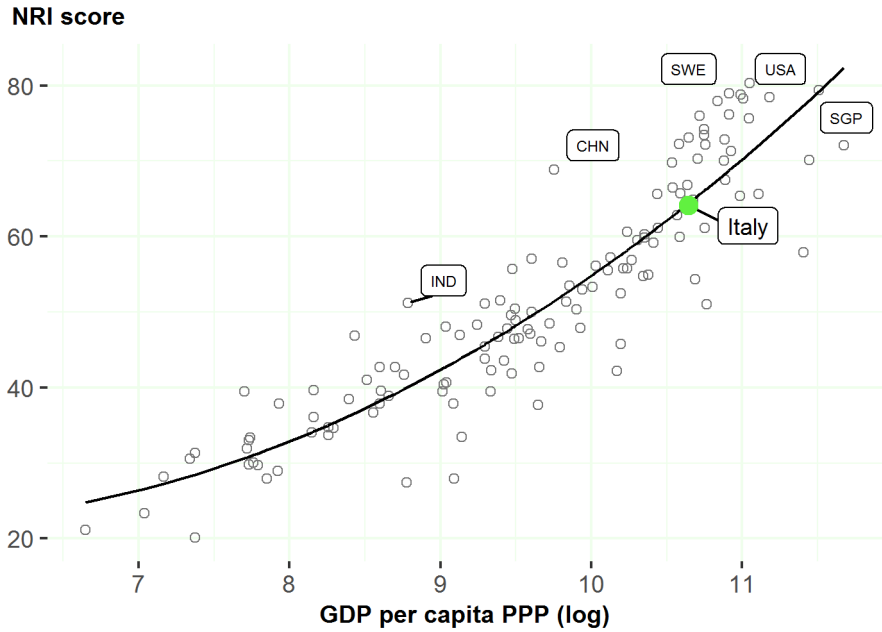
Table 1: Italy rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	21	Governments	37
Economy	22	Inclusion	37
Access	23	Trust	40
Future Technologies	25	Content	44
Businesses	28	Individuals	46
Regulation	31	Quality of Life	48

NRI score and income

Figure 3 shows the position of Italy in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Italy is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Italy belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Italy is ranked 31st in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: impact. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Access, Businesses, Economy and SDG Contribution.

Europe

Italy is ranked 22nd within Europe (Figure 4, right panel). It has a score above the regional average in two of the four pillars: nri.score, people and impact. With regard to sub-pillars, it outperforms the average in Europe in seven of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Inclusion, Economy and SDG Contribution.

Figure 4: Performance of Italy against its income group and region, overall and by pillar

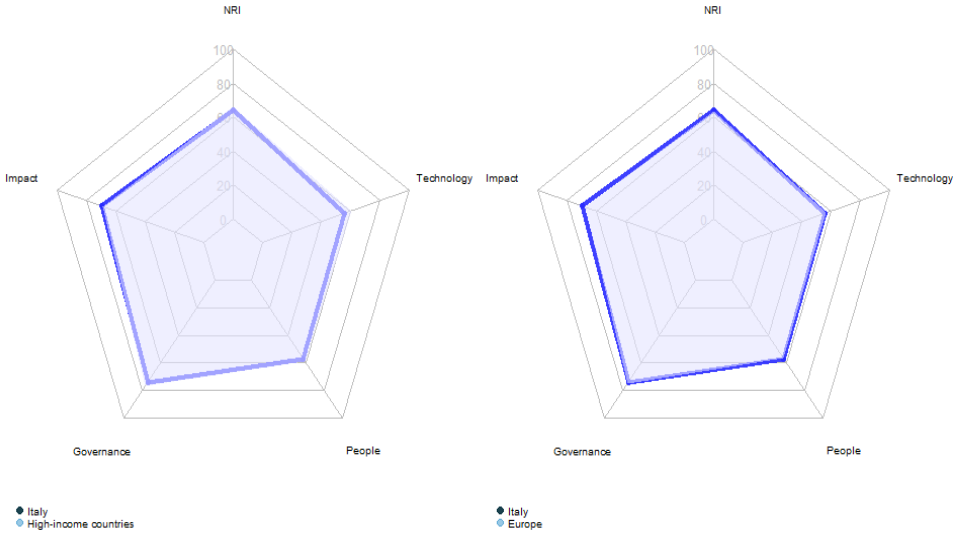


Table 2: Italy scores vs. averages of its income group and region, overall and by pillar

Dimension	Italy	High-income countries	Europe
NRI	64.11	66.21	63.72
Technology	55.69	60.28	56.43
People	57.22	58.83	56.35
Governance	73.91	76.89	74.79
Impact	69.63	68.86	67.30

Strongest and weakest indicators

The indicators where Italy performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 3.2.2 ICT regulatory environment, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 3.3.4 Gender gap in Internet use, and 4.1.6 ICT services exports.

Table 3: Strongest and weakest indicators of Italy

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.1.6 AI talent concentration	31
3.2.2 ICT regulatory environment	1	4.1.6 ICT services exports	72
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	84
3.3.5 Rural gap in use of digital payments	6	4.2.2 Freedom to make life choices	107
1.3.4 Computer software spending	8		
2.2.4 Annual investment in telecommunication services	8		
4.2.4 Healthy life expectancy at birth	10		
1.1.1 Mobile tariffs	11		
4.1.4 Domestic market size	12		
2.1.1 Mobile broadband internet traffic within the country	14		
1.1.2 Handset prices	15		
4.3.4 SDG 7: Affordable and Clean Energy	15		

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NRI 2022 At-A-Glance: Italy

Network Readiness Index — Rank: 32 (out of 131) — Score: 64.11

Pillar/sub-pillar	Rank	Score
A. Technology pillar	33	55.69
1st sub-pillar: Access	23	75.66
2nd sub-pillar: Content	44	43.11
3rd sub-pillar: Future Technologies	25	48.29
B. People pillar	30	57.22
1st sub-pillar: Individuals	46	52.42
2nd sub-pillar: Businesses	28	62.90
3rd sub-pillar: Governments	37	56.35

Pillar/sub-pillar	Rank	Score
C. Governance pillar	33	73.91
1st sub-pillar: Trust	40	66.63
2nd sub-pillar: Regulation	31	77.42
3rd sub-pillar: Inclusion	37	77.69
D. Impact pillar	28	69.63
1st sub-pillar: Economy	22	51.06
2nd sub-pillar: Quality of Life	48	73.63
3rd sub-pillar: SDG Contribution	21	84.21

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	33	55.69	
1st sub-pillar: Access	23	75.66	
1.1.1 Mobile tariffs	11	88.36	●
1.1.2 Handset prices	15	83.14	●
1.1.3 FTTH/building Internet subscriptions	35	37.33	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	41	75.14	
1.1.6 Internet access in schools	42	70.00	
2nd sub-pillar: Content	44	43.11	
1.2.1 GitHub commits	39	17.25	
1.2.2 Internet domain registrations	36	20.06	
1.2.3 Mobile apps development	31	92.03	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	25	48.29	
1.3.1 Adoption of emerging technologies	32	65.18	
1.3.2 Investment in emerging technologies	61	41.00	
1.3.3 Robot density	13	32.36	
1.3.4 Computer software spending	8	54.61	●

Indicator	Rank	Score	
C. Governance pillar	33	73.91	
1st sub-pillar: Trust	40	66.63	
3.1.1 Secure Internet servers	34	79.29	
3.1.2 Cybersecurity	27	96.06	
3.1.3 Online access to financial account	68	26.71	
3.1.4 Internet shopping	26	64.45	
2nd sub-pillar: Regulation	31	77.42	
3.2.1 Regulatory quality	47	54.40	
3.2.2 ICT regulatory environment	1	100.00	●
3.2.3 Regulation of emerging technologies	38	61.84	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	54	70.88	
3rd sub-pillar: Inclusion	37	77.69	
3.3.1 E-Participation	41	81.48	
3.3.2 Socioeconomic gap in use of digital payments	29	92.67	
3.3.3 Availability of local online content	41	75.00	
3.3.4 Gender gap in Internet use	84	59.53	○
3.3.5 Rural gap in use of digital payments	6	79.77	●

Indicator	Rank	Score	
B. People pillar	30	57.22	
1st sub-pillar: Individuals	46	52.42	
2.1.1 Mobile broadband internet traffic within the country	14	40.95	●
2.1.2 ICT skills in the education system	55	51.78	
2.1.3 Use of virtual social networks	66	66.50	
2.1.4 Tertiary enrollment	41	43.82	
2.1.5 Adult literacy rate	15	99.19	
2.1.6 AI talent concentration	31	12.28	○
2nd sub-pillar: Businesses	28	62.90	
2.2.1 Firms with website	31	75.40	
2.2.2 GERD financed by business enterprise	19	69.18	
2.2.3 Knowledge intensive employment	42	54.69	
2.2.4 Annual investment in telecommunication services	8	90.73	●
2.2.5 GERD performed by business enterprise	23	24.48	
3rd sub-pillar: Governments	37	56.35	
2.3.1 Government online services	36	82.42	
2.3.2 Publication and use of open data	20	61.76	
2.3.3 Government promotion of investment in emerging tech	69	35.66	
2.3.4 R&D expenditure by governments and higher education	39	45.57	

Indicator	Rank	Score	
D. Impact pillar	28	69.63	
1st sub-pillar: Economy	22	51.06	
4.1.1 High-tech and medium-high-tech manufacturing	27	51.60	
4.1.2 High-tech exports	27	52.99	
4.1.3 PCT patent applications	24	35.59	
4.1.4 Domestic market size	12	77.39	●
4.1.5 Prevalence of gig economy	32	61.34	
4.1.6 ICT services exports	72	27.47	○
2nd sub-pillar: Quality of Life	48	73.63	
4.2.1 Happiness	30	76.36	
4.2.2 Freedom to make life choices	107	55.59	○
4.2.3 Income inequality	56	69.85	
4.2.4 Healthy life expectancy at birth	10	92.72	●
3rd sub-pillar: SDG Contribution	21	84.21	
4.3.1 SDG 3: Good Health and Well-Being	21	90.22	
4.3.2 SDG 4: Quality Education	34	59.84	
4.3.3 SDG 5: Women's economic opportunity	11	96.49	
4.3.4 SDG 7: Affordable and Clean Energy	15	90.56	●
4.3.5 SDG 11: Sustainable Cities and Communities	30	83.93	

NOTE: ● a strength and ○ a weakness.

Sources

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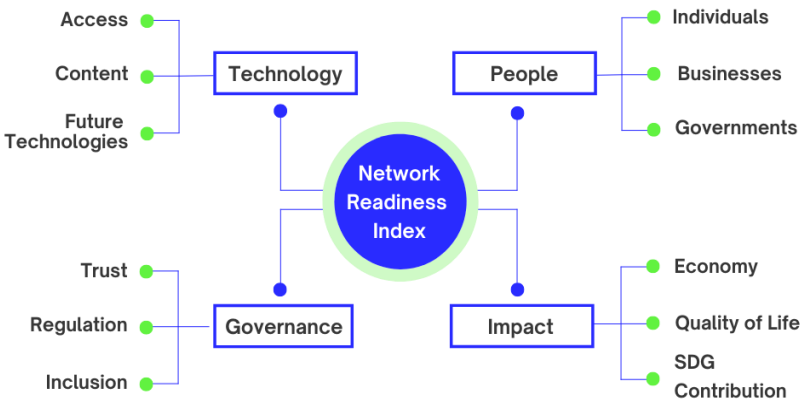
Network Readiness Index 2022 Jamaica

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

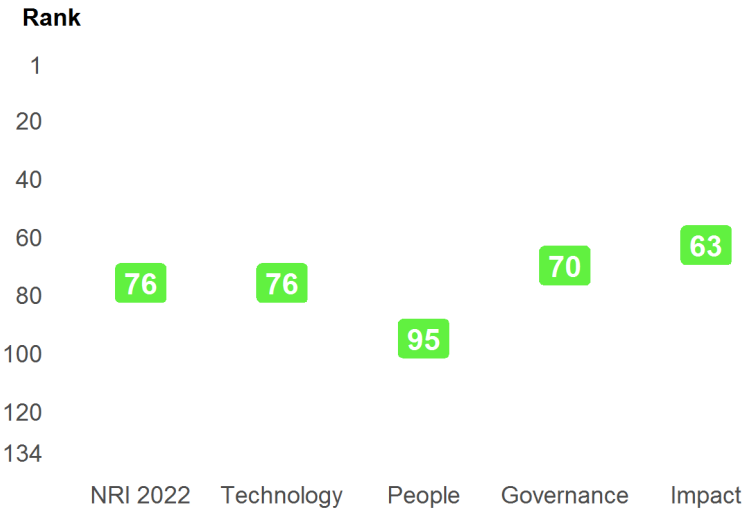
Figure 1: The NRI 2022 model



Global NRI position of Jamaica

Jamaica ranks 76th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Jamaica global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Jamaica relate to Regulation, Future Technologies and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Businesses and Trust sub-pillars.

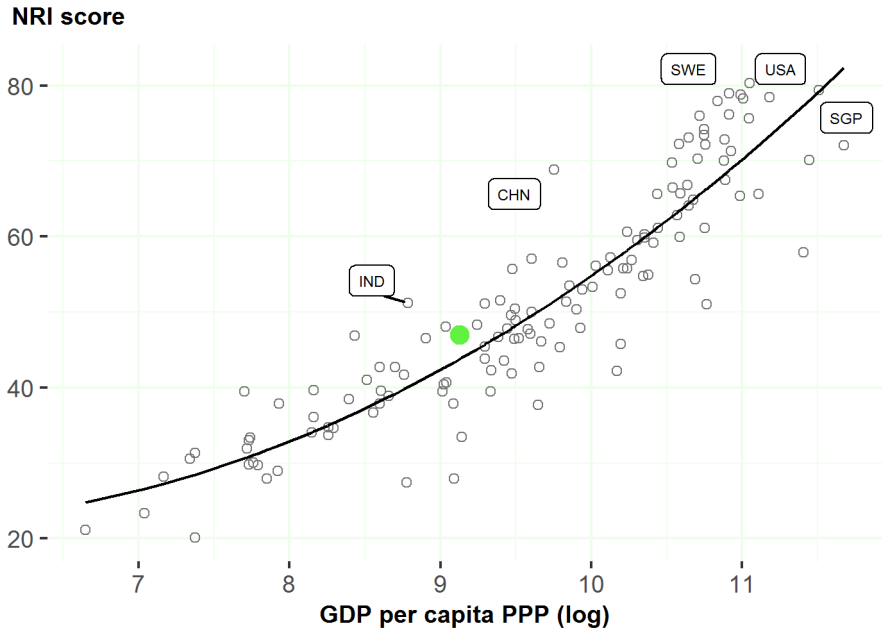
Table 1: Jamaica rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	29	Access	82
Future Technologies	43	Governments	89
SDG Contribution	56	Content	92
Economy	70	Individuals	94
Quality of Life	75	Businesses	97
Inclusion	81	Trust	98

NRI score and income

Figure 3 shows the position of Jamaica in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Jamaica is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Jamaica belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Jamaica is ranked 23rd in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: impact. At the sub-pillar level, it outperforms upper-middle-income countries in four of the twelve sub-pillars: Future Technologies, Regulation, Quality of Life and SDG Contribution.

The Americas

Jamaica is ranked 10th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in two of the twelve sub-pillars: Future Technologies and Regulation.

Figure 4: Performance of Jamaica against its income group and region, overall and by pillar

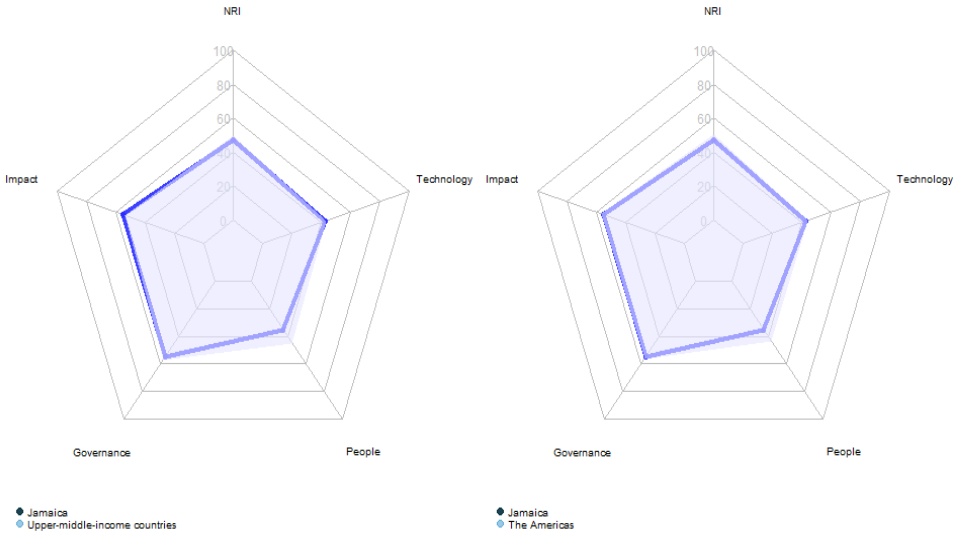


Table 2: Jamaica scores vs. averages of its income group and region, overall and by pillar

Dimension	Jamaica	Upper-middle-income countries	The Americas
NRI	46.96	49.66	50.09
Technology	42.51	43.11	44.16
People	35.10	44.94	43.67
Governance	55.16	57.08	56.24
Impact	55.07	53.50	56.30

Strongest and weakest indicators

The indicators where Jamaica performs particularly well include 3.2.4 E-commerce legislation, 3.3.4 Gender gap in Internet use, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 2.3.1 Government online services, and 3.3.1 E-Participation.

Table 3: Strongest and weakest indicators of Jamaica

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.1.2 High-tech exports	102
3.3.4 Gender gap in Internet use	2	2.1.1 Mobile broadband internet traffic within the country	106
3.2.5 Privacy protection by law content	6	3.3.1 E-Participation	113
1.3.4 Computer software spending	23	2.3.1 Government online services	115
1.1.6 Internet access in schools	39	4.1.4 Domestic market size	120
4.3.5 SDG 11: Sustainable Cities and Communities	42		
4.1.6 ICT services exports	46		
2.3.2 Publication and use of open data	47		
4.1.5 Prevalence of gig economy	56		
4.2.4 Healthy life expectancy at birth	58		
4.2.1 Happiness	63		

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NRI 2022 At-A-Glance: Jamaica

Network Readiness Index — Rank: 76 (out of 131) — Score: 46.96

Pillar/sub-pillar	Rank	Score
A. Technology pillar	76	42.51
1st sub-pillar: Access	82	58.53
2nd sub-pillar: Content	92	29.52
3rd sub-pillar: Future Technologies	43	39.49
B. People pillar	95	35.10
1st sub-pillar: Individuals	94	38.76
2nd sub-pillar: Businesses	97	31.31
3rd sub-pillar: Governments	89	35.24

Pillar/sub-pillar	Rank	Score
C. Governance pillar	70	55.16
1st sub-pillar: Trust	98	30.12
2nd sub-pillar: Regulation	29	77.63
3rd sub-pillar: Inclusion	81	57.73
D. Impact pillar	63	55.07
1st sub-pillar: Economy	70	29.78
2nd sub-pillar: Quality of Life	75	66.59
3rd sub-pillar: SDG Contribution	56	68.83

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	76	42.51	
1st sub-pillar: Access	82	58.53	
1.1.1 Mobile tariffs	103	37.13	
1.1.2 Handset prices	80	46.09	
1.1.3 FTTH/building Internet subscriptions	65	22.57	
1.1.4 Population covered by at least a 3G mobile network	55	99.68	
1.1.5 International Internet bandwidth	86	66.87	
1.1.6 Internet access in schools	39	78.83	●
2nd sub-pillar: Content	92	29.52	
1.2.1 GitHub commits	87	2.80	
1.2.2 Internet domain registrations	90	1.32	
1.2.3 Mobile apps development	87	71.00	
1.2.4 AI scientific publications	63	42.95	
3rd sub-pillar: Future Technologies	43	39.49	
1.3.1 Adoption of emerging technologies	75	43.00	
1.3.2 Investment in emerging technologies	71	38.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	23	37.48	●

Indicator	Rank	Score	
C. Governance pillar	70	55.16	
1st sub-pillar: Trust	98	30.12	
3.1.1 Secure Internet servers	94	40.50	
3.1.2 Cybersecurity	105	31.34	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	67	18.51	
2nd sub-pillar: Regulation	29	77.63	
3.2.1 Regulatory quality	67	43.47	
3.2.2 ICT regulatory environment	84	74.71	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	6	92.35	●
3rd sub-pillar: Inclusion	81	57.73	
3.3.1 E-Participation	113	34.56	○
3.3.2 Socioeconomic gap in use of digital payments	84	56.09	
3.3.3 Availability of local online content	65	60.34	
3.3.4 Gender gap in Internet use	2	96.76	●
3.3.5 Rural gap in use of digital payments	101	40.88	

Indicator	Rank	Score	
B. People pillar	95	35.10	
1st sub-pillar: Individuals	94	38.76	
2.1.1 Mobile broadband internet traffic within the country	106	1.13	○
2.1.2 ICT skills in the education system	89	36.69	
2.1.3 Use of virtual social networks	86	53.94	
2.1.4 Tertiary enrollment	87	17.31	
2.1.5 Adult literacy rate	69	84.71	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	97	31.31	
2.2.1 Firms with website	94	31.08	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	71	31.54	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	89	35.24	
2.3.1 Government online services	115	36.97	○
2.3.2 Publication and use of open data	47	35.29	●
2.3.3 Government promotion of investment in emerging tech	78	33.47	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	63	55.07	
1st sub-pillar: Economy	70	29.78	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	102	4.42	○
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	120	32.23	○
4.1.5 Prevalence of gig economy	56	44.77	●
4.1.6 ICT services exports	46	37.70	●
2nd sub-pillar: Quality of Life	75	66.59	
4.2.1 Happiness	63	64.73	●
4.2.2 Freedom to make life choices	92	60.30	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	58	74.73	●
3rd sub-pillar: SDG Contribution	56	68.83	
4.3.1 SDG 3: Good Health and Well-Being	67	68.54	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	109	55.26	
4.3.4 SDG 7: Affordable and Clean Energy	82	73.85	
4.3.5 SDG 11: Sustainable Cities and Communities	42	77.67	●

NOTE: ● a strength and ○ a weakness.

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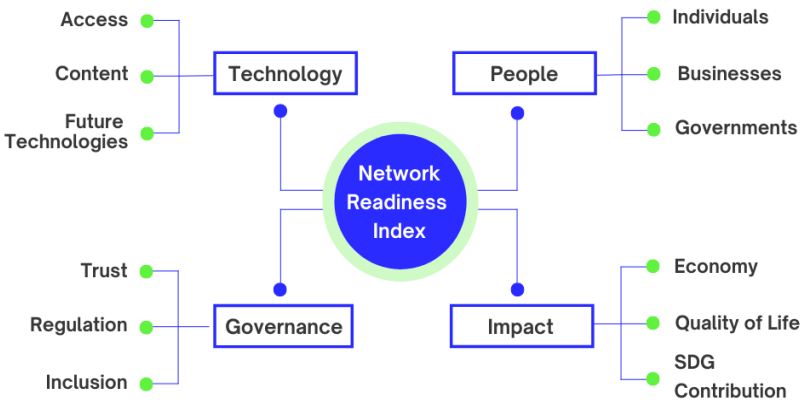
Network Readiness Index 2022 Japan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

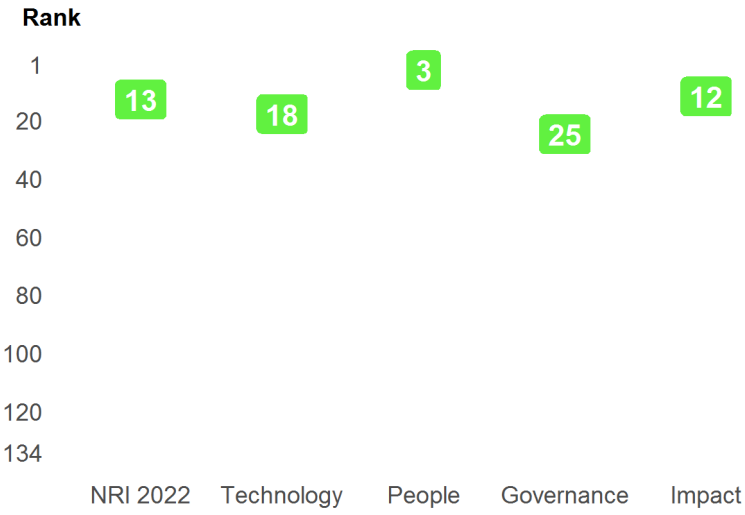
Figure 1: The NRI 2022 model



Global NRI position of Japan

Japan ranks 13th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Japan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Japan relate to Businesses, Inclusion and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Quality of Life and Trust sub-pillars.

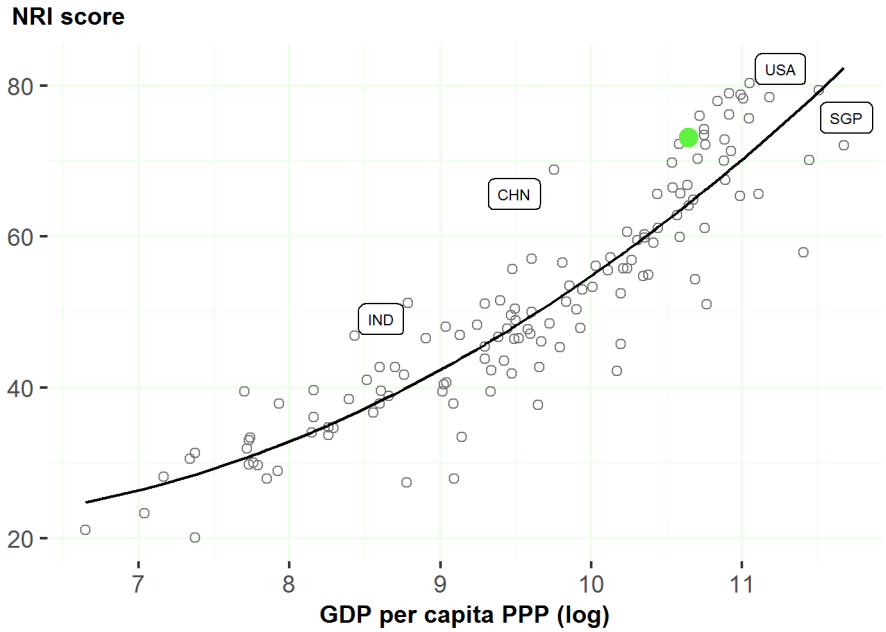
Table 1: Japan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	6	Governments	12
Inclusion	7	Regulation	23
Access	9	SDG Contribution	23
Future Technologies	10	Content	30
Economy	10	Quality of Life	31
Individuals	11	Trust	35

NRI score and income

Figure 3 shows the position of Japan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Japan is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Japan belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

Japan is ranked 13th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Governments, Regulation, Inclusion, Economy and SDG Contribution.

Asia & Pacific

Japan is ranked 3rd within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Japan against its income group and region, overall and by pillar

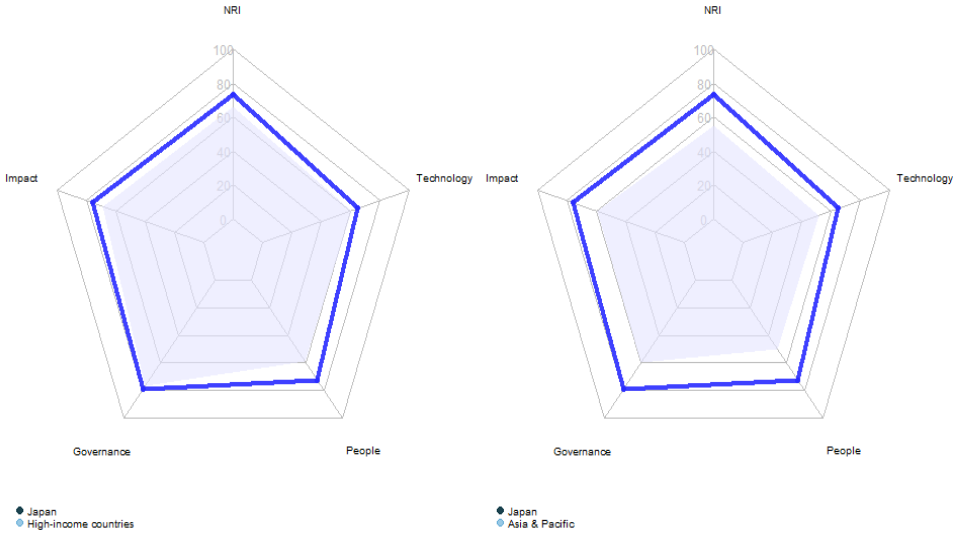


Table 2: Japan scores vs. averages of its income group and region, overall and by pillar

Dimension	Japan	High-income countries	Asia & Pacific
NRI	73.09	66.21	55.18
Technology	65.02	60.28	51.78
People	72.49	58.83	50.21
Governance	78.81	76.89	59.66
Impact	76.04	68.86	59.07

Strongest and weakest indicators

The indicators where Japan performs particularly well include 3.2.4 E-commerce legislation, 4.1.3 PCT patent applications, and 4.2.4 Healthy life expectancy at birth (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 2.1.2 ICT skills in the education system, and 4.3.3 SDG 5: Women's economic opportunity.

Table 3: Strongest and weakest indicators of Japan

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	74
4.1.3 PCT patent applications	1	4.3.3 SDG 5: Women's economic opportunity	81
4.2.4 Healthy life expectancy at birth	1	2.1.2 ICT skills in the education system	90
2.2.2 GERD financed by business enterprise	2	3.2.2 ICT regulatory environment	95
3.3.3 Availability of local online content	2		
1.3.3 Robot density	3		
2.2.1 Firms with website	4		
2.2.4 Annual investment in telecommunication services	4		
2.2.5 GERD performed by business enterprise	4		
3.3.1 E-Participation	4		
4.1.4 Domestic market size	4		

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NRI 2022 At-A-Glance: Japan

Network Readiness Index Rank: 13 (out of 131) Score: 73.09

Pillar/sub-pillar	Rank	Score
A. Technology pillar	18	65.02
1st sub-pillar: Access	9	80.72
2nd sub-pillar: Content	30	52.55
3rd sub-pillar: Future Technologies	10	61.79
B. People pillar	3	72.49
1st sub-pillar: Individuals	11	62.40
2nd sub-pillar: Businesses	6	78.05
3rd sub-pillar: Governments	12	77.01

Pillar/sub-pillar	Rank	Score
C. Governance pillar	25	78.81
1st sub-pillar: Trust	35	69.33
2nd sub-pillar: Regulation	23	81.23
3rd sub-pillar: Inclusion	7	85.86
D. Impact pillar	12	76.04
1st sub-pillar: Economy	10	66.49
2nd sub-pillar: Quality of Life	31	79.39
3rd sub-pillar: SDG Contribution	23	82.24

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	18	65.02	
1st sub-pillar: Access	9	80.72	
1.1.1 Mobile tariffs	42	71.36	
1.1.2 Handset prices	9	86.73	
1.1.3 FTTH/building Internet subscriptions	8	65.89	
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	25	79.67	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	30	52.55	
1.2.1 GitHub commits	37	20.27	
1.2.2 Internet domain registrations	41	11.87	
1.2.3 Mobile apps development	33	90.38	
1.2.4 AI scientific publications	6	87.67	
3rd sub-pillar: Future Technologies	10	61.79	
1.3.1 Adoption of emerging technologies	10	85.26	
1.3.2 Investment in emerging technologies	9	80.00	
1.3.3 Robot density	3	59.45	●
1.3.4 Computer software spending	52	22.45	

Indicator	Rank	Score	
C. Governance pillar	25	78.81	
1st sub-pillar: Trust	35	69.33	
3.1.1 Secure Internet servers	29	80.09	
3.1.2 Cybersecurity	12	97.78	
3.1.3 Online access to financial account	47	38.84	
3.1.4 Internet shopping	29	60.61	
2nd sub-pillar: Regulation	23	81.23	
3.2.1 Regulatory quality	19	77.07	
3.2.2 ICT regulatory environment	95	70.00	○
3.2.3 Regulation of emerging technologies	26	72.63	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	17	86.44	
3rd sub-pillar: Inclusion	7	85.86	
3.3.1 E-Participation	4	98.77	●
3.3.2 Socioeconomic gap in use of digital payments	21	96.17	
3.3.3 Availability of local online content	2	97.60	●
3.3.4 Gender gap in Internet use	74	65.04	○
3.3.5 Rural gap in use of digital payments	42	71.73	

Indicator	Rank	Score	
B. People pillar	3	72.49	
1st sub-pillar: Individuals	11	62.40	
2.1.1 Mobile broadband internet traffic within the country	7	56.36	
2.1.2 ICT skills in the education system	90	35.80	○
2.1.3 Use of virtual social networks	39	75.75	
2.1.4 Tertiary enrollment	NA	NA	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	4	81.68	
2nd sub-pillar: Businesses	6	78.05	
2.2.1 Firms with website	4	95.19	●
2.2.2 GERD financed by business enterprise	2	96.86	●
2.2.3 Knowledge intensive employment	57	38.53	
2.2.4 Annual investment in telecommunication services	4	92.04	●
2.2.5 GERD performed by business enterprise	4	67.65	●
3rd sub-pillar: Governments	12	77.01	
2.3.1 Government online services	12	90.30	
2.3.2 Publication and use of open data	7	88.24	
2.3.3 Government promotion of investment in emerging tech	16	71.64	
2.3.4 R&D expenditure by governments and higher education	21	57.85	

Indicator	Rank	Score	
D. Impact pillar	12	76.04	
1st sub-pillar: Economy	10	66.49	
4.1.1 High-tech and medium-high-tech manufacturing	9	73.18	
4.1.2 High-tech exports	11	68.17	
4.1.3 PCT patent applications	1	100.00	●
4.1.4 Domestic market size	4	84.62	●
4.1.5 Prevalence of gig economy	50	50.29	
4.1.6 ICT services exports	77	22.67	
2nd sub-pillar: Quality of Life	31	79.39	
4.2.1 Happiness	52	69.67	
4.2.2 Freedom to make life choices	71	72.27	
4.2.3 Income inequality	38	75.63	
4.2.4 Healthy life expectancy at birth	1	100.00	●
3rd sub-pillar: SDG Contribution	23	82.24	
4.3.1 SDG 3: Good Health and Well-Being	16	92.78	
4.3.2 SDG 4: Quality Education	5	76.77	
4.3.3 SDG 5: Women's economic opportunity	81	70.18	○
4.3.4 SDG 7: Affordable and Clean Energy	45	83.21	
4.3.5 SDG 11: Sustainable Cities and Communities	22	88.26	

NOTE: ● a strength and ○ a weakness.

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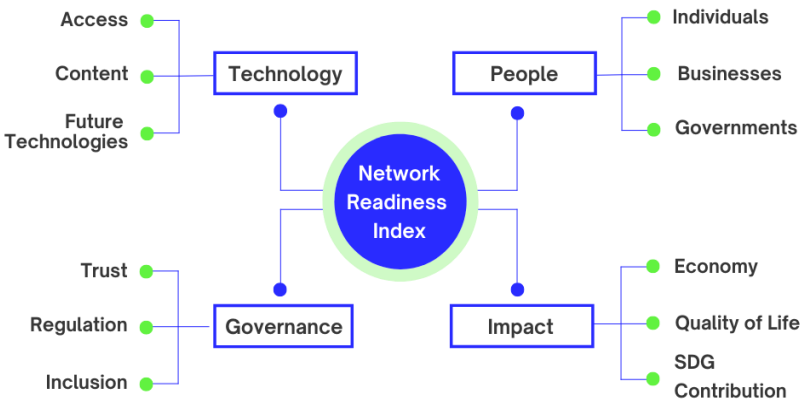
Network Readiness Index 2022 Jordan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

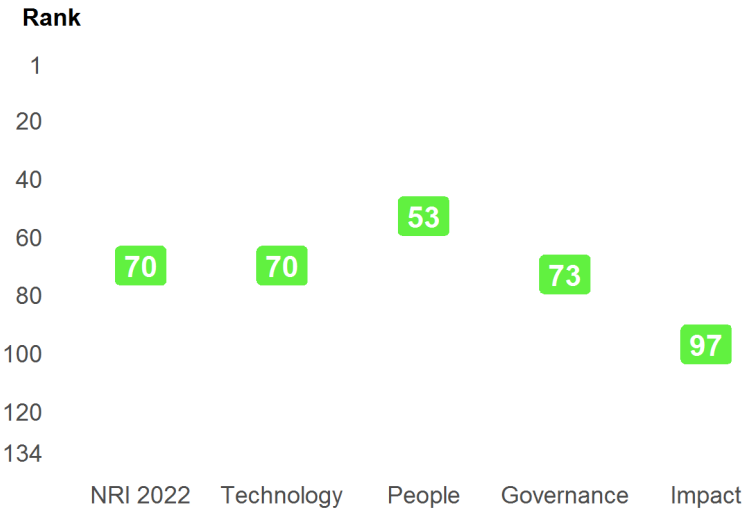
Figure 1: The NRI 2022 model



Global NRI position of Jordan

Jordan ranks 70th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Jordan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Jordan relate to Businesses, Individuals and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Access and SDG Contribution sub-pillars.

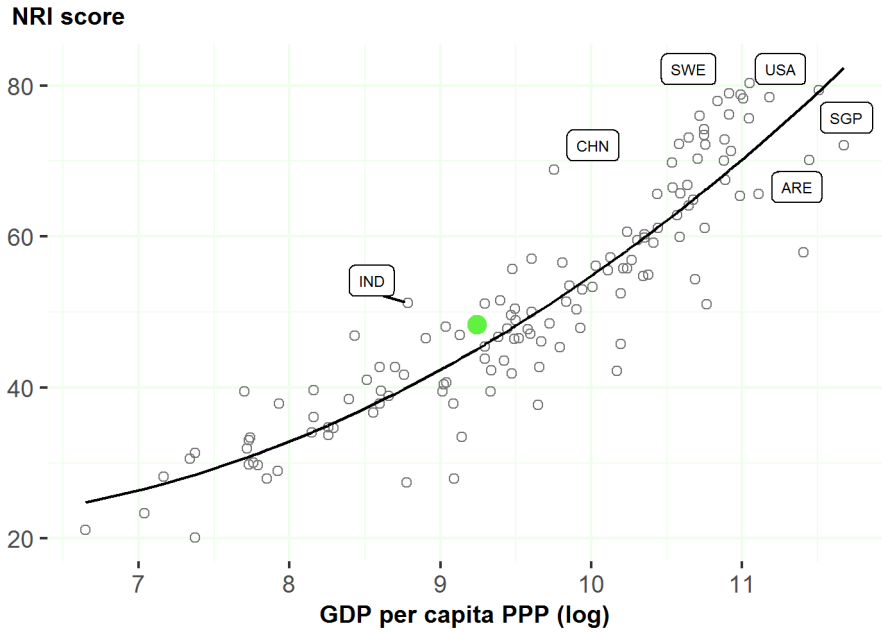
Table 1: Jordan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	29	Economy	83
Individuals	40	Trust	92
Future Technologies	41	Quality of Life	92
Content	63	Governments	96
Regulation	64	Access	99
Inclusion	66	SDG Contribution	100

NRI score and income

Figure 3 shows the position of Jordan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Jordan is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Jordan belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Upper-middle-income countries

Jordan is ranked 19th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: technology and people. At the sub-pillar level, it outperforms upper-middle-income countries in six of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Regulation and Inclusion.

Arab States

Jordan is ranked 7th within Arab States (Figure 4, right panel). It has a score above the regional average in one of the four pillars: people. With regard to sub-pillars, it outperforms the average in Arab States in five of the twelve sub-pillars: Content, Future Technologies, Businesses, Regulation and Inclusion.

Figure 4: Performance of Jordan against its income group and region, overall and by pillar

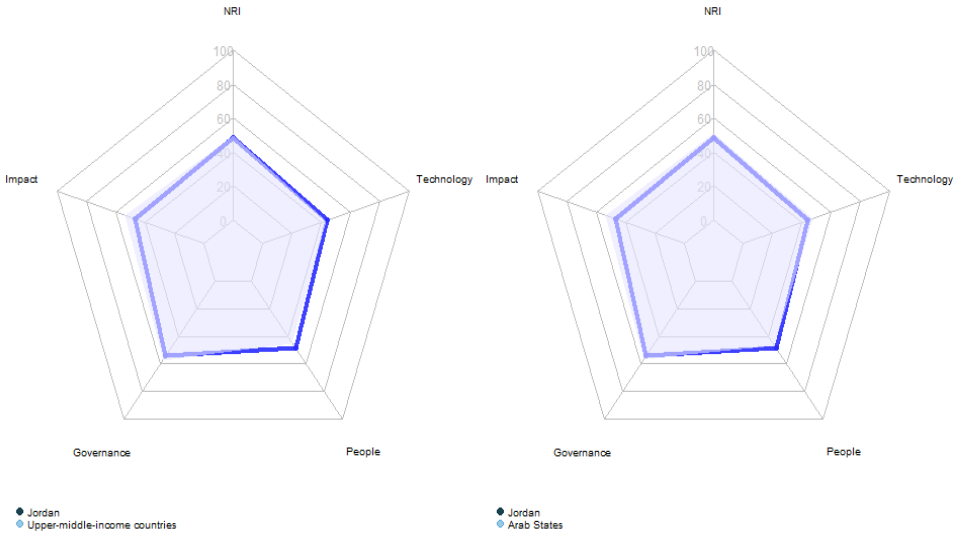


Table 2: Jordan scores vs. averages of its income group and region, overall and by pillar

Dimension	Jordan	Upper-middle-income countries	Arab States
NRI	48.31	49.66	51.21
Technology	43.74	43.11	47.66
People	48.58	44.94	47.11
Governance	54.32	57.08	56.68
Impact	46.60	53.50	53.39

Strongest and weakest indicators

The indicators where Jordan performs particularly well include 3.3.5 Rural gap in use of digital payments, 3.2.2 ICT regulatory environment, and 2.1.2 ICT skills in the education system (Table 3). By contrast, the economy's weakest indicators include 4.1.6 ICT services exports, 4.3.3 SDG 5: Women's economic opportunity, 2.3.1 Government online services, and 3.3.1 E-Participation.

Table 3: Strongest and weakest indicators of Jordan

Strongest indicators	Rank	Weakest indicators	Rank
3.3.5 Rural gap in use of digital payments	1	4.2.1 Happiness	116
3.2.2 ICT regulatory environment	14	2.3.1 Government online services	118
2.1.2 ICT skills in the education system	19	3.3.1 E-Participation	118
2.1.5 Adult literacy rate	27	4.3.3 SDG 5: Women's economic opportunity	125
2.2.1 Firms with website	27	4.1.6 ICT services exports	126
4.1.5 Prevalence of gig economy	39		
1.1.4 Population covered by at least a 3G mobile network	40		
3.3.3 Availability of local online content	42		
4.3.5 SDG 11: Sustainable Cities and Communities	44		
4.2.4 Healthy life expectancy at birth	45		

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NRI 2022 At-A-Glance: Jordan

Network Readiness Index Rank: 70 (out of 131) Score: 48.31

Pillar/sub-pillar	Rank	Score
A. Technology pillar	70	43.74
1st sub-pillar: Access	99	53.34
2nd sub-pillar: Content	63	37.26
3rd sub-pillar: Future Technologies	41	40.63
B. People pillar	53	48.58
1st sub-pillar: Individuals	40	53.78
2nd sub-pillar: Businesses	29	61.31
3rd sub-pillar: Governments	96	30.65

Pillar/sub-pillar	Rank	Score
C. Governance pillar	73	54.32
1st sub-pillar: Trust	92	33.84
2nd sub-pillar: Regulation	64	64.17
3rd sub-pillar: Inclusion	66	64.95
D. Impact pillar	97	46.60
1st sub-pillar: Economy	83	27.11
2nd sub-pillar: Quality of Life	92	58.85
3rd sub-pillar: SDG Contribution	100	53.83

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	70	43.74	
1st sub-pillar: Access	99	53.34	
1.1.1 Mobile tariffs	110	34.52	
1.1.2 Handset prices	70	49.97	
1.1.3 FTTH/building Internet subscriptions	48	30.30	
1.1.4 Population covered by at least a 3G mobile network	40	99.94	●
1.1.5 International Internet bandwidth	58	71.76	
1.1.6 Internet access in schools	58	33.56	
2nd sub-pillar: Content	63	37.26	
1.2.1 GitHub commits	64	5.85	
1.2.2 Internet domain registrations	72	3.18	
1.2.3 Mobile apps development	66	78.97	
1.2.4 AI scientific publications	37	61.06	
3rd sub-pillar: Future Technologies	41	40.63	
1.3.1 Adoption of emerging technologies	59	49.03	
1.3.2 Investment in emerging technologies	44	49.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	48	23.60	

Indicator	Rank	Score	
C. Governance pillar	73	54.32	
1st sub-pillar: Trust	92	33.84	
3.1.1 Secure Internet servers	96	39.20	
3.1.2 Cybersecurity	77	70.45	
3.1.3 Online access to financial account	111	9.24	
3.1.4 Internet shopping	71	16.45	
2nd sub-pillar: Regulation	64	64.17	
3.2.1 Regulatory quality	61	47.20	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Regulation of emerging technologies	45	55.79	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	85	57.07	
3rd sub-pillar: Inclusion	66	64.95	
3.3.1 E-Participation	118	30.86	○
3.3.2 Socioeconomic gap in use of digital payments	89	54.42	
3.3.3 Availability of local online content	42	74.52	●
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	1	100.00	●

Indicator	Rank	Score	
B. People pillar	53	48.58	
1st sub-pillar: Individuals	40	53.78	
2.1.1 Mobile broadband internet traffic within the country	44	15.65	
2.1.2 ICT skills in the education system	19	72.19	●
2.1.3 Use of virtual social networks	77	61.64	
2.1.4 Tertiary enrollment	81	21.68	
2.1.5 Adult literacy rate	27	97.75	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	29	61.31	
2.2.1 Firms with website	27	78.10	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	74	30.48	
2.2.4 Annual investment in telecommunication services	73	75.34	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	96	30.65	
2.3.1 Government online services	118	33.94	○
2.3.2 Publication and use of open data	87	11.76	
2.3.3 Government promotion of investment in emerging tech	48	46.26	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	97	46.60	
1st sub-pillar: Economy	83	27.11	
4.1.1 High-tech and medium-high-tech manufacturing	56	28.02	
4.1.2 High-tech exports	66	21.21	
4.1.3 PCT patent applications	50	7.98	
4.1.4 Domestic market size	81	45.95	
4.1.5 Prevalence of gig economy	39	57.27	●
4.1.6 ICT services exports	126	2.22	○
2nd sub-pillar: Quality of Life	92	58.85	
4.2.1 Happiness	116	30.81	○
4.2.2 Freedom to make life choices	80	67.49	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	45	78.25	●
3rd sub-pillar: SDG Contribution	100	53.83	
4.3.1 SDG 3: Good Health and Well-Being	96	51.25	
4.3.2 SDG 4: Quality Education	56	35.86	
4.3.3 SDG 5: Women's economic opportunity	125	25.44	○
4.3.4 SDG 7: Affordable and Clean Energy	65	79.28	
4.3.5 SDG 11: Sustainable Cities and Communities	44	77.30	●

NOTE: ● a strength and ○ a weakness.

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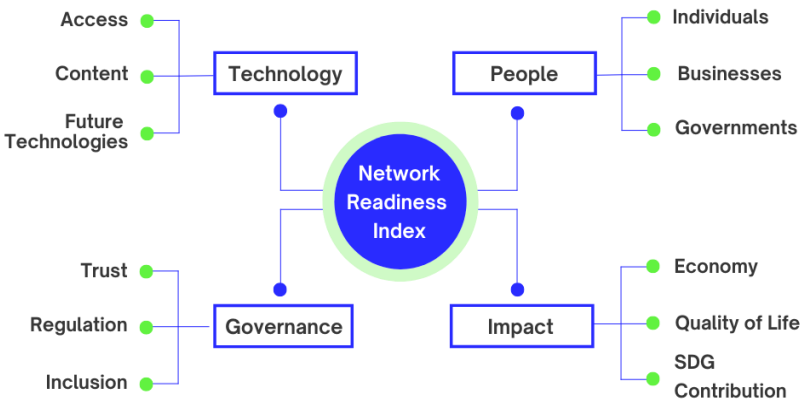
Network Readiness Index 2022 Kazakhstan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

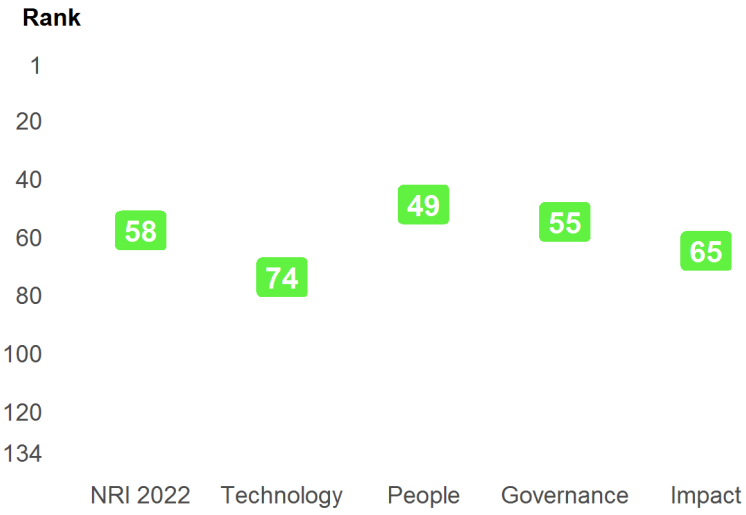
Figure 1: The NRI 2022 model



Global NRI position of Kazakhstan

Kazakhstan ranks 58th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Kazakhstan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Kazakhstan relate to Individuals, Quality of Life and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Future Technologies and Regulation sub-pillars.

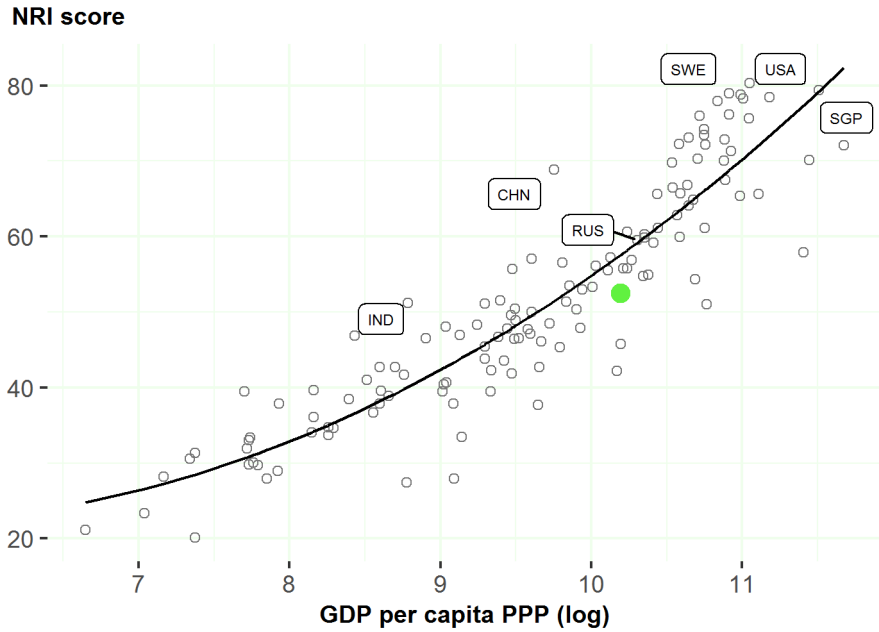
Table 1: Kazakhstan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	36	Governments	64
Quality of Life	40	Economy	78
Inclusion	42	Content	79
Access	49	SDG Contribution	84
Trust	49	Future Technologies	96
Businesses	55	Regulation	102

NRI score and income

Figure 3 shows the position of Kazakhstan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Kazakhstan is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Kazakhstan belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Upper-middle-income countries

Kazakhstan is ranked 11th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, people, governance and impact. At the sub-pillar level, it outperforms upper-middle-income countries in seven of the twelve sub-pillars: Access, Individuals, Businesses, Governments, Trust, Inclusion and Quality of Life.

CIS

Kazakhstan is ranked 2nd within CIS (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in CIS in ten of the twelve sub-pillars: Access, Content, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Kazakhstan against its income group and region, overall and by pillar

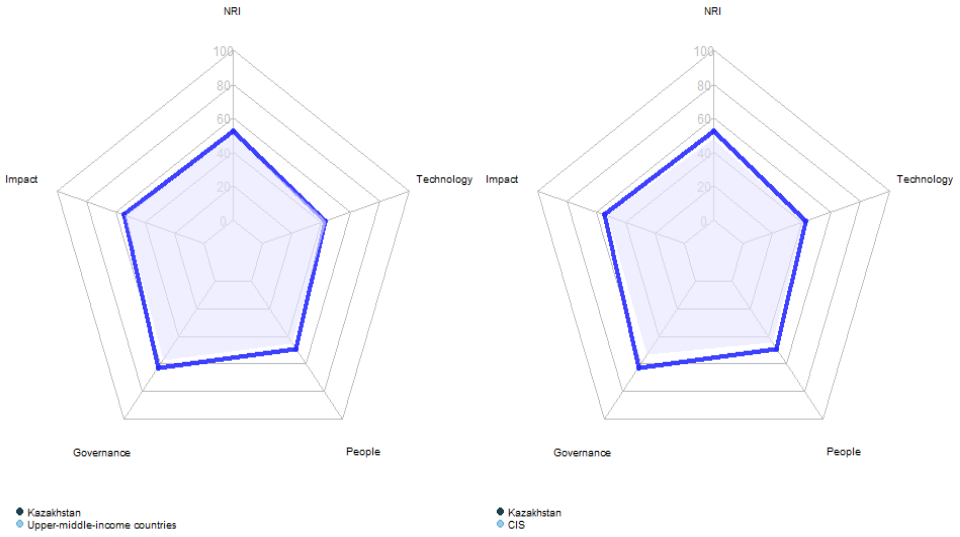


Table 2: Kazakhstan scores vs. averages of its income group and region, overall and by pillar

Dimension	Kazakhstan	Upper-middle-income countries	CIS
NRI	52.46	49.66	47.65
Technology	42.87	43.11	41.04
People	49.51	44.94	44.26
Governance	62.87	57.08	52.99
Impact	54.60	53.50	52.31

Strongest and weakest indicators

The indicators where Kazakhstan performs particularly well include 3.2.4 E-commerce legislation, 1.1.1 Mobile tariffs, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 3.2.5 Privacy protection by law content, and 1.3.4 Computer software spending.

Table 3: Strongest and weakest indicators of Kazakhstan

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.3.4 R&D expenditure by governments and higher education	107
1.1.1 Mobile tariffs	7	4.1.6 ICT services exports	112
2.1.5 Adult literacy rate	8	1.3.4 Computer software spending	117
3.3.2 Socioeconomic gap in use of digital payments	9	3.2.5 Privacy protection by law content	120
2.3.1 Government online services	11	3.2.2 ICT regulatory environment	127
4.2.3 Income inequality	14		
2.3.3 Government promotion of investment in emerging technologies	26		
3.3.1 E-Participation	26		
2.1.1 Mobile broadband internet traffic within the country	31		
2.1.4 Tertiary enrollment	32		
3.1.2 Cybersecurity	38		

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NRI 2022 At-A-Glance: Kazakhstan

Network Readiness Index — Rank: 58 (out of 131) — Score: 52.46

Pillar/sub-pillar	Rank	Score
A. Technology pillar	74	42.87
1st sub-pillar: Access	49	69.99
2nd sub-pillar: Content	79	33.01
3rd sub-pillar: Future Technologies	96	25.60
B. People pillar	49	49.51
1st sub-pillar: Individuals	36	55.39
2nd sub-pillar: Businesses	55	47.89
3rd sub-pillar: Governments	64	45.25

Pillar/sub-pillar	Rank	Score
C. Governance pillar	55	62.87
1st sub-pillar: Trust	49	59.23
2nd sub-pillar: Regulation	102	52.96
3rd sub-pillar: Inclusion	42	76.42
D. Impact pillar	65	54.60
1st sub-pillar: Economy	78	28.70
2nd sub-pillar: Quality of Life	40	75.98
3rd sub-pillar: SDG Contribution	84	59.12

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	74	42.87	
1st sub-pillar: Access	49	69.99	
1.1.1 Mobile tariffs	7	90.16	●
1.1.2 Handset prices	73	48.52	
1.1.3 FTTH/building Internet subscriptions	32	38.30	
1.1.4 Population covered by at least a 3G mobile network	97	97.76	
1.1.5 International Internet bandwidth	40	75.22	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	79	33.01	
1.2.1 GitHub commits	83	3.21	
1.2.2 Internet domain registrations	73	3.07	
1.2.3 Mobile apps development	74	75.26	
1.2.4 AI scientific publications	53	50.48	
3rd sub-pillar: Future Technologies	96	25.60	
1.3.1 Adoption of emerging technologies	84	38.60	
1.3.2 Investment in emerging technologies	74	37.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	117	1.20	○

Indicator	Rank	Score	
C. Governance pillar	55	62.87	
1st sub-pillar: Trust	49	59.23	
3.1.1 Secure Internet servers	51	64.66	
3.1.2 Cybersecurity	38	93.03	●
3.1.3 Online access to financial account	51	35.30	
3.1.4 Internet shopping	44	43.93	
2nd sub-pillar: Regulation	102	52.96	
3.2.1 Regulatory quality	65	44.80	
3.2.2 ICT regulatory environment	127	48.24	○
3.2.3 Regulation of emerging technologies	72	41.32	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	120	30.44	○
3rd sub-pillar: Inclusion	42	76.42	
3.3.1 E-Participation	26	87.66	●
3.3.2 Socioeconomic gap in use of digital payments	9	98.66	●
3.3.3 Availability of local online content	70	59.86	
3.3.4 Gender gap in Internet use	55	69.71	
3.3.5 Rural gap in use of digital payments	57	66.23	

Indicator	Rank	Score	
B. People pillar	49	49.51	
1st sub-pillar: Individuals	36	55.39	
2.1.1 Mobile broadband internet traffic within the country	31	24.87	●
2.1.2 ICT skills in the education system	81	38.17	
2.1.3 Use of virtual social networks	64	67.19	
2.1.4 Tertiary enrollment	32	46.97	●
2.1.5 Adult literacy rate	8	99.75	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	55	47.89	
2.2.1 Firms with website	67	47.25	
2.2.2 GERD financed by business enterprise	34	58.64	
2.2.3 Knowledge intensive employment	39	56.45	
2.2.4 Annual investment in telecommunication services	72	75.82	
2.2.5 GERD performed by business enterprise	72	1.31	
3rd sub-pillar: Governments	64	45.25	
2.3.1 Government online services	11	92.12	●
2.3.2 Publication and use of open data	61	26.47	
2.3.3 Government promotion of investment in emerging tech	26	59.69	
2.3.4 R&D expenditure by governments and higher education	107	2.73	○

Indicator	Rank	Score	
D. Impact pillar	65	54.60	
1st sub-pillar: Economy	78	28.70	
4.1.1 High-tech and medium-high-tech manufacturing	71	18.21	
4.1.2 High-tech exports	36	46.95	
4.1.3 PCT patent applications	72	2.43	
4.1.4 Domestic market size	41	61.53	
4.1.5 Prevalence of gig economy	78	35.76	
4.1.6 ICT services exports	112	7.31	○
2nd sub-pillar: Quality of Life	40	75.98	
4.2.1 Happiness	42	72.67	
4.2.2 Freedom to make life choices	67	73.31	
4.2.3 Income inequality	14	88.44	●
4.2.4 Healthy life expectancy at birth	75	69.50	
3rd sub-pillar: SDG Contribution	84	59.12	
4.3.1 SDG 3: Good Health and Well-Being	45	78.00	
4.3.2 SDG 4: Quality Education	63	30.49	
4.3.3 SDG 5: Women's economic opportunity	107	57.02	
4.3.4 SDG 7: Affordable and Clean Energy	108	58.65	
4.3.5 SDG 11: Sustainable Cities and Communities	54	71.43	

NOTE: ● a strength and ○ a weakness.

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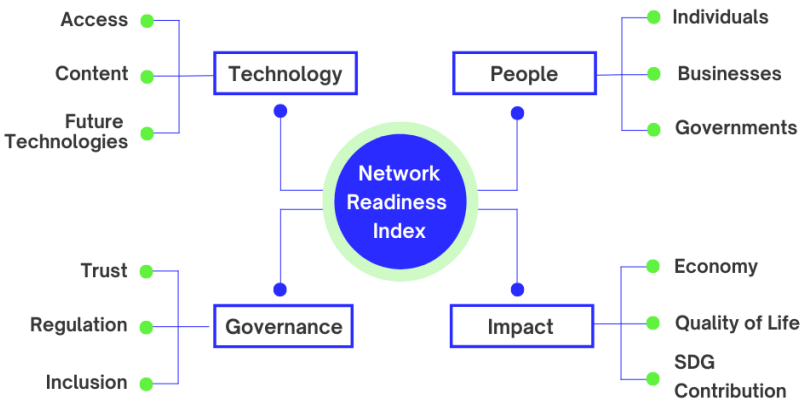
Network Readiness Index 2022 Kenya

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

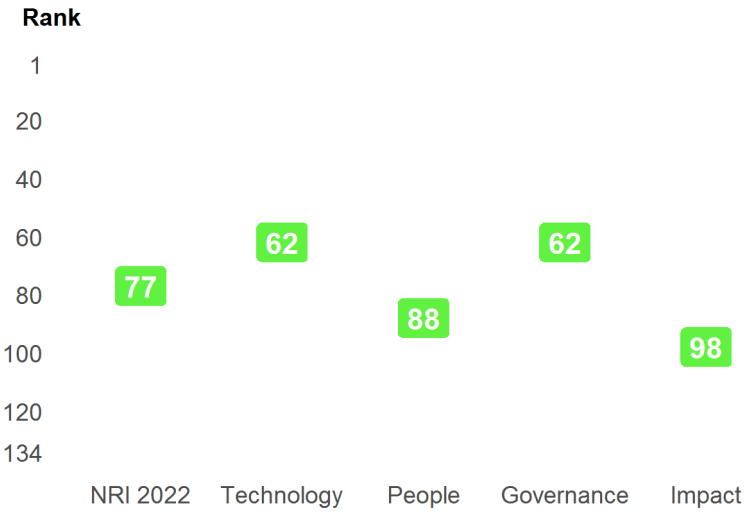
Figure 1: The NRI 2022 model



Global NRI position of Kenya

Kenya ranks 77th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology and Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Kenya global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Kenya relate to Future Technologies, Governments and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Individuals and Quality of Life sub-pillars.

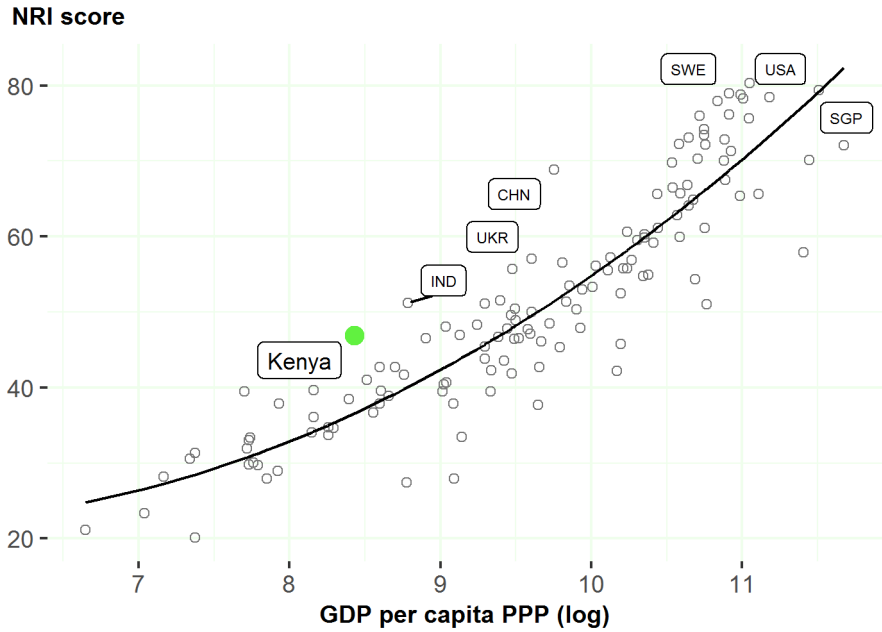
Table 1: Kenya rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	40	SDG Contribution	78
Governments	45	Inclusion	80
Trust	56	Content	89
Regulation	66	Businesses	104
Economy	68	Individuals	105
Access	69	Quality of Life	112

NRI score and income

Figure 3 shows the position of Kenya in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Kenya is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Kenya belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Kenya is ranked 7th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in nine of the twelve sub-pillars: Access, Content, Future Technologies, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Africa

Kenya is ranked 3rd within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Kenya against its income group and region, overall and by pillar

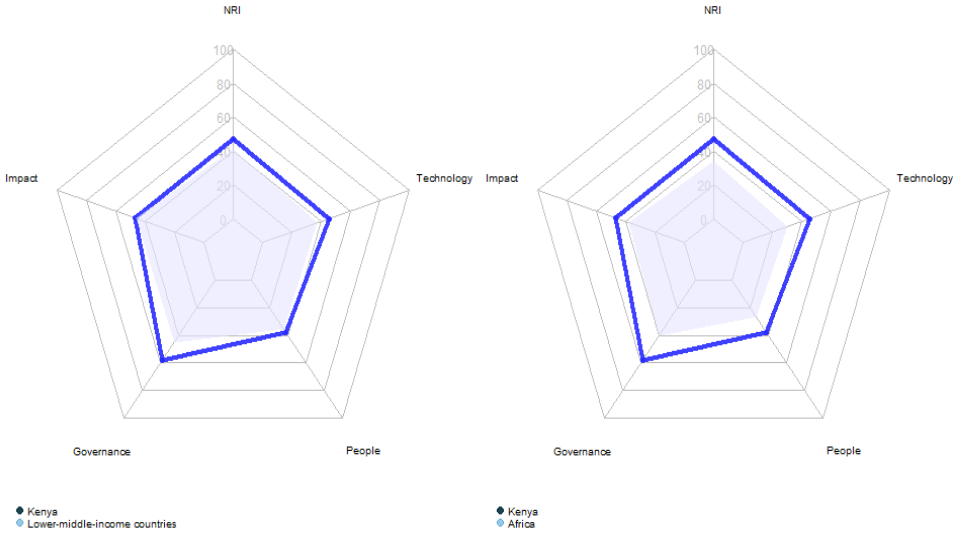


Table 2: Kenya scores vs. averages of its income group and region, overall and by pillar

Dimension	Kenya	Lower-middle-income countries	Africa
NRI	46.90	40.94	33.77
Technology	45.12	37.28	29.96
People	37.69	35.42	26.81
Governance	58.28	45.00	40.37
Impact	46.50	46.09	37.94

Strongest and weakest indicators

The indicators where Kenya performs particularly well include 3.2.4 E-commerce legislation, 1.1.5 International Internet bandwidth, and 3.1.3 Online access to financial account (Table 3). By contrast, the economy's weakest indicators include 2.1.3 Use of virtual social networks, 2.1.4 Tertiary enrollment, and 4.2.2 Freedom to make life choices.

Table 3: Strongest and weakest indicators of Kenya

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	96
1.1.5 International Internet bandwidth	8	4.2.1 Happiness	106
3.1.3 Online access to financial account	18	4.2.2 Freedom to make life choices	108
2.3.4 R&D expenditure by governments and higher education	22	2.1.4 Tertiary enrollment	109
1.1.3 FTTH/building Internet subscriptions	25	2.1.3 Use of virtual social networks	110
4.1.6 ICT services exports	25		
1.3.2 Investment in emerging technologies	32		
3.2.2 ICT regulatory environment	33		
2.3.2 Publication and use of open data	41		
4.1.5 Prevalence of gig economy	41		
2.1.2 ICT skills in the education system	49		

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NRI 2022 At-A-Glance: Kenya

Network Readiness Index Rank: 77 (out of 131) Score: 46.90

Pillar/sub-pillar	Rank	Score
A. Technology pillar	62	45.12
1st sub-pillar: Access	69	63.27
2nd sub-pillar: Content	89	30.55
3rd sub-pillar: Future Technologies	40	41.53
B. People pillar	88	37.69
1st sub-pillar: Individuals	105	32.68
2nd sub-pillar: Businesses	104	29.68
3rd sub-pillar: Governments	45	50.72

Pillar/sub-pillar	Rank	Score
C. Governance pillar	62	58.28
1st sub-pillar: Trust	56	52.56
2nd sub-pillar: Regulation	66	64.11
3rd sub-pillar: Inclusion	80	58.16
D. Impact pillar	98	46.50
1st sub-pillar: Economy	68	30.64
2nd sub-pillar: Quality of Life	112	48.22
3rd sub-pillar: SDG Contribution	78	60.65

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	62	45.12	
1st sub-pillar: Access	69	63.27	
1.1.1 Mobile tariffs	85	47.89	
1.1.2 Handset prices	96	40.61	
1.1.3 FTTH/building Internet subscriptions	25	41.40	●
1.1.4 Population covered by at least a 3G mobile network	89	98.33	
1.1.5 International Internet bandwidth	8	88.14	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	89	30.55	
1.2.1 GitHub commits	72	4.23	
1.2.2 Internet domain registrations	102	0.70	
1.2.3 Mobile apps development	97	64.38	
1.2.4 AI scientific publications	48	52.91	
3rd sub-pillar: Future Technologies	40	41.53	
1.3.1 Adoption of emerging technologies	55	50.77	
1.3.2 Investment in emerging technologies	32	60.00	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	77	13.83	

Indicator	Rank	Score	
C. Governance pillar	62	58.28	
1st sub-pillar: Trust	56	52.56	
3.1.1 Secure Internet servers	86	43.70	
3.1.2 Cybersecurity	59	81.38	
3.1.3 Online access to financial account	18	66.35	●
3.1.4 Internet shopping	66	18.80	
2nd sub-pillar: Regulation	66	64.11	
3.2.1 Regulatory quality	98	29.33	
3.2.2 ICT regulatory environment	33	90.00	●
3.2.3 Regulation of emerging technologies	75	39.74	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	76	61.49	
3rd sub-pillar: Inclusion	80	58.16	
3.3.1 E-Participation	85	58.02	
3.3.2 Socioeconomic gap in use of digital payments	66	72.59	
3.3.3 Availability of local online content	83	51.44	
3.3.4 Gender gap in Internet use	96	43.07	○
3.3.5 Rural gap in use of digital payments	59	65.69	

Indicator	Rank	Score	
B. People pillar	88	37.69	
1st sub-pillar: Individuals	105	32.68	
2.1.1 Mobile broadband internet traffic within the country	54	10.88	
2.1.2 ICT skills in the education system	49	53.25	●
2.1.3 Use of virtual social networks	110	17.33	○
2.1.4 Tertiary enrollment	109	5.66	○
2.1.5 Adult literacy rate	75	76.26	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	104	29.68	
2.2.1 Firms with website	74	43.67	
2.2.2 GERD financed by business enterprise	85	5.32	
2.2.3 Knowledge intensive employment	95	18.74	
2.2.4 Annual investment in telecommunication services	54	78.90	
2.2.5 GERD performed by business enterprise	66	1.78	
3rd sub-pillar: Governments	45	50.72	
2.3.1 Government online services	73	66.67	
2.3.2 Publication and use of open data	41	38.24	●
2.3.3 Government promotion of investment in emerging tech	57	40.73	
2.3.4 R&D expenditure by governments and higher education	22	57.25	●

Indicator	Rank	Score	
D. Impact pillar	98	46.50	
1st sub-pillar: Economy	68	30.64	
4.1.1 High-tech and medium-high-tech manufacturing	79	12.85	
4.1.2 High-tech exports	82	12.60	
4.1.3 PCT patent applications	82	1.34	
4.1.4 Domestic market size	59	54.72	
4.1.5 Prevalence of gig economy	41	56.10	●
4.1.6 ICT services exports	25	46.24	●
2nd sub-pillar: Quality of Life	112	48.22	
4.2.1 Happiness	106	40.70	○
4.2.2 Freedom to make life choices	108	51.40	○
4.2.3 Income inequality	82	55.78	
4.2.4 Healthy life expectancy at birth	107	45.01	
3rd sub-pillar: SDG Contribution	78	60.65	
4.3.1 SDG 3: Good Health and Well-Being	100	45.39	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	74	72.81	
4.3.4 SDG 7: Affordable and Clean Energy	100	66.67	
4.3.5 SDG 11: Sustainable Cities and Communities	78	57.73	

NOTE: ● a strength and ○ a weakness.

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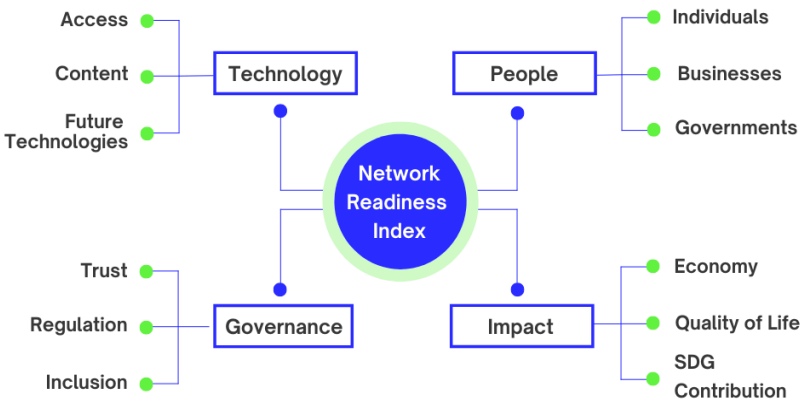
Network Readiness Index 2022 Korea, Rep.

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

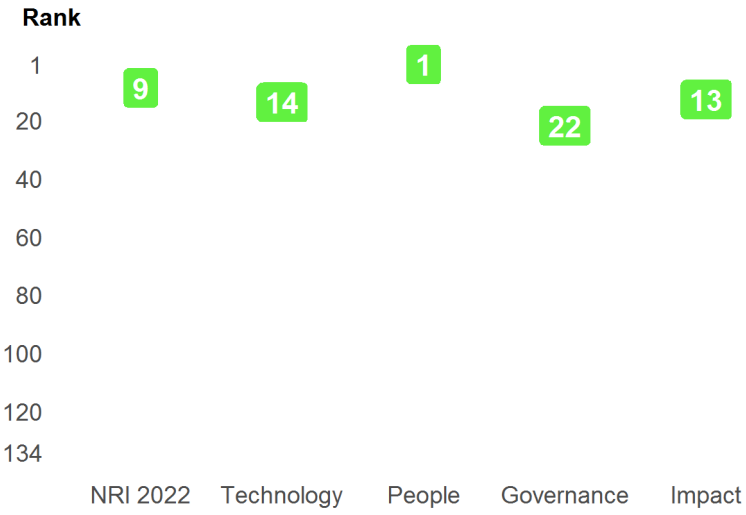
Figure 1: The NRI 2022 model



Global NRI position of Korea, Rep.

Korea, Rep. ranks 9th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Korea, Rep. global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Korea, Rep. relate to Individuals, Businesses and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Regulation and Quality of Life sub-pillars.

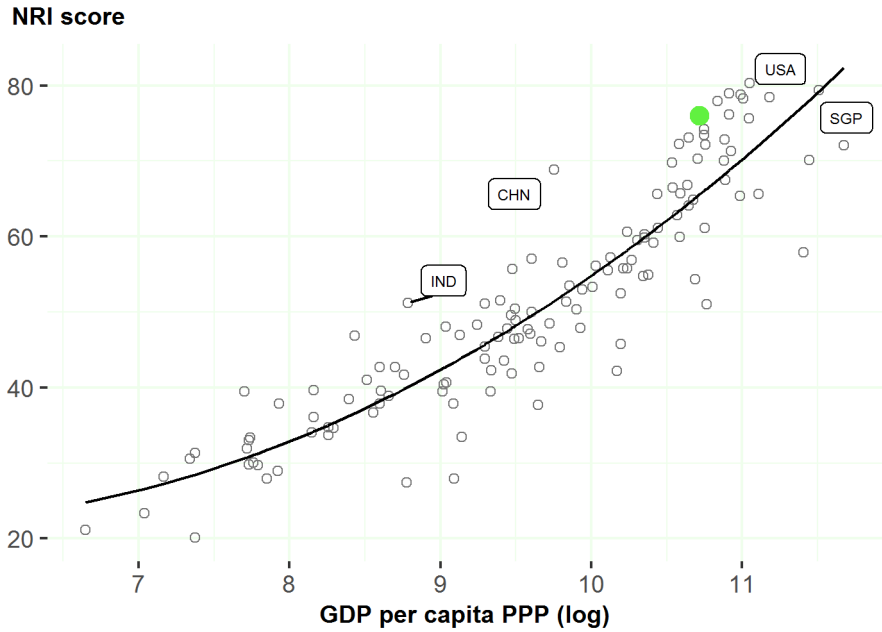
Table 1: Korea, Rep. rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	1	Access	13
Businesses	1	Inclusion	20
Governments	2	Content	25
Economy	2	SDG Contribution	28
Future Technologies	7	Regulation	39
Trust	12	Quality of Life	39

NRI score and income

Figure 3 shows the position of Korea, Rep. in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Korea, Rep. is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Korea, Rep. belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

Korea, Rep. is ranked 9th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion, Economy and SDG Contribution.

Asia & Pacific

Korea, Rep. is ranked 2nd within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Korea, Rep. against its income group and region, overall and by pillar

Table 2: Korea, Rep. scores vs. averages of its income group and region, overall and by pillar

Dimension	Korea, Rep.	High-income countries	Asia & Pacific
NRI	75.95	66.21	55.18
Technology	66.33	60.28	51.78
People	81.58	58.83	50.21
Governance	80.01	76.89	59.66
Impact	75.89	68.86	59.07

Strongest and weakest indicators

The indicators where Korea, Rep. performs particularly well include 1.1.6 Internet access in schools, 1.3.3 Robot density, and 2.1.6 AI talent concentration (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 4.3.4 SDG 7: Affordable and Clean Energy, and 4.2.2 Freedom to make life choices.

Table 3: Strongest and weakest indicators of Korea, Rep.

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	4.1.6 ICT services exports	82
1.3.3 Robot density	1	4.2.2 Freedom to make life choices	99
2.1.6 AI talent concentration	1	4.3.4 SDG 7: Affordable and Clean Energy	100
2.2.5 GERD performed by business enterprise	1	3.2.2 ICT regulatory environment	101
2.3.1 Government online services	1		
3.2.4 E-commerce legislation	1		
3.3.1 E-Participation	1		
4.1.3 PCT patent applications	2		
4.2.4 Healthy life expectancy at birth	3		
2.1.4 Tertiary enrollment	4		
2.2.2 GERD financed by business enterprise	4		
2.3.2 Publication and use of open data	4		
4.3.1 SDG 3: Good Health and Well-Being	6		

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NRI 2022 At-A-Glance: Korea, Rep.

Network Readiness Index — Rank: 9 (out of 131) — Score: 75.95

Pillar/sub-pillar	Rank	Score
A. Technology pillar	14	66.33
1st sub-pillar: Access	13	79.56
2nd sub-pillar: Content	25	55.82
3rd sub-pillar: Future Technologies	7	63.59
B. People pillar	1	81.58
1st sub-pillar: Individuals	1	75.03
2nd sub-pillar: Businesses	1	82.69
3rd sub-pillar: Governments	2	87.03

Pillar/sub-pillar	Rank	Score
C. Governance pillar	22	80.01
1st sub-pillar: Trust	12	83.49
2nd sub-pillar: Regulation	39	74.10
3rd sub-pillar: Inclusion	20	82.43
D. Impact pillar	13	75.89
1st sub-pillar: Economy	2	70.99
2nd sub-pillar: Quality of Life	39	76.00
3rd sub-pillar: SDG Contribution	28	80.67

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	14	66.33	
1st sub-pillar: Access	13	79.56	
1.1.1 Mobile tariffs	50	68.99	
1.1.2 Handset prices	42	68.18	
1.1.3 FTTH/building Internet subscriptions	11	59.30	
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	21	80.92	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	25	55.82	
1.2.1 GitHub commits	28	36.21	
1.2.2 Internet domain registrations	52	6.57	
1.2.3 Mobile apps development	25	94.17	
1.2.4 AI scientific publications	8	86.34	
3rd sub-pillar: Future Technologies	7	63.59	
1.3.1 Adoption of emerging technologies	20	75.40	
1.3.2 Investment in emerging technologies	34	59.50	
1.3.3 Robot density	1	100.00	●
1.3.4 Computer software spending	67	19.47	

Indicator	Rank	Score	
C. Governance pillar	22	80.01	
1st sub-pillar: Trust	12	83.49	
3.1.1 Secure Internet servers	47	69.34	
3.1.2 Cybersecurity	5	98.49	
3.1.3 Online access to financial account	9	82.64	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	39	74.10	
3.2.1 Regulatory quality	32	68.53	
3.2.2 ICT regulatory environment	101	66.67	○
3.2.3 Regulation of emerging technologies	32	64.21	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	52	71.07	
3rd sub-pillar: Inclusion	20	82.43	
3.3.1 E-Participation	1	100.00	●
3.3.2 Socioeconomic gap in use of digital payments	26	93.43	
3.3.3 Availability of local online content	32	81.01	
3.3.4 Gender gap in Internet use	45	71.07	
3.3.5 Rural gap in use of digital payments	56	66.67	

Indicator	Rank	Score	
B. People pillar	1	81.58	
1st sub-pillar: Individuals	1	75.03	
2.1.1 Mobile broadband internet traffic within the country	13	42.30	
2.1.2 ICT skills in the education system	11	81.36	
2.1.3 Use of virtual social networks	9	85.59	
2.1.4 Tertiary enrollment	4	65.88	●
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	1	100.00	●
2nd sub-pillar: Businesses	1	82.69	
2.2.1 Firms with website	37	69.31	
2.2.2 GERD financed by business enterprise	4	94.72	●
2.2.3 Knowledge intensive employment	32	60.11	
2.2.4 Annual investment in telecommunication services	11	89.33	
2.2.5 GERD performed by business enterprise	1	100.00	●
3rd sub-pillar: Governments	2	87.03	
2.3.1 Government online services	1	100.00	●
2.3.2 Publication and use of open data	4	94.12	●
2.3.3 Government promotion of investment in emerging tech	10	77.45	
2.3.4 R&D expenditure by governments and higher education	8	76.53	

Indicator	Rank	Score	
D. Impact pillar	13	75.89	
1st sub-pillar: Economy	2	70.99	
4.1.1 High-tech and medium-high-tech manufacturing	8	74.70	
4.1.2 High-tech exports	6	87.66	
4.1.3 PCT patent applications	2	96.89	●
4.1.4 Domestic market size	14	76.66	
4.1.5 Prevalence of gig economy	20	68.31	
4.1.6 ICT services exports	82	21.73	○
2nd sub-pillar: Quality of Life	39	76.00	
4.2.1 Happiness	49	70.05	
4.2.2 Freedom to make life choices	99	58.00	○
4.2.3 Income inequality	29	79.40	
4.2.4 Healthy life expectancy at birth	3	96.53	●
3rd sub-pillar: SDG Contribution	28	80.67	
4.3.1 SDG 3: Good Health and Well-Being	6	96.29	●
4.3.2 SDG 4: Quality Education	6	76.64	
4.3.3 SDG 5: Women's economic opportunity	55	78.95	
4.3.4 SDG 7: Affordable and Clean Energy	100	66.67	○
4.3.5 SDG 11: Sustainable Cities and Communities	29	84.81	

NOTE: ● a strength and ○ a weakness.

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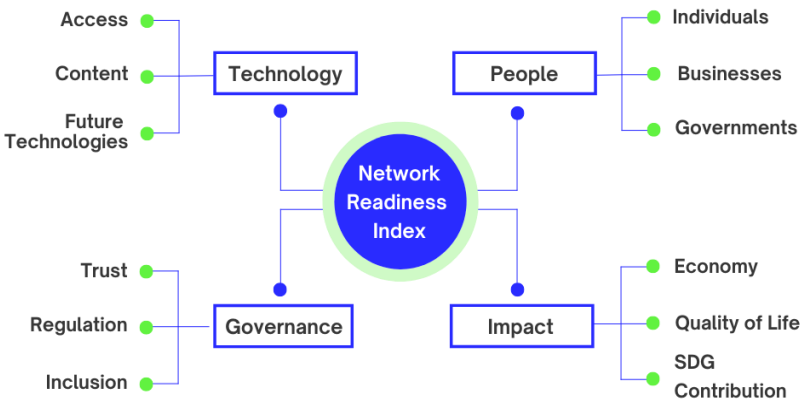
Network Readiness Index 2022 Kuwait

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

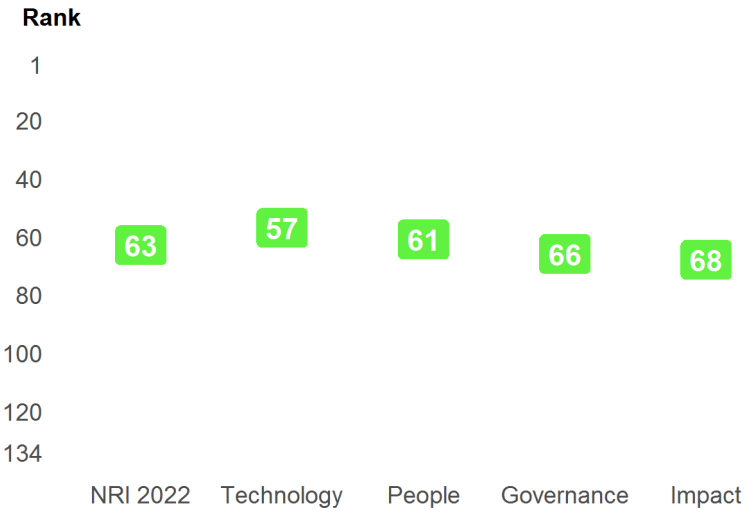
Figure 1: The NRI 2022 model



Global NRI position of Kuwait

Kuwait ranks 63rd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Kuwait global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Kuwait relate to Individuals, Quality of Life and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Businesses and SDG Contribution sub-pillars.

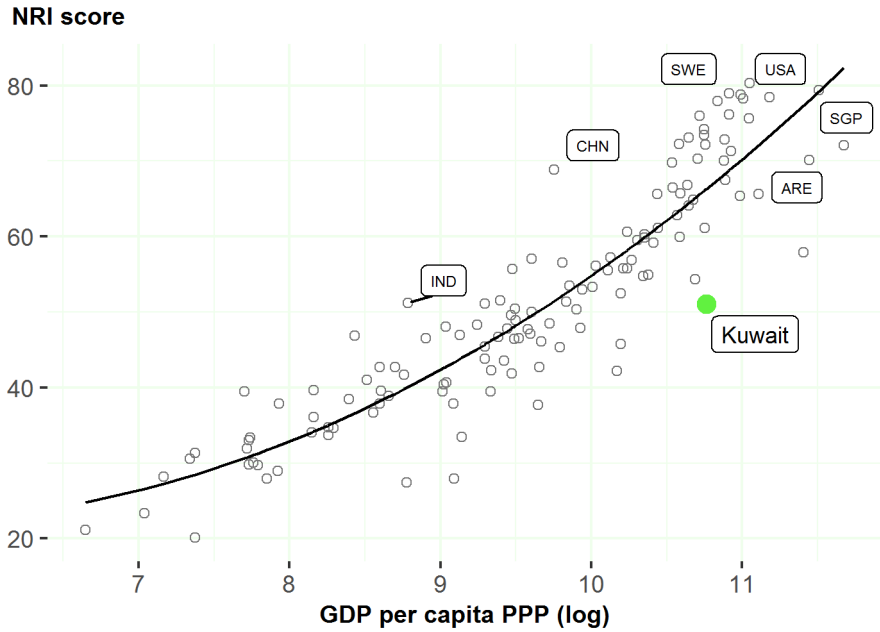
Table 1: Kuwait rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	18	Content	69
Quality of Life	27	Inclusion	69
Future Technologies	44	Governments	72
Access	60	Regulation	74
Economy	61	Businesses	78
Trust	66	SDG Contribution	114

NRI score and income

Figure 3 shows the position of Kuwait in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Kuwait is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Kuwait belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

Kuwait is ranked 47th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in one of the twelve sub-pillars: Individuals.

Arab States

Kuwait is ranked 6th within Arab States (Figure 4, right panel). It has a score above the regional average in one of the four pillars: impact. With regard to sub-pillars, it outperforms the average in Arab States in five of the twelve sub-pillars: Access, Individuals, Regulation, Economy and Quality of Life.

Figure 4: Performance of Kuwait against its income group and region, overall and by pillar

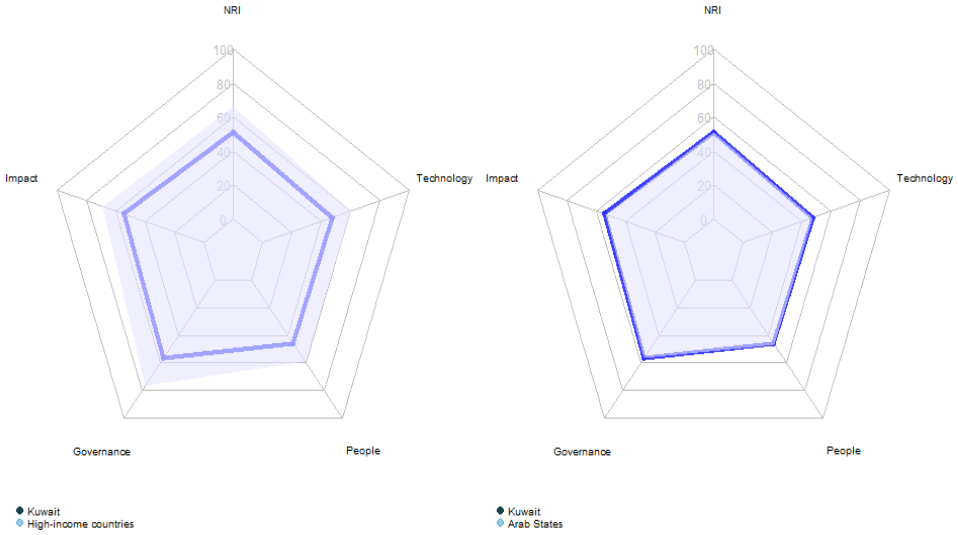


Table 2: Kuwait scores vs. averages of its income group and region, overall and by pillar

Dimension	Kuwait	High-income countries	Arab States
NRI	51.04	66.21	51.21
Technology	47.41	60.28	47.66
People	46.12	58.83	47.11
Governance	56.43	76.89	56.68
Impact	54.19	68.86	53.39

Strongest and weakest indicators

The indicators where Kuwait performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.3.3 SDG 5: Women's economic opportunity, 3.3.5 Rural gap in use of digital payments, and 2.3.4 R&D expenditure by governments and higher education.

Table 3: Strongest and weakest indicators of Kuwait

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	1.1.3 FTTH/building Internet subscriptions	95
1.1.6 Internet access in schools	1	2.2.2 GERD financed by business enterprise	96
3.2.4 E-commerce legislation	1	2.3.4 R&D expenditure by governments and higher education	104
2.1.3 Use of virtual social networks	6	3.3.5 Rural gap in use of digital payments	121
4.1.6 ICT services exports	6	4.3.3 SDG 5: Women's economic opportunity	131
3.3.1 E-Participation	18		
1.3.4 Computer software spending	26		
1.1.2 Handset prices	27		
2.1.1 Mobile broadband internet traffic within the country	27		
4.2.4 Healthy life expectancy at birth	29		
2.3.1 Government online services	31		
4.2.2 Freedom to make life choices	35		

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NRI 2022 At-A-Glance: Kuwait

Network Readiness Index — Rank: 63 (out of 131) — Score: 51.04

Pillar/sub-pillar	Rank	Score
A. Technology pillar	57	47.41
1st sub-pillar: Access	60	67.18
2nd sub-pillar: Content	69	35.66
3rd sub-pillar: Future Technologies	44	39.40
B. People pillar	61	46.12
1st sub-pillar: Individuals	18	59.34
2nd sub-pillar: Businesses	78	37.16
3rd sub-pillar: Governments	72	41.87

Pillar/sub-pillar	Rank	Score
C. Governance pillar	66	56.43
1st sub-pillar: Trust	66	45.01
2nd sub-pillar: Regulation	74	61.43
3rd sub-pillar: Inclusion	69	62.84
D. Impact pillar	68	54.19
1st sub-pillar: Economy	61	34.53
2nd sub-pillar: Quality of Life	27	79.98
3rd sub-pillar: SDG Contribution	114	48.06

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	57	47.41	
1st sub-pillar: Access	60	67.18	
1.1.1 Mobile tariffs	75	52.25	
1.1.2 Handset prices	27	72.92	●
1.1.3 FTTH/building Internet subscriptions	95	5.47	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	53	72.46	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	69	35.66	
1.2.1 GitHub commits	98	1.75	
1.2.2 Internet domain registrations	54	5.67	
1.2.3 Mobile apps development	50	83.53	
1.2.4 AI scientific publications	51	51.68	
3rd sub-pillar: Future Technologies	44	39.40	
1.3.1 Adoption of emerging technologies	76	42.95	
1.3.2 Investment in emerging technologies	57	42.50	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	26	32.75	●

Indicator	Rank	Score	
C. Governance pillar	66	56.43	
1st sub-pillar: Trust	66	45.01	
3.1.1 Secure Internet servers	75	48.08	
3.1.2 Cybersecurity	73	74.63	
3.1.3 Online access to financial account	54	34.02	
3.1.4 Internet shopping	58	23.30	
2nd sub-pillar: Regulation	74	61.43	
3.2.1 Regulatory quality	57	48.80	
3.2.2 ICT regulatory environment	88	71.76	
3.2.3 Regulation of emerging technologies	76	38.42	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	102	48.18	
3rd sub-pillar: Inclusion	69	62.84	
3.3.1 E-Participation	18	90.13	●
3.3.2 Socioeconomic gap in use of digital payments	60	76.49	
3.3.3 Availability of local online content	48	68.51	
3.3.4 Gender gap in Internet use	43	71.55	
3.3.5 Rural gap in use of digital payments	121	7.53	○

Indicator	Rank	Score	
B. People pillar	61	46.12	
1st sub-pillar: Individuals	18	59.34	
2.1.1 Mobile broadband internet traffic within the country	27	29.02	●
2.1.2 ICT skills in the education system	69	44.38	
2.1.3 Use of virtual social networks	6	87.34	●
2.1.4 Tertiary enrollment	48	40.47	
2.1.5 Adult literacy rate	37	95.47	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	78	37.16	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	96	1.13	○
2.2.3 Knowledge intensive employment	67	33.18	
2.2.4 Annual investment in telecommunication services	60	77.18	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	72	41.87	
2.3.1 Government online services	31	83.64	●
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	62	38.49	
2.3.4 R&D expenditure by governments and higher education	104	3.49	○

Indicator	Rank	Score	
D. Impact pillar	68	54.19	
1st sub-pillar: Economy	61	34.53	
4.1.1 High-tech and medium-high-tech manufacturing	61	25.86	
4.1.2 High-tech exports	93	6.53	
4.1.3 PCT patent applications	83	1.32	
4.1.4 Domestic market size	63	52.32	
4.1.5 Prevalence of gig economy	46	53.20	
4.1.6 ICT services exports	6	67.98	●
2nd sub-pillar: Quality of Life	27	79.98	
4.2.1 Happiness	50	69.94	
4.2.2 Freedom to make life choices	35	83.44	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	29	86.58	●
3rd sub-pillar: SDG Contribution	114	48.06	
4.3.1 SDG 3: Good Health and Well-Being	71	67.63	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	131	0.00	○
4.3.4 SDG 7: Affordable and Clean Energy	117	49.21	
4.3.5 SDG 11: Sustainable Cities and Communities	50	75.41	

NOTE: ● a strength and ○ a weakness.

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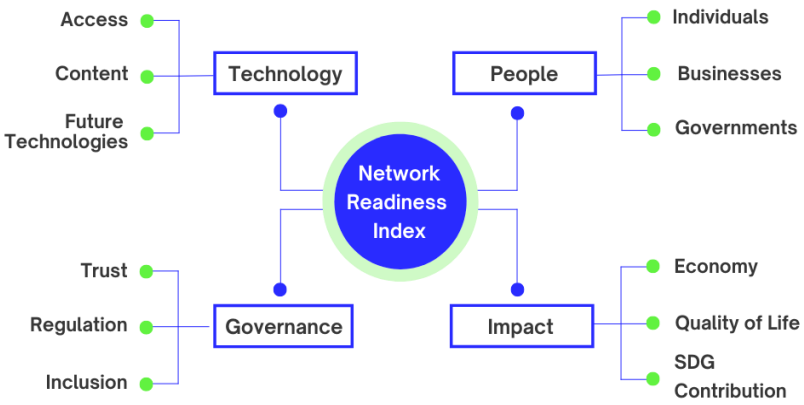
Network Readiness Index 2022 Kyrgyzstan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

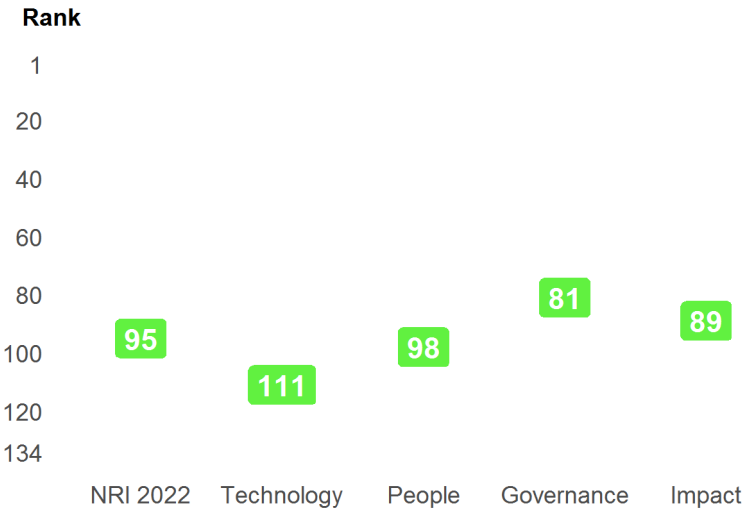
Figure 1: The NRI 2022 model



Global NRI position of Kyrgyzstan

Kyrgyzstan ranks 95th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Kyrgyzstan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Kyrgyzstan relate to Quality of Life, Inclusion and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Economy and Future Technologies sub-pillars.

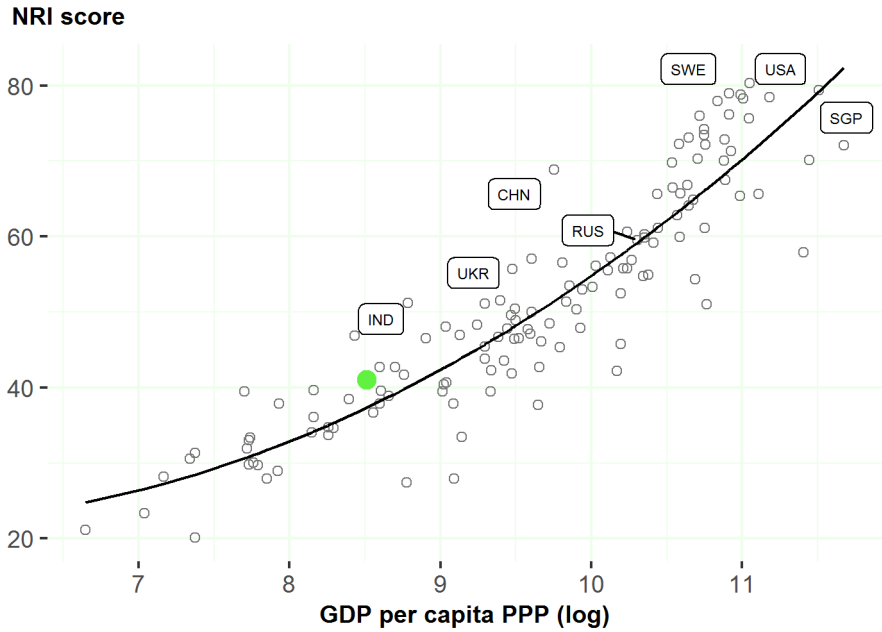
Table 1: Kyrgyzstan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	34	SDG Contribution	98
Inclusion	56	Content	107
Trust	82	Regulation	109
Individuals	83	Governments	112
Businesses	93	Economy	118
Access	97	Future Technologies	127

NRI score and income

Figure 3 shows the position of Kyrgyzstan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Kyrgyzstan is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Kyrgyzstan belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Lower-middle-income countries

Kyrgyzstan is ranked 17th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: nri.score, governance and impact. At the sub-pillar level, it outperforms lower-middle-income countries in four of the twelve sub-pillars: Individuals, Trust, Inclusion and Quality of Life.

CIS

Kyrgyzstan is ranked 5th within CIS (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in CIS in two of the twelve sub-pillars: Inclusion and Quality of Life.

Figure 4: Performance of Kyrgyzstan against its income group and region, overall and by pillar

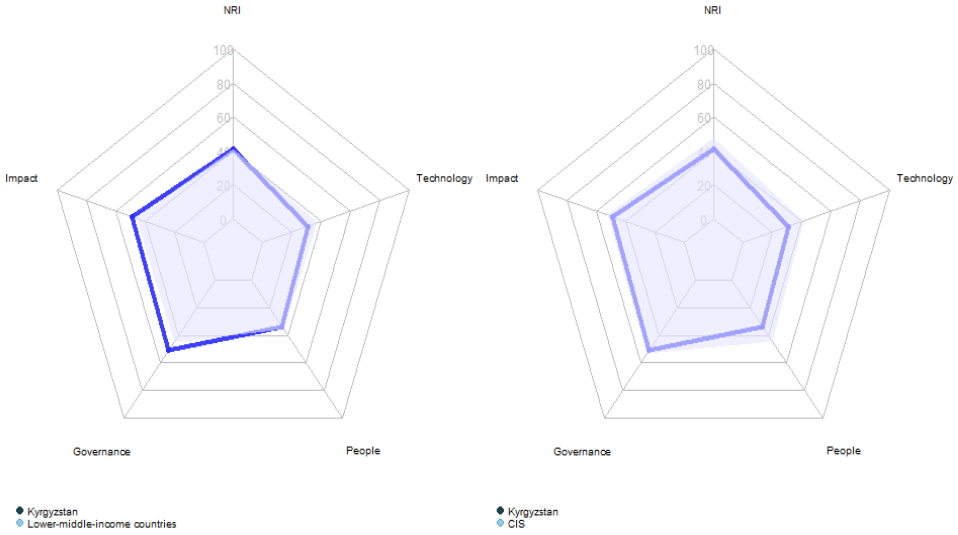


Table 2: Kyrgyzstan scores vs. averages of its income group and region, overall and by pillar

Dimension	Kyrgyzstan	Lower-middle-income countries	CIS
NRI	41.03	40.94	47.65
Technology	30.64	37.28	41.04
People	33.48	35.42	44.26
Governance	51.21	45.00	52.99
Impact	48.79	46.09	52.31

Strongest and weakest indicators

The indicators where Kyrgyzstan performs particularly well include 2.1.5 Adult literacy rate, 4.2.2 Freedom to make life choices, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 1.3.1 Adoption of emerging technologies, 1.3.2 Investment in emerging technologies, and 4.1.1 High-tech and medium-high-tech manufacturing.

Table 3: Strongest and weakest indicators of Kyrgyzstan

Strongest indicators	Rank	Weakest indicators	Rank
2.1.5 Adult literacy rate	11	4.3.2 SDG 4: Quality Education	79
4.2.2 Freedom to make life choices	13	4.1.3 PCT patent applications	99
4.2.3 Income inequality	16	4.1.1 High-tech and medium-high-tech manufacturing	107
3.3.2 Socioeconomic gap in use of digital payments	30	1.3.2 Investment in emerging technologies	120
3.3.5 Rural gap in use of digital payments	41	1.3.1 Adoption of emerging technologies	121
2.2.1 Firms with website	59		
3.3.1 E-Participation	64		
4.3.1 SDG 3: Good Health and Well-Being	66		
2.1.4 Tertiary enrollment	67		
4.3.5 SDG 11: Sustainable Cities and Communities	68		

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NRI 2022 At-A-Glance: Kyrgyzstan

Network Readiness Index Rank: 95 (out of 131) Score: 41.03

Pillar/sub-pillar	Rank	Score
A. Technology pillar	111	30.64
1st sub-pillar: Access	97	53.65
2nd sub-pillar: Content	107	23.91
3rd sub-pillar: Future Technologies	127	14.37
B. People pillar	98	33.48
1st sub-pillar: Individuals	83	43.15
2nd sub-pillar: Businesses	93	32.70
3rd sub-pillar: Governments	112	24.60

Pillar/sub-pillar	Rank	Score
C. Governance pillar	81	51.21
1st sub-pillar: Trust	82	35.86
2nd sub-pillar: Regulation	109	48.81
3rd sub-pillar: Inclusion	56	68.97
D. Impact pillar	89	48.79
1st sub-pillar: Economy	118	14.69
2nd sub-pillar: Quality of Life	34	77.46
3rd sub-pillar: SDG Contribution	98	54.21

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	111	30.64	
1st sub-pillar: Access	97	53.65	
1.1.1 Mobile tariffs	107	36.01	
1.1.2 Handset prices	117	29.80	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	102	96.89	
1.1.5 International Internet bandwidth	95	64.20	
1.1.6 Internet access in schools	53	41.37	
2nd sub-pillar: Content	107	23.91	
1.2.1 GitHub commits	70	4.54	
1.2.2 Internet domain registrations	105	0.65	
1.2.3 Mobile apps development	91	68.29	
1.2.4 AI scientific publications	86	22.16	
3rd sub-pillar: Future Technologies	127	14.37	
1.3.1 Adoption of emerging technologies	121	15.66	○
1.3.2 Investment in emerging technologies	120	19.25	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	89	8.19	

Indicator	Rank	Score	
C. Governance pillar	81	51.21	
1st sub-pillar: Trust	82	35.86	
3.1.1 Secure Internet servers	74	48.22	
3.1.2 Cybersecurity	95	48.75	
3.1.3 Online access to financial account	104	10.62	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	109	48.81	
3.2.1 Regulatory quality	95	30.40	
3.2.2 ICT regulatory environment	84	74.71	
3.2.3 Regulation of emerging technologies	92	26.58	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	107	45.70	
3rd sub-pillar: Inclusion	56	68.97	
3.3.1 E-Participation	64	70.37	●
3.3.2 Socioeconomic gap in use of digital payments	30	92.28	●
3.3.3 Availability of local online content	99	41.35	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	41	71.88	●

Indicator	Rank	Score	
B. People pillar	98	33.48	
1st sub-pillar: Individuals	83	43.15	
2.1.1 Mobile broadband internet traffic within the country	65	8.12	
2.1.2 ICT skills in the education system	103	28.40	
2.1.3 Use of virtual social networks	90	49.27	
2.1.4 Tertiary enrollment	67	30.47	●
2.1.5 Adult literacy rate	11	99.50	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	93	32.70	
2.2.1 Firms with website	59	55.11	●
2.2.2 GERD financed by business enterprise	81	8.53	
2.2.3 Knowledge intensive employment	77	28.42	
2.2.4 Annual investment in telecommunication services	100	70.70	
2.2.5 GERD performed by business enterprise	78	0.72	
3rd sub-pillar: Governments	112	24.60	
2.3.1 Government online services	77	63.64	
2.3.2 Publication and use of open data	83	13.24	
2.3.3 Government promotion of investment in emerging tech	111	17.02	
2.3.4 R&D expenditure by governments and higher education	102	4.53	

Indicator	Rank	Score	
D. Impact pillar	89	48.79	
1st sub-pillar: Economy	118	14.69	
4.1.1 High-tech and medium-high-tech manufacturing	107	0.00	○
4.1.2 High-tech exports	75	15.48	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	117	33.86	
4.1.5 Prevalence of gig economy	95	28.49	
4.1.6 ICT services exports	101	10.32	
2nd sub-pillar: Quality of Life	34	77.46	
4.2.1 Happiness	72	60.28	
4.2.2 Freedom to make life choices	13	92.00	●
4.2.3 Income inequality	16	85.43	●
4.2.4 Healthy life expectancy at birth	70	72.13	
3rd sub-pillar: SDG Contribution	98	54.21	
4.3.1 SDG 3: Good Health and Well-Being	66	68.88	●
4.3.2 SDG 4: Quality Education	79	0.00	○
4.3.3 SDG 5: Women's economic opportunity	90	67.54	
4.3.4 SDG 7: Affordable and Clean Energy	96	69.59	
4.3.5 SDG 11: Sustainable Cities and Communities	68	65.02	●

NOTE: ● a strength and ○ a weakness.

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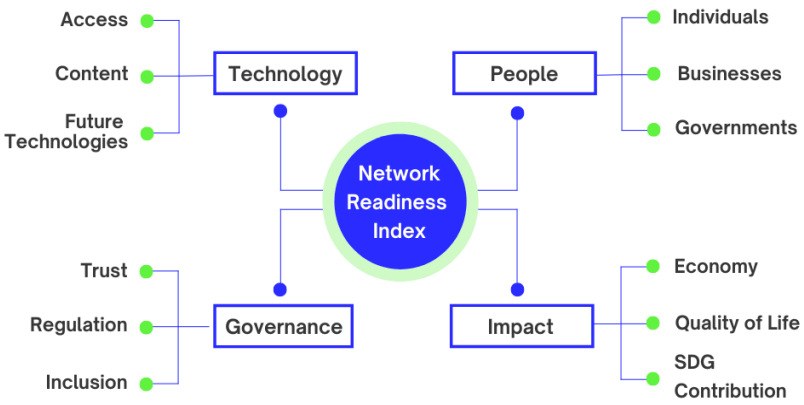
Network Readiness Index 2022 Lao PDR

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

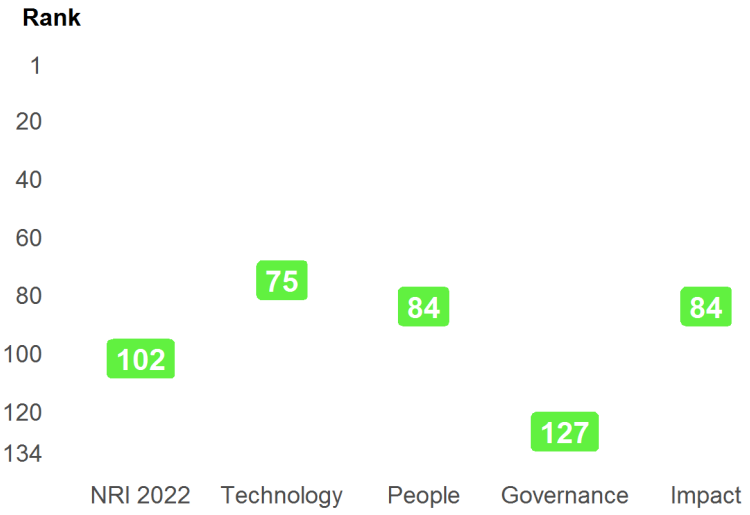
Figure 1: The NRI 2022 model



Global NRI position of Lao PDR

Lao PDR ranks 102nd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Lao PDR global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Lao PDR relate to Future Technologies, Access and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Regulation and Inclusion sub-pillars.

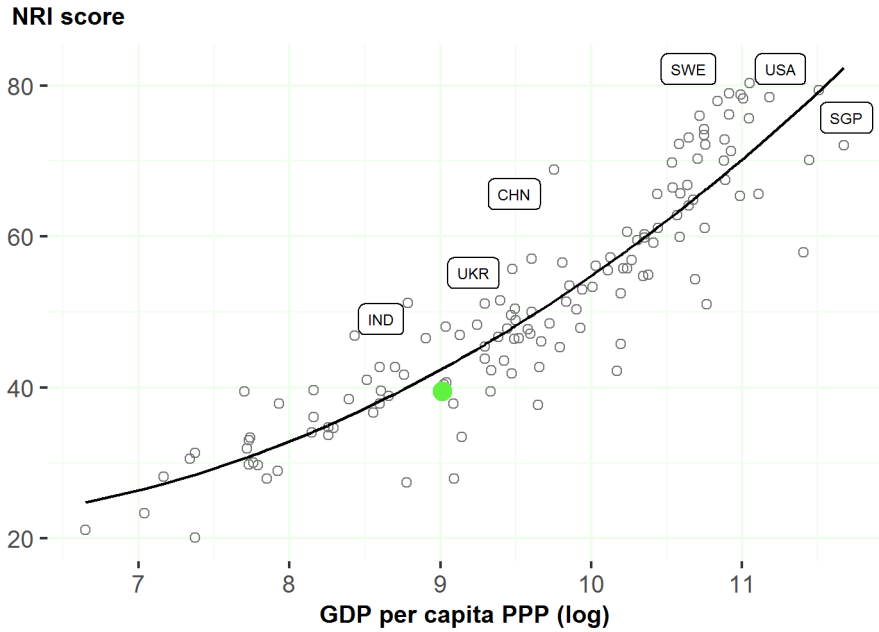
Table 1: Lao PDR rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	30	Economy	92
Access	74	Governments	93
Individuals	76	Content	113
Quality of Life	80	Trust	119
Businesses	82	Regulation	124
SDG Contribution	82	Inclusion	127

NRI score and income

Figure 3 shows the position of Lao PDR in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Lao PDR is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Lao PDR belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Lao PDR is ranked 23rd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: technology, people and impact. At the sub-pillar level, it outperforms lower-middle-income countries in six of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Quality of Life and SDG Contribution.

Asia & Pacific

Lao PDR is ranked 19th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in one of the twelve sub-pillars: Future Technologies.

Figure 4: Performance of Lao PDR against its income group and region, overall and by pillar

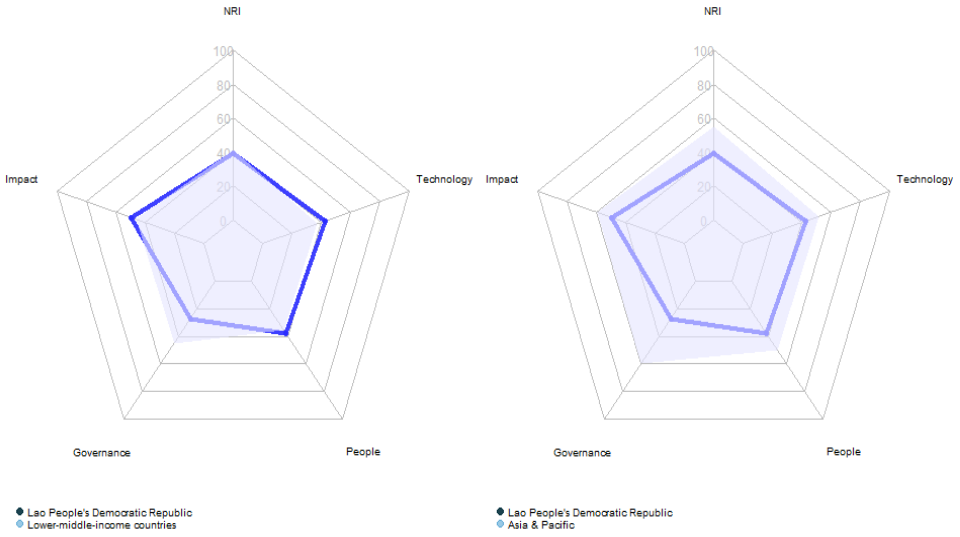


Table 2: Lao PDR scores vs. averages of its income group and region, overall and by pillar

Dimension	Lao PDR	Lower-middle-income countries	Asia & Pacific
NRI	39.45	40.94	55.18
Technology	42.83	37.28	51.78
People	38.22	35.42	50.21
Governance	27.09	45.00	59.66
Impact	49.68	46.09	59.07

Strongest and weakest indicators

The indicators where Lao PDR performs particularly well include 2.1.1 Mobile broadband internet traffic within the country, 4.2.2 Freedom to make life choices, and 2.3.3 Government promotion of investment in emerging technologies (Table 3). By contrast, the economy's weakest indicators include 2.3.1 Government online services, 3.2.2 ICT regulatory environment, and 3.3.1 E-Participation.

Table 3: Strongest and weakest indicators of Lao PDR

Strongest indicators	Rank	Weakest indicators	Rank
2.1.1 Mobile broadband internet traffic within the country	9	4.1.3 PCT patent applications	99
4.2.2 Freedom to make life choices	9	3.3.2 Socioeconomic gap in use of digital payments	124
2.3.3 Government promotion of investment in emerging technologies	43	3.3.1 E-Participation	127
4.1.5 Prevalence of gig economy	43	2.3.1 Government online services	128
4.1.2 High-tech exports	44	3.2.2 ICT regulatory environment	128
4.3.3 SDG 5: Women's economic opportunity	45		
1.3.2 Investment in emerging technologies	51		
1.3.1 Adoption of emerging technologies	69		
3.3.3 Availability of local online content	73		
2.1.2 ICT skills in the education system	75		

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NRI 2022 At-A-Glance: Lao PDR

Network Readiness Index Rank: 102 (out of 131) Score: 39.45

Pillar/sub-pillar	Rank	Score
A. Technology pillar	75	42.83
1st sub-pillar: Access	74	61.26
2nd sub-pillar: Content	113	21.76
3rd sub-pillar: Future Technologies	30	45.47
B. People pillar	84	38.22
1st sub-pillar: Individuals	76	45.94
2nd sub-pillar: Businesses	82	36.37
3rd sub-pillar: Governments	93	32.36

Pillar/sub-pillar	Rank	Score
C. Governance pillar	127	27.09
1st sub-pillar: Trust	119	18.58
2nd sub-pillar: Regulation	124	34.11
3rd sub-pillar: Inclusion	127	28.57
D. Impact pillar	84	49.68
1st sub-pillar: Economy	92	24.84
2nd sub-pillar: Quality of Life	80	64.45
3rd sub-pillar: SDG Contribution	82	59.76

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	75	42.83	
1st sub-pillar: Access	74	61.26	
1.1.1 Mobile tariffs	89	46.75	
1.1.2 Handset prices	93	40.90	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	109	94.53	
1.1.5 International Internet bandwidth	102	62.88	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	113	21.76	
1.2.1 GitHub commits	113	0.44	
1.2.2 Internet domain registrations	78	1.95	
1.2.3 Mobile apps development	98	64.32	
1.2.4 AI scientific publications	90	20.31	
3rd sub-pillar: Future Technologies	30	45.47	
1.3.1 Adoption of emerging technologies	69	44.69	•
1.3.2 Investment in emerging technologies	51	46.25	•
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	84	38.22	

Indicator	Rank	Score	
C. Governance pillar	127	27.09	
1st sub-pillar: Trust	119	18.58	
3.1.1 Secure Internet servers	111	31.68	
3.1.2 Cybersecurity	116	18.94	
3.1.3 Online access to financial account	119	5.12	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	124	34.11	
3.2.1 Regulatory quality	116	19.73	
3.2.2 ICT regulatory environment	128	25.49	○
3.2.3 Regulation of emerging technologies	69	42.37	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	127	16.30	
3rd sub-pillar: Inclusion	127	28.57	
3.3.1 E-Participation	127	18.52	○
3.3.2 Socioeconomic gap in use of digital payments	124	14.18	○
3.3.3 Availability of local online content	73	56.49	•
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	112	25.09	
D. Impact pillar	84	49.68	

Indicator	Rank	Score	
1st sub-pillar: Individuals	76	45.94	
2.1.1 Mobile broadband internet traffic within the country	9	54.02	●
2.1.2 ICT skills in the education system	75	40.83	●
2.1.3 Use of virtual social networks	92	46.54	
2.1.4 Tertiary enrollment	102	8.01	
2.1.5 Adult literacy rate	74	80.28	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	82	36.37	
2.2.1 Firms with website	99	24.72	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	96	18.40	
2.2.4 Annual investment in telecommunication services	108	66.00	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	93	32.36	
2.3.1 Government online services	128	16.97	○
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	43	47.75	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
1st sub-pillar: Economy	92	24.84	
4.1.1 High-tech and medium-high-tech manufacturing	98	3.55	
4.1.2 High-tech exports	44	40.46	●
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	95	40.03	
4.1.5 Prevalence of gig economy	43	54.36	●
4.1.6 ICT services exports	100	10.61	
2nd sub-pillar: Quality of Life	80	64.45	
4.2.1 Happiness	93	48.93	
4.2.2 Freedom to make life choices	9	93.56	●
4.2.3 Income inequality	74	60.80	
4.2.4 Healthy life expectancy at birth	98	54.50	
3rd sub-pillar: SDG Contribution	82	59.76	
4.3.1 SDG 3: Good Health and Well-Being	109	36.00	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	45	83.33	●
4.3.4 SDG 7: Affordable and Clean Energy	81	74.69	
4.3.5 SDG 11: Sustainable Cities and Communities	101	45.00	

NOTE: ● a strength and ○ a weakness.

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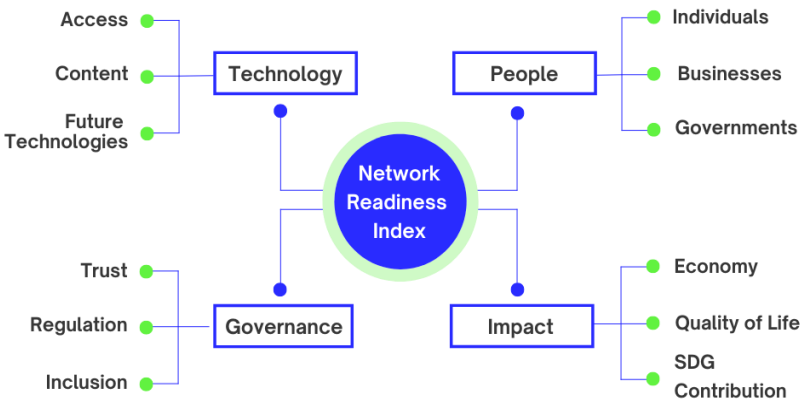
Network Readiness Index 2022 Latvia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

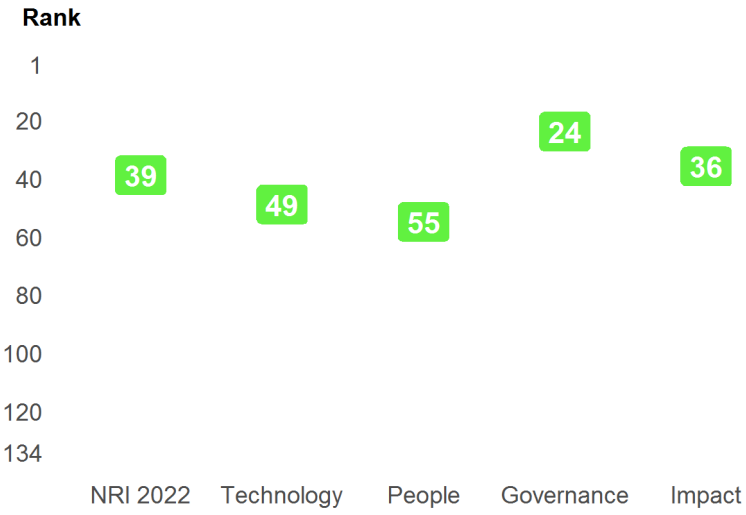
Figure 1: The NRI 2022 model



Global NRI position of Latvia

Latvia ranks 39th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Latvia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Latvia relate to Trust, Regulation and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Governments and Future Technologies sub-pillars.

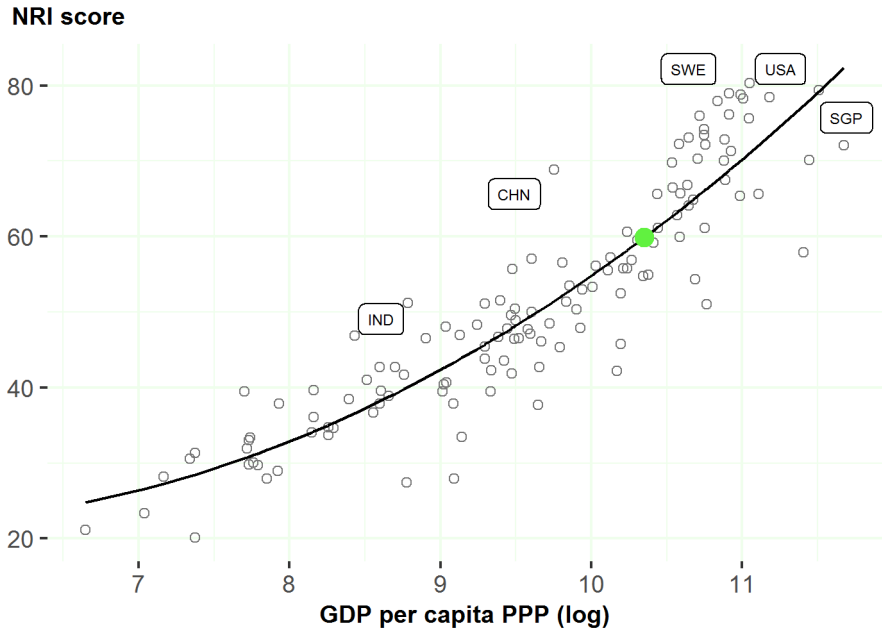
Table 1: Latvia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	19	Economy	45
Regulation	20	Quality of Life	49
Content	33	Access	52
SDG Contribution	36	Businesses	53
Inclusion	43	Governments	74
Individuals	44	Future Technologies	78

NRI score and income

Figure 3 shows the position of Latvia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Latvia is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Latvia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Latvia is ranked 37th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: governance. At the sub-pillar level, it outperforms high-income countries in two of the twelve sub-pillars: Trust and Regulation.

Europe

Latvia is ranked 27th within Europe (Figure 4, right panel). It has a score above the regional average in one of the four pillars: governance. With regard to sub-pillars, it outperforms the average in Europe in three of the twelve sub-pillars: Individuals, Trust and Regulation.

Figure 4: Performance of Latvia against its income group and region, overall and by pillar

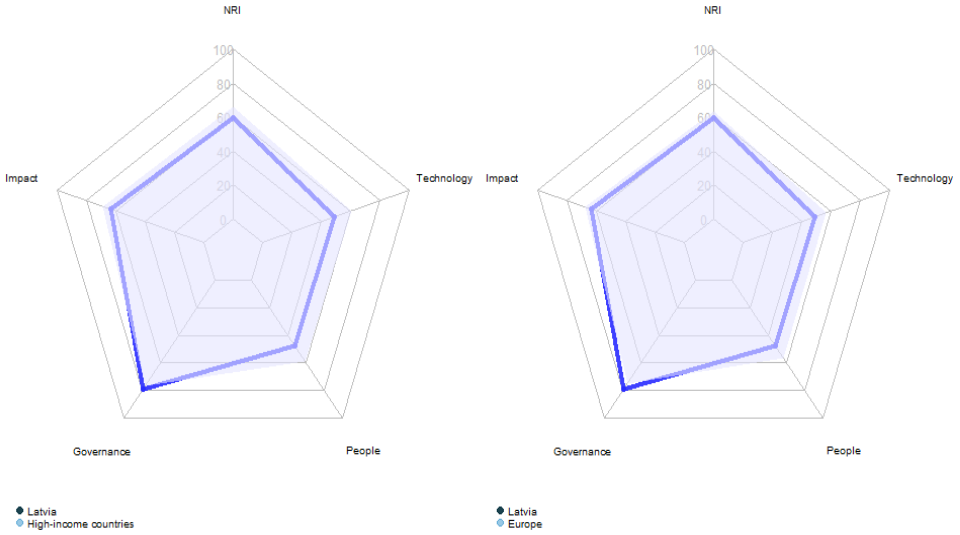


Table 2: Latvia scores vs. averages of its income group and region, overall and by pillar

Dimension	Latvia	High-income countries	Europe
NRI	59.86	66.21	63.72
Technology	49.20	60.28	56.43
People	47.79	58.83	56.35
Governance	78.93	76.89	74.79
Impact	63.52	68.86	67.30

Strongest and weakest indicators

The indicators where Latvia performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 2.2.4 Annual investment in telecommunication services, and 1.3.4 Computer software spending.

Table 3: Strongest and weakest indicators of Latvia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.6 AI talent concentration	36
3.2.4 E-commerce legislation	1	1.3.3 Robot density	46
4.3.3 SDG 5: Women's economic opportunity	1	1.3.4 Computer software spending	86
2.1.5 Adult literacy rate	2	2.2.4 Annual investment in telecommunication services	91
3.2.5 Privacy protection by law content	2	4.1.4 Domestic market size	93
2.1.4 Tertiary enrollment	6		
3.3.4 Gender gap in Internet use	14		
3.1.3 Online access to financial account	16		
4.1.2 High-tech exports	19		
4.1.6 ICT services exports	19		
3.1.2 Cybersecurity	21		
2.2.3 Knowledge intensive employment	23		

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NRI 2022 At-A-Glance: Latvia

Network Readiness Index — Rank: 39 (out of 131) — Score: 59.86

Pillar/sub-pillar	Rank	Score
A. Technology pillar	49	49.20
1st sub-pillar: Access	52	69.42
2nd sub-pillar: Content	33	48.67
3rd sub-pillar: Future Technologies	78	29.49
B. People pillar	55	47.79
1st sub-pillar: Individuals	44	53.10
2nd sub-pillar: Businesses	53	48.84
3rd sub-pillar: Governments	74	41.41

Pillar/sub-pillar	Rank	Score
C. Governance pillar	24	78.93
1st sub-pillar: Trust	19	78.08
2nd sub-pillar: Regulation	20	83.34
3rd sub-pillar: Inclusion	43	75.38
D. Impact pillar	36	63.52
1st sub-pillar: Economy	45	40.64
2nd sub-pillar: Quality of Life	49	73.57
3rd sub-pillar: SDG Contribution	36	76.34

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	49	49.20	
1st sub-pillar: Access	52	69.42	
1.1.1 Mobile tariffs	61	62.04	
1.1.2 Handset prices	48	65.03	
1.1.3 FTTH/building Internet subscriptions	63	24.29	
1.1.4 Population covered by at least a 3G mobile network	55	99.68	
1.1.5 International Internet bandwidth	91	65.51	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	33	48.67	
1.2.1 GitHub commits	30	31.06	
1.2.2 Internet domain registrations	29	24.25	
1.2.3 Mobile apps development	32	90.70	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	78	29.49	
1.3.1 Adoption of emerging technologies	38	61.35	
1.3.2 Investment in emerging technologies	54	44.75	
1.3.3 Robot density	46	1.56	○
1.3.4 Computer software spending	86	10.31	○

Indicator	Rank	Score	
C. Governance pillar	24	78.93	
1st sub-pillar: Trust	19	78.08	
3.1.1 Secure Internet servers	36	79.16	
3.1.2 Cybersecurity	21	97.23	●
3.1.3 Online access to financial account	16	69.36	●
3.1.4 Internet shopping	24	66.58	
2nd sub-pillar: Regulation	20	83.34	
3.2.1 Regulatory quality	26	72.80	
3.2.2 ICT regulatory environment	45	87.06	
3.2.3 Regulation of emerging technologies	39	60.53	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	2	96.32	●
3rd sub-pillar: Inclusion	43	75.38	
3.3.1 E-Participation	87	56.79	
3.3.2 Socioeconomic gap in use of digital payments	31	91.94	
3.3.3 Availability of local online content	31	81.25	
3.3.4 Gender gap in Internet use	14	75.59	●
3.3.5 Rural gap in use of digital payments	46	71.31	

Indicator	Rank	Score	
B. People pillar	55	47.79	
1st sub-pillar: Individuals	44	53.10	
2.1.1 Mobile broadband internet traffic within the country	50	12.91	
2.1.2 ICT skills in the education system	38	62.43	
2.1.3 Use of virtual social networks	54	72.74	
2.1.4 Tertiary enrollment	6	63.44	●
2.1.5 Adult literacy rate	2	99.89	●
2.1.6 AI talent concentration	36	7.21	○
2nd sub-pillar: Businesses	53	48.84	
2.2.1 Firms with website	42	67.40	
2.2.2 GERD financed by business enterprise	62	30.02	
2.2.3 Knowledge intensive employment	23	68.77	●
2.2.4 Annual investment in telecommunication services	91	72.26	○
2.2.5 GERD performed by business enterprise	51	5.74	
3rd sub-pillar: Governments	74	41.41	
2.3.1 Government online services	87	56.98	
2.3.2 Publication and use of open data	58	27.94	
2.3.3 Government promotion of investment in emerging tech	67	37.28	
2.3.4 R&D expenditure by governments and higher education	45	43.45	

Indicator	Rank	Score	
D. Impact pillar	36	63.52	
1st sub-pillar: Economy	45	40.64	
4.1.1 High-tech and medium-high-tech manufacturing	72	17.77	
4.1.2 High-tech exports	19	59.80	●
4.1.3 PCT patent applications	33	19.50	
4.1.4 Domestic market size	93	40.48	○
4.1.5 Prevalence of gig economy	40	56.40	
4.1.6 ICT services exports	19	49.93	●
2nd sub-pillar: Quality of Life	49	73.57	
4.2.1 Happiness	38	74.33	
4.2.2 Freedom to make life choices	63	74.63	
4.2.3 Income inequality	48	71.61	
4.2.4 Healthy life expectancy at birth	62	73.72	
3rd sub-pillar: SDG Contribution	36	76.34	
4.3.1 SDG 3: Good Health and Well-Being	62	71.24	
4.3.2 SDG 4: Quality Education	28	63.93	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	40	84.46	
4.3.5 SDG 11: Sustainable Cities and Communities	72	62.07	

NOTE: ● a strength and ○ a weakness.

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Network Readiness Index 2022 Lebanon

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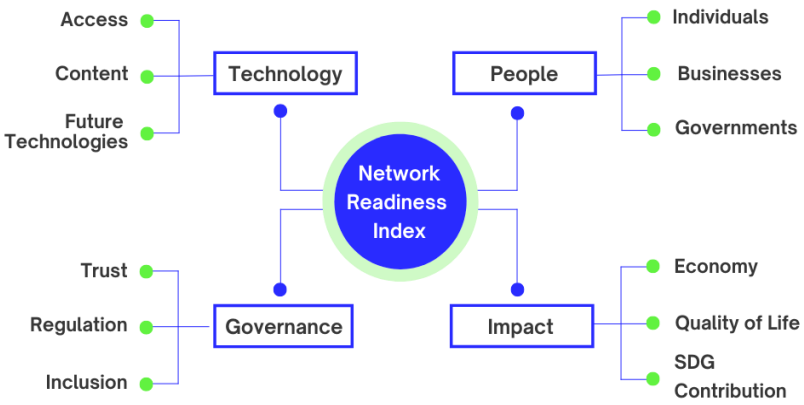
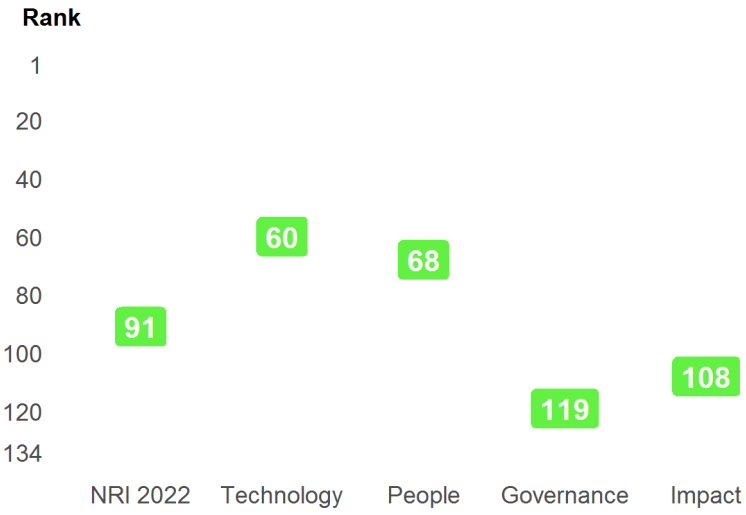
Figure 1: The NRI 2022 model



Global NRI position of Lebanon

Lebanon ranks 91st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Lebanon global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Lebanon relate to Individuals, Businesses and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Quality of Life and Regulation sub-pillars.

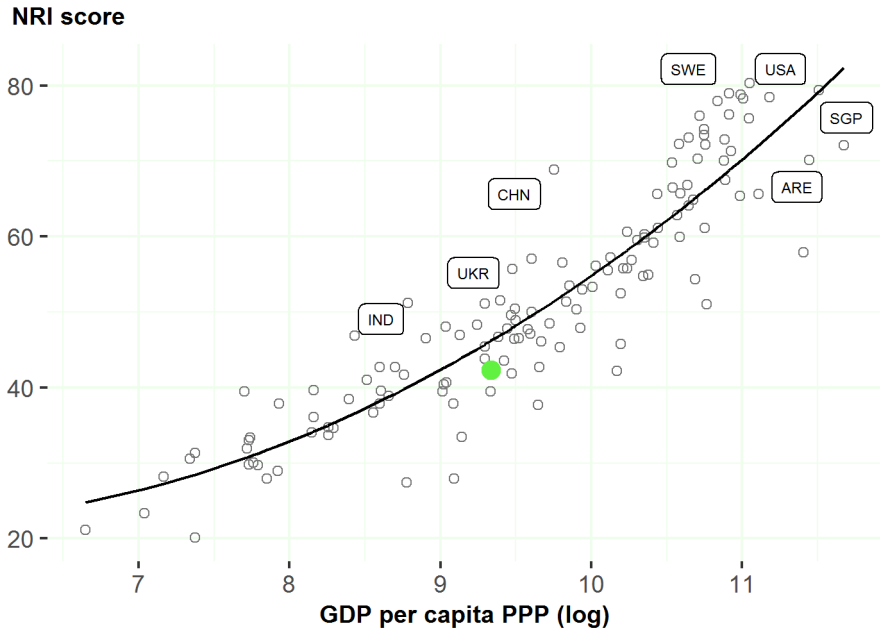
Table 1: Lebanon rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	22	SDG Contribution	93
Businesses	44	Inclusion	96
Access	51	Trust	110
Content	57	Governments	111
Economy	67	Quality of Life	122
Future Technologies	81	Regulation	126

NRI score and income

Figure 3 shows the position of Lebanon in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Lebanon is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Lebanon belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Lebanon is ranked 15th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: nri.score, technology and people. At the sub-pillar level, it outperforms lower-middle-income countries in seven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Inclusion and Economy.

Arab States

Lebanon is ranked 11th within Arab States (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Arab States in four of the twelve sub-pillars: Access, Content, Individuals and Businesses.

Figure 4: Performance of Lebanon against its income group and region, overall and by pillar

Table 2: Lebanon scores vs. averages of its income group and region, overall and by pillar

Dimension	Lebanon	Lower-middle-income countries	Arab States
NRI	42.30	40.94	51.21
Technology	45.71	37.28	47.66
People	44.94	35.42	47.11
Governance	36.36	45.00	56.68
Impact	42.18	46.09	53.39

Strongest and weakest indicators

The indicators where Lebanon performs particularly well include 2.1.2 ICT skills in the education system, 4.2.3 Income inequality, and 1.1.6 Internet access in schools (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 4.2.1 Happiness, and 4.2.2 Freedom to make life choices.

Table 3: Strongest and weakest indicators of Lebanon

Strongest indicators	Rank	Weakest indicators	Rank
2.1.2 ICT skills in the education system	27	2.3.2 Publication and use of open data	97
4.2.3 Income inequality	32	4.3.3 SDG 5: Women's economic opportunity	122
1.1.6 Internet access in schools	35	4.2.2 Freedom to make life choices	126
1.2.4 AI scientific publications	40	4.2.1 Happiness	127
3.3.5 Rural gap in use of digital payments	45	3.2.2 ICT regulatory environment	130
1.1.4 Population covered by at least a 3G mobile network	46		
2.2.1 Firms with website	47		
1.2.1 GitHub commits	51		
2.2.3 Knowledge intensive employment	52		
1.1.2 Handset prices	57		

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NRI 2022 At-A-Glance: Lebanon

Network Readiness Index — Rank: 91 (out of 131) — Score: 42.30

Pillar/sub-pillar	Rank	Score
A. Technology pillar	60	45.71
1st sub-pillar: Access	51	69.49
2nd sub-pillar: Content	57	39.00
3rd sub-pillar: Future Technologies	81	28.62
B. People pillar	68	44.94
1st sub-pillar: Individuals	22	58.21
2nd sub-pillar: Businesses	44	51.78
3rd sub-pillar: Governments	111	24.82

Pillar/sub-pillar	Rank	Score
C. Governance pillar	119	36.36
1st sub-pillar: Trust	110	23.79
2nd sub-pillar: Regulation	126	33.55
3rd sub-pillar: Inclusion	96	51.73
D. Impact pillar	108	42.18
1st sub-pillar: Economy	67	31.80
2nd sub-pillar: Quality of Life	122	39.83
3rd sub-pillar: SDG Contribution	93	54.92

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	60	45.71	
1st sub-pillar: Access	51	69.49	
1.1.1 Mobile tariffs	111	31.03	
1.1.2 Handset prices	57	58.57	●
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	46	99.87	●
1.1.5 International Internet bandwidth	88	66.67	
1.1.6 Internet access in schools	35	91.32	●
2nd sub-pillar: Content	57	39.00	
1.2.1 GitHub commits	51	9.60	●
1.2.2 Internet domain registrations	57	5.62	
1.2.3 Mobile apps development	59	81.55	
1.2.4 AI scientific publications	40	59.24	●
3rd sub-pillar: Future Technologies	81	28.62	
1.3.1 Adoption of emerging technologies	79	40.87	
1.3.2 Investment in emerging technologies	62	40.75	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	102	4.24	

Indicator	Rank	Score	
C. Governance pillar	119	36.36	
1st sub-pillar: Trust	110	23.79	
3.1.1 Secure Internet servers	84	44.64	
3.1.2 Cybersecurity	107	29.22	
3.1.3 Online access to financial account	100	12.96	
3.1.4 Internet shopping	88	8.34	
2nd sub-pillar: Regulation	126	33.55	
3.2.1 Regulatory quality	107	24.27	
3.2.2 ICT regulatory environment	130	18.44	○
3.2.3 Regulation of emerging technologies	96	23.95	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	118	34.46	
3rd sub-pillar: Inclusion	96	51.73	
3.3.1 E-Participation	118	30.86	
3.3.2 Socioeconomic gap in use of digital payments	93	52.99	
3.3.3 Availability of local online content	81	51.68	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	45	71.37	●

Indicator	Rank	Score	
B. People pillar	68	44.94	
1st sub-pillar: Individuals	22	58.21	
2.1.1 Mobile broadband internet traffic within the country	107	0.80	
2.1.2 ICT skills in the education system	27	68.34	●
2.1.3 Use of virtual social networks	58	70.01	
2.1.4 Tertiary enrollment	NA	NA	
2.1.5 Adult literacy rate	48	93.68	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	44	51.78	
2.2.1 Firms with website	47	62.38	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	52	41.18	●
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	111	24.82	
2.3.1 Government online services	113	40.00	
2.3.2 Publication and use of open data	97	5.88	○
2.3.3 Government promotion of investment in emerging tech	94	28.59	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	108	42.18	
1st sub-pillar: Economy	67	31.80	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	76	14.58	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	90	42.44	
4.1.5 Prevalence of gig economy	68	38.37	
4.1.6 ICT services exports	NA	NA	
2nd sub-pillar: Quality of Life	122	39.83	
4.2.1 Happiness	127	0.00	○
4.2.2 Freedom to make life choices	126	8.15	○
4.2.3 Income inequality	32	78.39	●
4.2.4 Healthy life expectancy at birth	67	72.76	
3rd sub-pillar: SDG Contribution	93	54.92	
4.3.1 SDG 3: Good Health and Well-Being	61	71.60	
4.3.2 SDG 4: Quality Education	72	20.44	
4.3.3 SDG 5: Women's economic opportunity	122	33.33	○
4.3.4 SDG 7: Affordable and Clean Energy	60	80.79	
4.3.5 SDG 11: Sustainable Cities and Communities	58	68.47	

NOTE: ● a strength and ○ a weakness.

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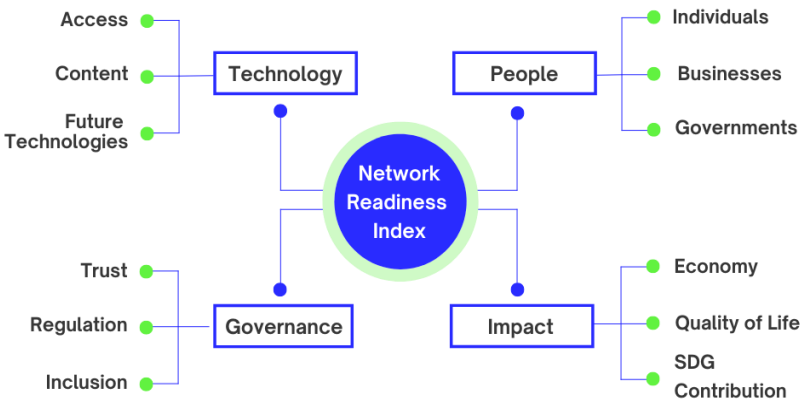
Network Readiness Index 2022 Lesotho

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

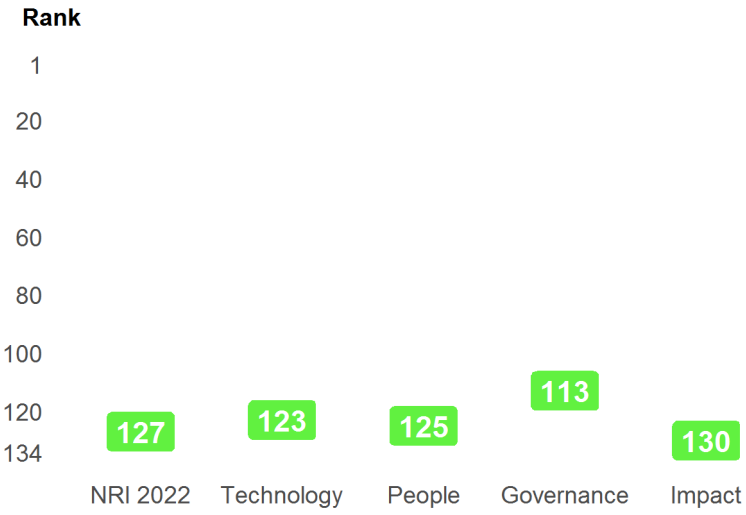
Figure 1: The NRI 2022 model



Global NRI position of Lesotho

Lesotho ranks 127th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Lesotho global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Lesotho relate to Inclusion, Individuals and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Economy and Governments sub-pillars.

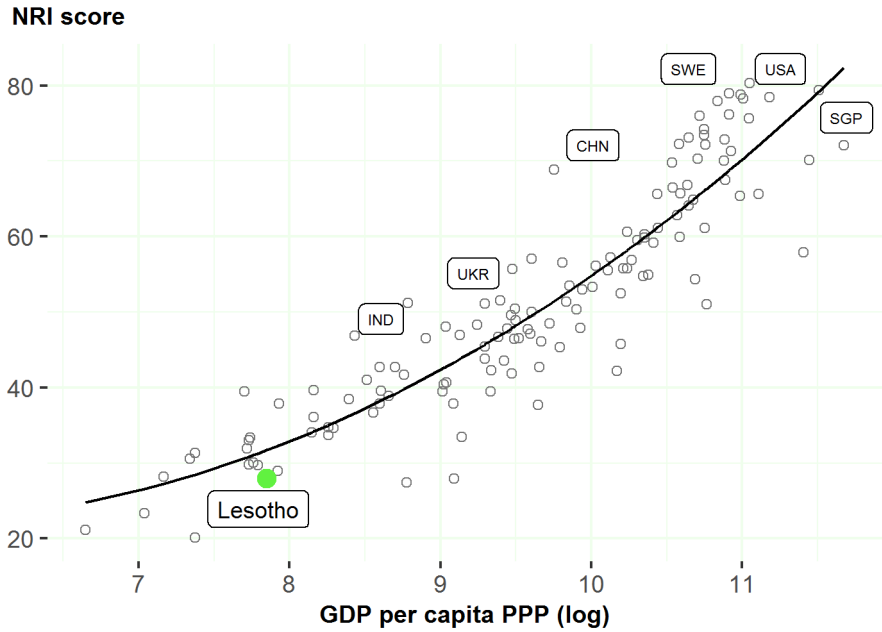
Table 1: Lesotho rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	91	Businesses	122
Individuals	115	SDG Contribution	122
Access	117	Content	124
Future Technologies	117	Quality of Life	129
Trust	118	Economy	130
Regulation	119	Governments	131

NRI score and income

Figure 3 shows the position of Lesotho in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Lesotho is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Lesotho belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Lesotho is ranked 35th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in one of the twelve sub-pillars: Inclusion.

Africa

Lesotho is ranked 27th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in two of the twelve sub-pillars: Individuals and Inclusion.

Figure 4: Performance of Lesotho against its income group and region, overall and by pillar

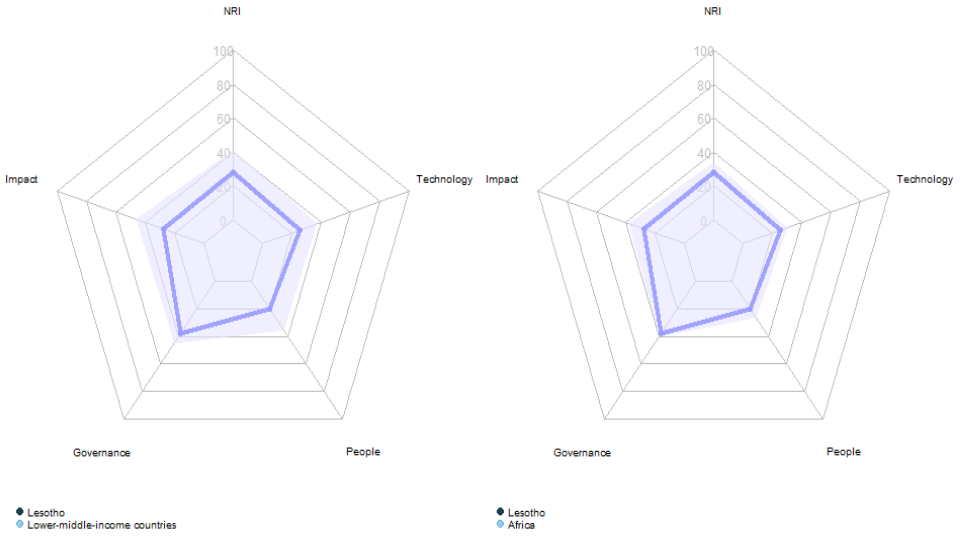


Table 2: Lesotho scores vs. averages of its income group and region, overall and by pillar

Dimension	Lesotho	Lower-middle-income countries	Africa
NRI	27.90	40.94	33.77
Technology	25.56	37.28	29.96
People	20.20	35.42	26.81
Governance	37.98	45.00	40.37
Impact	27.85	46.09	37.94

Strongest and weakest indicators

The indicators where Lesotho performs particularly well include 3.3.4 Gender gap in Internet use, 3.3.5 Rural gap in use of digital payments, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 4.1.6 ICT services exports, and 4.2.4 Healthy life expectancy at birth.

Table 3: Strongest and weakest indicators of Lesotho

Strongest indicators	Rank	Weakest indicators	Rank
3.3.4 Gender gap in Internet use	1	4.1.3 PCT patent applications	99
3.3.5 Rural gap in use of digital payments	39	2.1.1 Mobile broadband internet traffic within the country	118
3.2.5 Privacy protection by law content	53	2.3.3 Government promotion of investment in emerging technologies	126
3.1.3 Online access to financial account	59	1.1.5 International Internet bandwidth	128
1.1.4 Population covered by at least a 3G mobile network	75	4.1.4 Domestic market size	130
1.3.2 Investment in emerging technologies	78	4.1.6 ICT services exports	130
4.3.3 SDG 5: Women's economic opportunity	86	4.2.4 Healthy life expectancy at birth	130
4.1.5 Prevalence of gig economy	88		
2.1.2 ICT skills in the education system	93		
3.2.2 ICT regulatory environment	100		

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NRI 2022 At-A-Glance: Lesotho

Network Readiness Index Rank: 127 (out of 131) Score: 27.90

Pillar/sub-pillar	Rank	Score
A. Technology pillar	123	25.56
1st sub-pillar: Access	117	43.19
2nd sub-pillar: Content	124	15.61
3rd sub-pillar: Future Technologies	117	17.88
B. People pillar	125	20.20
1st sub-pillar: Individuals	115	26.31
2nd sub-pillar: Businesses	122	22.38
3rd sub-pillar: Governments	131	11.90

Pillar/sub-pillar	Rank	Score
C. Governance pillar	113	37.98
1st sub-pillar: Trust	118	18.66
2nd sub-pillar: Regulation	119	41.25
3rd sub-pillar: Inclusion	91	54.03
D. Impact pillar	130	27.85
1st sub-pillar: Economy	130	9.11
2nd sub-pillar: Quality of Life	129	31.77
3rd sub-pillar: SDG Contribution	122	42.66

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	123	25.56	
1st sub-pillar: Access	117	43.19	
1.1.1 Mobile tariffs	116	27.55	
1.1.2 Handset prices	102	37.90	
1.1.3 FTTH/building Internet subscriptions	91	6.90	
1.1.4 Population covered by at least a 3G mobile network	75	99.35	●
1.1.5 International Internet bandwidth	128	44.27	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	124	15.61	
1.2.1 GitHub commits	123	0.22	
1.2.2 Internet domain registrations	114	0.29	
1.2.3 Mobile apps development	123	44.86	
1.2.4 AI scientific publications	91	17.05	
3rd sub-pillar: Future Technologies	117	17.88	
1.3.1 Adoption of emerging technologies	126	0.00	
1.3.2 Investment in emerging technologies	78	35.75	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	113	37.98	
1st sub-pillar: Trust	118	18.66	
3.1.1 Secure Internet servers	108	33.90	
3.1.2 Cybersecurity	127	7.48	
3.1.3 Online access to financial account	59	30.94	●
3.1.4 Internet shopping	107	2.33	
2nd sub-pillar: Regulation	119	41.25	
3.2.1 Regulatory quality	102	25.87	
3.2.2 ICT regulatory environment	100	66.86	●
3.2.3 Regulation of emerging technologies	110	9.21	
3.2.4 E-commerce legislation	118	33.33	
3.2.5 Privacy protection by law content	53	70.98	●
3rd sub-pillar: Inclusion	91	54.03	
3.3.1 E-Participation	116	32.10	
3.3.2 Socioeconomic gap in use of digital payments	114	38.72	
3.3.3 Availability of local online content	117	26.44	
3.3.4 Gender gap in Internet use	1	100.00	●
3.3.5 Rural gap in use of digital payments	39	72.92	●

Indicator	Rank	Score	
B. People pillar	125	20.20	
1st sub-pillar: Individuals	115	26.31	
2.1.1 Mobile broadband internet traffic within the country	118	0.00	○
2.1.2 ICT skills in the education system	93	35.21	●
2.1.3 Use of virtual social networks	107	20.64	
2.1.4 Tertiary enrollment	108	5.77	
2.1.5 Adult literacy rate	85	69.95	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	122	22.38	
2.2.1 Firms with website	120	6.24	
2.2.2 GERD financed by business enterprise	98	0.91	
2.2.3 Knowledge intensive employment	102	16.06	
2.2.4 Annual investment in telecommunication services	107	66.31	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	131	11.90	
2.3.1 Government online services	119	33.33	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	126	0.00	
2.3.4 R&D expenditure by governments and higher education	108	2.38	

Indicator	Rank	Score	
D. Impact pillar	130	27.85	
1st sub-pillar: Economy	130	9.11	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	113	1.55	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	130	10.57	○
4.1.5 Prevalence of gig economy	88	33.43	●
4.1.6 ICT services exports	130	0.00	○
2nd sub-pillar: Quality of Life	129	31.77	
4.2.1 Happiness	122	23.74	
4.2.2 Freedom to make life choices	100	57.87	
4.2.3 Income inequality	98	45.48	
4.2.4 Healthy life expectancy at birth	130	0.00	○
3rd sub-pillar: SDG Contribution	122	42.66	
4.3.1 SDG 3: Good Health and Well-Being	112	32.54	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	86	69.30	●
4.3.4 SDG 7: Affordable and Clean Energy	122	43.02	
4.3.5 SDG 11: Sustainable Cities and Communities	124	25.76	

NOTE: ● a strength and ○ a weakness.

Sources

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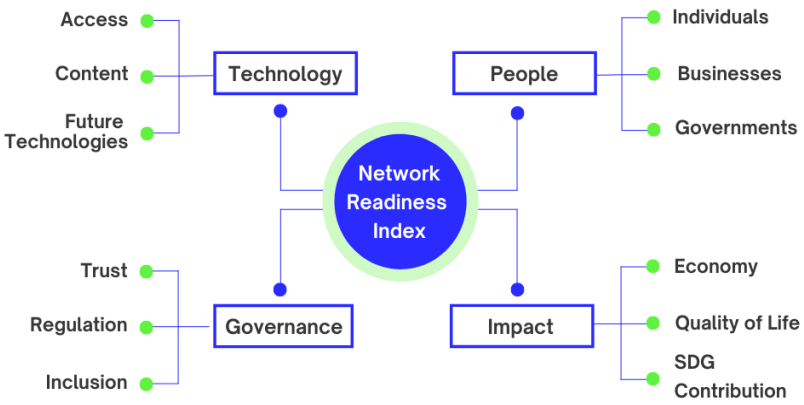
Network Readiness Index 2022 Lithuania

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

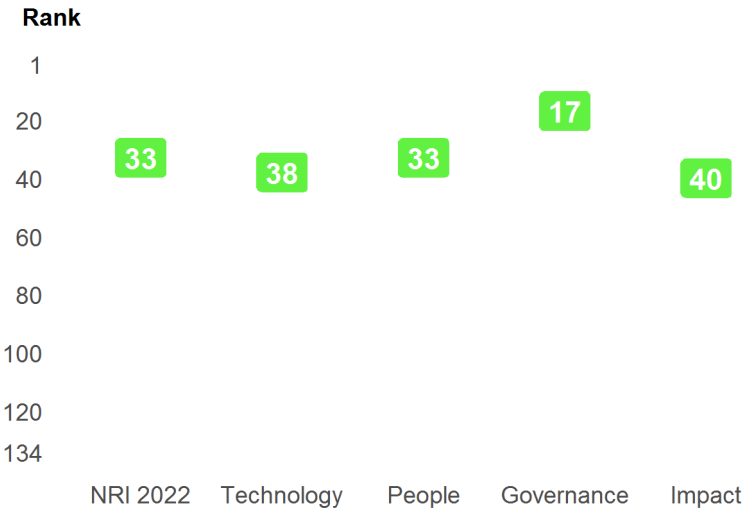
Figure 1: The NRI 2022 model



Global NRI position of Lithuania

Lithuania ranks 33rd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Lithuania global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Lithuania relate to Regulation, Inclusion and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Quality of Life and Future Technologies sub-pillars.

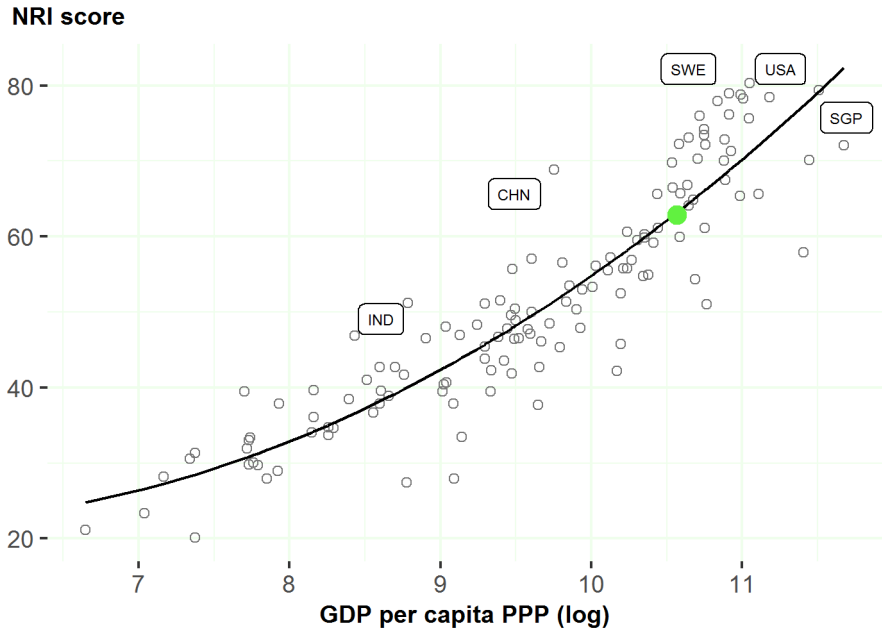
Table 1: Lithuania rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	15	SDG Contribution	40
Inclusion	22	Access	45
Governments	24	Individuals	51
Trust	24	Economy	53
Content	31	Quality of Life	56
Businesses	37	Future Technologies	57

NRI score and income

Figure 3 shows the position of Lithuania in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Lithuania is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Lithuania belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Lithuania is ranked 32nd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: governance. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Governments, Trust, Regulation and Inclusion.

Europe

Lithuania is ranked 23rd within Europe (Figure 4, right panel). It has a score above the regional average in one of the four pillars: governance. With regard to sub-pillars, it outperforms the average in Europe in five of the twelve sub-pillars: Access, Governments, Trust, Regulation and Inclusion.

Figure 4: Performance of Lithuania against its income group and region, overall and by pillar

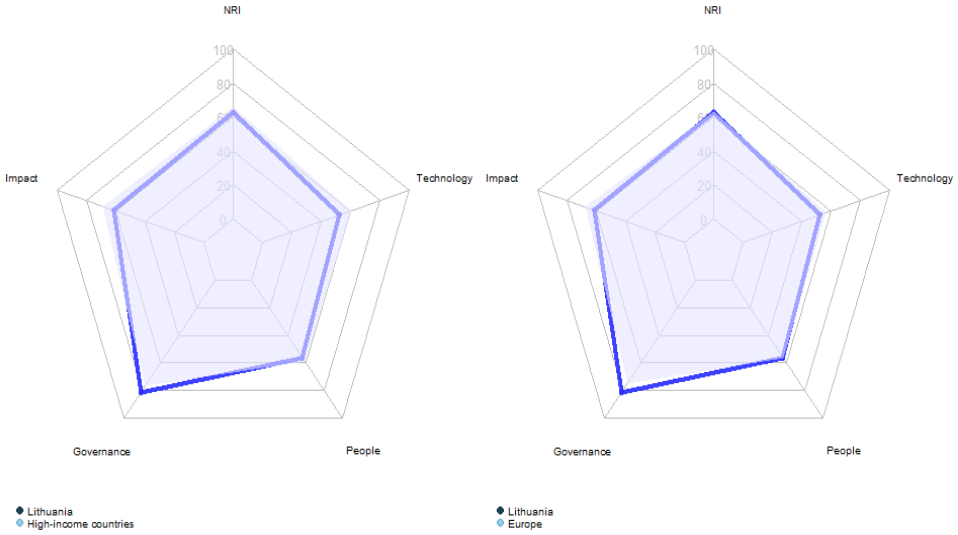


Table 2: Lithuania scores vs. averages of its income group and region, overall and by pillar

Dimension	Lithuania	High-income countries	Europe
NRI	62.78	66.21	63.72
Technology	52.43	60.28	56.43
People	56.30	58.83	56.35
Governance	81.30	76.89	74.79
Impact	61.10	68.86	67.30

Strongest and weakest indicators

The indicators where Lithuania performs particularly well include 3.2.4 E-commerce legislation, 3.2.2 ICT regulatory environment, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 1.3.4 Computer software spending, and 2.2.4 Annual investment in telecommunication services.

Table 3: Strongest and weakest indicators of Lithuania

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	31
3.2.2 ICT regulatory environment	2	1.3.3 Robot density	39
2.1.5 Adult literacy rate	4	2.2.4 Annual investment in telecommunication services	89
3.3.5 Rural gap in use of digital payments	8	1.3.4 Computer software spending	92
3.1.2 Cybersecurity	11	4.2.2 Freedom to make life choices	103
3.3.4 Gender gap in Internet use	12		
3.2.5 Privacy protection by law content	13		
3.1.1 Secure Internet servers	15		
3.3.3 Availability of local online content	16		
4.2.1 Happiness	16		
1.1.1 Mobile tariffs	18		

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NRI 2022 At-A-Glance: Lithuania

Network Readiness Index — Rank: 33 (out of 131) — Score: 62.78

Pillar/sub-pillar	Rank	Score
A. Technology pillar	38	52.43
1st sub-pillar: Access	45	70.80
2nd sub-pillar: Content	31	51.95
3rd sub-pillar: Future Technologies	57	34.55
B. People pillar	33	56.30
1st sub-pillar: Individuals	51	51.54
2nd sub-pillar: Businesses	37	55.62
3rd sub-pillar: Governments	24	61.74

Pillar/sub-pillar	Rank	Score
C. Governance pillar	17	81.30
1st sub-pillar: Trust	24	76.25
2nd sub-pillar: Regulation	15	85.97
3rd sub-pillar: Inclusion	22	81.67
D. Impact pillar	40	61.10
1st sub-pillar: Economy	53	37.56
2nd sub-pillar: Quality of Life	56	71.15
3rd sub-pillar: SDG Contribution	40	74.58

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	38	52.43	
1st sub-pillar: Access	45	70.80	
1.1.1 Mobile tariffs	18	82.37	●
1.1.2 Handset prices	44	67.69	
1.1.3 FTTH/building Internet subscriptions	56	27.60	
1.1.4 Population covered by at least a 3G mobile network	19	100.00	
1.1.5 International Internet bandwidth	36	76.32	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	31	51.95	
1.2.1 GitHub commits	29	33.04	
1.2.2 Internet domain registrations	27	27.71	
1.2.3 Mobile apps development	22	95.09	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	57	34.55	
1.3.1 Adoption of emerging technologies	31	65.18	
1.3.2 Investment in emerging technologies	29	61.75	
1.3.3 Robot density	39	4.35	○
1.3.4 Computer software spending	92	6.94	○
B. People pillar	33	56.30	

Indicator	Rank	Score	
C. Governance pillar	17	81.30	
1st sub-pillar: Trust	24	76.25	
3.1.1 Secure Internet servers	15	85.86	●
3.1.2 Cybersecurity	11	97.89	●
3.1.3 Online access to financial account	20	60.65	
3.1.4 Internet shopping	30	60.60	
2nd sub-pillar: Regulation	15	85.97	
3.2.1 Regulatory quality	29	70.13	
3.2.2 ICT regulatory environment	2	99.41	●
3.2.3 Regulation of emerging technologies	27	71.58	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	13	88.72	●
3rd sub-pillar: Inclusion	22	81.67	
3.3.1 E-Participation	62	72.84	
3.3.2 Socioeconomic gap in use of digital payments	33	91.15	
3.3.3 Availability of local online content	16	87.74	●
3.3.4 Gender gap in Internet use	12	77.41	●
3.3.5 Rural gap in use of digital payments	8	79.18	●
D. Impact pillar	40	61.10	

Indicator	Rank	Score	
1st sub-pillar: Individuals	51	51.54	
2.1.1 Mobile broadband internet traffic within the country	52	11.77	
2.1.2 ICT skills in the education system	31	65.09	
2.1.3 Use of virtual social networks	55	72.44	
2.1.4 Tertiary enrollment	30	47.88	
2.1.5 Adult literacy rate	4	99.80	●
2.1.6 AI talent concentration	31	12.28	○
2nd sub-pillar: Businesses	37	55.62	
2.2.1 Firms with website	26	78.99	
2.2.2 GERD financed by business enterprise	53	42.03	
2.2.3 Knowledge intensive employment	22	70.14	
2.2.4 Annual investment in telecommunication services	89	72.49	○
2.2.5 GERD performed by business enterprise	39	14.45	
3rd sub-pillar: Governments	24	61.74	
2.3.1 Government online services	24	84.84	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	38	50.58	
2.3.4 R&D expenditure by governments and higher education	31	49.78	

Indicator	Rank	Score	
1st sub-pillar: Economy	53	37.56	
4.1.1 High-tech and medium-high-tech manufacturing	66	20.59	
4.1.2 High-tech exports	28	52.77	
4.1.3 PCT patent applications	36	13.87	
4.1.4 Domestic market size	78	46.48	
4.1.5 Prevalence of gig economy	44	53.78	
4.1.6 ICT services exports	45	37.89	
2nd sub-pillar: Quality of Life	56	71.15	
4.2.1 Happiness	16	83.44	●
4.2.2 Freedom to make life choices	103	56.36	○
4.2.3 Income inequality	57	69.60	
4.2.4 Healthy life expectancy at birth	57	75.19	
3rd sub-pillar: SDG Contribution	40	74.58	
4.3.1 SDG 3: Good Health and Well-Being	73	67.57	
4.3.2 SDG 4: Quality Education	32	60.92	
4.3.3 SDG 5: Women's economic opportunity	27	91.23	
4.3.4 SDG 7: Affordable and Clean Energy	38	85.30	
4.3.5 SDG 11: Sustainable Cities and Communities	62	67.89	

NOTE: ● a strength and ○ a weakness.

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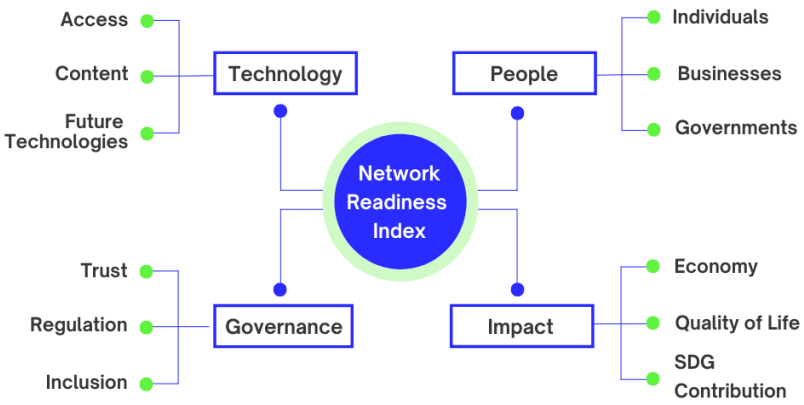
Network Readiness Index 2022 Luxembourg

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

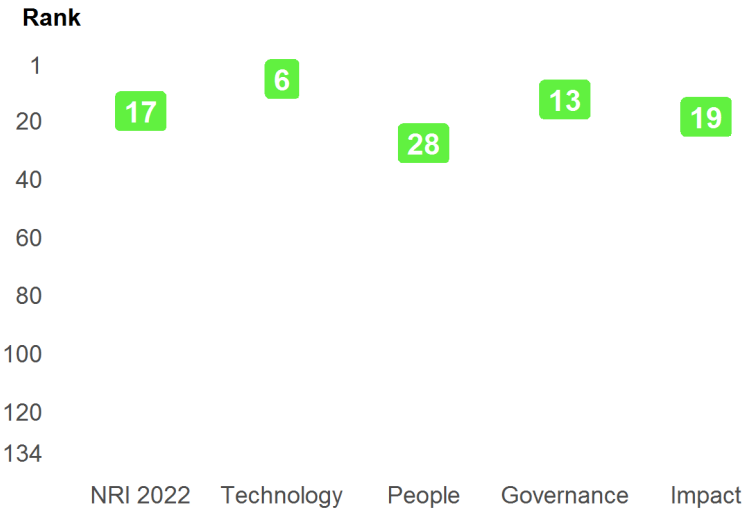
Figure 1: The NRI 2022 model



Global NRI position of Luxembourg

Luxembourg ranks 17th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Luxembourg global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Luxembourg relate to Regulation, Content and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Economy and Individuals sub-pillars.

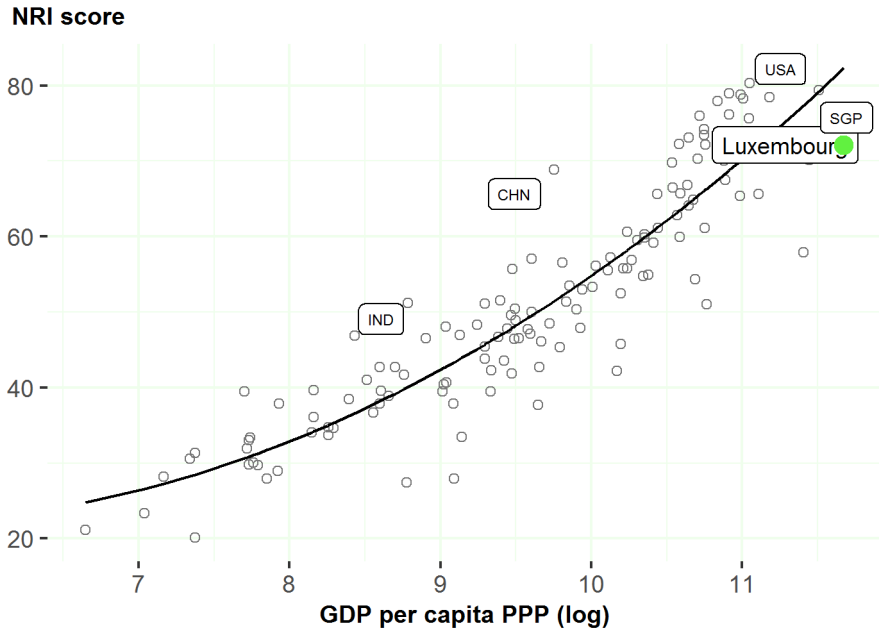
Table 1: Luxembourg rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	1	Businesses	20
Content	5	Trust	23
SDG Contribution	7	Inclusion	25
Future Technologies	9	Access	30
Quality of Life	9	Economy	36
Governments	16	Individuals	101

NRI score and income

Figure 3 shows the position of Luxembourg in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Luxembourg is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Luxembourg belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Luxembourg is ranked 17th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, governance and impact. At the sub-pillar level, it outperforms high-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Europe

Luxembourg is ranked 11th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Luxembourg against its income group and region, overall and by pillar

Table 2: Luxembourg scores vs. averages of its income group and region, overall and by pillar

Dimension	Luxembourg	High-income countries	Europe
NRI	72.10	66.21	63.72
Technology	73.54	60.28	56.43
People	58.07	58.83	56.35
Governance	83.82	76.89	74.79
Impact	72.96	68.86	67.30

Strongest and weakest indicators

The indicators where Luxembourg performs particularly well include 1.1.1 Mobile tariffs, 2.2.3 Knowledge intensive employment, and 3.2.3 Regulation of emerging technologies (Table 3). By contrast, the economy's weakest indicators include 2.1.1 Mobile broadband internet traffic within the country, 2.1.4 Tertiary enrollment, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Strongest and weakest indicators of Luxembourg

Strongest indicators	Rank	Weakest indicators	Rank
1.1.1 Mobile tariffs	1	4.1.2 High-tech exports	85
2.2.3 Knowledge intensive employment	1	2.2.4 Annual investment in telecommunication services	86
3.2.3 Regulation of emerging technologies	1	1.1.3 FTTH/building Internet subscriptions	92
3.2.4 E-commerce legislation	1	2.1.4 Tertiary enrollment	98
4.3.3 SDG 5: Women's economic opportunity	1	2.1.1 Mobile broadband internet traffic within the country	110
2.3.3 Government promotion of investment in emerging technologies	3		
1.2.1 GitHub commits	4		
3.2.1 Regulatory quality	4		
3.2.5 Privacy protection by law content	4		
4.2.1 Happiness	6		
1.3.1 Adoption of emerging technologies	7		
4.1.3 PCT patent applications	7		

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NRI 2022 At-A-Glance: Luxembourg

Network Readiness Index Rank: 17 (out of 131) Score: 72.10

Pillar/sub-pillar	Rank	Score
A. Technology pillar	6	73.54
1st sub-pillar: Access	30	74.57
2nd sub-pillar: Content	5	83.56
3rd sub-pillar: Future Technologies	9	62.49
B. People pillar	28	58.07
1st sub-pillar: Individuals	101	34.23
2nd sub-pillar: Businesses	20	66.89
3rd sub-pillar: Governments	16	73.09

Pillar/sub-pillar	Rank	Score
C. Governance pillar	13	83.82
1st sub-pillar: Trust	23	77.10
2nd sub-pillar: Regulation	1	93.89
3rd sub-pillar: Inclusion	25	80.48
D. Impact pillar	19	72.96
1st sub-pillar: Economy	36	42.80
2nd sub-pillar: Quality of Life	9	87.75
3rd sub-pillar: SDG Contribution	7	88.33

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	6	73.54	
1st sub-pillar: Access	30	74.57	
1.1.1 Mobile tariffs	1	100.00	●
1.1.2 Handset prices	11	84.24	
1.1.3 FTTH/building Internet subscriptions	92	6.69	○
1.1.4 Population covered by at least a 3G mobile network	55	99.68	
1.1.5 International Internet bandwidth	17	82.24	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	5	83.56	
1.2.1 GitHub commits	4	90.29	●
1.2.2 Internet domain registrations	9	61.11	
1.2.3 Mobile apps development	10	99.28	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	9	62.49	
1.3.1 Adoption of emerging technologies	7	92.18	●
1.3.2 Investment in emerging technologies	10	79.50	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	75	15.78	

Indicator	Rank	Score	
C. Governance pillar	13	83.82	
1st sub-pillar: Trust	23	77.10	
3.1.1 Secure Internet servers	16	85.48	
3.1.2 Cybersecurity	18	97.36	
3.1.3 Online access to financial account	17	66.56	
3.1.4 Internet shopping	32	59.01	
2nd sub-pillar: Regulation	1	93.89	
3.2.1 Regulatory quality	4	90.13	●
3.2.2 ICT regulatory environment	51	85.88	
3.2.3 Regulation of emerging technologies	1	100.00	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	4	93.44	●
3rd sub-pillar: Inclusion	25	80.48	
3.3.1 E-Participation	68	69.14	
3.3.2 Socioeconomic gap in use of digital payments	15	96.82	
3.3.3 Availability of local online content	17	86.54	
3.3.4 Gender gap in Internet use	30	73.66	
3.3.5 Rural gap in use of digital payments	17	76.25	

Indicator	Rank	Score	
B. People pillar	28	58.07	
1st sub-pillar: Individuals	101	34.23	
2.1.1 Mobile broadband internet traffic within the country	110	0.75	○
2.1.2 ICT skills in the education system	24	70.41	
2.1.3 Use of virtual social networks	62	67.77	
2.1.4 Tertiary enrollment	98	11.38	○
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	20	20.86	
2nd sub-pillar: Businesses	20	66.89	
2.2.1 Firms with website	19	82.33	
2.2.2 GERD financed by business enterprise	27	63.44	
2.2.3 Knowledge intensive employment	1	100.00	●
2.2.4 Annual investment in telecommunication services	86	72.75	○
2.2.5 GERD performed by business enterprise	36	15.93	
3rd sub-pillar: Governments	16	73.09	
2.3.1 Government online services	48	75.76	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	3	94.93	
2.3.4 R&D expenditure by governments and higher education	33	48.57	

Indicator	Rank	Score	
D. Impact pillar	19	72.96	
1st sub-pillar: Economy	36	42.80	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	85	10.34	○
4.1.3 PCT patent applications	7	70.77	●
4.1.4 Domestic market size	88	42.68	
4.1.5 Prevalence of gig economy	50	50.29	
4.1.6 ICT services exports	37	39.91	
2nd sub-pillar: Quality of Life	9	87.75	
4.2.1 Happiness	6	93.05	●
4.2.2 Freedom to make life choices	8	94.11	
4.2.3 Income inequality	45	72.36	
4.2.4 Healthy life expectancy at birth	12	91.48	
3rd sub-pillar: SDG Contribution	7	88.33	
4.3.1 SDG 3: Good Health and Well-Being	8	95.29	
4.3.2 SDG 4: Quality Education	35	59.74	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	12	91.48	
4.3.5 SDG 11: Sustainable Cities and Communities	11	95.15	

NOTE: ● a strength and ○ a weakness.

Sources

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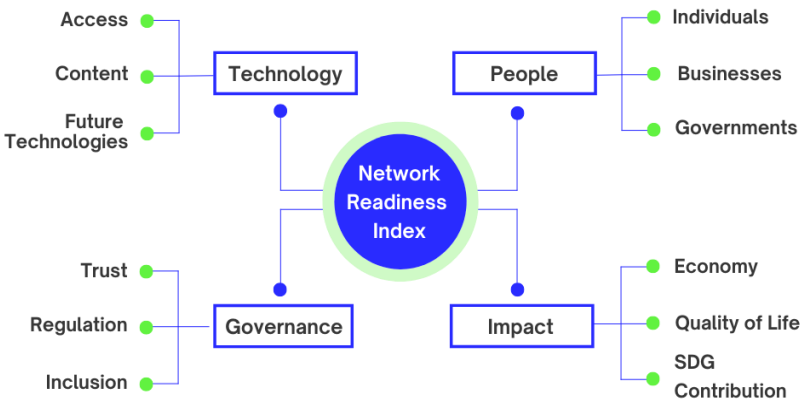
Network Readiness Index 2022 Madagascar

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

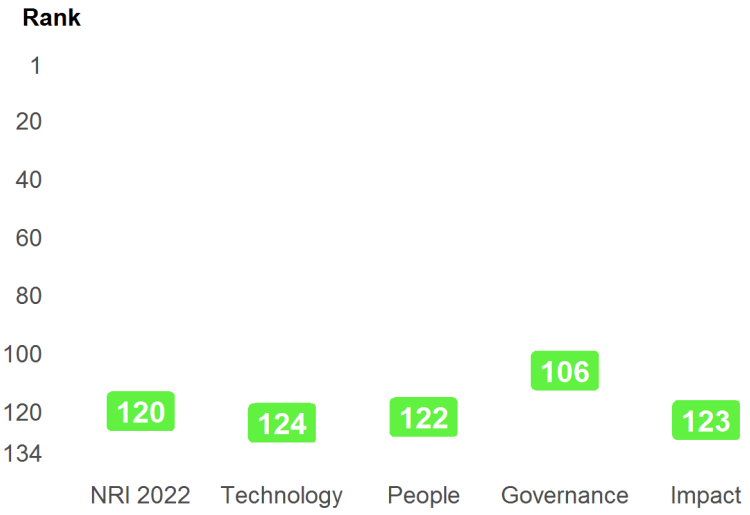
Figure 1: The NRI 2022 model



Global NRI position of Madagascar

Madagascar ranks 120th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Madagascar global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Madagascar relate to Regulation, Economy and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Governments and SDG Contribution sub-pillars.

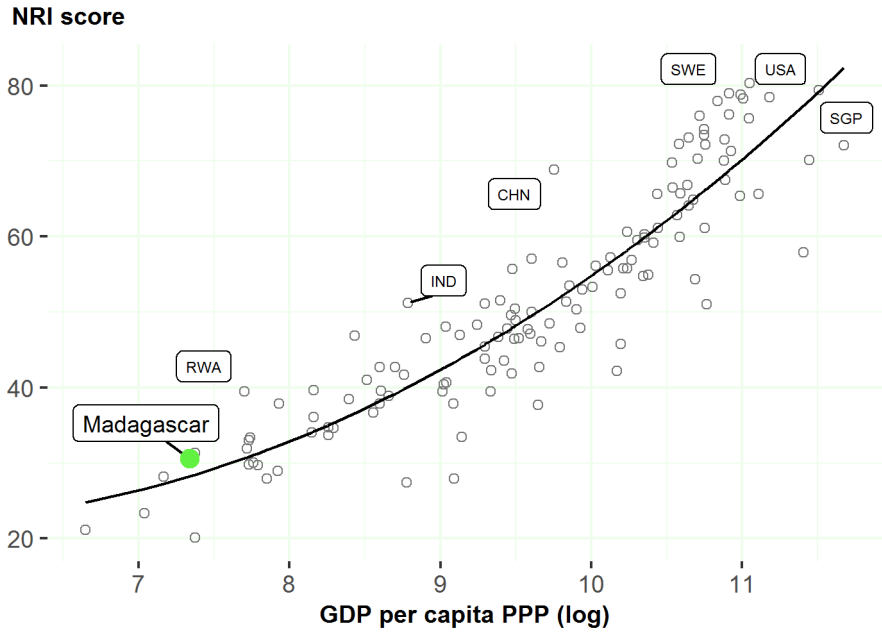
Table 1: Madagascar rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	62	Individuals	120
Economy	90	Quality of Life	121
Businesses	94	Trust	125
Future Technologies	112	Access	126
Inclusion	116	Governments	126
Content	117	SDG Contribution	129

NRI score and income

Figure 3 shows the position of Madagascar in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Madagascar is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Madagascar belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Madagascar is ranked 6th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: nri.score, people and governance. At the sub-pillar level, it outperforms low-income countries in seven of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Regulation, Inclusion and Economy.

Africa

Madagascar is ranked 20th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in three of the twelve sub-pillars: Businesses, Regulation and Economy.

Figure 4: Performance of Madagascar against its income group and region, overall and by pillar

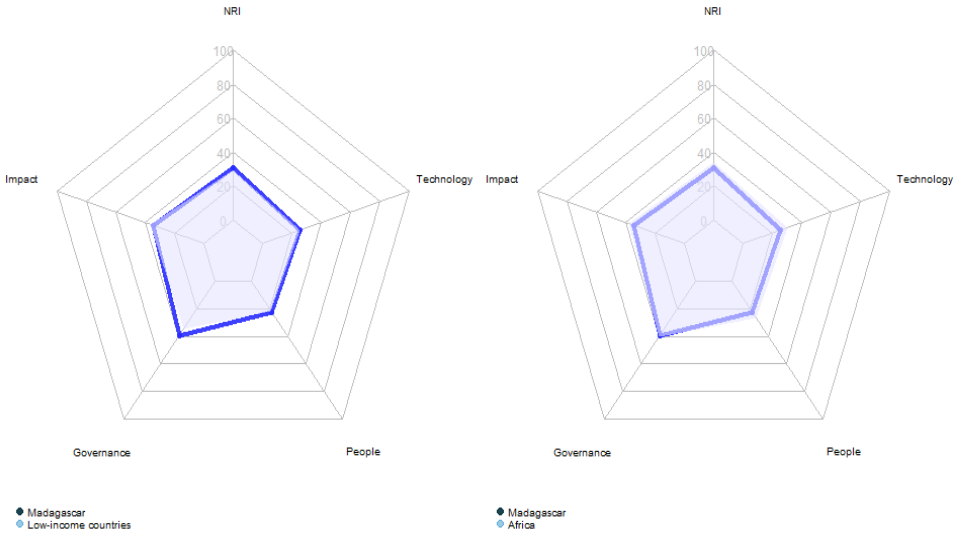


Table 2: Madagascar scores vs. averages of its income group and region, overall and by pillar

Dimension	Madagascar	Low-income countries	Africa
NRI	30.53	29.49	33.77
Technology	25.20	25.43	29.96
People	22.81	21.74	26.81
Governance	39.50	34.28	40.37
Impact	34.62	36.50	37.94

Strongest and weakest indicators

The indicators where Madagascar performs particularly well include 3.2.4 E-commerce legislation, 3.2.5 Privacy protection by law content, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 1.1.1 Mobile tariffs, 4.3.1 SDG 3: Good Health and Well-Being, and 2.2.3 Knowledge intensive employment.

Table 3: Strongest and weakest indicators of Madagascar

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.1.4 Internet shopping	111
3.2.5 Privacy protection by law content	40	4.2.2 Freedom to make life choices	123
4.1.6 ICT services exports	40	2.2.3 Knowledge intensive employment	126
4.1.5 Prevalence of gig economy	59	4.3.1 SDG 3: Good Health and Well-Being	129
3.1.3 Online access to financial account	80	1.1.1 Mobile tariffs	130
1.3.2 Investment in emerging technologies	87		
3.3.2 Socioeconomic gap in use of digital payments	87		
4.1.3 PCT patent applications	88		
4.2.3 Income inequality	91		
2.1.1 Mobile broadband internet traffic within the country	93		

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NRI 2022 At-A-Glance: Madagascar

Network Readiness Index Rank: 120 (out of 131) Score: 30.53

Pillar/sub-pillar	Rank	Score
A. Technology pillar	124	25.20
1st sub-pillar: Access	126	35.97
2nd sub-pillar: Content	117	20.07
3rd sub-pillar: Future Technologies	112	19.55
B. People pillar	122	22.81
1st sub-pillar: Individuals	120	19.47
2nd sub-pillar: Businesses	94	32.35
3rd sub-pillar: Governments	126	16.59

Pillar/sub-pillar	Rank	Score
C. Governance pillar	106	39.50
1st sub-pillar: Trust	125	15.06
2nd sub-pillar: Regulation	62	64.54
3rd sub-pillar: Inclusion	116	38.90
D. Impact pillar	123	34.62
1st sub-pillar: Economy	90	24.99
2nd sub-pillar: Quality of Life	121	40.78
3rd sub-pillar: SDG Contribution	129	38.07

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	124	25.20	
1st sub-pillar: Access	126	35.97	
1.1.1 Mobile tariffs	130	6.00	○
1.1.2 Handset prices	116	29.99	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	123	85.44	
1.1.5 International Internet bandwidth	112	58.27	
1.1.6 Internet access in schools	78	0.12	
2nd sub-pillar: Content	117	20.07	
1.2.1 GitHub commits	115	0.39	
1.2.2 Internet domain registrations	125	0.09	
1.2.3 Mobile apps development	108	57.75	
1.2.4 AI scientific publications	88	22.06	
3rd sub-pillar: Future Technologies	112	19.55	
1.3.1 Adoption of emerging technologies	115	22.75	
1.3.2 Investment in emerging technologies	87	33.75	•
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	111	2.16	

Indicator	Rank	Score	
C. Governance pillar	106	39.50	
1st sub-pillar: Trust	125	15.06	
3.1.1 Secure Internet servers	125	18.37	
3.1.2 Cybersecurity	113	21.98	
3.1.3 Online access to financial account	80	18.78	•
3.1.4 Internet shopping	111	1.11	○
2nd sub-pillar: Regulation	62	64.54	
3.2.1 Regulatory quality	115	21.33	
3.2.2 ICT regulatory environment	112	61.76	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	40	75.05	•
3rd sub-pillar: Inclusion	116	38.90	
3.3.1 E-Participation	125	27.16	
3.3.2 Socioeconomic gap in use of digital payments	87	55.58	•
3.3.3 Availability of local online content	109	34.13	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	104	38.73	

Indicator	Rank	Score	
B. People pillar	122	22.81	
1st sub-pillar: Individuals	120	19.47	
2.1.1 Mobile broadband internet traffic within the country	93	1.69	●
2.1.2 ICT skills in the education system	119	15.68	
2.1.3 Use of virtual social networks	118	7.40	
2.1.4 Tertiary enrollment	120	2.59	
2.1.5 Adult literacy rate	84	70.01	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	94	32.35	
2.2.1 Firms with website	101	23.11	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	126	2.20	○
2.2.4 Annual investment in telecommunication services	93	71.75	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	126	16.59	
2.3.1 Government online services	123	26.66	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	112	16.92	
2.3.4 R&D expenditure by governments and higher education	96	6.19	

Indicator	Rank	Score	
D. Impact pillar	123	34.62	
1st sub-pillar: Economy	90	24.99	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	104	3.55	
4.1.3 PCT patent applications	88	0.87	●
4.1.4 Domestic market size	104	36.91	
4.1.5 Prevalence of gig economy	59	44.19	●
4.1.6 ICT services exports	40	39.43	●
2nd sub-pillar: Quality of Life	121	40.78	
4.2.1 Happiness	109	38.47	
4.2.2 Freedom to make life choices	123	29.63	○
4.2.3 Income inequality	91	51.26	●
4.2.4 Healthy life expectancy at birth	108	43.78	
3rd sub-pillar: SDG Contribution	129	38.07	
4.3.1 SDG 3: Good Health and Well-Being	129	10.58	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	105	60.53	
4.3.4 SDG 7: Affordable and Clean Energy	123	39.52	
4.3.5 SDG 11: Sustainable Cities and Communities	106	41.67	

NOTE: ● a strength and ○ a weakness.

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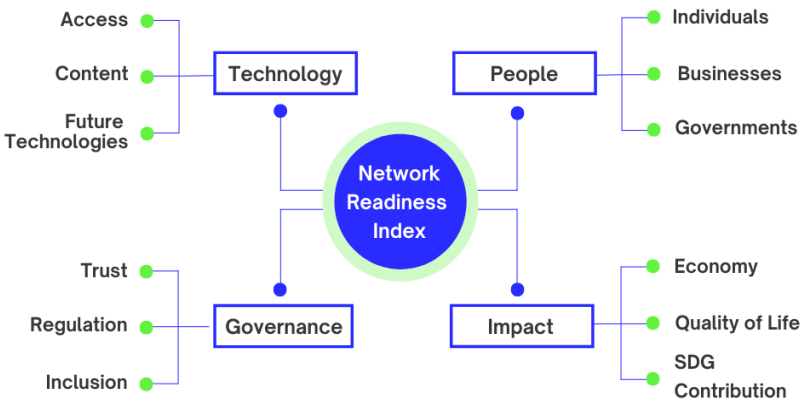
Network Readiness Index 2022 Malawi

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

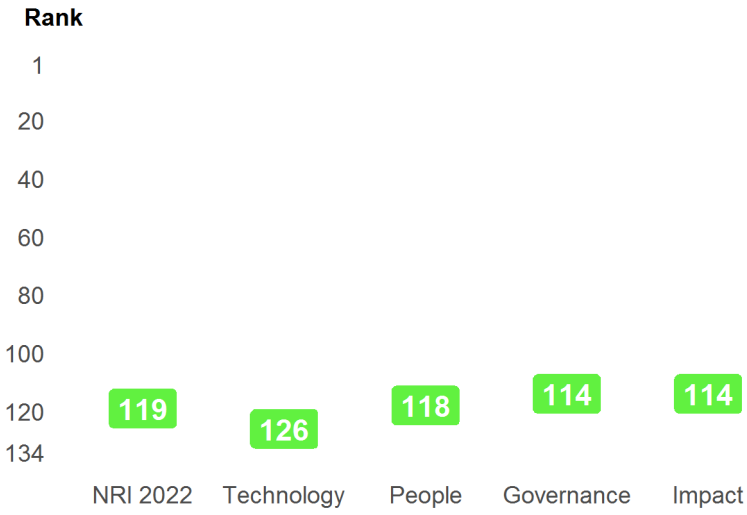
Figure 1: The NRI 2022 model



Global NRI position of Malawi

Malawi ranks 119th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance and Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Malawi global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Malawi relate to Businesses, SDG Contribution and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Individuals and Future Technologies sub-pillars.

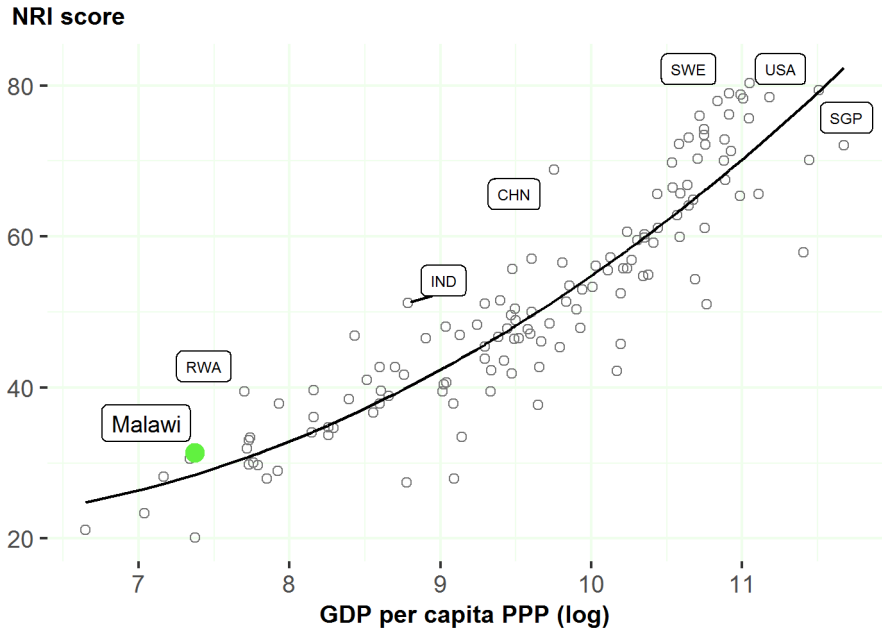
Table 1: Malawi rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	76	Content	118
SDG Contribution	88	Governments	121
Inclusion	110	Access	124
Quality of Life	110	Economy	124
Trust	111	Individuals	125
Regulation	112	Future Technologies	128

NRI score and income

Figure 3 shows the position of Malawi in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Malawi is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Malawi belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Malawi is ranked 5th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, people, governance and impact. At the sub-pillar level, it outperforms low-income countries in six of the twelve sub-pillars: Content, Businesses, Trust, Inclusion, Quality of Life and SDG Contribution.

Africa

Malawi is ranked 19th within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: impact. With regard to sub-pillars, it outperforms the average in Africa in four of the twelve sub-pillars: Businesses, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Malawi against its income group and region, overall and by pillar

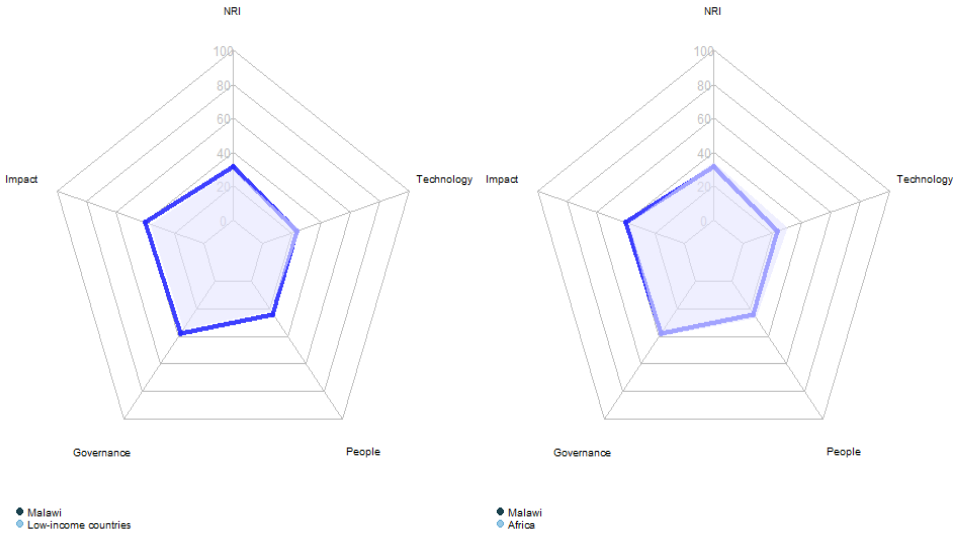


Table 2: Malawi scores vs. averages of its income group and region, overall and by pillar

Dimension	Malawi	Low-income countries	Africa
NRI	31.30	29.49	33.77
Technology	23.44	25.43	29.96
People	23.93	21.74	26.81
Governance	37.89	34.28	40.37
Impact	39.94	36.50	37.94

Strongest and weakest indicators

The indicators where Malawi performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 3.1.3 Online access to financial account, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 2.1.3 Use of virtual social networks, 1.1.1 Mobile tariffs, and 2.1.4 Tertiary enrollment.

Table 3: Strongest and weakest indicators of Malawi

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	40	4.1.3 PCT patent applications	99
3.1.3 Online access to financial account	58	4.1.5 Prevalence of gig economy	125
4.1.6 ICT services exports	59	2.1.4 Tertiary enrollment	127
3.2.2 ICT regulatory environment	64	1.1.1 Mobile tariffs	129
3.3.5 Rural gap in use of digital payments	70	2.1.3 Use of virtual social networks	130
4.2.3 Income inequality	71		
2.2.1 Firms with website	78		
3.2.5 Privacy protection by law content	78		
3.3.2 Socioeconomic gap in use of digital payments	83		
4.3.3 SDG 5: Women's economic opportunity	88		

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NRI 2022 At-A-Glance: Malawi

Network Readiness Index Rank: 119 (out of 131) Score: 31.30

Pillar/sub-pillar	Rank	Score
A. Technology pillar	126	23.44
1st sub-pillar: Access	124	38.67
2nd sub-pillar: Content	118	19.52
3rd sub-pillar: Future Technologies	128	12.13
B. People pillar	118	23.93
1st sub-pillar: Individuals	125	14.27
2nd sub-pillar: Businesses	76	37.56
3rd sub-pillar: Governments	121	19.95

Pillar/sub-pillar	Rank	Score
C. Governance pillar	114	37.89
1st sub-pillar: Trust	111	22.83
2nd sub-pillar: Regulation	112	47.43
3rd sub-pillar: Inclusion	110	43.40
D. Impact pillar	114	39.94
1st sub-pillar: Economy	124	13.09
2nd sub-pillar: Quality of Life	110	48.81
3rd sub-pillar: SDG Contribution	88	57.92

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	126	23.44	
1st sub-pillar: Access	124	38.67	
1.1.1 Mobile tariffs	129	6.20	○
1.1.2 Handset prices	110	34.57	
1.1.3 FTTH/building Internet subscriptions	97	4.42	
1.1.4 Population covered by at least a 3G mobile network	116	94.28	
1.1.5 International Internet bandwidth	121	53.89	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	118	19.52	
1.2.1 GitHub commits	124	0.19	
1.2.2 Internet domain registrations	122	0.11	
1.2.3 Mobile apps development	125	39.71	
1.2.4 AI scientific publications	68	38.08	
3rd sub-pillar: Future Technologies	128	12.13	
1.3.1 Adoption of emerging technologies	123	13.46	
1.3.2 Investment in emerging technologies	118	19.75	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	106	3.18	

Indicator	Rank	Score	
C. Governance pillar	114	37.89	
1st sub-pillar: Trust	111	22.83	
3.1.1 Secure Internet servers	122	22.61	
3.1.2 Cybersecurity	100	35.72	
3.1.3 Online access to financial account	58	31.01	•
3.1.4 Internet shopping	108	1.99	
2nd sub-pillar: Regulation	112	47.43	
3.2.1 Regulatory quality	113	21.87	
3.2.2 ICT regulatory environment	64	83.53	•
3.2.3 Regulation of emerging technologies	115	3.95	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	78	61.16	•
3rd sub-pillar: Inclusion	110	43.40	
3.3.1 E-Participation	108	39.51	
3.3.2 Socioeconomic gap in use of digital payments	83	56.69	•
3.3.3 Availability of local online content	127	16.59	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	70	60.81	•

Indicator	Rank	Score	
B. People pillar	118	23.93	
1st sub-pillar: Individuals	125	14.27	
2.1.1 Mobile broadband internet traffic within the country	102	1.25	
2.1.2 ICT skills in the education system	117	18.05	
2.1.3 Use of virtual social networks	130	0.78	○
2.1.4 Tertiary enrollment	127	0.00	○
2.1.5 Adult literacy rate	95	51.29	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	76	37.56	
2.2.1 Firms with website	78	40.90	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	125	2.28	
2.2.4 Annual investment in telecommunication services	104	69.51	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	121	19.95	
2.3.1 Government online services	112	40.60	
2.3.2 Publication and use of open data	91	8.82	
2.3.3 Government promotion of investment in emerging tech	117	10.41	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	114	39.94	
1st sub-pillar: Economy	124	13.09	
4.1.1 High-tech and medium-high-tech manufacturing	89	8.98	
4.1.2 High-tech exports	114	1.55	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	118	33.14	
4.1.5 Prevalence of gig economy	125	3.49	○
4.1.6 ICT services exports	59	31.39	●
2nd sub-pillar: Quality of Life	110	48.81	
4.2.1 Happiness	120	25.94	
4.2.2 Freedom to make life choices	89	64.81	
4.2.3 Income inequality	71	61.56	●
4.2.4 Healthy life expectancy at birth	109	42.93	
3rd sub-pillar: SDG Contribution	88	57.92	
4.3.1 SDG 3: Good Health and Well-Being	111	32.83	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	88	68.42	●
4.3.4 SDG 7: Affordable and Clean Energy	40	84.46	●
4.3.5 SDG 11: Sustainable Cities and Communities	98	45.96	

NOTE: ● a strength and ○ a weakness.

Sources

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Network Readiness Index 2022 Malaysia

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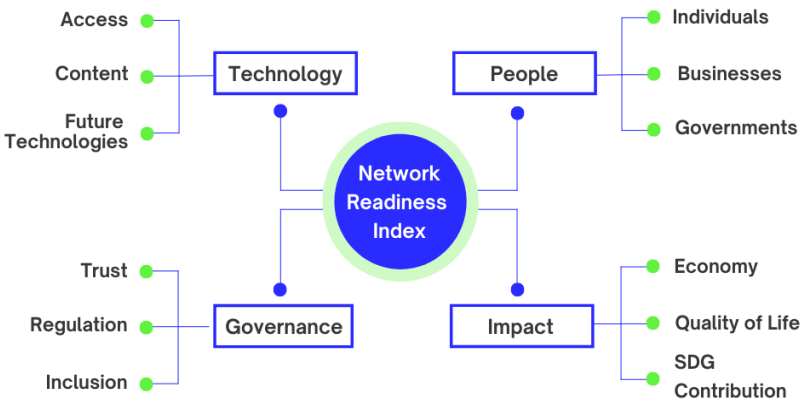
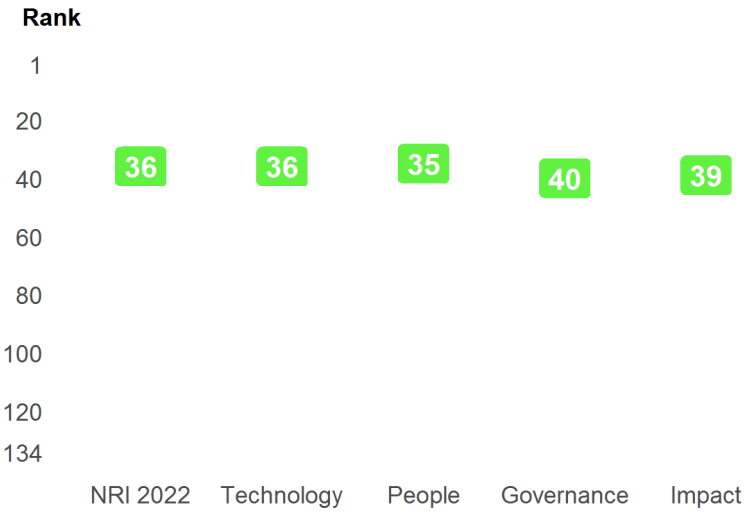
Figure 1: The NRI 2022 model



Global NRI position of Malaysia

Malaysia ranks 36th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Malaysia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Malaysia relate to Individuals, Economy and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Quality of Life and SDG Contribution sub-pillars.

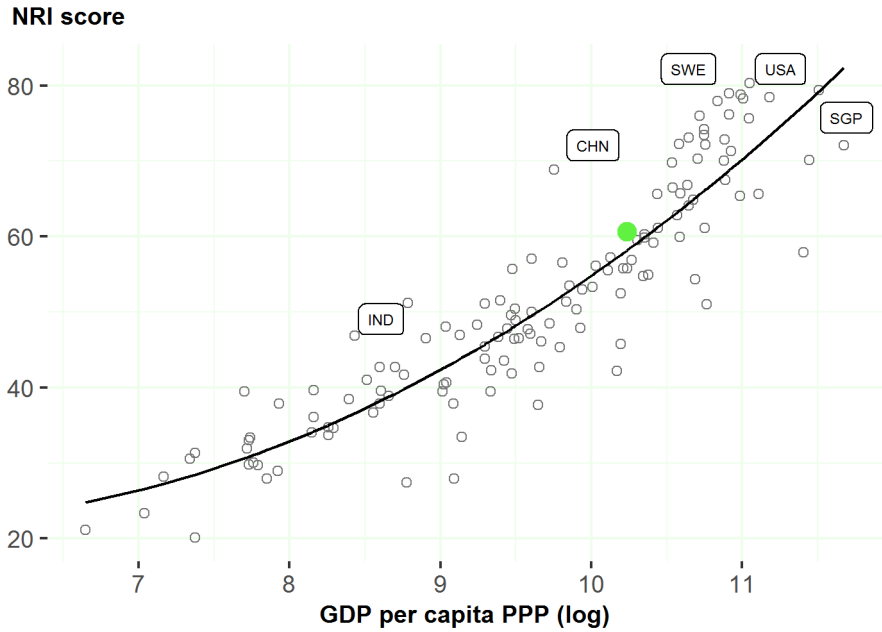
Table 1: Malaysia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	12	Content	47
Economy	15	Inclusion	48
Governments	27	Regulation	51
Future Technologies	28	Businesses	58
Access	38	Quality of Life	61
Trust	38	SDG Contribution	87

NRI score and income

Figure 3 shows the position of Malaysia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Malaysia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Malaysia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Upper-middle-income countries

Malaysia is ranked 2nd in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Asia & Pacific

Malaysia is ranked 8th within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in nine of the twelve sub-pillars: Access, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Malaysia against its income group and region, overall and by pillar

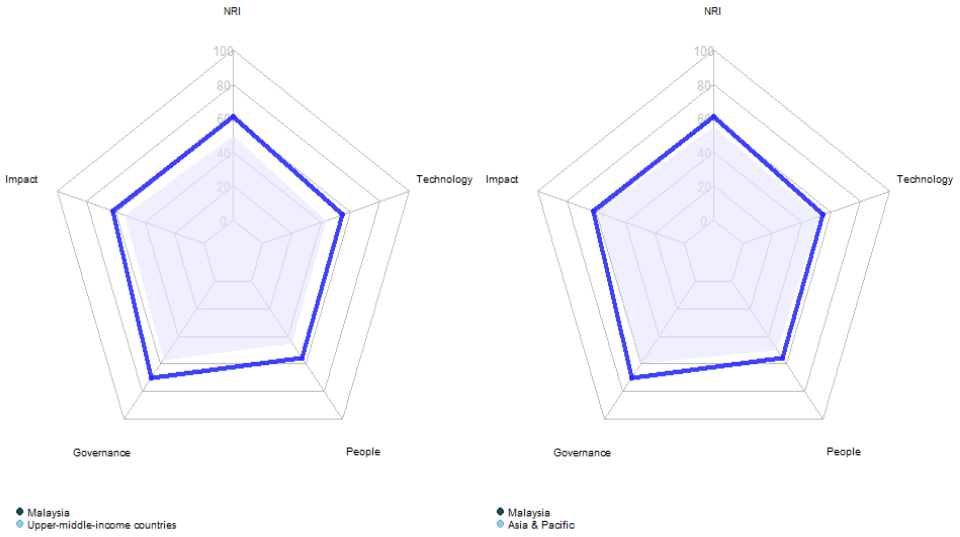


Table 2: Malaysia scores vs. averages of its income group and region, overall and by pillar

Dimension	Malaysia	Upper-middle-income countries	Asia & Pacific
NRI	60.58	49.66	55.18
Technology	54.18	43.11	51.78
People	56.07	44.94	50.21
Governance	70.06	57.08	59.66
Impact	62.01	53.50	59.07

Strongest and weakest indicators

The indicators where Malaysia performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 4.1.2 High-tech exports (Table 3). By contrast, the economy's weakest indicators include 4.3.3 SDG 5: Women's economic opportunity, 3.2.5 Privacy protection by law content, and 1.1.4 Population covered by at least a 3G mobile network.

Table 3: Strongest and weakest indicators of Malaysia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	4.2.3 Income inequality	84
3.2.4 E-commerce legislation	1	1.1.4 Population covered by at least a 3G mobile network	87
4.1.2 High-tech exports	1	3.2.5 Privacy protection by law content	113
4.1.5 Prevalence of gig economy	6	4.3.3 SDG 5: Women's economic opportunity	123
2.1.3 Use of virtual social networks	8		
3.1.2 Cybersecurity	8		
2.1.1 Mobile broadband internet traffic within the country	11		
2.3.3 Government promotion of investment in emerging technologies	11		
1.3.2 Investment in emerging technologies	12		
1.1.5 International Internet bandwidth	15		
1.1.3 FTTH/building Internet subscriptions	18		
4.1.1 High-tech and medium-high-tech manufacturing	18		

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NRI 2022 At-A-Glance: Malaysia

Network Readiness Index Rank: 36 (out of 131) Score: 60.58

Pillar/sub-pillar	Rank	Score
A. Technology pillar	36	54.18
1st sub-pillar: Access	38	72.82
2nd sub-pillar: Content	47	42.42
3rd sub-pillar: Future Technologies	28	47.32
B. People pillar	35	56.07
1st sub-pillar: Individuals	12	61.72
2nd sub-pillar: Businesses	58	45.91
3rd sub-pillar: Governments	27	60.57

Pillar/sub-pillar	Rank	Score
C. Governance pillar	40	70.06
1st sub-pillar: Trust	38	67.69
2nd sub-pillar: Regulation	51	69.34
3rd sub-pillar: Inclusion	48	73.15
D. Impact pillar	39	62.01
1st sub-pillar: Economy	15	57.58
2nd sub-pillar: Quality of Life	61	70.07
3rd sub-pillar: SDG Contribution	87	58.37

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	36	54.18	
1st sub-pillar: Access	38	72.82	
1.1.1 Mobile tariffs	58	65.25	
1.1.2 Handset prices	83	44.69	
1.1.3 FTTH/building Internet subscriptions	18	44.36	●
1.1.4 Population covered by at least a 3G mobile network	87	98.46	○
1.1.5 International Internet bandwidth	15	84.15	●
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	47	42.42	
1.2.1 GitHub commits	63	6.49	
1.2.2 Internet domain registrations	63	4.79	
1.2.3 Mobile apps development	51	83.52	
1.2.4 AI scientific publications	19	74.87	
3rd sub-pillar: Future Technologies	28	47.32	
1.3.1 Adoption of emerging technologies	25	71.90	
1.3.2 Investment in emerging technologies	12	78.75	●
1.3.3 Robot density	29	9.41	
1.3.4 Computer software spending	34	29.21	

Indicator	Rank	Score	
C. Governance pillar	40	70.06	
1st sub-pillar: Trust	38	67.69	
3.1.1 Secure Internet servers	45	71.19	
3.1.2 Cybersecurity	8	98.03	●
3.1.3 Online access to financial account	40	43.40	
3.1.4 Internet shopping	36	58.16	
2nd sub-pillar: Regulation	51	69.34	
3.2.1 Regulatory quality	39	61.60	
3.2.2 ICT regulatory environment	67	82.35	
3.2.3 Regulation of emerging technologies	40	59.47	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	113	43.30	○
3rd sub-pillar: Inclusion	48	73.15	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	55	79.29	
3.3.3 Availability of local online content	39	76.68	
3.3.4 Gender gap in Internet use	66	67.52	
3.3.5 Rural gap in use of digital payments	76	57.10	

Indicator	Rank	Score	
B. People pillar	35	56.07	
1st sub-pillar: Individuals	12	61.72	
2.1.1 Mobile broadband internet traffic within the country	11	45.24	●
2.1.2 ICT skills in the education system	46	55.92	
2.1.3 Use of virtual social networks	8	86.08	●
2.1.4 Tertiary enrollment	73	27.82	
2.1.5 Adult literacy rate	50	93.56	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	58	45.91	
2.2.1 Firms with website	72	44.71	
2.2.2 GERD financed by business enterprise	43	47.25	
2.2.3 Knowledge intensive employment	51	42.29	
2.2.4 Annual investment in telecommunication services	29	83.29	
2.2.5 GERD performed by business enterprise	41	12.00	
3rd sub-pillar: Governments	27	60.57	
2.3.1 Government online services	24	84.84	
2.3.2 Publication and use of open data	58	27.94	
2.3.3 Government promotion of investment in emerging tech	11	76.38	
2.3.4 R&D expenditure by governments and higher education	27	53.10	

Indicator	Rank	Score	
D. Impact pillar	39	62.01	
1st sub-pillar: Economy	15	57.58	
4.1.1 High-tech and medium-high-tech manufacturing	18	59.78	●
4.1.2 High-tech exports	1	100.00	●
4.1.3 PCT patent applications	58	5.40	
4.1.4 Domestic market size	29	67.35	
4.1.5 Prevalence of gig economy	6	85.76	●
4.1.6 ICT services exports	73	27.22	
2nd sub-pillar: Quality of Life	61	70.07	
4.2.1 Happiness	54	68.30	
4.2.2 Freedom to make life choices	31	85.23	
4.2.3 Income inequality	84	55.03	○
4.2.4 Healthy life expectancy at birth	72	71.74	
3rd sub-pillar: SDG Contribution	87	58.37	
4.3.1 SDG 3: Good Health and Well-Being	46	77.85	
4.3.2 SDG 4: Quality Education	47	41.72	
4.3.3 SDG 5: Women's economic opportunity	123	29.82	○
4.3.4 SDG 7: Affordable and Clean Energy	76	75.52	
4.3.5 SDG 11: Sustainable Cities and Communities	64	66.91	

NOTE: ● a strength and ○ a weakness.

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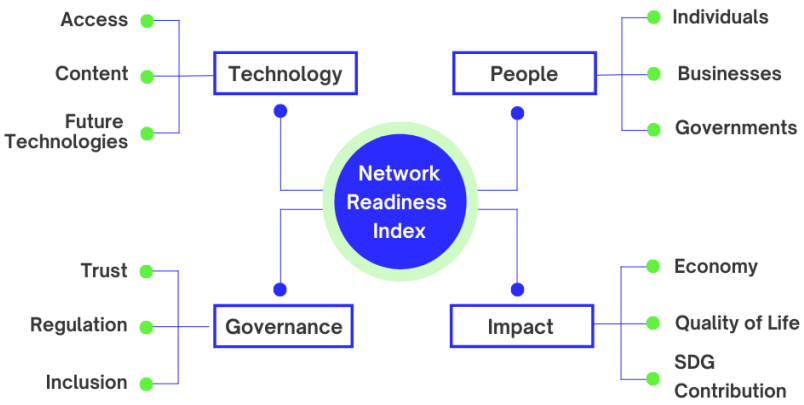
Network Readiness Index 2022 Mali

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

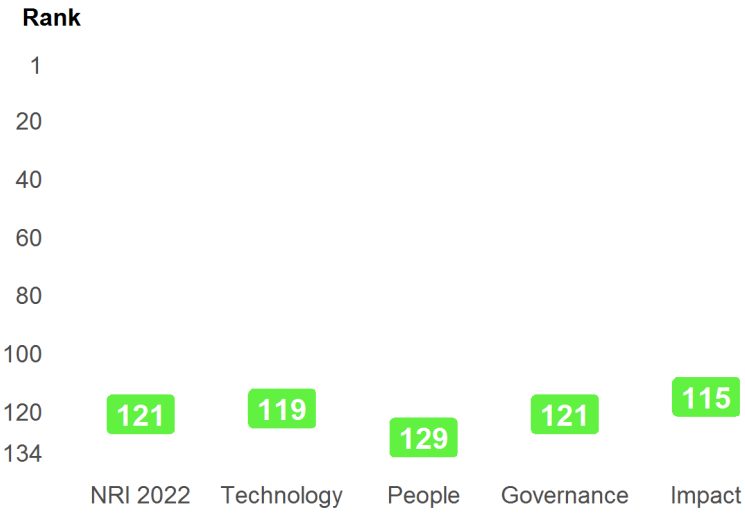
Figure 1: The NRI 2022 model



Global NRI position of Mali

Mali ranks 121st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Mali global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mali relate to Economy, Content and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Individuals and Trust sub-pillars.

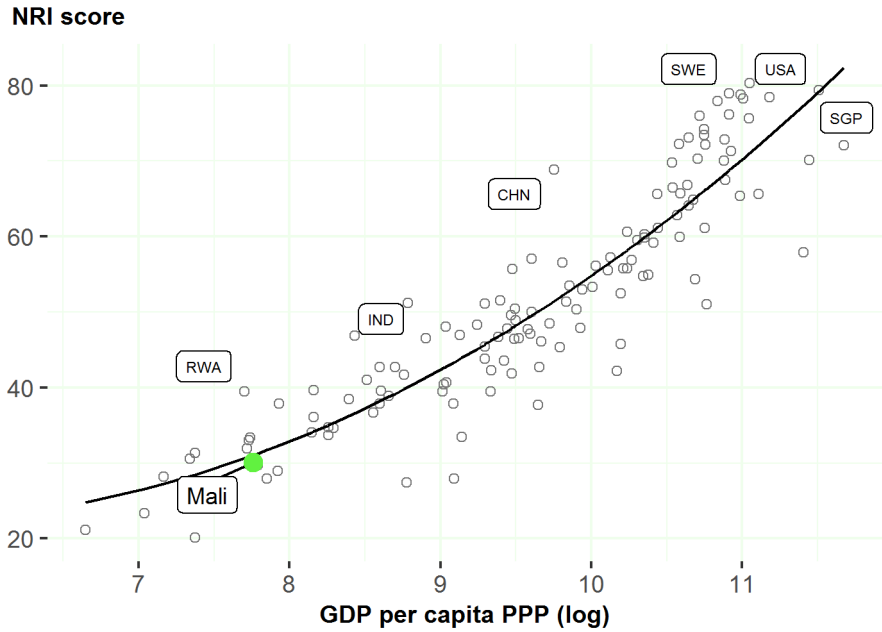
Table 1: Mali rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	94	SDG Contribution	118
Content	103	Future Technologies	119
Businesses	108	Access	122
Regulation	108	Governments	128
Inclusion	112	Individuals	129
Quality of Life	114	Trust	129

NRI score and income

Figure 3 shows the position of Mali in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Mali is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Mali belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Mali is ranked 7th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, governance and impact. At the sub-pillar level, it outperforms low-income countries in seven of the twelve sub-pillars: Access, Content, Businesses, Regulation, Inclusion, Economy and Quality of Life.

Africa

Mali is ranked 21st within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: impact. With regard to sub-pillars, it outperforms the average in Africa in four of the twelve sub-pillars: Content, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Mali against its income group and region, overall and by pillar

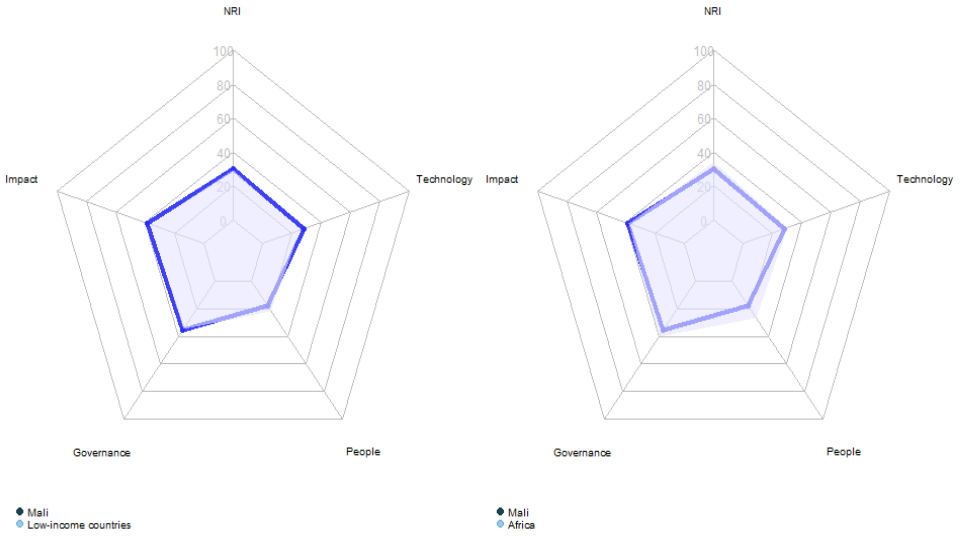


Table 2: Mali scores vs. averages of its income group and region, overall and by pillar

Dimension	Mali	Low-income countries	Africa
NRI	30.02	29.49	33.77
Technology	27.91	25.43	29.96
People	17.74	21.74	26.81
Governance	35.75	34.28	40.37
Impact	38.71	36.50	37.94

Strongest and weakest indicators

The indicators where Mali performs particularly well include 4.1.6 ICT services exports, 1.2.2 Internet domain registrations, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 1.2.1 GitHub commits, 2.2.3 Knowledge intensive employment, and 2.1.1 Mobile broadband internet traffic within the country.

Table 3: Strongest and weakest indicators of Mali

Strongest indicators	Rank	Weakest indicators	Rank
4.1.6 ICT services exports	23	2.3.2 Publication and use of open data	103
1.2.2 Internet domain registrations	59	2.1.5 Adult literacy rate	105
4.2.3 Income inequality	62	2.1.1 Mobile broadband internet traffic within the country	117
3.2.5 Privacy protection by law content	66	2.2.3 Knowledge intensive employment	127
3.1.3 Online access to financial account	70	1.2.1 GitHub commits	129
2.2.4 Annual investment in telecommunication services	75		
3.3.2 Socioeconomic gap in use of digital payments	77		
3.2.2 ICT regulatory environment	82		
2.2.1 Firms with website	83		
4.3.4 SDG 7: Affordable and Clean Energy	87		

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NRI 2022 At-A-Glance: Mali

Network Readiness Index Rank: 121 (out of 131) Score: 30.02

Pillar/sub-pillar	Rank	Score
A. Technology pillar	119	27.91
1st sub-pillar: Access	122	41.46
2nd sub-pillar: Content	103	24.87
3rd sub-pillar: Future Technologies	119	17.39
B. People pillar	129	17.74
1st sub-pillar: Individuals	129	8.39
2nd sub-pillar: Businesses	108	28.96
3rd sub-pillar: Governments	128	15.86

Pillar/sub-pillar	Rank	Score
C. Governance pillar	121	35.75
1st sub-pillar: Trust	129	13.95
2nd sub-pillar: Regulation	108	51.12
3rd sub-pillar: Inclusion	112	42.16
D. Impact pillar	115	38.71
1st sub-pillar: Economy	94	24.45
2nd sub-pillar: Quality of Life	114	46.83
3rd sub-pillar: SDG Contribution	118	44.84

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	119	27.91	
1st sub-pillar: Access	122	41.46	
1.1.1 Mobile tariffs	122	23.98	
1.1.2 Handset prices	120	28.30	
1.1.3 FTTH/building Internet subscriptions	79	15.73	
1.1.4 Population covered by at least a 3G mobile network	122	86.00	
1.1.5 International Internet bandwidth	122	53.28	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	103	24.87	
1.2.1 GitHub commits	129	0.05	○
1.2.2 Internet domain registrations	59	5.00	•
1.2.3 Mobile apps development	101	62.71	
1.2.4 AI scientific publications	79	31.70	
3rd sub-pillar: Future Technologies	119	17.39	
1.3.1 Adoption of emerging technologies	119	16.80	
1.3.2 Investment in emerging technologies	89	33.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	112	2.13	

Indicator	Rank	Score	
C. Governance pillar	121	35.75	
1st sub-pillar: Trust	129	13.95	
3.1.1 Secure Internet servers	124	19.13	
3.1.2 Cybersecurity	126	8.56	
3.1.3 Online access to financial account	70	24.23	•
3.1.4 Internet shopping	103	3.90	
2nd sub-pillar: Regulation	108	51.12	
3.2.1 Regulatory quality	104	24.80	
3.2.2 ICT regulatory environment	82	75.29	•
3.2.3 Regulation of emerging technologies	95	24.47	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	66	64.39	•
3rd sub-pillar: Inclusion	112	42.16	
3.3.1 E-Participation	122	29.63	
3.3.2 Socioeconomic gap in use of digital payments	77	63.47	•
3.3.3 Availability of local online content	112	29.57	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	95	45.97	

Indicator	Rank	Score	
B. People pillar	129	17.74	
1st sub-pillar: Individuals	129	8.39	
2.1.1 Mobile broadband internet traffic within the country	117	0.17	○
2.1.2 ICT skills in the education system	115	21.60	
2.1.3 Use of virtual social networks	119	6.72	
2.1.4 Tertiary enrollment	121	2.57	
2.1.5 Adult literacy rate	105	10.88	○
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	108	28.96	
2.2.1 Firms with website	83	37.78	●
2.2.2 GERD financed by business enterprise	97	0.97	
2.2.3 Knowledge intensive employment	127	2.03	○
2.2.4 Annual investment in telecommunication services	75	75.08	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	128	15.86	
2.3.1 Government online services	121	32.73	
2.3.2 Publication and use of open data	103	1.47	○
2.3.3 Government promotion of investment in emerging tech	113	16.46	
2.3.4 R&D expenditure by governments and higher education	85	12.78	

Indicator	Rank	Score	
D. Impact pillar	115	38.71	
1st sub-pillar: Economy	94	24.45	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	100	4.90	
4.1.3 PCT patent applications	89	0.79	
4.1.4 Domestic market size	102	37.98	
4.1.5 Prevalence of gig economy	90	31.10	
4.1.6 ICT services exports	23	47.46	●
2nd sub-pillar: Quality of Life	114	46.83	
4.2.1 Happiness	113	34.45	
4.2.2 Freedom to make life choices	111	50.50	
4.2.3 Income inequality	62	67.59	●
4.2.4 Healthy life expectancy at birth	119	34.79	
3rd sub-pillar: SDG Contribution	118	44.84	
4.3.1 SDG 3: Good Health and Well-Being	123	21.85	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	117	44.74	
4.3.4 SDG 7: Affordable and Clean Energy	87	72.68	●
4.3.5 SDG 11: Sustainable Cities and Communities	109	40.08	

NOTE: ● a strength and ○ a weakness.

Sources

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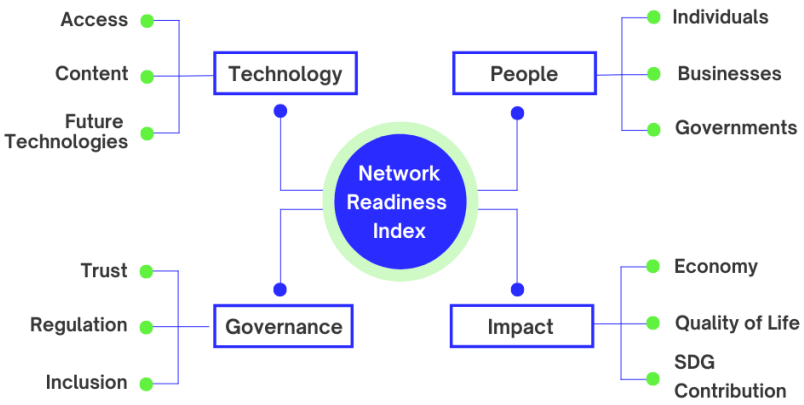
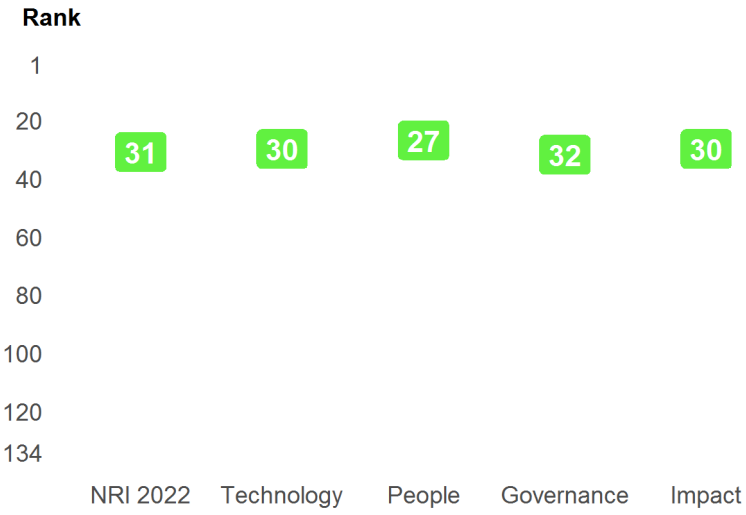
Figure 1: The NRI 2022 model



Global NRI position of Malta

Malta ranks 31st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Malta global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Malta relate to Individuals, Quality of Life and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Economy and Access sub-pillars.

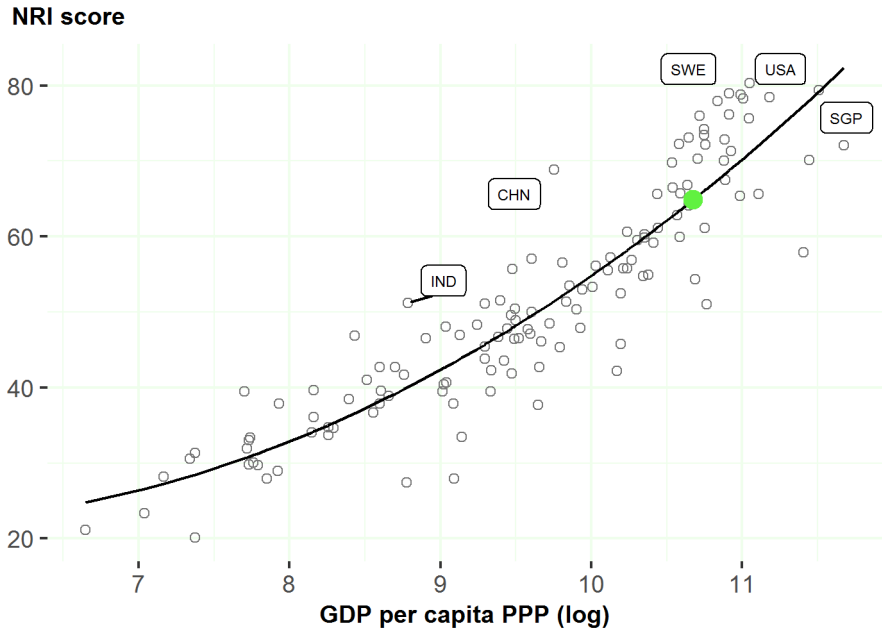
Table 1: Malta rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	17	Businesses	33
Quality of Life	17	Governments	35
Content	23	Trust	37
Future Technologies	23	Inclusion	41
Regulation	25	Economy	48
SDG Contribution	25	Access	83

NRI score and income

Figure 3 shows the position of Malta in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Malta is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Malta belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Malta is ranked 30th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: people. At the sub-pillar level, it outperforms high-income countries in five of the twelve sub-pillars: Content, Individuals, Regulation, Quality of Life and SDG Contribution.

Europe

Malta is ranked 21st within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in nine of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Governments, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Malta against its income group and region, overall and by pillar

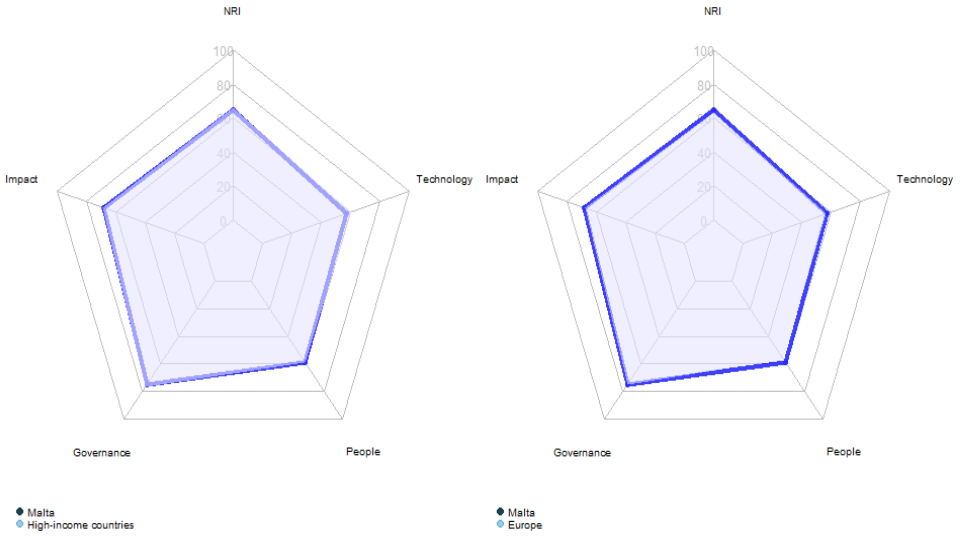


Table 2: Malta scores vs. averages of its income group and region, overall and by pillar

Dimension	Malta	High-income countries	Europe
NRI	64.87	66.21	63.72
Technology	56.93	60.28	56.43
People	59.06	58.83	56.35
Governance	75.05	76.89	74.79
Impact	68.42	68.86	67.30

Strongest and weakest indicators

The indicators where Malta performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 3.2.4 E-commerce legislation, and 2.1.3 Use of virtual social networks (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 2.1.1 Mobile broadband internet traffic within the country, and 1.1.5 International Internet bandwidth.

Table 3: Strongest and weakest indicators of Malta

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	1.1.3 FTTH/building Internet subscriptions	94
3.2.4 E-commerce legislation	1	4.1.6 ICT services exports	98
2.1.3 Use of virtual social networks	2	1.1.5 International Internet bandwidth	104
4.3.4 SDG 7: Affordable and Clean Energy	3	2.1.1 Mobile broadband internet traffic within the country	109
1.2.2 Internet domain registrations	10	4.1.4 Domestic market size	124
3.2.2 ICT regulatory environment	10		
2.2.1 Firms with website	12		
4.2.4 Healthy life expectancy at birth	13		
3.2.3 Regulation of emerging technologies	14		
2.3.3 Government promotion of investment in emerging technologies	15		
1.2.3 Mobile apps development	18		

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NRI 2022 At-A-Glance: Malta

Network Readiness Index — Rank: 31 (out of 131) — Score: 64.87

Pillar/sub-pillar	Rank	Score
A. Technology pillar	30	56.93
1st sub-pillar: Access	83	58.51
2nd sub-pillar: Content	23	63.71
3rd sub-pillar: Future Technologies	23	48.58
B. People pillar	27	59.06
1st sub-pillar: Individuals	17	59.45
2nd sub-pillar: Businesses	33	60.18
3rd sub-pillar: Governments	35	57.54

Pillar/sub-pillar	Rank	Score
C. Governance pillar	32	75.05
1st sub-pillar: Trust	37	67.83
2nd sub-pillar: Regulation	25	80.87
3rd sub-pillar: Inclusion	41	76.47
D. Impact pillar	30	68.42
1st sub-pillar: Economy	48	39.47
2nd sub-pillar: Quality of Life	17	83.66
3rd sub-pillar: SDG Contribution	25	82.13

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	30	56.93	
1st sub-pillar: Access	83	58.51	
1.1.1 Mobile tariffs	68	55.56	
1.1.2 Handset prices	40	68.50	
1.1.3 FTTH/building Internet subscriptions	94	5.81	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	104	62.71	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	23	63.71	
1.2.1 GitHub commits	26	36.80	
1.2.2 Internet domain registrations	10	57.90	●
1.2.3 Mobile apps development	18	96.45	●
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	23	48.58	
1.3.1 Adoption of emerging technologies	37	61.51	
1.3.2 Investment in emerging technologies	38	53.50	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	29	30.72	

Indicator	Rank	Score	
C. Governance pillar	32	75.05	
1st sub-pillar: Trust	37	67.83	
3.1.1 Secure Internet servers	37	76.43	
3.1.2 Cybersecurity	57	83.36	
3.1.3 Online access to financial account	31	51.17	
3.1.4 Internet shopping	31	60.34	
2nd sub-pillar: Regulation	25	80.87	
3.2.1 Regulatory quality	24	73.60	
3.2.2 ICT regulatory environment	10	95.29	●
3.2.3 Regulation of emerging technologies	14	80.00	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	87	55.44	
3rd sub-pillar: Inclusion	41	76.47	
3.3.1 E-Participation	38	82.71	
3.3.2 Socioeconomic gap in use of digital payments	47	84.38	
3.3.3 Availability of local online content	54	66.35	
3.3.4 Gender gap in Internet use	29	73.94	
3.3.5 Rural gap in use of digital payments	29	74.97	

Indicator	Rank	Score	
B. People pillar	27	59.06	
1st sub-pillar: Individuals	17	59.45	
2.1.1 Mobile broadband internet traffic within the country	109	0.77	○
2.1.2 ICT skills in the education system	30	65.38	
2.1.3 Use of virtual social networks	2	95.13	●
2.1.4 Tertiary enrollment	45	43.02	
2.1.5 Adult literacy rate	52	92.96	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	33	60.18	
2.2.1 Firms with website	12	85.26	●
2.2.2 GERD financed by business enterprise	15	72.60	
2.2.3 Knowledge intensive employment	19	71.58	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	42	11.29	
3rd sub-pillar: Governments	35	57.54	
2.3.1 Government online services	40	80.61	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	15	73.13	
2.3.4 R&D expenditure by governments and higher education	74	18.89	

Indicator	Rank	Score	
D. Impact pillar	30	68.42	
1st sub-pillar: Economy	48	39.47	
4.1.1 High-tech and medium-high-tech manufacturing	35	46.99	
4.1.2 High-tech exports	40	42.75	
4.1.3 PCT patent applications	18	45.32	
4.1.4 Domestic market size	124	30.19	○
4.1.5 Prevalence of gig economy	33	59.59	
4.1.6 ICT services exports	98	11.95	○
2nd sub-pillar: Quality of Life	17	83.66	
4.2.1 Happiness	32	75.95	
4.2.2 Freedom to make life choices	26	87.13	
4.2.3 Income inequality	27	80.40	
4.2.4 Healthy life expectancy at birth	13	91.17	●
3rd sub-pillar: SDG Contribution	25	82.13	
4.3.1 SDG 3: Good Health and Well-Being	28	86.75	
4.3.2 SDG 4: Quality Education	41	52.71	
4.3.3 SDG 5: Women's economic opportunity	40	84.21	
4.3.4 SDG 7: Affordable and Clean Energy	3	99.58	●
4.3.5 SDG 11: Sustainable Cities and Communities	25	87.38	

NOTE: ● a strength and ○ a weakness.

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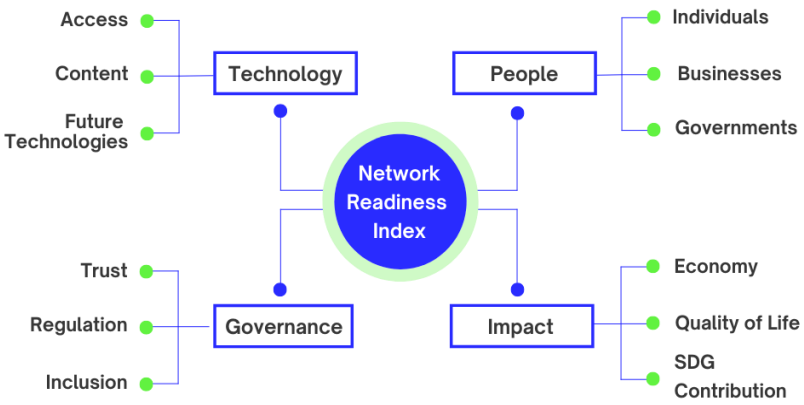
Network Readiness Index 2022 Mauritius

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

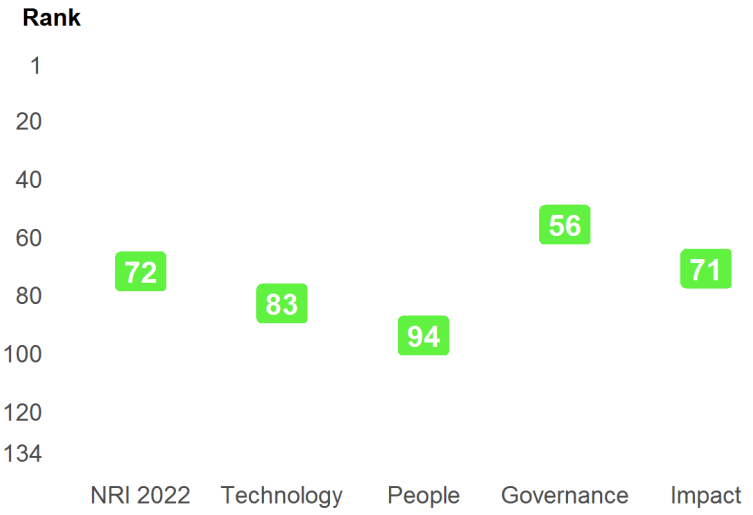
Figure 1: The NRI 2022 model



Global NRI position of Mauritius

Mauritius ranks 72nd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Mauritius global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mauritius relate to Regulation, SDG Contribution and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Economy and Businesses sub-pillars.

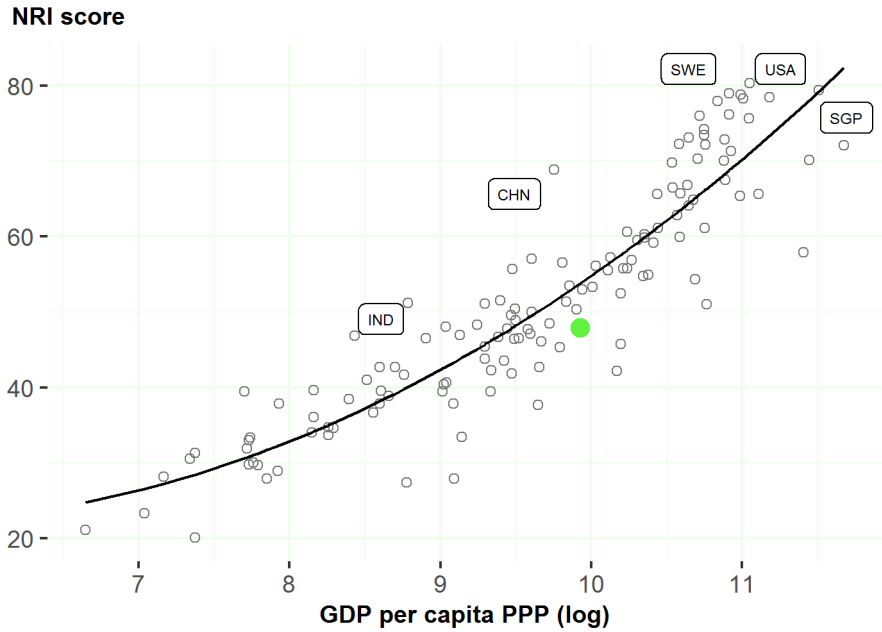
Table 1: Mauritius rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	52	Future Technologies	75
SDG Contribution	53	Governments	75
Inclusion	59	Access	76
Trust	63	Content	83
Quality of Life	64	Economy	96
Individuals	71	Businesses	129

NRI score and income

Figure 3 shows the position of Mauritius in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Mauritius is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Mauritius belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Upper-middle-income countries

Mauritius is ranked 20th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: governance and impact. At the sub-pillar level, it outperforms upper-middle-income countries in five of the twelve sub-pillars: Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Africa

Mauritius is ranked 2nd within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Mauritius against its income group and region, overall and by pillar

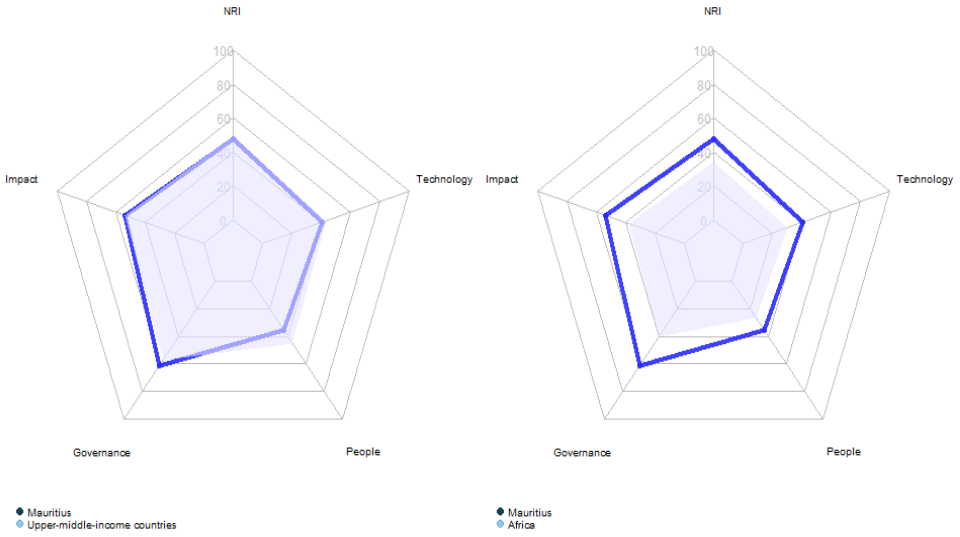


Table 2: Mauritius scores vs. averages of its income group and region, overall and by pillar

Dimension	Mauritius	Upper-middle-income countries	Africa
NRI	47.87	49.66	33.77
Technology	40.79	43.11	29.96
People	35.28	44.94	26.81
Governance	61.74	57.08	40.37
Impact	53.68	53.50	37.94

Strongest and weakest indicators

The indicators where Mauritius performs particularly well include 3.2.4 E-commerce legislation, 4.3.4 SDG 7: Affordable and Clean Energy, and 3.1.2 Cybersecurity (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 2.1.1 Mobile broadband internet traffic within the country, and 4.1.1 High-tech and medium-high-tech manufacturing.

Table 3: Strongest and weakest indicators of Mauritius

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.5 GERD performed by business enterprise	79
4.3.4 SDG 7: Affordable and Clean Energy	10	2.2.2 GERD financed by business enterprise	86
3.1.2 Cybersecurity	23	4.1.1 High-tech and medium-high-tech manufacturing	103
3.2.1 Regulatory quality	27	2.1.1 Mobile broadband internet traffic within the country	105
4.3.3 SDG 5: Women's economic opportunity	37	4.1.4 Domestic market size	121
4.1.6 ICT services exports	42		
3.3.5 Rural gap in use of digital payments	44		
1.2.2 Internet domain registrations	46		
2.1.3 Use of virtual social networks	49		
3.3.2 Socioeconomic gap in use of digital payments	49		
4.3.5 SDG 11: Sustainable Cities and Communities	49		

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NRI 2022 At-A-Glance: Mauritius

Network Readiness Index Rank: 72 (out of 131) Score: 47.87

Pillar/sub-pillar	Rank	Score
A. Technology pillar	83	40.79
1st sub-pillar: Access	76	60.76
2nd sub-pillar: Content	83	31.74
3rd sub-pillar: Future Technologies	75	29.86
B. People pillar	94	35.28
1st sub-pillar: Individuals	71	47.16
2nd sub-pillar: Businesses	129	17.92
3rd sub-pillar: Governments	75	40.76

Pillar/sub-pillar	Rank	Score
C. Governance pillar	56	61.74
1st sub-pillar: Trust	63	47.89
2nd sub-pillar: Regulation	52	69.10
3rd sub-pillar: Inclusion	59	68.22
D. Impact pillar	71	53.68
1st sub-pillar: Economy	96	23.48
2nd sub-pillar: Quality of Life	64	67.85
3rd sub-pillar: SDG Contribution	53	69.71

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	83	40.79	
1st sub-pillar: Access	76	60.76	
1.1.1 Mobile tariffs	69	55.18	
1.1.2 Handset prices	62	53.04	
1.1.3 FTTH/building Internet subscriptions	59	25.87	
1.1.4 Population covered by at least a 3G mobile network	55	99.68	
1.1.5 International Internet bandwidth	96	64.13	
1.1.6 Internet access in schools	43	66.67	
2nd sub-pillar: Content	83	31.74	
1.2.1 GitHub commits	59	7.00	
1.2.2 Internet domain registrations	46	9.05	•
1.2.3 Mobile apps development	52	83.15	
1.2.4 AI scientific publications	80	27.74	
3rd sub-pillar: Future Technologies	75	29.86	
1.3.1 Adoption of emerging technologies	86	38.18	
1.3.2 Investment in emerging technologies	81	35.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	73	16.40	

Indicator	Rank	Score	
C. Governance pillar	56	61.74	
1st sub-pillar: Trust	63	47.89	
3.1.1 Secure Internet servers	65	54.41	
3.1.2 Cybersecurity	23	96.84	•
3.1.3 Online access to financial account	82	18.11	
3.1.4 Internet shopping	59	22.19	
2nd sub-pillar: Regulation	52	69.10	
3.2.1 Regulatory quality	27	71.20	•
3.2.2 ICT regulatory environment	80	75.88	
3.2.3 Regulation of emerging technologies	65	43.16	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	89	55.25	
3rd sub-pillar: Inclusion	59	68.22	
3.3.1 E-Participation	78	62.97	
3.3.2 Socioeconomic gap in use of digital payments	49	83.94	•
3.3.3 Availability of local online content	77	54.09	
3.3.4 Gender gap in Internet use	62	68.70	
3.3.5 Rural gap in use of digital payments	44	71.42	•

Indicator	Rank	Score	
B. People pillar	94	35.28	
1st sub-pillar: Individuals	71	47.16	
2.1.1 Mobile broadband internet traffic within the country	105	1.15	○
2.1.2 ICT skills in the education system	74	41.12	
2.1.3 Use of virtual social networks	49	73.32	●
2.1.4 Tertiary enrollment	70	28.97	
2.1.5 Adult literacy rate	60	91.22	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	129	17.92	
2.2.1 Firms with website	95	30.50	
2.2.2 GERD financed by business enterprise	86	5.02	○
2.2.3 Knowledge intensive employment	62	35.58	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	79	0.57	○
3rd sub-pillar: Governments	75	40.76	
2.3.1 Government online services	67	69.09	
2.3.2 Publication and use of open data	61	26.47	
2.3.3 Government promotion of investment in emerging tech	60	38.96	
2.3.4 R&D expenditure by governments and higher education	59	28.54	

Indicator	Rank	Score	
D. Impact pillar	71	53.68	
1st sub-pillar: Economy	96	23.48	
4.1.1 High-tech and medium-high-tech manufacturing	103	2.35	○
4.1.2 High-tech exports	88	9.99	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	121	31.71	○
4.1.5 Prevalence of gig economy	84	34.01	
4.1.6 ICT services exports	42	39.35	●
2nd sub-pillar: Quality of Life	64	67.85	
4.2.1 Happiness	60	67.14	
4.2.2 Freedom to make life choices	69	72.44	
4.2.3 Income inequality	63	65.83	
4.2.4 Healthy life expectancy at birth	86	65.98	
3rd sub-pillar: SDG Contribution	53	69.71	
4.3.1 SDG 3: Good Health and Well-Being	88	59.47	
4.3.2 SDG 4: Quality Education	58	35.29	
4.3.3 SDG 5: Women's economic opportunity	37	85.09	●
4.3.4 SDG 7: Affordable and Clean Energy	10	93.23	●
4.3.5 SDG 11: Sustainable Cities and Communities	49	75.46	●

NOTE: ● a strength and ○ a weakness.

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Network Readiness Index 2022 Mexico

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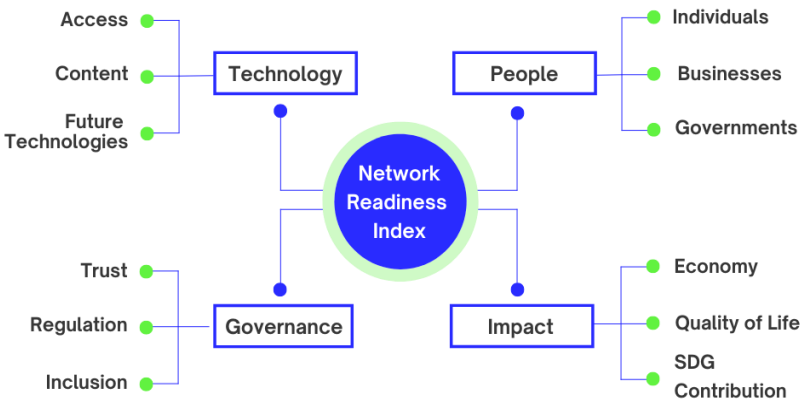
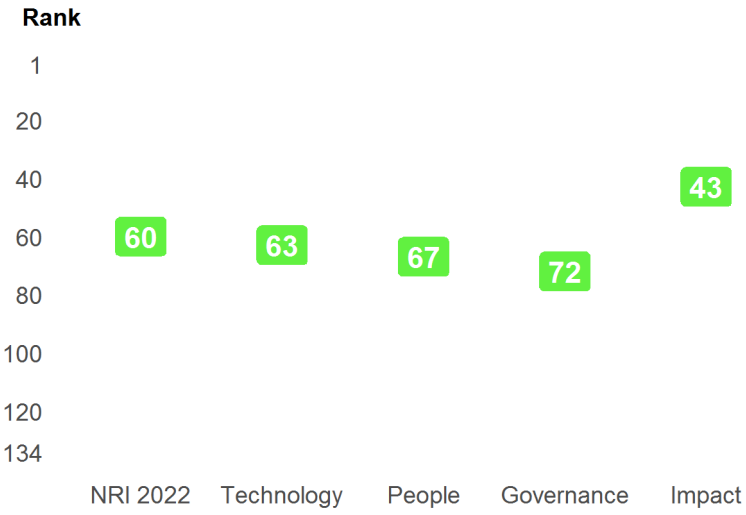
Figure 1: The NRI 2022 model



Global NRI position of Mexico

Mexico ranks 60th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Mexico global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mexico relate to Economy, Governments and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Inclusion and Individuals sub-pillars.

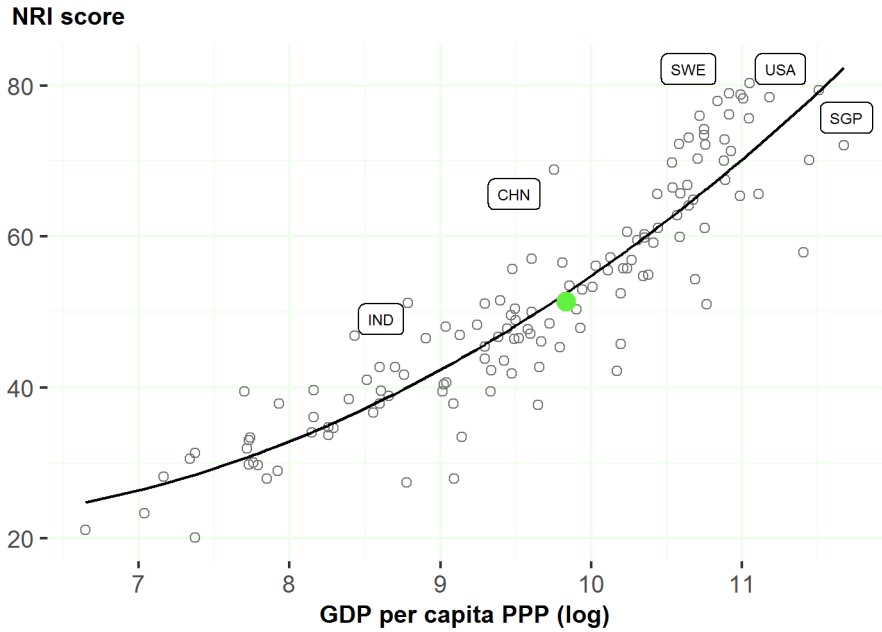
Table 1: Mexico rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	35	Future Technologies	77
Governments	36	Trust	77
Regulation	45	Quality of Life	78
SDG Contribution	47	Businesses	85
Content	58	Inclusion	86
Access	62	Individuals	87

NRI score and income

Figure 3 shows the position of Mexico in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Mexico is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Mexico belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Mexico is ranked 12th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, people and impact. At the sub-pillar level, it outperforms upper-middle-income countries in seven of the twelve sub-pillars: Access, Content, Governments, Regulation, Economy, Quality of Life and SDG Contribution.

The Americas

Mexico is ranked 8th within The Americas (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, technology, people and impact. With regard to sub-pillars, it outperforms the average in The Americas in six of the twelve sub-pillars: Access, Content, Governments, Regulation, Economy and SDG Contribution.

Figure 4: Performance of Mexico against its income group and region, overall and by pillar

Table 2: Mexico scores vs. averages of its income group and region, overall and by pillar

Dimension	Mexico	Upper-middle-income countries	The Americas
NRI	51.33	49.66	50.09
Technology	45.03	43.11	44.16
People	44.98	44.94	43.67
Governance	54.75	57.08	56.24
Impact	60.56	53.50	56.30

Strongest and weakest indicators

The indicators where Mexico performs particularly well include 3.2.4 E-commerce legislation, 2.3.2 Publication and use of open data, and 4.1.2 High-tech exports (Table 3). By contrast, the economy's weakest indicators include 4.1.6 ICT services exports, 2.1.2 ICT skills in the education system, 3.3.2 Socioeconomic gap in use of digital payments, and 3.3.5 Rural gap in use of digital payments.

Table 3: Strongest and weakest indicators of Mexico

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	38
2.3.2 Publication and use of open data	6	3.3.2 Socioeconomic gap in use of digital payments	113
4.1.2 High-tech exports	9	3.3.5 Rural gap in use of digital payments	113
4.1.1 High-tech and medium-high-tech manufacturing	11	2.1.2 ICT skills in the education system	114
1.1.3 FTTH/building Internet subscriptions	12	4.1.6 ICT services exports	129
4.1.4 Domestic market size	13		
2.2.4 Annual investment in telecommunication services	14		
1.2.4 AI scientific publications	20		
2.1.1 Mobile broadband internet traffic within the country	22		
1.1.5 International Internet bandwidth	26		
1.1.2 Handset prices	29		

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NRI 2022 At-A-Glance: Mexico

Network Readiness Index — Rank: 60 (out of 131) — Score: 51.33

Pillar/sub-pillar	Rank	Score
A. Technology pillar	63	45.03
1st sub-pillar: Access	62	66.60
2nd sub-pillar: Content	58	38.71
3rd sub-pillar: Future Technologies	77	29.76
B. People pillar	67	44.98
1st sub-pillar: Individuals	87	42.19
2nd sub-pillar: Businesses	85	35.58
3rd sub-pillar: Governments	36	57.18

Pillar/sub-pillar	Rank	Score
C. Governance pillar	72	54.75
1st sub-pillar: Trust	77	37.95
2nd sub-pillar: Regulation	45	71.11
3rd sub-pillar: Inclusion	86	55.19
D. Impact pillar	43	60.56
1st sub-pillar: Economy	35	43.95
2nd sub-pillar: Quality of Life	78	65.63
3rd sub-pillar: SDG Contribution	47	72.09

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	63	45.03	
1st sub-pillar: Access	62	66.60	
1.1.1 Mobile tariffs	74	52.70	
1.1.2 Handset prices	29	72.86	●
1.1.3 FTTH/building Internet subscriptions	12	57.01	●
1.1.4 Population covered by at least a 3G mobile network	86	98.56	
1.1.5 International Internet bandwidth	26	79.57	●
1.1.6 Internet access in schools	55	38.88	
2nd sub-pillar: Content	58	38.71	
1.2.1 GitHub commits	75	3.75	
1.2.2 Internet domain registrations	69	3.47	
1.2.3 Mobile apps development	79	72.98	
1.2.4 AI scientific publications	20	74.66	●
3rd sub-pillar: Future Technologies	77	29.76	
1.3.1 Adoption of emerging technologies	47	55.16	
1.3.2 Investment in emerging technologies	65	39.75	
1.3.3 Robot density	33	7.62	
1.3.4 Computer software spending	72	16.53	

Indicator	Rank	Score	
C. Governance pillar	72	54.75	
1st sub-pillar: Trust	77	37.95	
3.1.1 Secure Internet servers	82	46.10	
3.1.2 Cybersecurity	60	81.36	
3.1.3 Online access to financial account	90	16.28	
3.1.4 Internet shopping	89	8.04	
2nd sub-pillar: Regulation	45	71.11	
3.2.1 Regulatory quality	68	43.20	
3.2.2 ICT regulatory environment	30	90.59	
3.2.3 Regulation of emerging technologies	73	40.53	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	29	81.25	
3rd sub-pillar: Inclusion	86	55.19	
3.3.1 E-Participation	41	81.48	
3.3.2 Socioeconomic gap in use of digital payments	113	39.73	○
3.3.3 Availability of local online content	65	60.34	
3.3.4 Gender gap in Internet use	52	70.38	
3.3.5 Rural gap in use of digital payments	113	24.03	○

Indicator	Rank	Score	
B. People pillar	67	44.98	
1st sub-pillar: Individuals	87	42.19	
2.1.1 Mobile broadband internet traffic within the country	22	31.11	●
2.1.2 ICT skills in the education system	114	22.19	○
2.1.3 Use of virtual social networks	51	73.03	
2.1.4 Tertiary enrollment	72	28.00	
2.1.5 Adult literacy rate	47	93.91	
2.1.6 AI talent concentration	38	4.87	○
2nd sub-pillar: Businesses	85	35.58	
2.2.1 Firms with website	85	36.91	
2.2.2 GERD financed by business enterprise	68	21.97	
2.2.3 Knowledge intensive employment	75	29.46	
2.2.4 Annual investment in telecommunication services	14	87.90	●
2.2.5 GERD performed by business enterprise	67	1.67	
3rd sub-pillar: Governments	36	57.18	
2.3.1 Government online services	38	81.82	
2.3.2 Publication and use of open data	6	89.71	●
2.3.3 Government promotion of investment in emerging tech	68	36.77	
2.3.4 R&D expenditure by governments and higher education	71	20.44	

Indicator	Rank	Score	
D. Impact pillar	43	60.56	
1st sub-pillar: Economy	35	43.95	
4.1.1 High-tech and medium-high-tech manufacturing	11	66.37	●
4.1.2 High-tech exports	9	74.47	●
4.1.3 PCT patent applications	71	2.46	
4.1.4 Domestic market size	13	77.35	●
4.1.5 Prevalence of gig economy	61	42.73	
4.1.6 ICT services exports	129	0.34	○
2nd sub-pillar: Quality of Life	78	65.63	
4.2.1 Happiness	56	67.88	
4.2.2 Freedom to make life choices	48	78.34	
4.2.3 Income inequality	100	44.22	
4.2.4 Healthy life expectancy at birth	71	72.07	
3rd sub-pillar: SDG Contribution	47	72.09	
4.3.1 SDG 3: Good Health and Well-Being	53	74.70	
4.3.2 SDG 4: Quality Education	55	35.91	
4.3.3 SDG 5: Women's economic opportunity	40	84.21	
4.3.4 SDG 7: Affordable and Clean Energy	36	85.46	
4.3.5 SDG 11: Sustainable Cities and Communities	37	80.15	

NOTE: ● a strength and ○ a weakness.

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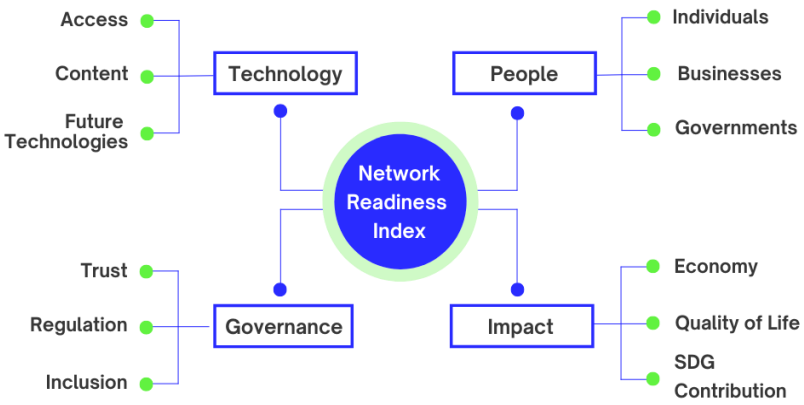
Network Readiness Index 2022 Moldova

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

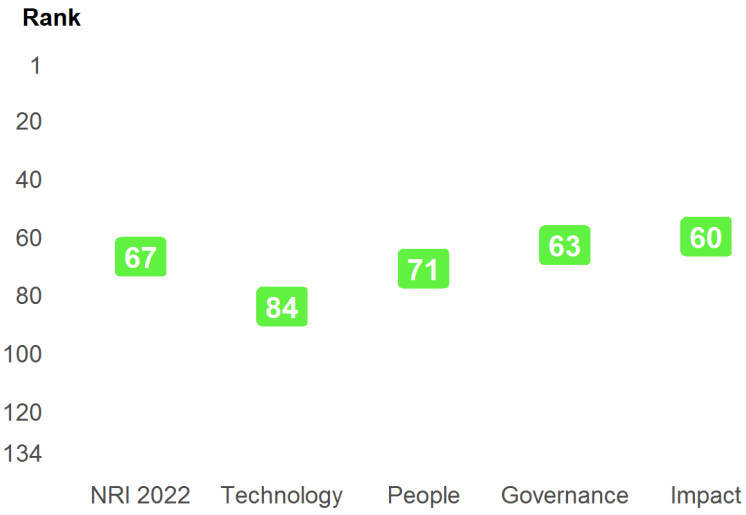
Figure 1: The NRI 2022 model



Global NRI position of Moldova

Moldova ranks 67th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Moldova global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Moldova relate to Quality of Life, Access and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Content and Future Technologies sub-pillars.

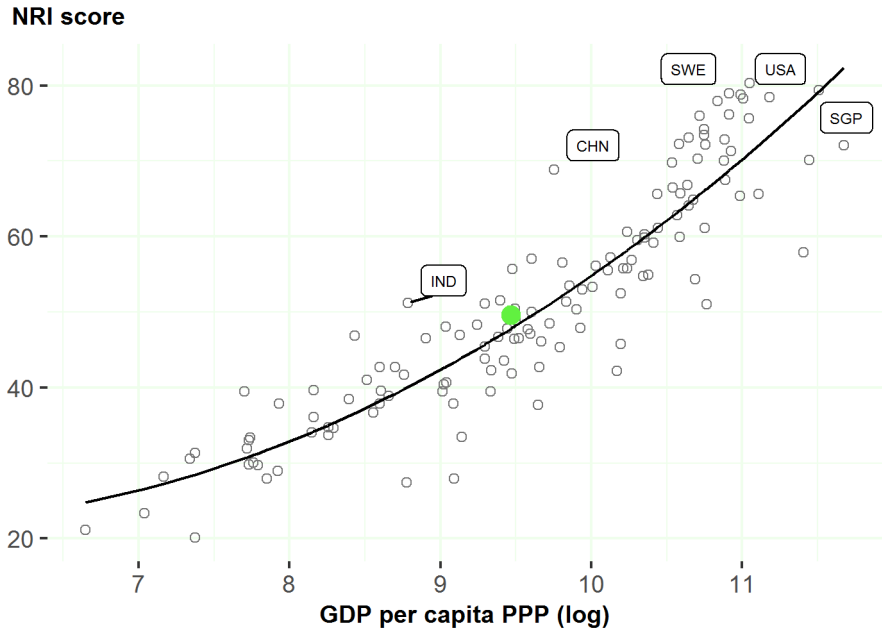
Table 1: Moldova rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	37	Inclusion	68
Access	47	Economy	74
Trust	59	Regulation	75
Individuals	65	Businesses	80
Governments	66	Content	94
SDG Contribution	67	Future Technologies	104

NRI score and income

Figure 3 shows the position of Moldova in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Moldova is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Moldova belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

Upper-middle-income countries

Moldova is ranked 16th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: governance and impact. At the sub-pillar level, it outperforms upper-middle-income countries in four of the twelve sub-pillars: Access, Governments, Trust and Quality of Life.

Europe

Moldova is ranked 37th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Moldova against its income group and region, overall and by pillar

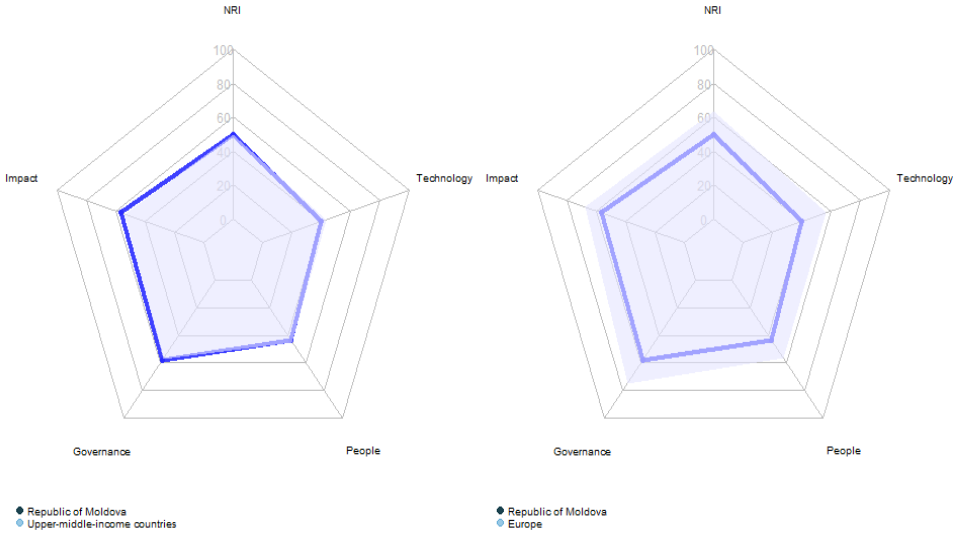


Table 2: Moldova scores vs. averages of its income group and region, overall and by pillar

Dimension	Moldova	Upper-middle-income countries	Europe
NRI	49.54	49.66	63.72
Technology	40.21	43.11	56.43
People	43.57	44.94	56.35
Governance	58.07	57.08	74.79
Impact	56.32	53.50	67.30

Strongest and weakest indicators

The indicators where Moldova performs particularly well include 4.2.3 Income inequality, 4.1.6 ICT services exports, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 4.1.4 Domestic market size, and 2.2.4 Annual investment in telecommunication services.

Table 3: Strongest and weakest indicators of Moldova

Strongest indicators	Rank	Weakest indicators	Rank
4.2.3 Income inequality	6	3.2.4 E-commerce legislation	87
4.1.6 ICT services exports	12	1.2.4 AI scientific publications	92
2.1.5 Adult literacy rate	14	2.2.4 Annual investment in telecommunication services	98
1.1.4 Population covered by at least a 3G mobile network	28	4.1.4 Domestic market size	115
3.2.2 ICT regulatory environment	30	1.3.2 Investment in emerging technologies	119
2.3.2 Publication and use of open data	34		
1.1.3 FTTH/building Internet subscriptions	36		
2.1.2 ICT skills in the education system	37		
2.2.3 Knowledge intensive employment	47		
4.3.3 SDG 5: Women's economic opportunity	47		

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NRI 2022 At-A-Glance: Moldova

Network Readiness Index — Rank: 67 (out of 131) — Score: 49.54

Pillar/sub-pillar	Rank	Score
A. Technology pillar	84	40.21
1st sub-pillar: Access	47	70.38
2nd sub-pillar: Content	94	28.19
3rd sub-pillar: Future Technologies	104	22.06
B. People pillar	71	43.57
1st sub-pillar: Individuals	65	49.08
2nd sub-pillar: Businesses	80	36.66
3rd sub-pillar: Governments	66	44.98

Pillar/sub-pillar	Rank	Score
C. Governance pillar	63	58.07
1st sub-pillar: Trust	59	49.71
2nd sub-pillar: Regulation	75	61.13
3rd sub-pillar: Inclusion	68	63.37
D. Impact pillar	60	56.32
1st sub-pillar: Economy	74	29.25
2nd sub-pillar: Quality of Life	37	76.46
3rd sub-pillar: SDG Contribution	67	63.24

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	84	40.21	
1st sub-pillar: Access	47	70.38	
1.1.1 Mobile tariffs	54	67.26	
1.1.2 Handset prices	61	53.28	
1.1.3 FTTH/building Internet subscriptions	36	36.44	•
1.1.4 Population covered by at least a 3G mobile network	28	99.97	•
1.1.5 International Internet bandwidth	51	72.84	
1.1.6 Internet access in schools	34	92.49	
2nd sub-pillar: Content	94	28.19	
1.2.1 GitHub commits	49	11.20	
1.2.2 Internet domain registrations	71	3.37	
1.2.3 Mobile apps development	54	82.29	
1.2.4 AI scientific publications	92	15.91	○
3rd sub-pillar: Future Technologies	104	22.06	
1.3.1 Adoption of emerging technologies	89	37.40	
1.3.2 Investment in emerging technologies	119	19.50	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	88	9.29	

Indicator	Rank	Score	
C. Governance pillar	63	58.07	
1st sub-pillar: Trust	59	49.71	
3.1.1 Secure Internet servers	48	68.88	
3.1.2 Cybersecurity	71	75.35	
3.1.3 Online access to financial account	69	25.65	
3.1.4 Internet shopping	55	28.94	
2nd sub-pillar: Regulation	75	61.13	
3.2.1 Regulatory quality	70	42.13	
3.2.2 ICT regulatory environment	30	90.59	•
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	110	45.12	
3rd sub-pillar: Inclusion	68	63.37	
3.3.1 E-Participation	54	75.31	
3.3.2 Socioeconomic gap in use of digital payments	73	66.08	
3.3.3 Availability of local online content	61	62.74	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	93	49.37	

Indicator	Rank	Score	
B. People pillar	71	43.57	
1st sub-pillar: Individuals	65	49.08	
2.1.1 Mobile broadband internet traffic within the country	88	3.07	
2.1.2 ICT skills in the education system	37	62.72	●
2.1.3 Use of virtual social networks	97	42.06	
2.1.4 Tertiary enrollment	53	38.32	
2.1.5 Adult literacy rate	14	99.21	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	80	36.66	
2.2.1 Firms with website	73	44.59	
2.2.2 GERD financed by business enterprise	71	19.13	
2.2.3 Knowledge intensive employment	47	47.36	●
2.2.4 Annual investment in telecommunication services	98	71.09	○
2.2.5 GERD performed by business enterprise	74	1.15	
3rd sub-pillar: Governments	66	44.98	
2.3.1 Government online services	51	74.54	
2.3.2 Publication and use of open data	34	45.59	●
2.3.3 Government promotion of investment in emerging tech	54	42.45	
2.3.4 R&D expenditure by governments and higher education	78	17.34	

Indicator	Rank	Score	
D. Impact pillar	60	56.32	
1st sub-pillar: Economy	74	29.25	
4.1.1 High-tech and medium-high-tech manufacturing	62	24.49	
4.1.2 High-tech exports	77	14.28	
4.1.3 PCT patent applications	74	2.15	
4.1.4 Domestic market size	115	34.57	○
4.1.5 Prevalence of gig economy	62	42.15	
4.1.6 ICT services exports	12	57.88	●
2nd sub-pillar: Quality of Life	37	76.46	
4.2.1 Happiness	59	67.32	
4.2.2 Freedom to make life choices	52	77.56	
4.2.3 Income inequality	6	92.96	●
4.2.4 Healthy life expectancy at birth	80	67.99	
3rd sub-pillar: SDG Contribution	67	63.24	
4.3.1 SDG 3: Good Health and Well-Being	79	64.14	
4.3.2 SDG 4: Quality Education	50	39.14	
4.3.3 SDG 5: Women's economic opportunity	47	82.46	●
4.3.4 SDG 7: Affordable and Clean Energy	93	70.68	
4.3.5 SDG 11: Sustainable Cities and Communities	76	59.81	

NOTE: ● a strength and ○ a weakness.

Sources

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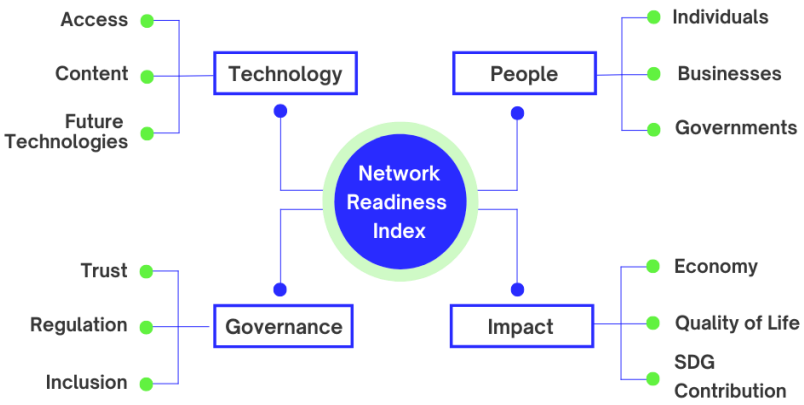
Network Readiness Index 2022 Mongolia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

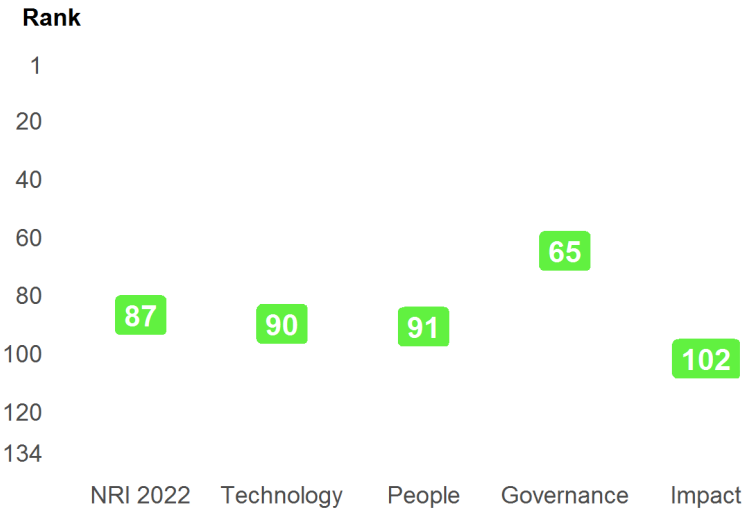
Figure 1: The NRI 2022 model



Global NRI position of Mongolia

Mongolia ranks 87th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Mongolia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mongolia relate to Individuals, Inclusion and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Governments and Economy sub-pillars.

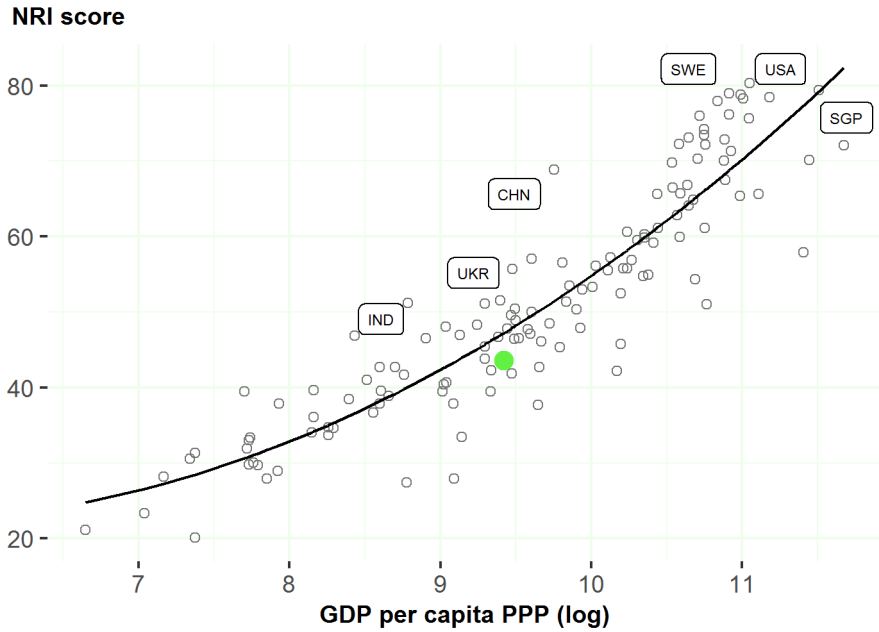
Table 1: Mongolia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	50	Quality of Life	89
Inclusion	53	Future Technologies	100
Trust	67	Businesses	100
SDG Contribution	86	Regulation	101
Access	87	Governments	105
Content	87	Economy	123

NRI score and income

Figure 3 shows the position of Mongolia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Mongolia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Mongolia belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Mongolia is ranked 12th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: nri.score, people and governance. At the sub-pillar level, it outperforms lower-middle-income countries in eight of the twelve sub-pillars: Access, Content, Individuals, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Asia & Pacific

Mongolia is ranked 16th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in one of the twelve sub-pillars: Inclusion.

Figure 4: Performance of Mongolia against its income group and region, overall and by pillar

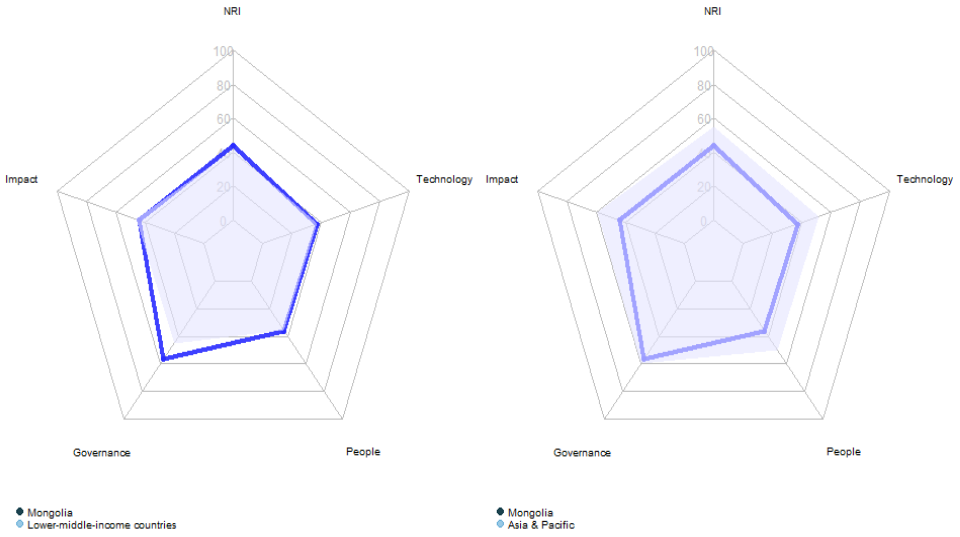


Table 2: Mongolia scores vs. averages of its income group and region, overall and by pillar

Dimension	Mongolia	Lower-middle-income countries	Asia & Pacific
NRI	43.53	40.94	55.18
Technology	37.17	37.28	51.78
People	36.14	35.42	50.21
Governance	56.60	45.00	59.66
Impact	44.21	46.09	59.07

Strongest and weakest indicators

The indicators where Mongolia performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 3.3.2 Socioeconomic gap in use of digital payments, and 3.3.4 Gender gap in Internet use (Table 3). By contrast, the economy's weakest indicators include 1.1.2 Handset prices, 4.1.2 High-tech exports, and 4.2.2 Freedom to make life choices.

Table 3: Strongest and weakest indicators of Mongolia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	3.2.4 E-commerce legislation	87
3.3.2 Socioeconomic gap in use of digital payments	6	4.1.1 High-tech and medium-high-tech manufacturing	102
3.3.4 Gender gap in Internet use	6	4.2.2 Freedom to make life choices	115
2.1.5 Adult literacy rate	16	4.1.2 High-tech exports	117
2.1.3 Use of virtual social networks	25	1.1.2 Handset prices	122
3.3.5 Rural gap in use of digital payments	32		
2.1.4 Tertiary enrollment	35		
4.2.3 Income inequality	35		
3.1.3 Online access to financial account	36		
3.1.4 Internet shopping	40		

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NRI 2022 At-A-Glance: Mongolia

Network Readiness Index Rank: 87 (out of 131) Score: 43.53

Pillar/sub-pillar	Rank	Score
A. Technology pillar	90	37.17
1st sub-pillar: Access	87	56.90
2nd sub-pillar: Content	87	30.83
3rd sub-pillar: Future Technologies	100	23.76
B. People pillar	91	36.14
1st sub-pillar: Individuals	50	51.56
2nd sub-pillar: Businesses	100	30.94
3rd sub-pillar: Governments	105	25.91

Pillar/sub-pillar	Rank	Score
C. Governance pillar	65	56.60
1st sub-pillar: Trust	67	44.99
2nd sub-pillar: Regulation	101	53.51
3rd sub-pillar: Inclusion	53	71.31
D. Impact pillar	102	44.21
1st sub-pillar: Economy	123	13.36
2nd sub-pillar: Quality of Life	89	60.61
3rd sub-pillar: SDG Contribution	86	58.65

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	90	37.17	
1st sub-pillar: Access	87	56.90	
1.1.1 Mobile tariffs	72	53.20	
1.1.2 Handset prices	122	22.59	○
1.1.3 FTTH/building Internet subscriptions	46	31.41	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	99	63.56	
1.1.6 Internet access in schools	41	70.66	
2nd sub-pillar: Content	87	30.83	
1.2.1 GitHub commits	69	4.79	
1.2.2 Internet domain registrations	83	1.76	
1.2.3 Mobile apps development	53	83.00	
1.2.4 AI scientific publications	76	33.77	
3rd sub-pillar: Future Technologies	100	23.76	
1.3.1 Adoption of emerging technologies	111	25.94	
1.3.2 Investment in emerging technologies	91	33.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	81	12.35	

Indicator	Rank	Score	
C. Governance pillar	65	56.60	
1st sub-pillar: Trust	67	44.99	
3.1.1 Secure Internet servers	59	59.52	
3.1.2 Cybersecurity	111	24.90	
3.1.3 Online access to financial account	36	46.58	●
3.1.4 Internet shopping	40	48.97	●
2nd sub-pillar: Regulation	101	53.51	
3.2.1 Regulatory quality	78	38.67	
3.2.2 ICT regulatory environment	86	73.53	
3.2.3 Regulation of emerging technologies	88	29.74	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	83	58.95	
3rd sub-pillar: Inclusion	53	71.31	
3.3.1 E-Participation	83	59.26	
3.3.2 Socioeconomic gap in use of digital payments	6	99.34	●
3.3.3 Availability of local online content	98	42.55	
3.3.4 Gender gap in Internet use	6	81.23	●
3.3.5 Rural gap in use of digital payments	32	74.19	●

Indicator	Rank	Score	
B. People pillar	91	36.14	
1st sub-pillar: Individuals	50	51.56	
2.1.1 Mobile broadband internet traffic within the country	76	5.82	
2.1.2 ICT skills in the education system	105	27.81	
2.1.3 Use of virtual social networks	25	79.55	●
2.1.4 Tertiary enrollment	35	45.66	●
2.1.5 Adult literacy rate	16	98.98	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	100	30.94	
2.2.1 Firms with website	92	32.35	
2.2.2 GERD financed by business enterprise	79	9.96	
2.2.3 Knowledge intensive employment	56	39.52	
2.2.4 Annual investment in telecommunication services	87	72.67	
2.2.5 GERD performed by business enterprise	85	0.22	
3rd sub-pillar: Governments	105	25.91	
2.3.1 Government online services	95	51.51	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	105	19.76	
2.3.4 R&D expenditure by governments and higher education	95	6.45	

Indicator	Rank	Score	
D. Impact pillar	102	44.21	
1st sub-pillar: Economy	123	13.36	
4.1.1 High-tech and medium-high-tech manufacturing	102	2.38	○
4.1.2 High-tech exports	117	0.91	○
4.1.3 PCT patent applications	87	0.93	
4.1.4 Domestic market size	107	36.24	
4.1.5 Prevalence of gig economy	92	29.65	
4.1.6 ICT services exports	104	10.03	
2nd sub-pillar: Quality of Life	89	60.61	
4.2.1 Happiness	66	63.08	
4.2.2 Freedom to make life choices	115	49.50	○
4.2.3 Income inequality	35	76.13	●
4.2.4 Healthy life expectancy at birth	100	53.74	
3rd sub-pillar: SDG Contribution	86	58.65	
4.3.1 SDG 3: Good Health and Well-Being	89	57.38	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	55	78.95	
4.3.4 SDG 7: Affordable and Clean Energy	114	52.46	
4.3.5 SDG 11: Sustainable Cities and Communities	99	45.81	

NOTE: ● a strength and ○ a weakness.

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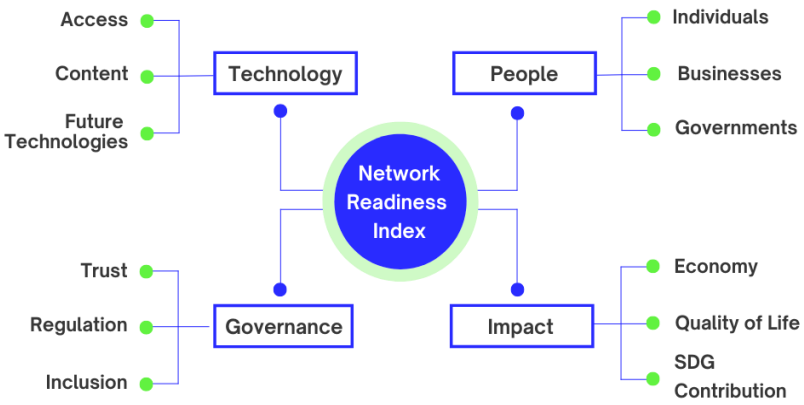
Network Readiness Index 2022 Montenegro

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

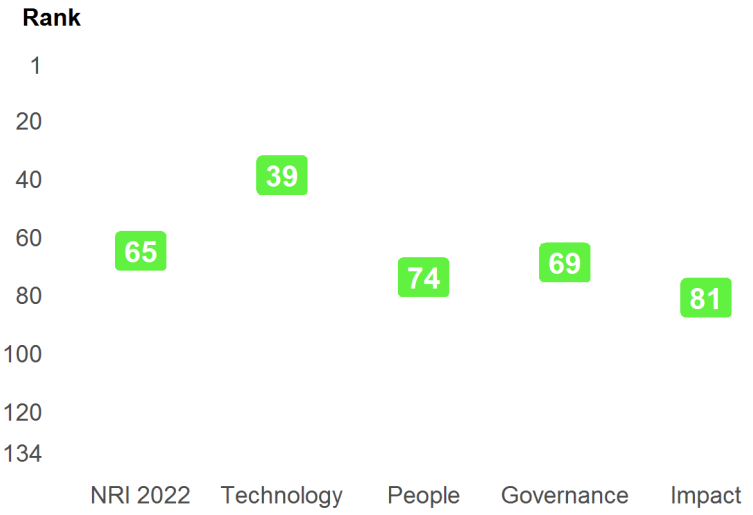
Figure 1: The NRI 2022 model



Global NRI position of Montenegro

Montenegro ranks 65th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Montenegro global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Montenegro relate to Content, Future Technologies and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Governments and Economy sub-pillars.

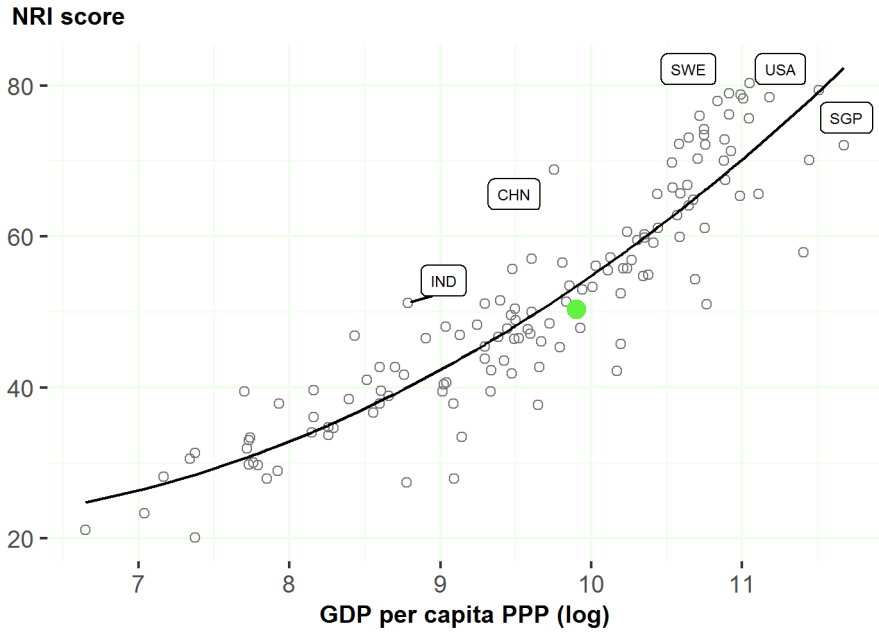
Table 1: Montenegro rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	24	Regulation	69
Future Technologies	47	SDG Contribution	73
Individuals	56	Access	88
Inclusion	58	Trust	89
Quality of Life	62	Governments	92
Businesses	63	Economy	97

NRI score and income

Figure 3 shows the position of Montenegro in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Montenegro is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Montenegro belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

Upper-middle-income countries

Montenegro is ranked 14th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: nri.score and technology. At the sub-pillar level, it outperforms upper-middle-income countries in six of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Inclusion and Quality of Life.

Europe

Montenegro is ranked 36th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in one of the twelve sub-pillars: Content.

Figure 4: Performance of Montenegro against its income group and region, overall and by pillar

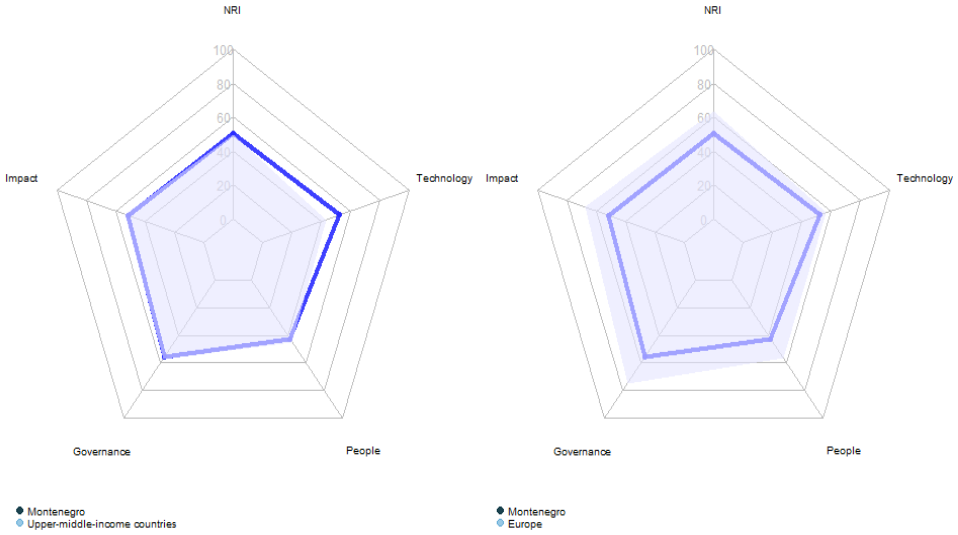


Table 2: Montenegro scores vs. averages of its income group and region, overall and by pillar

Dimension	Montenegro	Upper-middle-income countries	Europe
NRI	50.38	49.66	63.72
Technology	52.08	43.11	56.43
People	42.73	44.94	56.35
Governance	55.33	57.08	74.79
Impact	51.40	53.50	67.30

Strongest and weakest indicators

The indicators where Montenegro performs particularly well include 1.2.2 Internet domain registrations, 3.3.5 Rural gap in use of digital payments, and 3.2.2 ICT regulatory environment (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 2.1.1 Mobile broadband internet traffic within the country, and 2.2.4 Annual investment in telecommunication services.

Table 3: Strongest and weakest indicators of Montenegro

Strongest indicators	Rank	Weakest indicators	Rank
1.2.2 Internet domain registrations	1	4.1.1 High-tech and medium-high-tech manufacturing	85
3.3.5 Rural gap in use of digital payments	4	3.2.4 E-commerce legislation	87
3.2.2 ICT regulatory environment	14	2.2.4 Annual investment in telecommunication services	90
2.1.5 Adult literacy rate	20	2.1.1 Mobile broadband internet traffic within the country	104
1.3.4 Computer software spending	22	4.1.4 Domestic market size	126
4.1.6 ICT services exports	33		
2.1.3 Use of virtual social networks	34		
2.2.3 Knowledge intensive employment	40		
3.2.1 Regulatory quality	53		
4.3.4 SDG 7: Affordable and Clean Energy	53		

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NRI 2022 At-A-Glance: Montenegro

Network Readiness Index Rank: 65 (out of 131) Score: 50.38

Pillar/sub-pillar	Rank	Score
A. Technology pillar	39	52.08
1st sub-pillar: Access	88	55.60
2nd sub-pillar: Content	24	62.06
3rd sub-pillar: Future Technologies	47	38.57
B. People pillar	74	42.73
1st sub-pillar: Individuals	56	51.03
2nd sub-pillar: Businesses	63	43.33
3rd sub-pillar: Governments	92	33.82

Pillar/sub-pillar	Rank	Score
C. Governance pillar	69	55.33
1st sub-pillar: Trust	89	34.36
2nd sub-pillar: Regulation	69	63.22
3rd sub-pillar: Inclusion	58	68.40
D. Impact pillar	81	51.40
1st sub-pillar: Economy	97	22.72
2nd sub-pillar: Quality of Life	62	69.36
3rd sub-pillar: SDG Contribution	73	62.11

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	39	52.08	
1st sub-pillar: Access	88	55.60	
1.1.1 Mobile tariffs	82	48.89	
1.1.2 Handset prices	78	47.00	
1.1.3 FTTH/building Internet subscriptions	80	15.33	
1.1.4 Population covered by at least a 3G mobile network	74	99.35	
1.1.5 International Internet bandwidth	85	67.42	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	24	62.06	
1.2.1 GitHub commits	56	7.82	
1.2.2 Internet domain registrations	1	100.00	●
1.2.3 Mobile apps development	67	78.36	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	47	38.57	
1.3.1 Adoption of emerging technologies	70	44.68	
1.3.2 Investment in emerging technologies	88	33.50	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	22	37.54	●
B. People pillar	74	42.73	

Indicator	Rank	Score	
C. Governance pillar	69	55.33	
1st sub-pillar: Trust	89	34.36	
3.1.1 Secure Internet servers	67	53.18	
3.1.2 Cybersecurity	91	52.41	
3.1.3 Online access to financial account	89	16.36	
3.1.4 Internet shopping	74	15.51	
2nd sub-pillar: Regulation	69	63.22	
3.2.1 Regulatory quality	53	51.73	●
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Regulation of emerging technologies	79	34.47	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	57	69.12	
3rd sub-pillar: Inclusion	58	68.40	
3.3.1 E-Participation	92	53.09	
3.3.2 Socioeconomic gap in use of digital payments	68	71.40	
3.3.3 Availability of local online content	57	65.62	
3.3.4 Gender gap in Internet use	48	70.81	
3.3.5 Rural gap in use of digital payments	4	81.06	●
D. Impact pillar	81	51.40	

Indicator	Rank	Score	
1st sub-pillar: Individuals	56	51.03	
2.1.1 Mobile broadband internet traffic within the country	104	1.20	○
2.1.2 ICT skills in the education system	73	42.01	
2.1.3 Use of virtual social networks	34	76.73	●
2.1.4 Tertiary enrollment	56	36.65	
2.1.5 Adult literacy rate	20	98.55	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	63	43.33	
2.2.1 Firms with website	86	36.39	
2.2.2 GERD financed by business enterprise	46	46.73	
2.2.3 Knowledge intensive employment	40	56.13	●
2.2.4 Annual investment in telecommunication services	90	72.43	○
2.2.5 GERD performed by business enterprise	54	4.98	
3rd sub-pillar: Governments	92	33.82	
2.3.1 Government online services	93	52.73	
2.3.2 Publication and use of open data	80	14.71	
2.3.3 Government promotion of investment in emerging tech	55	41.38	
2.3.4 R&D expenditure by governments and higher education	61	26.46	

Indicator	Rank	Score	
1st sub-pillar: Economy	97	22.72	
4.1.1 High-tech and medium-high-tech manufacturing	85	11.29	○
4.1.2 High-tech exports	89	9.97	
4.1.3 PCT patent applications	48	8.34	
4.1.4 Domestic market size	126	23.02	○
4.1.5 Prevalence of gig economy	63	41.57	
4.1.6 ICT services exports	33	42.16	●
2nd sub-pillar: Quality of Life	62	69.36	
4.2.1 Happiness	65	63.10	
4.2.2 Freedom to make life choices	70	72.36	
4.2.3 Income inequality	63	65.83	
4.2.4 Healthy life expectancy at birth	53	76.15	
3rd sub-pillar: SDG Contribution	73	62.11	
4.3.1 SDG 3: Good Health and Well-Being	80	63.72	
4.3.2 SDG 4: Quality Education	53	38.19	
4.3.3 SDG 5: Women's economic opportunity	55	78.95	
4.3.4 SDG 7: Affordable and Clean Energy	53	82.62	●
4.3.5 SDG 11: Sustainable Cities and Communities	96	47.07	

NOTE: ● a strength and ○ a weakness.

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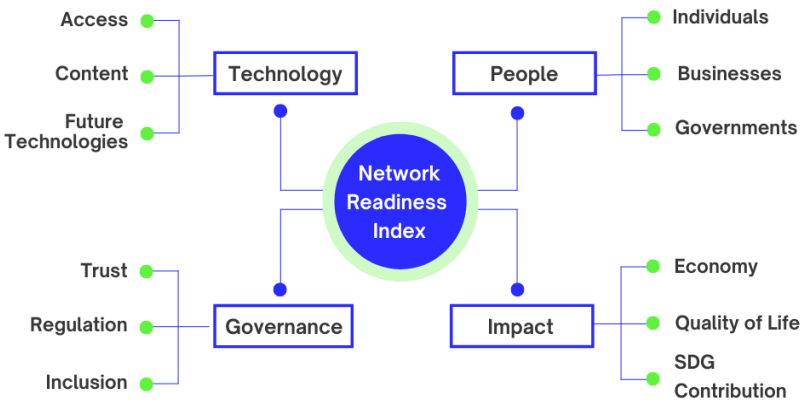
Network Readiness Index 2022 Morocco

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

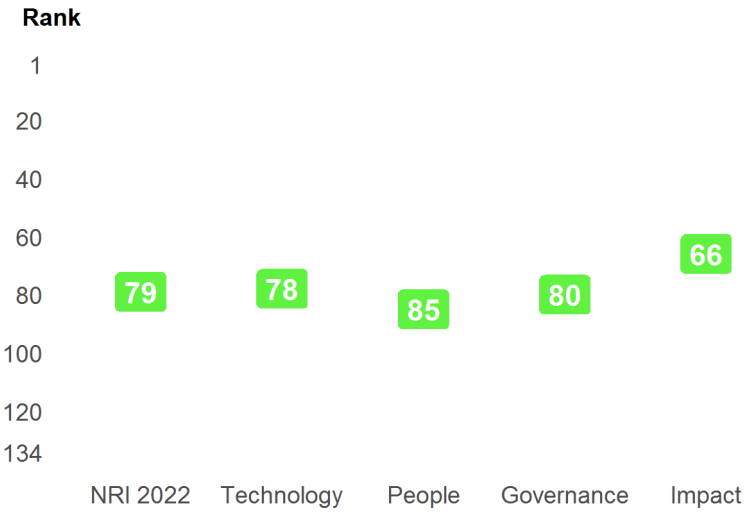
Figure 1: The NRI 2022 model



Global NRI position of Morocco

Morocco ranks 79th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Morocco global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Morocco relate to Regulation, Economy and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Individuals and Inclusion sub-pillars.

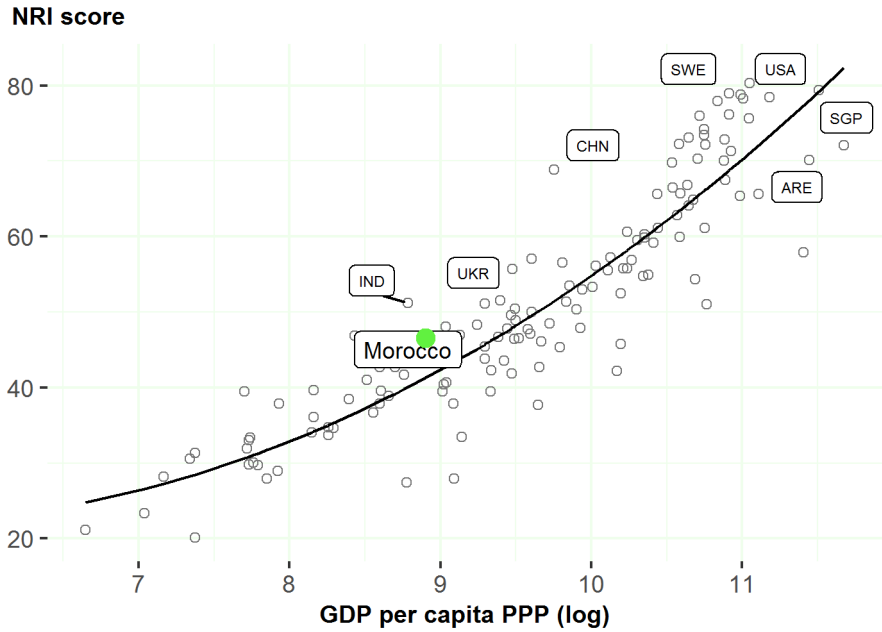
Table 1: Morocco rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	37	Businesses	81
Economy	49	Trust	81
Access	68	Governments	86
Future Technologies	69	Quality of Life	86
SDG Contribution	72	Individuals	90
Content	80	Inclusion	111

NRI score and income

Figure 3 shows the position of Morocco in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Morocco is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Morocco belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Morocco is ranked 8th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Economy, Quality of Life and SDG Contribution.

Arab States

Morocco is ranked 9th within Arab States (Figure 4, right panel). It has a score above the regional average in one of the four pillars: impact. With regard to sub-pillars, it outperforms the average in Arab States in three of the twelve sub-pillars: Regulation, Economy and SDG Contribution.

Figure 4: Performance of Morocco against its income group and region, overall and by pillar

Table 2: Morocco scores vs. averages of its income group and region, overall and by pillar

Dimension	Morocco	Lower-middle-income countries	Arab States
NRI	46.50	40.94	51.21
Technology	42.19	37.28	47.66
People	38.15	35.42	47.11
Governance	51.35	45.00	56.68
Impact	54.33	46.09	53.39

Strongest and weakest indicators

The indicators where Morocco performs particularly well include 3.2.4 E-commerce legislation, 4.1.6 ICT services exports, and 4.1.1 High-tech and medium-high-tech manufacturing (Table 3). By contrast, the economy's weakest indicators include 3.3.5 Rural gap in use of digital payments, 3.1.3 Online access to financial account, and 2.2.3 Knowledge intensive employment.

Table 3: Strongest and weakest indicators of Morocco

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.3.2 SDG 4: Quality Education	74
4.1.6 ICT services exports	22	2.1.5 Adult literacy rate	89
4.1.1 High-tech and medium-high-tech manufacturing	24	2.2.3 Knowledge intensive employment	119
1.1.5 International Internet bandwidth	31	3.1.3 Online access to financial account	121
2.1.1 Mobile broadband internet traffic within the country	33	3.3.5 Rural gap in use of digital payments	123
3.2.2 ICT regulatory environment	39		
2.3.4 R&D expenditure by governments and higher education	40		
1.1.3 FTTH/building Internet subscriptions	44		
3.2.5 Privacy protection by law content	46		
4.3.4 SDG 7: Affordable and Clean Energy	47		
4.3.5 SDG 11: Sustainable Cities and Communities	53		

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NRI 2022 At-A-Glance: Morocco

Network Readiness Index — Rank: 79 (out of 131) — Score: 46.50

Pillar/sub-pillar	Rank	Score
A. Technology pillar	78	42.19
1st sub-pillar: Access	68	63.42
2nd sub-pillar: Content	80	32.53
3rd sub-pillar: Future Technologies	69	30.61
B. People pillar	85	38.15
1st sub-pillar: Individuals	90	41.54
2nd sub-pillar: Businesses	81	36.53
3rd sub-pillar: Governments	86	36.40

Pillar/sub-pillar	Rank	Score
C. Governance pillar	80	51.35
1st sub-pillar: Trust	81	36.34
2nd sub-pillar: Regulation	37	74.51
3rd sub-pillar: Inclusion	111	43.19
D. Impact pillar	66	54.33
1st sub-pillar: Economy	49	39.38
2nd sub-pillar: Quality of Life	86	61.45
3rd sub-pillar: SDG Contribution	72	62.15

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	78	42.19	
1st sub-pillar: Access	68	63.42	
1.1.1 Mobile tariffs	96	42.60	
1.1.2 Handset prices	85	44.24	
1.1.3 FTTH/building Internet subscriptions	44	33.12	●
1.1.4 Population covered by at least a 3G mobile network	55	99.68	
1.1.5 International Internet bandwidth	31	78.03	●
1.1.6 Internet access in schools	38	82.85	
2nd sub-pillar: Content	80	32.53	
1.2.1 GitHub commits	92	2.39	
1.2.2 Internet domain registrations	94	1.13	
1.2.3 Mobile apps development	88	69.73	
1.2.4 AI scientific publications	44	56.88	
3rd sub-pillar: Future Technologies	69	30.61	
1.3.1 Adoption of emerging technologies	90	37.16	
1.3.2 Investment in emerging technologies	81	35.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	64	19.66	

Indicator	Rank	Score	
C. Governance pillar	80	51.35	
1st sub-pillar: Trust	81	36.34	
3.1.1 Secure Internet servers	72	48.55	
3.1.2 Cybersecurity	58	82.10	
3.1.3 Online access to financial account	121	3.56	○
3.1.4 Internet shopping	80	11.13	
2nd sub-pillar: Regulation	37	74.51	
3.2.1 Regulatory quality	80	37.87	
3.2.2 ICT regulatory environment	39	87.65	●
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	46	72.54	●
3rd sub-pillar: Inclusion	111	43.19	
3.3.1 E-Participation	96	49.38	
3.3.2 Socioeconomic gap in use of digital payments	104	44.22	
3.3.3 Availability of local online content	68	60.10	
3.3.4 Gender gap in Internet use	79	62.26	
3.3.5 Rural gap in use of digital payments	123	0.00	○

Indicator	Rank	Score	
B. People pillar	85	38.15	
1st sub-pillar: Individuals	90	41.54	
2.1.1 Mobile broadband internet traffic within the country	33	21.83	●
2.1.2 ICT skills in the education system	94	34.62	
2.1.3 Use of virtual social networks	82	58.52	
2.1.4 Tertiary enrollment	74	26.50	
2.1.5 Adult literacy rate	89	66.23	○
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	81	36.53	
2.2.1 Firms with website	61	53.03	
2.2.2 GERD financed by business enterprise	59	37.00	
2.2.3 Knowledge intensive employment	119	7.48	○
2.2.4 Annual investment in telecommunication services	49	79.51	
2.2.5 GERD performed by business enterprise	52	5.61	
3rd sub-pillar: Governments	86	36.40	
2.3.1 Government online services	96	50.91	
2.3.2 Publication and use of open data	78	16.18	
2.3.3 Government promotion of investment in emerging tech	80	33.24	
2.3.4 R&D expenditure by governments and higher education	40	45.27	●

Indicator	Rank	Score	
D. Impact pillar	66	54.33	
1st sub-pillar: Economy	49	39.38	
4.1.1 High-tech and medium-high-tech manufacturing	24	56.12	●
4.1.2 High-tech exports	56	28.71	
4.1.3 PCT patent applications	51	7.75	
4.1.4 Domestic market size	55	55.88	
4.1.5 Prevalence of gig economy	66	39.83	
4.1.6 ICT services exports	22	47.97	●
2nd sub-pillar: Quality of Life	86	61.45	
4.2.1 Happiness	78	56.05	
4.2.2 Freedom to make life choices	86	65.58	
4.2.3 Income inequality	77	59.05	
4.2.4 Healthy life expectancy at birth	87	65.13	
3rd sub-pillar: SDG Contribution	72	62.15	
4.3.1 SDG 3: Good Health and Well-Being	59	72.84	
4.3.2 SDG 4: Quality Education	74	16.92	○
4.3.3 SDG 5: Women's economic opportunity	93	65.79	
4.3.4 SDG 7: Affordable and Clean Energy	47	83.12	●
4.3.5 SDG 11: Sustainable Cities and Communities	53	72.07	●

NOTE: ● a strength and ○ a weakness.

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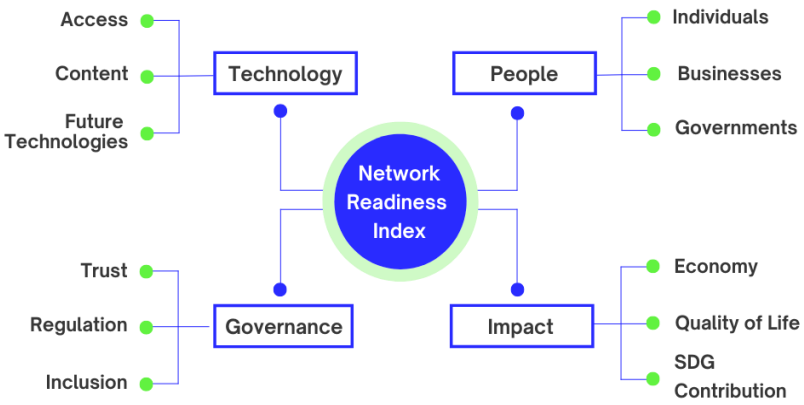
Network Readiness Index 2022 Mozambique

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

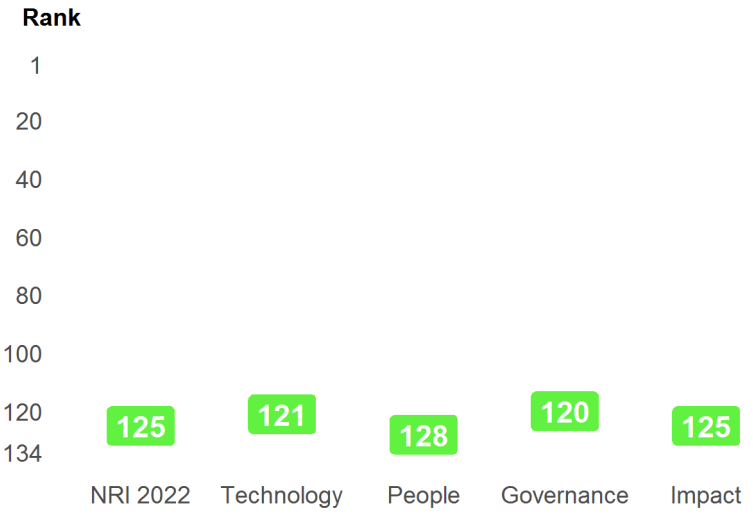
Figure 1: The NRI 2022 model



Global NRI position of Mozambique

Mozambique ranks 125th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Mozambique global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mozambique relate to Regulation, Trust and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Individuals and Economy sub-pillars.

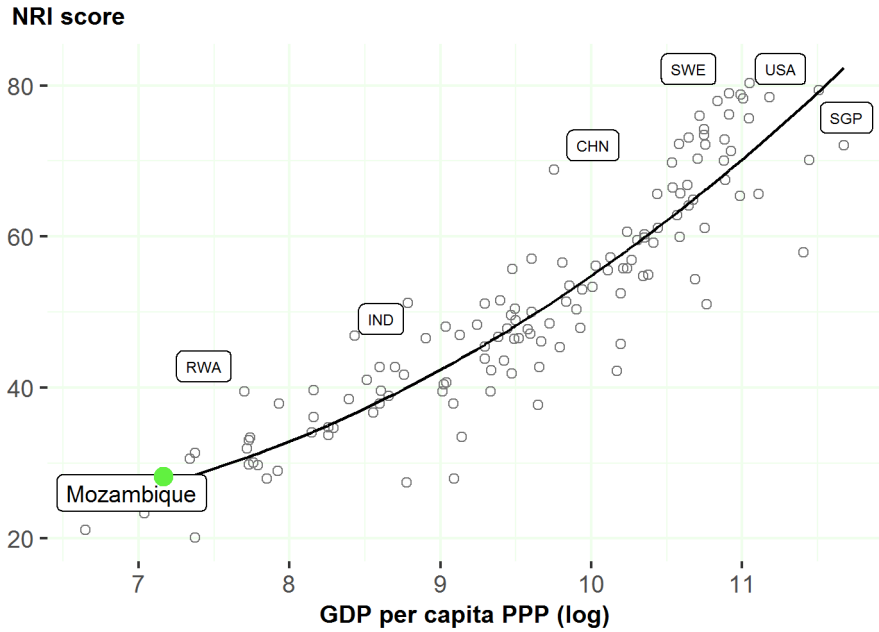
Table 1: Mozambique rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	111	Quality of Life	118
Trust	112	Future Technologies	125
Access	113	Businesses	126
Content	114	SDG Contribution	126
Governments	115	Individuals	128
Inclusion	118	Economy	129

NRI score and income

Figure 3 shows the position of Mozambique in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Mozambique is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Mozambique belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Mozambique is ranked 11th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: technology and governance. At the sub-pillar level, it outperforms low-income countries in four of the twelve sub-pillars: Access, Content, Trust and Inclusion.

Africa

Mozambique is ranked 25th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Mozambique against its income group and region, overall and by pillar

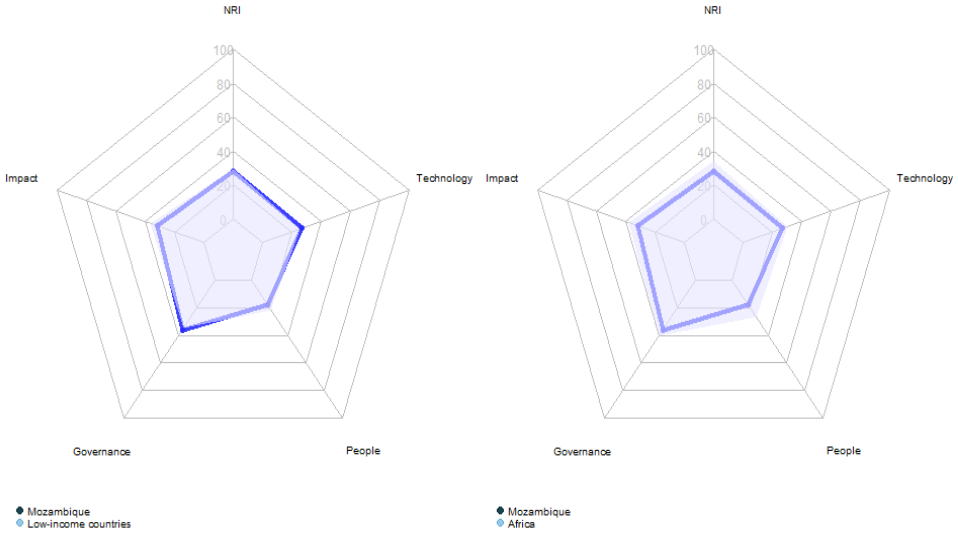


Table 2: Mozambique scores vs. averages of its income group and region, overall and by pillar

Dimension	Mozambique	Low-income countries	Africa
NRI	28.18	29.49	33.77
Technology	26.98	25.43	29.96
People	18.04	21.74	26.81
Governance	36.14	34.28	40.37
Impact	31.57	36.50	37.94

Strongest and weakest indicators

The indicators where Mozambique performs particularly well include 3.2.5 Privacy protection by law content, 4.2.2 Freedom to make life choices, and 3.1.3 Online access to financial account (Table 3). By contrast, the economy's weakest indicators include 2.1.2 ICT skills in the education system, 4.2.4 Healthy life expectancy at birth, and 4.3.4 SDG 7: Affordable and Clean Energy.

Table 3: Strongest and weakest indicators of Mozambique

Strongest indicators	Rank	Weakest indicators	Rank
3.2.5 Privacy protection by law content	44	4.1.3 PCT patent applications	99
4.2.2 Freedom to make life choices	47	2.2.4 Annual investment in telecommunication services	111
3.1.3 Online access to financial account	53	2.1.2 ICT skills in the education system	128
3.3.5 Rural gap in use of digital payments	60	4.2.4 Healthy life expectancy at birth	128
1.2.4 AI scientific publications	62	4.3.4 SDG 7: Affordable and Clean Energy	128
4.3.3 SDG 5: Women's economic opportunity	65		
2.3.4 R&D expenditure by governments and higher education	68		
4.2.1 Happiness	87		
2.2.1 Firms with website	88		
3.3.1 E-Participation	94		

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NRI 2022 At-A-Glance: Mozambique

Network Readiness Index Rank: 125 (out of 131) Score: 28.18

Pillar/sub-pillar	Rank	Score
A. Technology pillar	121	26.98
1st sub-pillar: Access	113	44.34
2nd sub-pillar: Content	114	21.47
3rd sub-pillar: Future Technologies	125	15.13
B. People pillar	128	18.04
1st sub-pillar: Individuals	128	12.87
2nd sub-pillar: Businesses	126	19.34
3rd sub-pillar: Governments	115	21.91

Pillar/sub-pillar	Rank	Score
C. Governance pillar	120	36.14
1st sub-pillar: Trust	112	22.42
2nd sub-pillar: Regulation	111	47.95
3rd sub-pillar: Inclusion	118	38.05
D. Impact pillar	125	31.57
1st sub-pillar: Economy	129	10.03
2nd sub-pillar: Quality of Life	118	43.75
3rd sub-pillar: SDG Contribution	126	40.93

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	121	26.98	
1st sub-pillar: Access	113	44.34	
1.1.1 Mobile tariffs	121	24.02	
1.1.2 Handset prices	119	29.11	
1.1.3 FTTH/building Internet subscriptions	81	13.58	
1.1.4 Population covered by at least a 3G mobile network	109	94.53	
1.1.5 International Internet bandwidth	109	60.48	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	114	21.47	
1.2.1 GitHub commits	125	0.16	
1.2.2 Internet domain registrations	118	0.17	
1.2.3 Mobile apps development	124	42.29	
1.2.4 AI scientific publications	62	43.25	•
3rd sub-pillar: Future Technologies	125	15.13	
1.3.1 Adoption of emerging technologies	118	17.19	
1.3.2 Investment in emerging technologies	107	26.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	110	2.20	

Indicator	Rank	Score	
C. Governance pillar	120	36.14	
1st sub-pillar: Trust	112	22.42	
3.1.1 Secure Internet servers	117	26.87	
3.1.2 Cybersecurity	112	22.85	
3.1.3 Online access to financial account	53	34.30	•
3.1.4 Internet shopping	94	5.67	
2nd sub-pillar: Regulation	111	47.95	
3.2.1 Regulatory quality	109	22.67	
3.2.2 ICT regulatory environment	109	62.55	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	118	33.33	
3.2.5 Privacy protection by law content	44	73.25	•
3rd sub-pillar: Inclusion	118	38.05	
3.3.1 E-Participation	94	50.62	•
3.3.2 Socioeconomic gap in use of digital payments	115	38.26	
3.3.3 Availability of local online content	126	18.27	
3.3.4 Gender gap in Internet use	99	17.48	
3.3.5 Rural gap in use of digital payments	60	65.60	•

Indicator	Rank	Score	
B. People pillar	128	18.04	
1st sub-pillar: Individuals	128	12.87	
2.1.1 Mobile broadband internet traffic within the country	103	1.20	
2.1.2 ICT skills in the education system	128	4.14	○
2.1.3 Use of virtual social networks	123	5.84	
2.1.4 Tertiary enrollment	115	3.81	
2.1.5 Adult literacy rate	97	49.37	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	126	19.34	
2.2.1 Firms with website	88	35.58	●
2.2.2 GERD financed by business enterprise	100	0.53	
2.2.3 Knowledge intensive employment	124	2.51	
2.2.4 Annual investment in telecommunication services	111	58.06	○
2.2.5 GERD performed by business enterprise	91	0.03	
3rd sub-pillar: Governments	115	21.91	
2.3.1 Government online services	99	50.30	
2.3.2 Publication and use of open data	100	2.94	
2.3.3 Government promotion of investment in emerging tech	115	12.83	
2.3.4 R&D expenditure by governments and higher education	68	21.56	●

Indicator	Rank	Score	
D. Impact pillar	125	31.57	
1st sub-pillar: Economy	129	10.03	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	119	0.78	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	108	36.20	
4.1.5 Prevalence of gig economy	121	5.52	
4.1.6 ICT services exports	110	7.63	
2nd sub-pillar: Quality of Life	118	43.75	
4.2.1 Happiness	87	53.42	●
4.2.2 Freedom to make life choices	47	78.50	●
4.2.3 Income inequality	112	22.61	
4.2.4 Healthy life expectancy at birth	128	20.48	○
3rd sub-pillar: SDG Contribution	126	40.93	
4.3.1 SDG 3: Good Health and Well-Being	114	30.43	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	65	75.44	●
4.3.4 SDG 7: Affordable and Clean Energy	128	11.36	○
4.3.5 SDG 11: Sustainable Cities and Communities	97	46.50	

NOTE: ● a strength and ○ a weakness.

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Network Readiness Index 2022 Namibia

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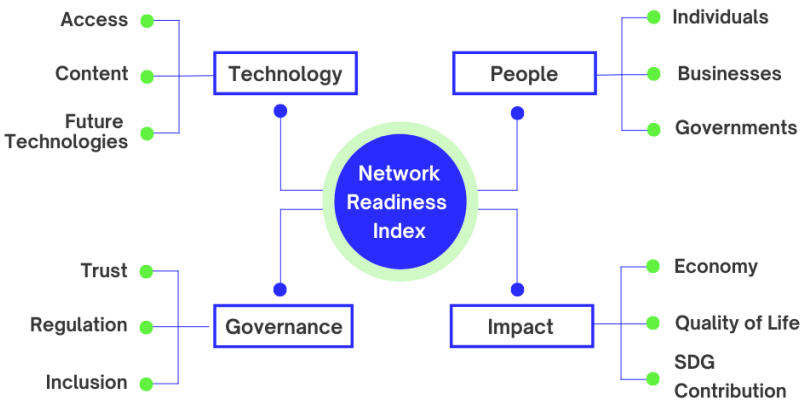
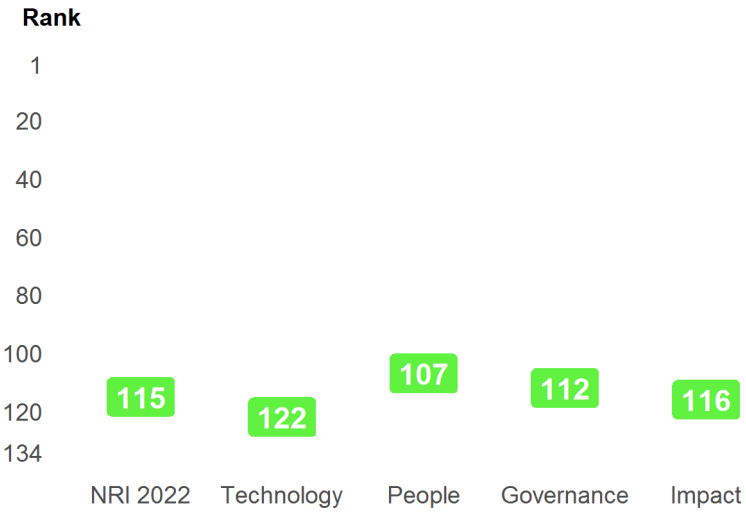
Figure 1: The NRI 2022 model



Global NRI position of Namibia

Namibia ranks 115th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Namibia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Namibia relate to SDG Contribution, Future Technologies and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Quality of Life and Content sub-pillars.

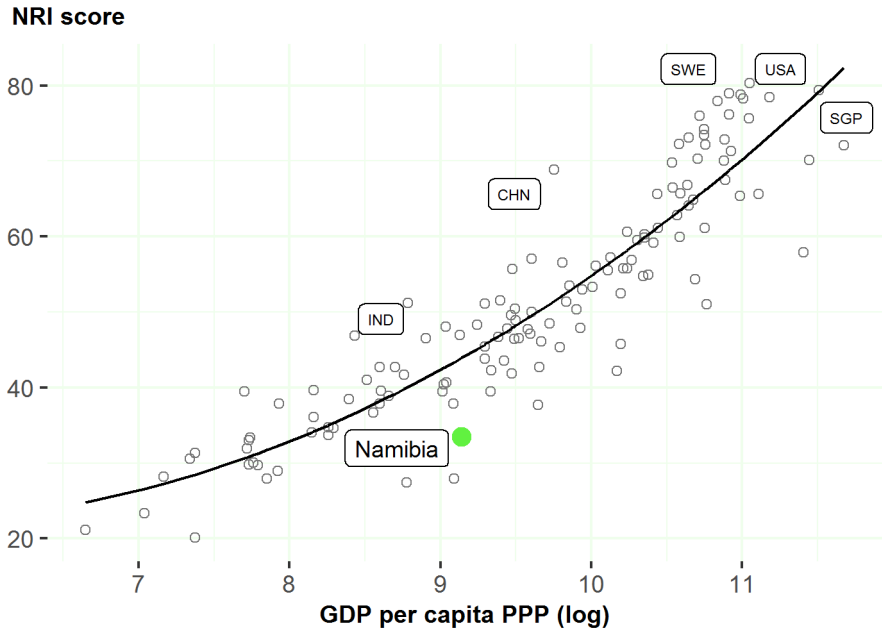
Table 1: Namibia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	66	Businesses	107
Future Technologies	71	Access	109
Governments	100	Economy	109
Trust	102	Regulation	120
Inclusion	102	Quality of Life	127
Individuals	107	Content	131

NRI score and income

Figure 3 shows the position of Namibia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Namibia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Namibia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Upper-middle-income countries

Namibia is ranked 32nd in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails upper-middle-income countries in all of them.

Africa

Namibia is ranked 15th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: people and impact. With regard to sub-pillars, it outperforms the average in Africa in seven of the twelve sub-pillars: Access, Future Technologies, Individuals, Governments, Trust, Inclusion and SDG Contribution.

Figure 4: Performance of Namibia against its income group and region, overall and by pillar

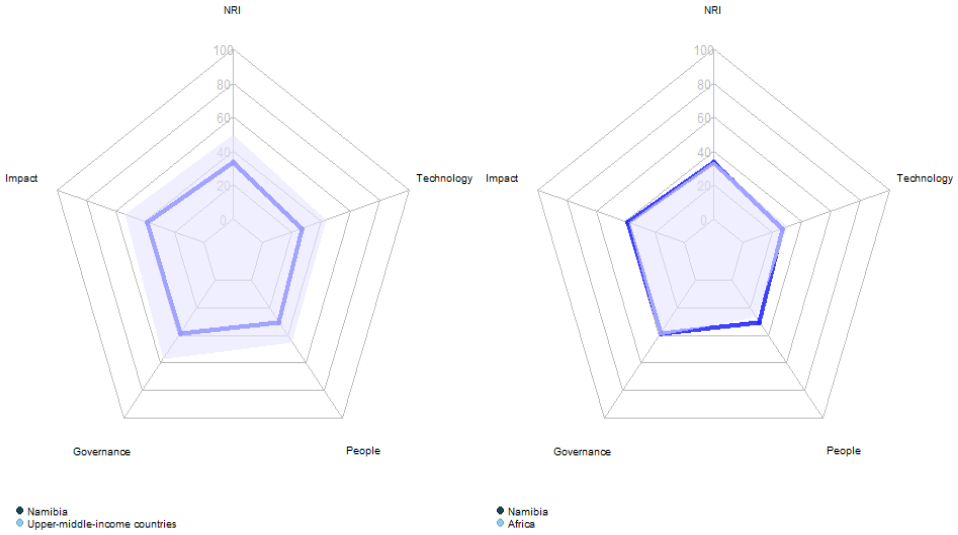


Table 2: Namibia scores vs. averages of its income group and region, overall and by pillar

Dimension	Namibia	Upper-middle-income countries	Africa
NRI	33.45	49.66	33.77
Technology	26.61	43.11	29.96
People	30.19	44.94	26.81
Governance	38.46	57.08	40.37
Impact	38.54	53.50	37.94

Strongest and weakest indicators

The indicators where Namibia performs particularly well include 3.1.3 Online access to financial account, 4.1.3 PCT patent applications, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 1.2.3 Mobile apps development, 3.2.4 E-commerce legislation, 2.1.1 Mobile broadband internet traffic within the country, and 4.2.3 Income inequality.

Table 3: Strongest and weakest indicators of Namibia

Strongest indicators	Rank	Weakest indicators	Rank
3.1.3 Online access to financial account	35	1.1.3 FTTH/building Internet subscriptions	103
4.1.3 PCT patent applications	35	2.1.1 Mobile broadband internet traffic within the country	116
4.3.3 SDG 5: Women's economic opportunity	49	4.2.3 Income inequality	116
1.2.2 Internet domain registrations	53	3.2.4 E-commerce legislation	126
4.3.4 SDG 7: Affordable and Clean Energy	58	1.2.3 Mobile apps development	131
2.1.5 Adult literacy rate	62		
2.3.4 R&D expenditure by governments and higher education	64		
1.3.1 Adoption of emerging technologies	71		
4.1.5 Prevalence of gig economy	71		
3.2.1 Regulatory quality	79		

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NRI 2022 At-A-Glance: Namibia

Network Readiness Index Rank: 115 (out of 131) Score: 33.45

Pillar/sub-pillar	Rank	Score
A. Technology pillar	122	26.61
1st sub-pillar: Access	109	46.56
2nd sub-pillar: Content	131	3.16
3rd sub-pillar: Future Technologies	71	30.11
B. People pillar	107	30.19
1st sub-pillar: Individuals	107	32.04
2nd sub-pillar: Businesses	107	29.00
3rd sub-pillar: Governments	100	29.52

Pillar/sub-pillar	Rank	Score
C. Governance pillar	112	38.46
1st sub-pillar: Trust	102	28.65
2nd sub-pillar: Regulation	120	37.72
3rd sub-pillar: Inclusion	102	49.00
D. Impact pillar	116	38.54
1st sub-pillar: Economy	109	17.64
2nd sub-pillar: Quality of Life	127	34.66
3rd sub-pillar: SDG Contribution	66	63.33

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	122	26.61	
1st sub-pillar: Access	109	46.56	
1.1.1 Mobile tariffs	100	39.96	
1.1.2 Handset prices	82	45.02	
1.1.3 FTTH/building Internet subscriptions	103	2.41	○
1.1.4 Population covered by at least a 3G mobile network	105	96.13	
1.1.5 International Internet bandwidth	125	49.27	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	131	3.16	
1.2.1 GitHub commits	NA	NA	
1.2.2 Internet domain registrations	53	6.32	●
1.2.3 Mobile apps development	131	0.00	○
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	71	30.11	
1.3.1 Adoption of emerging technologies	71	44.52	●
1.3.2 Investment in emerging technologies	83	34.75	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	83	11.06	
B. People pillar	107	30.19	

Indicator	Rank	Score	
C. Governance pillar	112	38.46	
1st sub-pillar: Trust	102	28.65	
3.1.1 Secure Internet servers	89	42.82	
3.1.2 Cybersecurity	125	9.91	
3.1.3 Online access to financial account	35	48.77	●
3.1.4 Internet shopping	78	13.10	
2nd sub-pillar: Regulation	120	37.72	
3.2.1 Regulatory quality	79	38.13	●
3.2.2 ICT regulatory environment	87	72.55	
3.2.3 Regulation of emerging technologies	84	31.58	
3.2.4 E-commerce legislation	126	0.00	○
3.2.5 Privacy protection by law content	106	46.33	
3rd sub-pillar: Inclusion	102	49.00	
3.3.1 E-Participation	99	48.15	
3.3.2 Socioeconomic gap in use of digital payments	92	53.45	
3.3.3 Availability of local online content	103	37.74	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	77	56.68	
D. Impact pillar	116	38.54	

Indicator	Rank	Score	
1st sub-pillar: Individuals	107	32.04	
2.1.1 Mobile broadband internet traffic within the country	116	0.18	○
2.1.2 ICT skills in the education system	107	26.92	
2.1.3 Use of virtual social networks	103	28.72	
2.1.4 Tertiary enrollment	90	15.24	
2.1.5 Adult literacy rate	62	89.12	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	107	29.00	
2.2.1 Firms with website	89	34.54	
2.2.2 GERD financed by business enterprise	74	13.68	
2.2.3 Knowledge intensive employment	82	25.72	
2.2.4 Annual investment in telecommunication services	102	70.02	
2.2.5 GERD performed by business enterprise	75	1.05	
3rd sub-pillar: Governments	100	29.52	
2.3.1 Government online services	96	50.91	
2.3.2 Publication and use of open data	91	8.82	
2.3.3 Government promotion of investment in emerging tech	77	33.66	
2.3.4 R&D expenditure by governments and higher education	64	24.71	●

Indicator	Rank	Score	
1st sub-pillar: Economy	109	17.64	
4.1.1 High-tech and medium-high-tech manufacturing	97	3.57	
4.1.2 High-tech exports	79	13.65	
4.1.3 PCT patent applications	35	13.88	●
4.1.4 Domestic market size	123	30.38	
4.1.5 Prevalence of gig economy	71	37.50	●
4.1.6 ICT services exports	115	6.84	
2nd sub-pillar: Quality of Life	127	34.66	
4.2.1 Happiness	103	41.18	
4.2.2 Freedom to make life choices	116	48.08	
4.2.3 Income inequality	116	9.80	○
4.2.4 Healthy life expectancy at birth	113	39.57	
3rd sub-pillar: SDG Contribution	66	63.33	
4.3.1 SDG 3: Good Health and Well-Being	92	54.58	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	49	80.70	●
4.3.4 SDG 7: Affordable and Clean Energy	58	81.62	●
4.3.5 SDG 11: Sustainable Cities and Communities	113	36.42	

NOTE: ● a strength and ○ a weakness.

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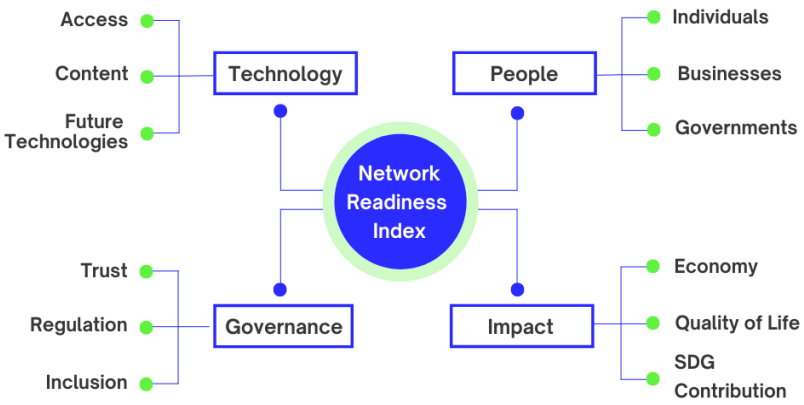
Network Readiness Index 2022 Nepal

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

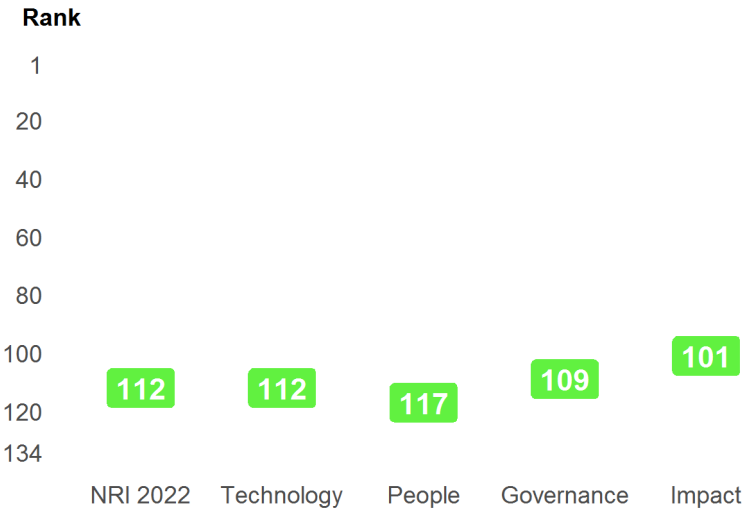
Figure 1: The NRI 2022 model



Global NRI position of Nepal

Nepal ranks 112th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Nepal global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Nepal relate to Content, Quality of Life and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Access and Businesses sub-pillars.

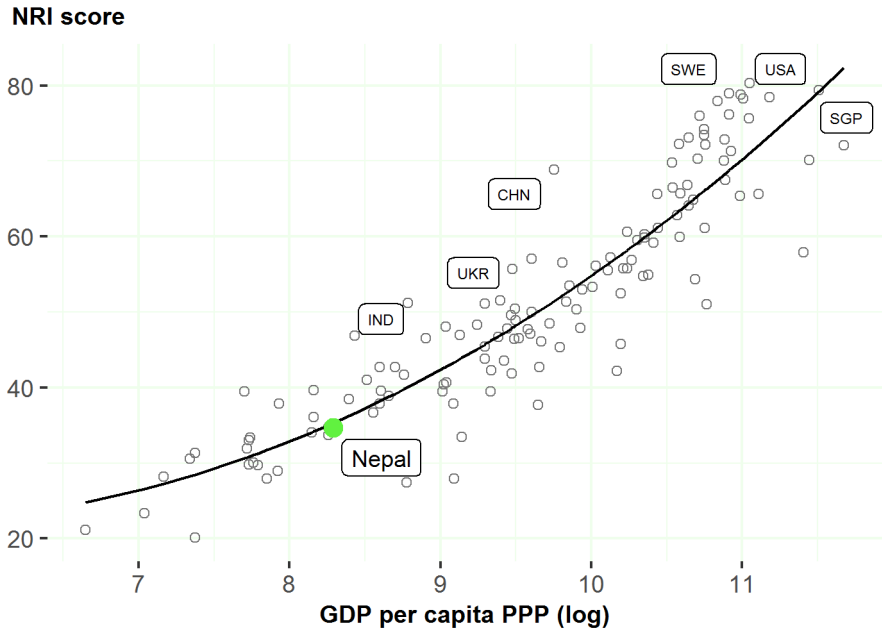
Table 1: Nepal rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	88	Inclusion	109
Quality of Life	93	Individuals	111
SDG Contribution	94	Future Technologies	115
Economy	99	Regulation	115
Trust	107	Access	121
Governments	108	Businesses	127

NRI score and income

Figure 3 shows the position of Nepal in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Nepal is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Nepal belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Nepal is ranked 31st in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in two of the twelve sub-pillars: Content and Quality of Life.

Asia & Pacific

Nepal is ranked 21st within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Nepal against its income group and region, overall and by pillar

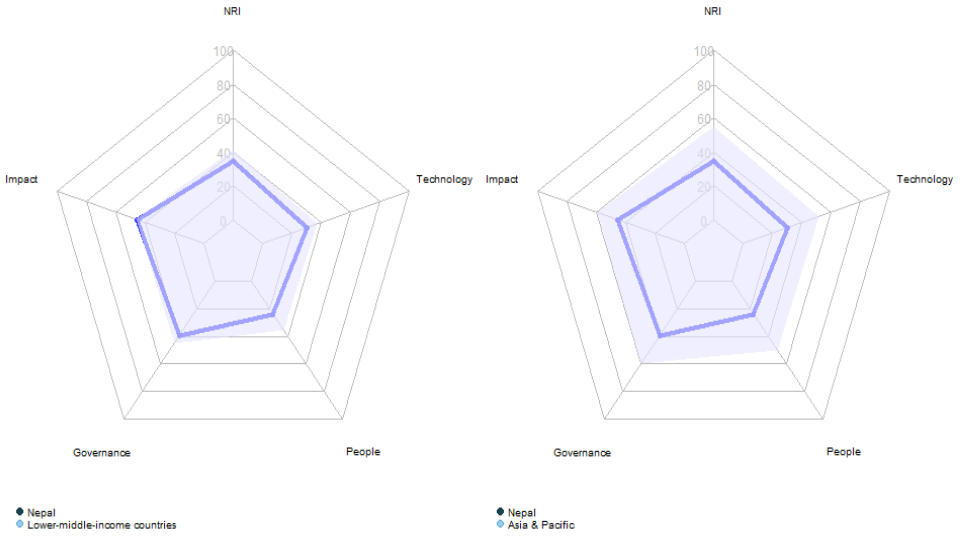


Table 2: Nepal scores vs. averages of its income group and region, overall and by pillar

Dimension	Nepal	Lower-middle-income countries	Asia & Pacific
NRI	34.66	40.94	55.18
Technology	30.36	37.28	51.78
People	23.97	35.42	50.21
Governance	39.15	45.00	59.66
Impact	45.16	46.09	59.07

Strongest and weakest indicators

The indicators where Nepal performs particularly well include 3.2.4 E-commerce legislation, 4.1.6 ICT services exports, and 1.2.4 AI scientific publications (Table 3). By contrast, the economy's weakest indicators include 1.1.2 Handset prices, 1.1.4 Population covered by at least a 3G mobile network, 3.1.3 Online access to financial account, and 4.1.2 High-tech exports.

Table 3: Strongest and weakest indicators of Nepal

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.2.3 Regulation of emerging technologies	114
4.1.6 ICT services exports	54	3.1.3 Online access to financial account	116
1.2.4 AI scientific publications	57	4.1.2 High-tech exports	116
4.2.2 Freedom to make life choices	61	1.1.4 Population covered by at least a 3G mobile network	124
3.3.5 Rural gap in use of digital payments	66	1.1.2 Handset prices	127
4.3.3 SDG 5: Women's economic opportunity	74		
4.1.4 Domestic market size	77		
1.2.1 GitHub commits	80		
1.2.3 Mobile apps development	85		
3.1.1 Secure Internet servers	91		

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NRI 2022 At-A-Glance: Nepal

Network Readiness Index Rank: 112 (out of 131) Score: 34.66

Pillar/sub-pillar	Rank	Score
A. Technology pillar	112	30.36
1st sub-pillar: Access	121	42.01
2nd sub-pillar: Content	88	30.65
3rd sub-pillar: Future Technologies	115	18.43
B. People pillar	117	23.97
1st sub-pillar: Individuals	111	27.84
2nd sub-pillar: Businesses	127	18.50
3rd sub-pillar: Governments	108	25.56

Pillar/sub-pillar	Rank	Score
C. Governance pillar	109	39.15
1st sub-pillar: Trust	107	24.51
2nd sub-pillar: Regulation	115	46.94
3rd sub-pillar: Inclusion	109	46.01
D. Impact pillar	101	45.16
1st sub-pillar: Economy	99	22.08
2nd sub-pillar: Quality of Life	93	58.60
3rd sub-pillar: SDG Contribution	94	54.81

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	112	30.36	
1st sub-pillar: Access	121	42.01	
1.1.1 Mobile tariffs	94	44.09	
1.1.2 Handset prices	127	17.15	○
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	124	75.16	○
1.1.5 International Internet bandwidth	93	64.52	
1.1.6 Internet access in schools	68	9.13	
2nd sub-pillar: Content	88	30.65	
1.2.1 GitHub commits	80	3.29	●
1.2.2 Internet domain registrations	96	1.00	
1.2.3 Mobile apps development	85	71.55	●
1.2.4 AI scientific publications	57	46.77	●
3rd sub-pillar: Future Technologies	115	18.43	
1.3.1 Adoption of emerging technologies	107	27.45	
1.3.2 Investment in emerging technologies	106	26.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	114	1.59	

Indicator	Rank	Score	
C. Governance pillar	109	39.15	
1st sub-pillar: Trust	107	24.51	
3.1.1 Secure Internet servers	91	42.63	●
3.1.2 Cybersecurity	97	44.02	
3.1.3 Online access to financial account	116	6.34	○
3.1.4 Internet shopping	97	5.06	
2nd sub-pillar: Regulation	115	46.94	
3.2.1 Regulatory quality	112	22.40	
3.2.2 ICT regulatory environment	118	57.65	
3.2.3 Regulation of emerging technologies	114	4.47	○
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	97	50.19	
3rd sub-pillar: Inclusion	109	46.01	
3.3.1 E-Participation	113	34.56	
3.3.2 Socioeconomic gap in use of digital payments	94	52.44	
3.3.3 Availability of local online content	108	34.38	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	66	62.65	●

Indicator	Rank	Score	Indicator	Rank	Score	
B. People pillar	117	23.97	**D. Impact pillar**	101	45.16	
1st sub-pillar: Individuals	111	27.84	*1st sub-pillar: Economy*	99	22.08	
2.1.1 Mobile broadband internet traffic within the country	111	0.45	4.1.1 High-tech and medium-high-tech manufacturing	94	6.47	
2.1.2 ICT skills in the education system	100	30.77	4.1.2 High-tech exports	116	1.48	○
2.1.3 Use of virtual social networks	99	41.29	4.1.3 PCT patent applications	NA	NA	
2.1.4 Tertiary enrollment	103	7.99	4.1.4 Domestic market size	77	46.94	●
2.1.5 Adult literacy rate	93	58.71	4.1.5 Prevalence of gig economy	107	22.09	
2.1.6 AI talent concentration	NA	NA	4.1.6 ICT services exports	54	33.41	●
2nd sub-pillar: Businesses	127	18.50	*2nd sub-pillar: Quality of Life*	93	58.60	
2.2.1 Firms with website	105	19.18	4.2.1 Happiness	98	43.51	
2.2.2 GERD financed by business enterprise	NA	NA	4.2.2 Freedom to make life choices	61	75.02	●
2.2.3 Knowledge intensive employment	98	17.82	4.2.3 Income inequality	NA	NA	
2.2.4 Annual investment in telecommunication services	NA	NA	4.2.4 Healthy life expectancy at birth	97	57.28	
2.2.5 GERD performed by business enterprise	NA	NA	*3rd sub-pillar: SDG Contribution*	94	54.81	
3rd sub-pillar: Governments	108	25.56	4.3.1 SDG 3: Good Health and Well-Being	106	40.67	
2.3.1 Government online services	114	38.18	4.3.2 SDG 4: Quality Education	NA	NA	
2.3.2 Publication and use of open data	80	14.71	4.3.3 SDG 5: Women's economic opportunity	74	72.81	●
2.3.3 Government promotion of investment in emerging tech	101	23.80	4.3.4 SDG 7: Affordable and Clean Energy	99	67.34	
2.3.4 R&D expenditure by governments and higher education	NA	NA	4.3.5 SDG 11: Sustainable Cities and Communities	110	38.42	

NOTE: ● a strength and ○ a weakness.

Sources

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Network Readiness Index 2022 Netherlands

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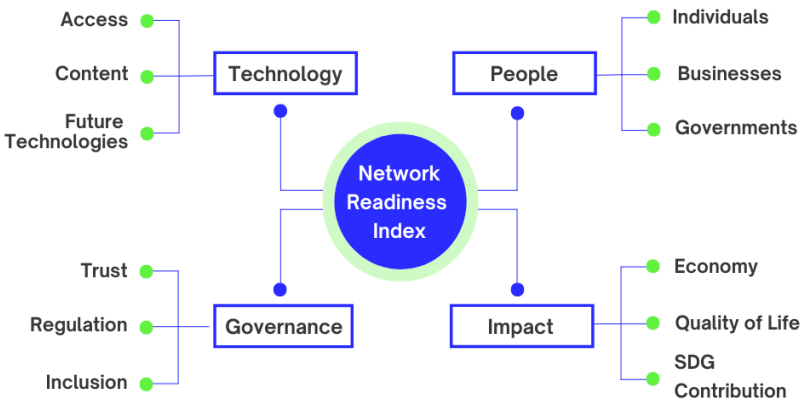
Figure 1: The NRI 2022 model



Global NRI position of Netherlands

Netherlands ranks 4th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Netherlands global ranking, overall and by pillar

Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Netherlands relate to Content, Trust and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Access and Individuals sub-pillars.

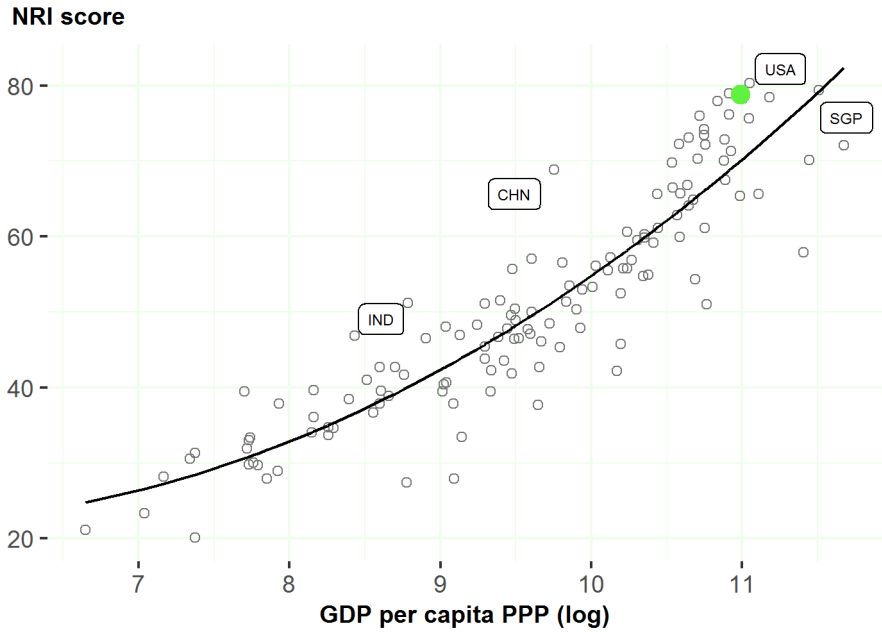
Table 1: Netherlands rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	3	SDG Contribution	9
Trust	3	Businesses	10
Inclusion	4	Quality of Life	11
Regulation	5	Governments	15
Economy	5	Access	18
Future Technologies	6	Individuals	62

NRI score and income

Figure 3 shows the position of Netherlands in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Netherlands is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Netherlands belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Netherlands is ranked 4th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Netherlands is ranked 2nd within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Netherlands against its income group and region, overall and by pillar

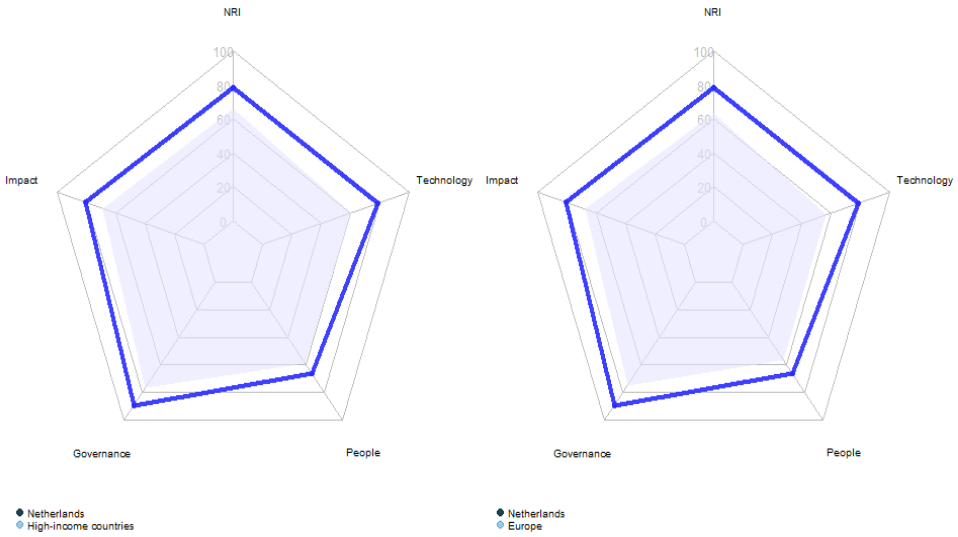


Table 2: Netherlands scores vs. averages of its income group and region, overall and by pillar

Dimension	Netherlands	High-income countries	Europe
NRI	78.82	66.21	63.72
Technology	78.36	60.28	56.43
People	66.53	58.83	56.35
Governance	89.60	76.89	74.79
Impact	80.77	68.86	67.30

Strongest and weakest indicators

The indicators where Netherlands performs particularly well include 1.1.6 Internet access in schools, 1.2.2 Internet domain registrations, and 1.2.3 Mobile apps development (Table 3). By contrast, the economy's weakest indicators include 3.3.4 Gender gap in Internet use, 1.1.4 Population covered by at least a 3G mobile network, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Strongest and weakest indicators of Netherlands

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.6 AI talent concentration	30
1.2.2 Internet domain registrations	1	1.1.3 FTTH/building Internet subscriptions	45
1.2.3 Mobile apps development	1	1.1.4 Population covered by at least a 3G mobile network	55
1.3.1 Adoption of emerging technologies	1	3.3.4 Gender gap in Internet use	71
3.2.4 E-commerce legislation	1		
2.2.1 Firms with website	3		
3.1.1 Secure Internet servers	3		
3.3.3 Availability of local online content	3		
4.1.5 Prevalence of gig economy	3		
1.3.2 Investment in emerging technologies	5		
2.2.3 Knowledge intensive employment	5		
3.1.3 Online access to financial account	5		
3.1.4 Internet shopping	7		

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NRI 2022 At-A-Glance: Netherlands

Network Readiness Index

Rank: 4 (out of 131) Score: 78.82

Pillar/sub-pillar	Rank	Score
A. Technology pillar	3	78.36
1st sub-pillar: Access	18	77.35
2nd sub-pillar: Content	3	89.83
3rd sub-pillar: Future Technologies	6	67.90
B. People pillar	14	66.53
1st sub-pillar: Individuals	62	49.92
2nd sub-pillar: Businesses	10	74.96
3rd sub-pillar: Governments	15	74.73

Pillar/sub-pillar	Rank	Score
C. Governance pillar	4	89.60
1st sub-pillar: Trust	3	91.92
2nd sub-pillar: Regulation	5	90.28
3rd sub-pillar: Inclusion	4	86.60
D. Impact pillar	4	80.77
1st sub-pillar: Economy	5	67.25
2nd sub-pillar: Quality of Life	11	87.26
3rd sub-pillar: SDG Contribution	9	87.79

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	3	78.36	
1st sub-pillar: Access	18	77.35	
1.1.1 Mobile tariffs	29	77.62	
1.1.2 Handset prices	22	76.39	
1.1.3 FTTH/building Internet subscriptions	45	32.95	○
1.1.4 Population covered by at least a 3G mobile network	55	99.68	○
1.1.5 International Internet bandwidth	32	77.47	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	3	89.83	
1.2.1 GitHub commits	10	69.50	
1.2.2 Internet domain registrations	1	100.00	●
1.2.3 Mobile apps development	1	100.00	●
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	6	67.90	
1.3.1 Adoption of emerging technologies	1	100.00	●
1.3.2 Investment in emerging technologies	5	87.75	●
1.3.3 Robot density	12	33.36	
1.3.4 Computer software spending	12	50.51	
B. People pillar	14	66.53	

Indicator	Rank	Score	
C. Governance pillar	4	89.60	
1st sub-pillar: Trust	3	91.92	
3.1.1 Secure Internet servers	3	94.37	●
3.1.2 Cybersecurity	22	97.00	
3.1.3 Online access to financial account	5	89.01	●
3.1.4 Internet shopping	7	87.28	●
2nd sub-pillar: Regulation	5	90.28	
3.2.1 Regulatory quality	8	87.73	
3.2.2 ICT regulatory environment	20	93.53	
3.2.3 Regulation of emerging technologies	11	81.32	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	12	88.81	
3rd sub-pillar: Inclusion	4	86.60	
3.3.1 E-Participation	9	96.30	
3.3.2 Socioeconomic gap in use of digital payments	18	96.46	
3.3.3 Availability of local online content	3	97.12	●
3.3.4 Gender gap in Internet use	71	67.29	○
3.3.5 Rural gap in use of digital payments	21	75.85	
D. Impact pillar	4	80.77	

Indicator	Rank	Score	
1st sub-pillar: Individuals	62	49.92	
2.1.1 Mobile broadband internet traffic within the country	47	14.97	
2.1.2 ICT skills in the education system	15	78.70	
2.1.3 Use of virtual social networks	11	85.10	
2.1.4 Tertiary enrollment	13	58.15	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	30	12.67	○
2nd sub-pillar: Businesses	10	74.96	
2.2.1 Firms with website	3	95.67	●
2.2.2 GERD financed by business enterprise	16	71.23	
2.2.3 Knowledge intensive employment	5	81.68	●
2.2.4 Annual investment in telecommunication services	18	85.65	
2.2.5 GERD performed by business enterprise	16	40.55	
3rd sub-pillar: Governments	15	74.73	
2.3.1 Government online services	12	90.30	
2.3.2 Publication and use of open data	10	76.47	
2.3.3 Government promotion of investment in emerging tech	21	66.62	
2.3.4 R&D expenditure by governments and higher education	17	65.52	

Indicator	Rank	Score	
1st sub-pillar: Economy	5	67.25	
4.1.1 High-tech and medium-high-tech manufacturing	12	65.77	
4.1.2 High-tech exports	12	68.02	
4.1.3 PCT patent applications	9	67.62	
4.1.4 Domestic market size	26	68.40	
4.1.5 Prevalence of gig economy	3	90.12	●
4.1.6 ICT services exports	28	43.59	
2nd sub-pillar: Quality of Life	11	87.26	
4.2.1 Happiness	9	91.45	
4.2.2 Freedom to make life choices	40	81.58	
4.2.3 Income inequality	17	84.92	
4.2.4 Healthy life expectancy at birth	14	91.09	
3rd sub-pillar: SDG Contribution	9	87.79	
4.3.1 SDG 3: Good Health and Well-Being	9	94.99	
4.3.2 SDG 4: Quality Education	15	69.87	
4.3.3 SDG 5: Women's economic opportunity	11	96.49	
4.3.4 SDG 7: Affordable and Clean Energy	35	85.55	
4.3.5 SDG 11: Sustainable Cities and Communities	17	92.05	

NOTE: ● a strength and ○ a weakness.

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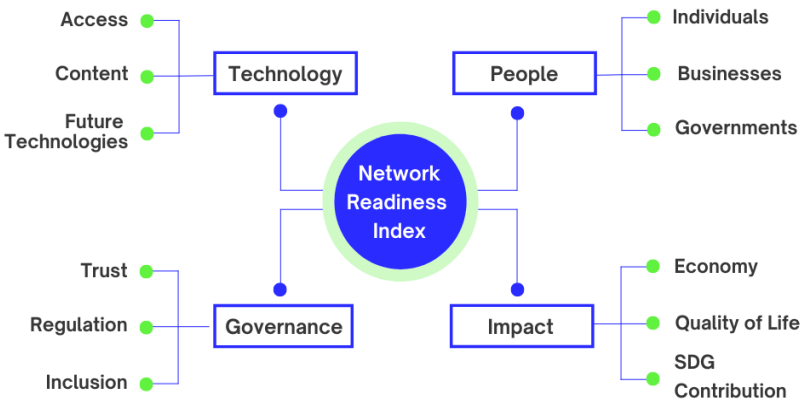
Network Readiness Index 2022 New Zealand

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

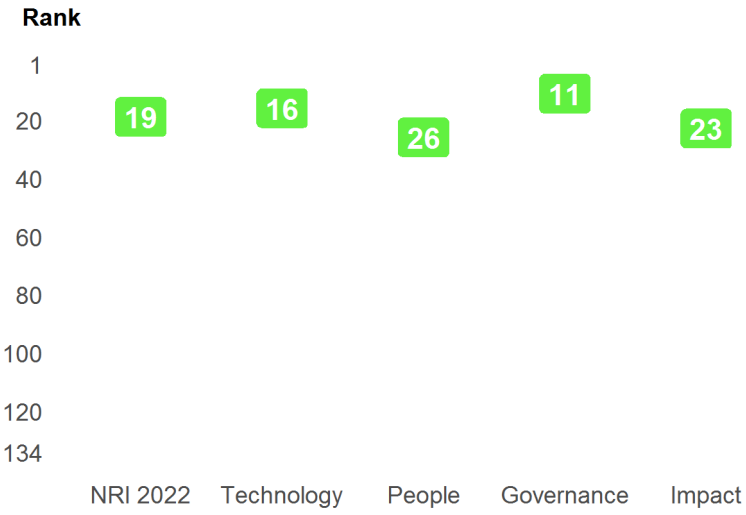
Figure 1: The NRI 2022 model



Global NRI position of New Zealand

New Zealand ranks 19th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: New Zealand global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of New Zealand relate to Access, Inclusion and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Economy and Individuals sub-pillars.

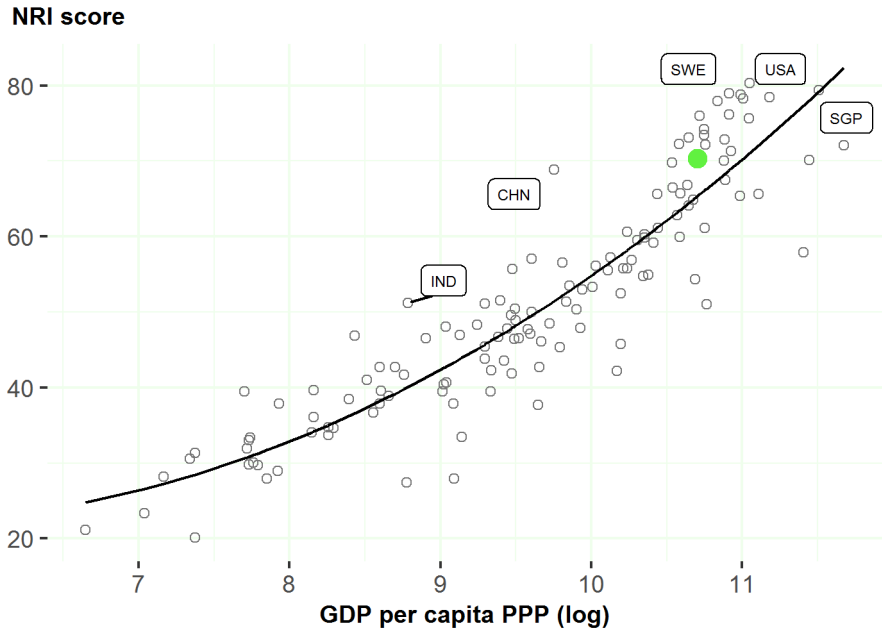
Table 1: New Zealand rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	5	Governments	17
Inclusion	6	Regulation	17
Quality of Life	6	Businesses	25
Trust	10	Future Technologies	35
Content	16	Economy	41
SDG Contribution	16	Individuals	88

NRI score and income

Figure 3 shows the position of New Zealand in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, New Zealand is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. New Zealand belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

New Zealand is ranked 19th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Asia & Pacific

New Zealand is ranked 5th within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of New Zealand against its income group and region, overall and by pillar

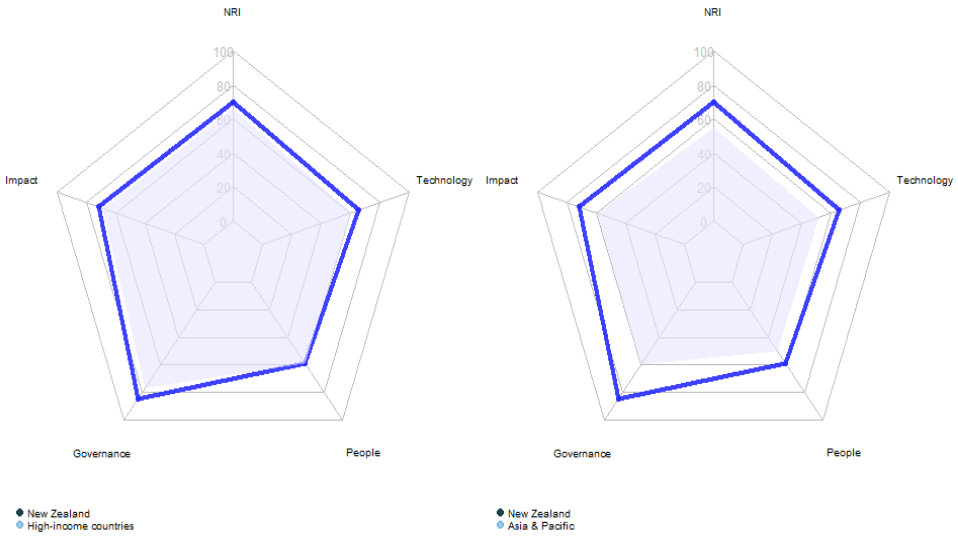


Table 2: New Zealand scores vs. averages of its income group and region, overall and by pillar

Dimension	New Zealand	High-income countries	Asia & Pacific
NRI	70.32	66.21	55.18
Technology	65.43	60.28	51.78
People	59.17	58.83	50.21
Governance	84.78	76.89	59.66
Impact	71.89	68.86	59.07

Strongest and weakest indicators

The indicators where New Zealand performs particularly well include 3.2.4 E-commerce legislation, 3.2.1 Regulatory quality, and 3.3.1 E-Participation (Table 3). By contrast, the economy's weakest indicators include 2.1.1 Mobile broadband internet traffic within the country, 4.3.4 SDG 7: Affordable and Clean Energy, and 4.1.1 High-tech and medium-high-tech manufacturing.

Table 3: Strongest and weakest indicators of New Zealand

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	35
3.2.1 Regulatory quality	2	4.1.1 High-tech and medium-high-tech manufacturing	68
3.3.1 E-Participation	4	4.3.4 SDG 7: Affordable and Clean Energy	72
3.1.3 Online access to financial account	6	2.1.1 Mobile broadband internet traffic within the country	84
3.1.4 Internet shopping	6		
1.1.2 Handset prices	7		
2.3.2 Publication and use of open data	7		
2.3.1 Government online services	10		
4.2.1 Happiness	10		
2.1.3 Use of virtual social networks	14		
4.3.1 SDG 3: Good Health and Well-Being	14		

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NRI 2022 At-A-Glance: New Zealand

Network Readiness Index Rank: 19 (out of 131) Score: 70.32

Pillar/sub-pillar	Rank	Score
A. Technology pillar	16	65.43
1st sub-pillar: Access	5	85.23
2nd sub-pillar: Content	16	66.59
3rd sub-pillar: Future Technologies	35	44.47
B. People pillar	26	59.17
1st sub-pillar: Individuals	88	42.15
2nd sub-pillar: Businesses	25	63.46
3rd sub-pillar: Governments	17	71.91

Pillar/sub-pillar	Rank	Score
C. Governance pillar	11	84.78
1st sub-pillar: Trust	10	84.60
2nd sub-pillar: Regulation	17	83.87
3rd sub-pillar: Inclusion	6	85.86
D. Impact pillar	23	71.89
1st sub-pillar: Economy	41	41.13
2nd sub-pillar: Quality of Life	6	88.69
3rd sub-pillar: SDG Contribution	16	85.84

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	16	65.43	
1st sub-pillar: Access	5	85.23	
1.1.1 Mobile tariffs	30	77.40	
1.1.2 Handset prices	7	94.06	•
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	71	99.43	
1.1.5 International Internet bandwidth	71	70.03	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	16	66.59	
1.2.1 GitHub commits	20	49.56	
1.2.2 Internet domain registrations	18	49.27	
1.2.3 Mobile apps development	24	94.90	
1.2.4 AI scientific publications	24	72.61	
3rd sub-pillar: Future Technologies	35	44.47	
1.3.1 Adoption of emerging technologies	18	77.97	
1.3.2 Investment in emerging technologies	19	68.50	
1.3.3 Robot density	31	8.14	
1.3.4 Computer software spending	51	23.29	

Indicator	Rank	Score	
C. Governance pillar	11	84.78	
1st sub-pillar: Trust	10	84.60	
3.1.1 Secure Internet servers	35	79.23	
3.1.2 Cybersecurity	56	83.76	
3.1.3 Online access to financial account	6	86.73	•
3.1.4 Internet shopping	6	88.68	•
2nd sub-pillar: Regulation	17	83.87	
3.2.1 Regulatory quality	2	91.20	•
3.2.2 ICT regulatory environment	39	87.65	
3.2.3 Regulation of emerging technologies	19	76.05	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	65	64.46	
3rd sub-pillar: Inclusion	6	85.86	
3.3.1 E-Participation	4	98.77	•
3.3.2 Socioeconomic gap in use of digital payments	24	94.64	
3.3.3 Availability of local online content	17	86.54	
3.3.4 Gender gap in Internet use	16	75.43	
3.3.5 Rural gap in use of digital payments	33	73.94	

Indicator	Rank	Score	
B. People pillar	26	59.17	
1st sub-pillar: Individuals	88	42.15	
2.1.1 Mobile broadband internet traffic within the country	84	4.04	○
2.1.2 ICT skills in the education system	39	62.13	
2.1.3 Use of virtual social networks	14	83.64	●
2.1.4 Tertiary enrollment	20	53.53	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	35	7.41	○
2nd sub-pillar: Businesses	25	63.46	
2.2.1 Firms with website	15	84.64	
2.2.2 GERD financed by business enterprise	30	61.76	
2.2.3 Knowledge intensive employment	26	66.25	
2.2.4 Annual investment in telecommunication services	33	82.57	
2.2.5 GERD performed by business enterprise	29	22.09	
3rd sub-pillar: Governments	17	71.91	
2.3.1 Government online services	10	92.73	●
2.3.2 Publication and use of open data	7	88.24	●
2.3.3 Government promotion of investment in emerging tech	36	51.60	
2.3.4 R&D expenditure by governments and higher education	24	55.06	

Indicator	Rank	Score	
D. Impact pillar	23	71.89	
1st sub-pillar: Economy	41	41.13	
4.1.1 High-tech and medium-high-tech manufacturing	68	19.99	○
4.1.2 High-tech exports	54	32.04	
4.1.3 PCT patent applications	20	40.18	
4.1.4 Domestic market size	60	53.37	
4.1.5 Prevalence of gig economy	15	70.35	
4.1.6 ICT services exports	60	30.84	
2nd sub-pillar: Quality of Life	6	88.69	
4.2.1 Happiness	10	88.29	●
4.2.2 Freedom to make life choices	17	90.71	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	27	87.07	
3rd sub-pillar: SDG Contribution	16	85.84	
4.3.1 SDG 3: Good Health and Well-Being	14	93.74	●
4.3.2 SDG 4: Quality Education	13	70.04	
4.3.3 SDG 5: Women's economic opportunity	11	96.49	
4.3.4 SDG 7: Affordable and Clean Energy	72	77.44	○
4.3.5 SDG 11: Sustainable Cities and Communities	20	91.47	

NOTE: ● a strength and ○ a weakness.

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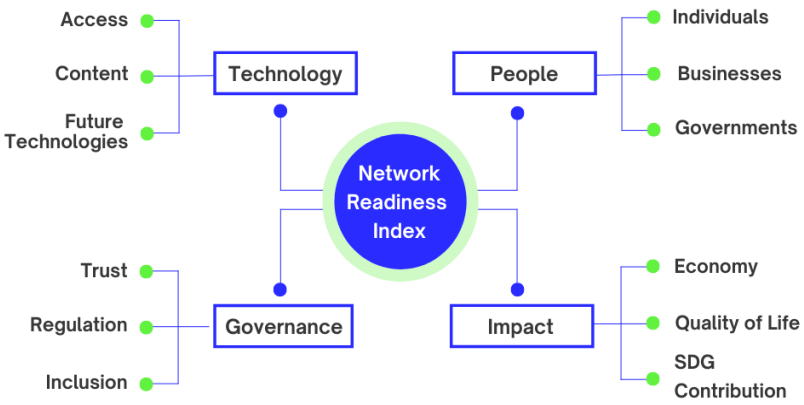
Network Readiness Index 2022 Nigeria

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

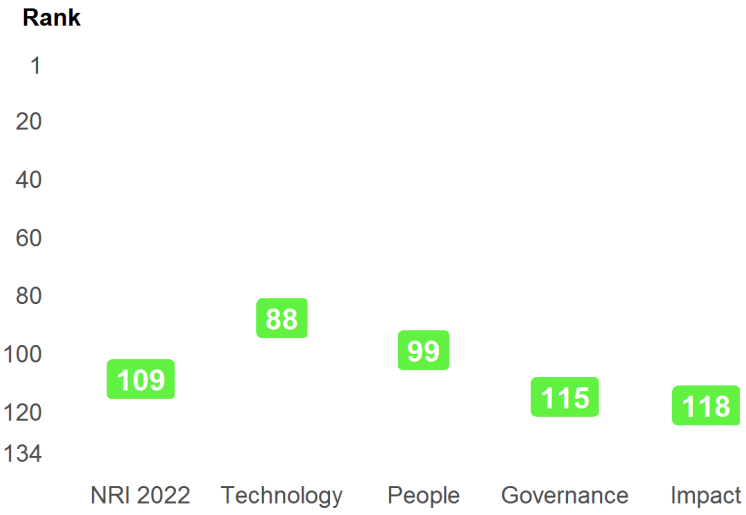
Figure 1: The NRI 2022 model



Global NRI position of Nigeria

Nigeria ranks 109th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Nigeria global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Nigeria relate to Businesses, Trust and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Inclusion and SDG Contribution sub-pillars.

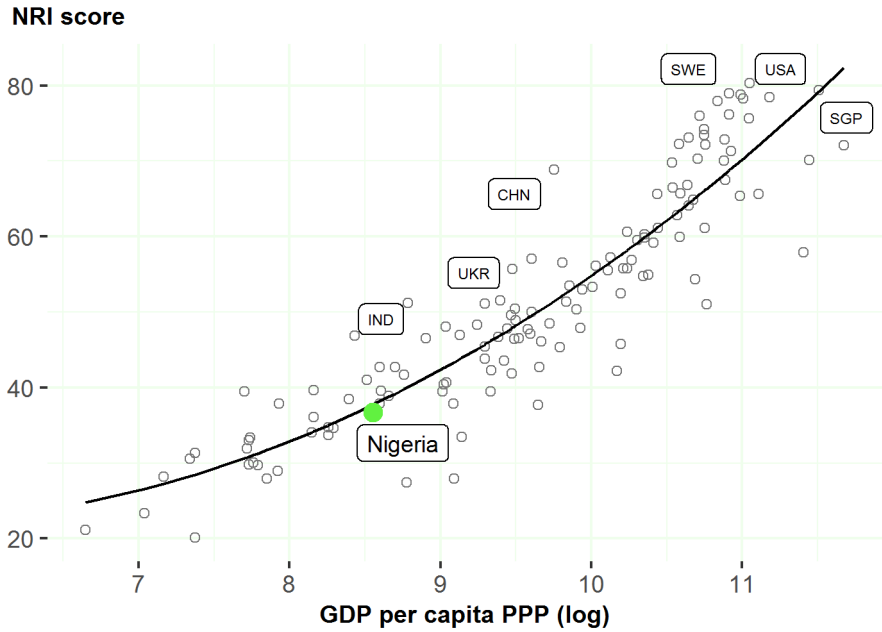
Table 1: Nigeria rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	42	Governments	101
Trust	83	Quality of Life	108
Access	85	Regulation	113
Content	85	Individuals	121
Future Technologies	97	Inclusion	126
Economy	98	SDG Contribution	128

NRI score and income

Figure 3 shows the position of Nigeria in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Nigeria is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Nigeria belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Nigeria is ranked 28th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: technology. At the sub-pillar level, it outperforms lower-middle-income countries in four of the twelve sub-pillars: Access, Content, Businesses and Trust.

Africa

Nigeria is ranked 11th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: nri.score, technology and people. With regard to sub-pillars, it outperforms the average in Africa in eight of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Economy and Quality of Life.

Figure 4: Performance of Nigeria against its income group and region, overall and by pillar

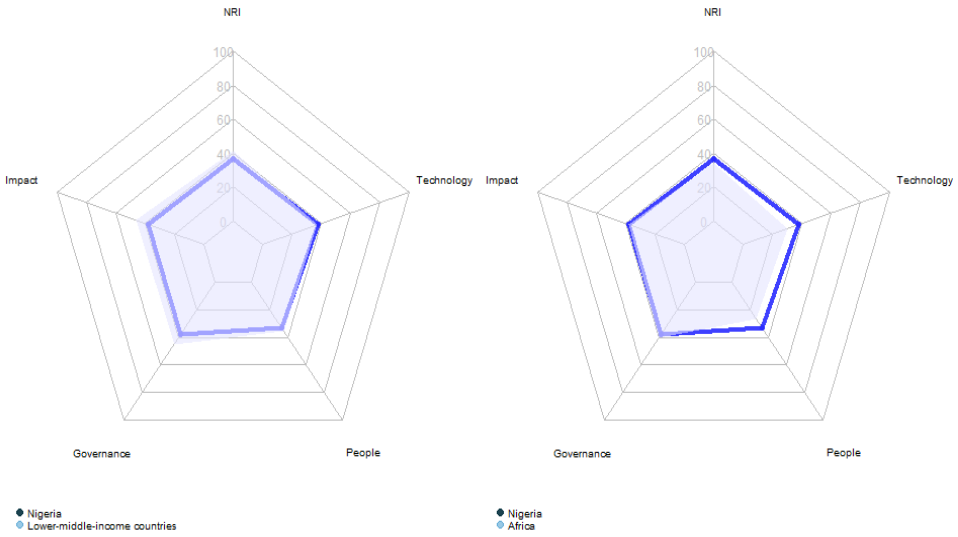


Table 2: Nigeria scores vs. averages of its income group and region, overall and by pillar

Dimension	Nigeria	Lower-middle-income countries	Africa
NRI	36.67	40.94	33.77
Technology	38.08	37.28	29.96
People	33.12	35.42	26.81
Governance	37.88	45.00	40.37
Impact	37.59	46.09	37.94

Strongest and weakest indicators

The indicators where Nigeria performs particularly well include 4.1.4 Domestic market size, 2.2.4 Annual investment in telecommunication services, and 1.2.4 AI scientific publications (Table 3). By contrast, the economy's weakest indicators include 4.3.5 SDG 11: Sustainable Cities and Communities, 3.2.1 Regulatory quality, and 4.2.4 Healthy life expectancy at birth.

Table 3: Strongest and weakest indicators of Nigeria

Strongest indicators	Rank	Weakest indicators	Rank
4.1.4 Domestic market size	25	3.3.2 Socioeconomic gap in use of digital payments	120
2.2.4 Annual investment in telecommunication services	31	3.3.5 Rural gap in use of digital payments	120
1.2.4 AI scientific publications	34	3.2.1 Regulatory quality	122
2.2.3 Knowledge intensive employment	35	4.2.4 Healthy life expectancy at birth	122
4.2.3 Income inequality	54	4.3.5 SDG 11: Sustainable Cities and Communities	128
3.1.2 Cybersecurity	55		
3.2.2 ICT regulatory environment	57		
1.1.5 International Internet bandwidth	60		
1.1.2 Handset prices	67		
1.1.1 Mobile tariffs	76		

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NRI 2022 At-A-Glance: Nigeria

Network Readiness Index Rank: 109 (out of 131) Score: 36.67

Pillar/sub-pillar	Rank	Score
A. Technology pillar	88	38.08
1st sub-pillar: Access	85	57.53
2nd sub-pillar: Content	85	31.17
3rd sub-pillar: Future Technologies	97	25.53
B. People pillar	99	33.12
1st sub-pillar: Individuals	121	18.41
2nd sub-pillar: Businesses	42	52.04
3rd sub-pillar: Governments	101	28.92

Pillar/sub-pillar	Rank	Score
C. Governance pillar	115	37.88
1st sub-pillar: Trust	83	35.61
2nd sub-pillar: Regulation	113	47.40
3rd sub-pillar: Inclusion	126	30.63
D. Impact pillar	118	37.59
1st sub-pillar: Economy	98	22.67
2nd sub-pillar: Quality of Life	108	51.13
3rd sub-pillar: SDG Contribution	128	38.96

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	88	38.08	
1st sub-pillar: Access	85	57.53	
1.1.1 Mobile tariffs	76	51.33	●
1.1.2 Handset prices	67	51.25	●
1.1.3 FTTH/building Internet subscriptions	72	19.18	
1.1.4 Population covered by at least a 3G mobile network	115	94.38	
1.1.5 International Internet bandwidth	60	71.53	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	85	31.17	
1.2.1 GitHub commits	99	1.72	
1.2.2 Internet domain registrations	111	0.36	
1.2.3 Mobile apps development	109	57.73	
1.2.4 AI scientific publications	34	64.85	●
3rd sub-pillar: Future Technologies	97	25.53	
1.3.1 Adoption of emerging technologies	74	43.17	
1.3.2 Investment in emerging technologies	114	22.75	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	84	10.67	

Indicator	Rank	Score	
C. Governance pillar	115	37.88	
1st sub-pillar: Trust	83	35.61	
3.1.1 Secure Internet servers	105	34.34	
3.1.2 Cybersecurity	55	84.49	●
3.1.3 Online access to financial account	78	19.70	
3.1.4 Internet shopping	102	3.92	
2nd sub-pillar: Regulation	113	47.40	
3.2.1 Regulatory quality	122	15.47	○
3.2.2 ICT regulatory environment	57	85.09	●
3.2.3 Regulation of emerging technologies	105	17.63	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	91	52.16	
3rd sub-pillar: Inclusion	126	30.63	
3.3.1 E-Participation	101	46.91	
3.3.2 Socioeconomic gap in use of digital payments	120	33.24	○
3.3.3 Availability of local online content	116	27.40	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	120	14.97	○

Indicator	Rank	Score	
B. People pillar	99	33.12	
1st sub-pillar: Individuals	121	18.41	
2.1.1 Mobile broadband internet traffic within the country	79	5.22	
2.1.2 ICT skills in the education system	118	16.86	
2.1.3 Use of virtual social networks	114	11.78	
2.1.4 Tertiary enrollment	105	7.07	
2.1.5 Adult literacy rate	96	51.12	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	42	52.04	
2.2.1 Firms with website	111	14.79	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	35	58.45	●
2.2.4 Annual investment in telecommunication services	31	82.88	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	101	28.92	
2.3.1 Government online services	99	50.30	
2.3.2 Publication and use of open data	73	19.12	
2.3.3 Government promotion of investment in emerging tech	110	17.34	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	118	37.59	
1st sub-pillar: Economy	98	22.67	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	92	7.41	
4.1.3 PCT patent applications	97	0.18	
4.1.4 Domestic market size	25	68.91	●
4.1.5 Prevalence of gig economy	92	29.65	
4.1.6 ICT services exports	113	7.18	
2nd sub-pillar: Quality of Life	108	51.13	
4.2.1 Happiness	105	40.97	
4.2.2 Freedom to make life choices	95	59.47	
4.2.3 Income inequality	54	70.10	●
4.2.4 Healthy life expectancy at birth	122	34.00	○
3rd sub-pillar: SDG Contribution	128	38.96	
4.3.1 SDG 3: Good Health and Well-Being	119	26.65	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	116	48.25	
4.3.4 SDG 7: Affordable and Clean Energy	110	57.64	
4.3.5 SDG 11: Sustainable Cities and Communities	128	23.29	○

NOTE: ● a strength and ○ a weakness.

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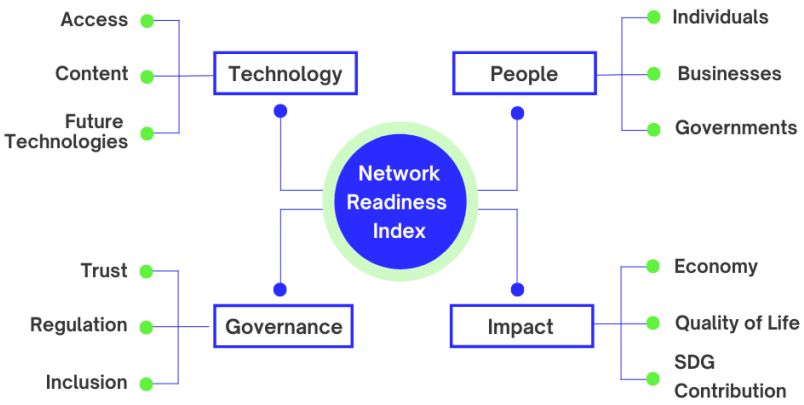
Network Readiness Index 2022 North Macedonia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

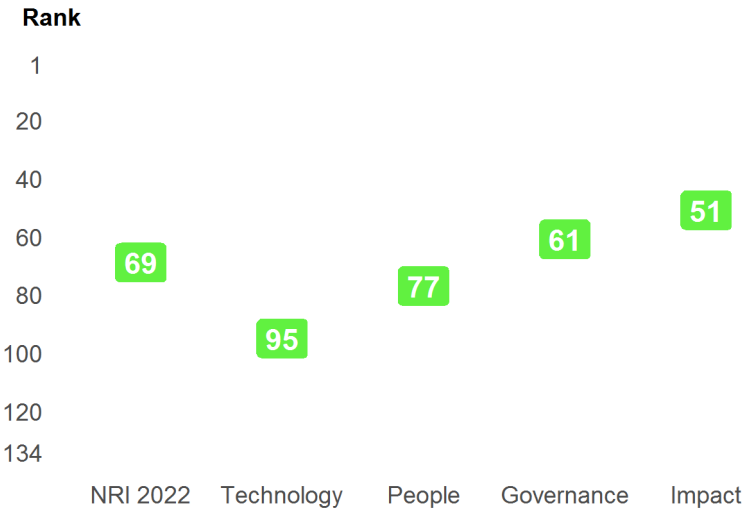
Figure 1: The NRI 2022 model



Global NRI position of North Macedonia

North Macedonia ranks 69th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: North Macedonia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of North Macedonia relate to Quality of Life, Economy and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Access and Future Technologies sub-pillars.

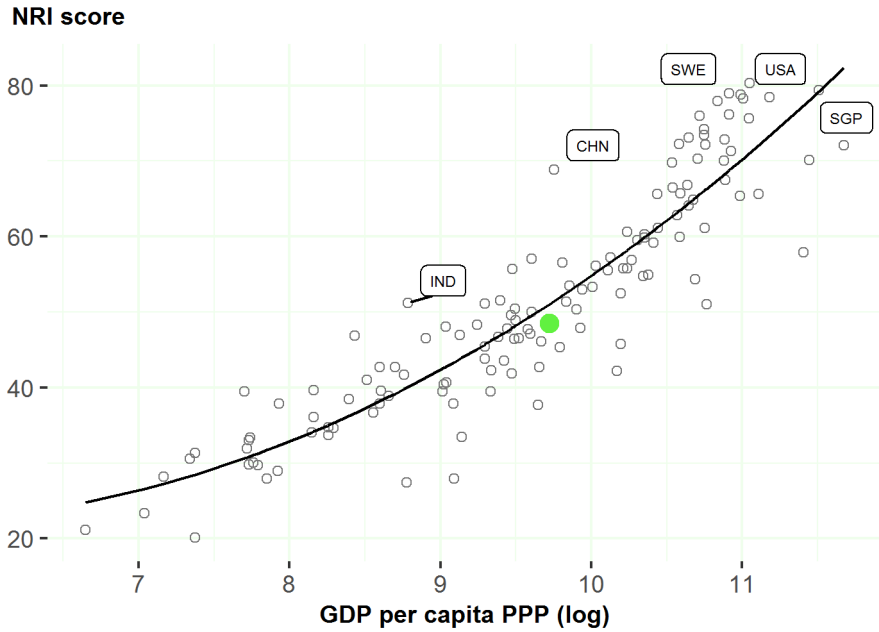
Table 1: North Macedonia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	45	Content	77
Economy	56	Regulation	77
Trust	61	Individuals	79
Inclusion	64	Governments	80
Businesses	68	Access	101
SDG Contribution	69	Future Technologies	106

NRI score and income

Figure 3 shows the position of North Macedonia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, North Macedonia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. North Macedonia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

Upper-middle-income countries

North Macedonia is ranked 18th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: governance and impact. At the sub-pillar level, it outperforms upper-middle-income countries in five of the twelve sub-pillars: Businesses, Trust, Inclusion, Economy and Quality of Life.

Europe

North Macedonia is ranked 38th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of North Macedonia against its income group and region, overall and by pillar

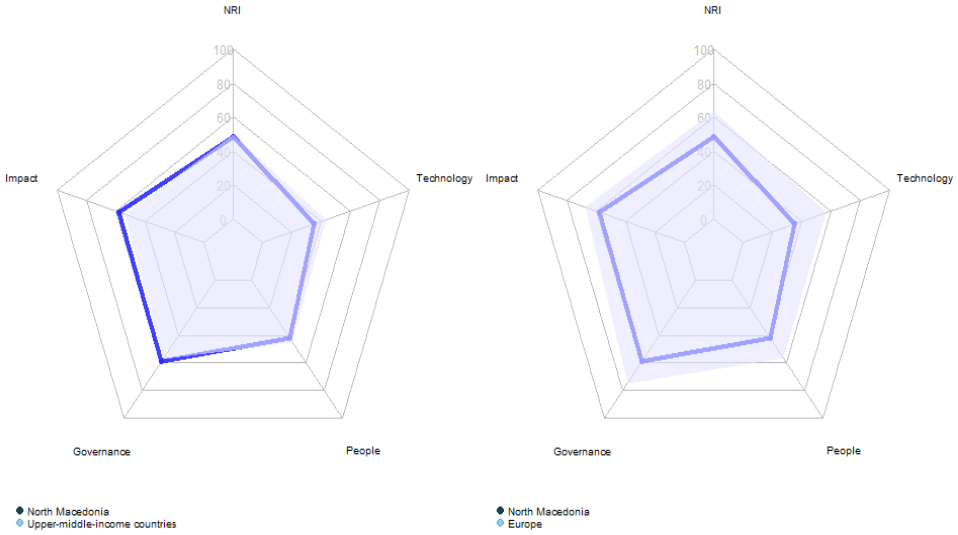


Table 2: North Macedonia scores vs. averages of its income group and region, overall and by pillar

Dimension	North Macedonia	Upper-middle-income countries	Europe
NRI	48.46	49.66	63.72
Technology	35.28	43.11	56.43
People	41.99	44.94	56.35
Governance	58.77	57.08	74.79
Impact	57.79	53.50	67.30

Strongest and weakest indicators

The indicators where North Macedonia performs particularly well include 4.1.1 High-tech and medium-high-tech manufacturing, 2.1.5 Adult literacy rate, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 1.1.5 International Internet bandwidth, and 4.1.4 Domestic market size.

Table 3: Strongest and weakest indicators of North Macedonia

Strongest indicators	Rank	Weakest indicators	Rank
4.1.1 High-tech and medium-high-tech manufacturing	16	3.2.4 E-commerce legislation	87
2.1.5 Adult literacy rate	31	2.2.4 Annual investment in telecommunication services	103
4.1.6 ICT services exports	31	4.1.4 Domestic market size	113
1.1.4 Population covered by at least a 3G mobile network	38	1.1.5 International Internet bandwidth	116
3.3.1 E-Participation	38	1.3.2 Investment in emerging technologies	123
4.2.3 Income inequality	39		
3.2.2 ICT regulatory environment	45		
3.1.2 Cybersecurity	46		
3.2.1 Regulatory quality	46		
2.2.3 Knowledge intensive employment	48		

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NRI 2022 At-A-Glance: North Macedonia

Network Readiness Index Rank: 69 (out of 131) Score: 48.46

Pillar/sub-pillar	Rank	Score
A. Technology pillar	95	35.28
1st sub-pillar: Access	101	51.50
2nd sub-pillar: Content	77	33.23
3rd sub-pillar: Future Technologies	106	21.11
B. People pillar	77	41.99
1st sub-pillar: Individuals	79	44.93
2nd sub-pillar: Businesses	68	42.18
3rd sub-pillar: Governments	80	38.86

Pillar/sub-pillar	Rank	Score
C. Governance pillar	61	58.77
1st sub-pillar: Trust	61	49.28
2nd sub-pillar: Regulation	77	61.02
3rd sub-pillar: Inclusion	64	66.03
D. Impact pillar	51	57.79
1st sub-pillar: Economy	56	36.43
2nd sub-pillar: Quality of Life	45	74.37
3rd sub-pillar: SDG Contribution	69	62.56

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	95	35.28	
1st sub-pillar: Access	101	51.50	
1.1.1 Mobile tariffs	99	40.32	
1.1.2 Handset prices	91	42.09	
1.1.3 FTTH/building Internet subscriptions	77	17.76	
1.1.4 Population covered by at least a 3G mobile network	38	99.95	●
1.1.5 International Internet bandwidth	116	57.37	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	77	33.23	
1.2.1 GitHub commits	52	8.80	
1.2.2 Internet domain registrations	61	4.91	
1.2.3 Mobile apps development	60	81.54	
1.2.4 AI scientific publications	69	37.67	
3rd sub-pillar: Future Technologies	106	21.11	
1.3.1 Adoption of emerging technologies	96	32.55	
1.3.2 Investment in emerging technologies	123	17.50	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	79	13.28	

Indicator	Rank	Score	
C. Governance pillar	61	58.77	
1st sub-pillar: Trust	61	49.28	
3.1.1 Secure Internet servers	63	55.30	
3.1.2 Cybersecurity	46	89.74	●
3.1.3 Online access to financial account	87	16.85	
3.1.4 Internet shopping	52	35.21	
2nd sub-pillar: Regulation	77	61.02	
3.2.1 Regulatory quality	46	54.67	●
3.2.2 ICT regulatory environment	45	87.06	●
3.2.3 Regulation of emerging technologies	88	29.74	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	62	66.96	
3rd sub-pillar: Inclusion	64	66.03	
3.3.1 E-Participation	38	82.71	●
3.3.2 Socioeconomic gap in use of digital payments	69	69.91	
3.3.3 Availability of local online content	80	52.40	
3.3.4 Gender gap in Internet use	73	65.60	
3.3.5 Rural gap in use of digital payments	72	59.52	

Indicator	Rank	Score	
B. People pillar	77	41.99	
1st sub-pillar: Individuals	79	44.93	
2.1.1 Mobile broadband internet traffic within the country	99	1.48	
2.1.2 ICT skills in the education system	83	37.87	
2.1.3 Use of virtual social networks	79	59.88	
2.1.4 Tertiary enrollment	71	28.20	
2.1.5 Adult literacy rate	31	97.20	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	68	42.18	
2.2.1 Firms with website	47	62.38	
2.2.2 GERD financed by business enterprise	63	29.16	
2.2.3 Knowledge intensive employment	48	47.09	●
2.2.4 Annual investment in telecommunication services	103	69.65	○
2.2.5 GERD performed by business enterprise	62	2.62	
3rd sub-pillar: Governments	80	38.86	
2.3.1 Government online services	57	73.34	
2.3.2 Publication and use of open data	49	33.82	
2.3.3 Government promotion of investment in emerging tech	96	27.10	
2.3.4 R&D expenditure by governments and higher education	70	21.16	

Indicator	Rank	Score	
D. Impact pillar	51	57.79	
1st sub-pillar: Economy	56	36.43	
4.1.1 High-tech and medium-high-tech manufacturing	16	61.87	●
4.1.2 High-tech exports	48	35.11	
4.1.3 PCT patent applications	56	6.09	
4.1.4 Domestic market size	113	34.71	○
4.1.5 Prevalence of gig economy	68	38.37	
4.1.6 ICT services exports	31	42.45	●
2nd sub-pillar: Quality of Life	45	74.37	
4.2.1 Happiness	NA	NA	
4.2.2 Freedom to make life choices	NA	NA	
4.2.3 Income inequality	39	75.38	●
4.2.4 Healthy life expectancy at birth	64	73.37	
3rd sub-pillar: SDG Contribution	69	62.56	
4.3.1 SDG 3: Good Health and Well-Being	77	65.76	
4.3.2 SDG 4: Quality Education	66	29.57	
4.3.3 SDG 5: Women's economic opportunity	55	78.95	
4.3.4 SDG 7: Affordable and Clean Energy	51	82.71	
4.3.5 SDG 11: Sustainable Cities and Communities	80	55.82	

NOTE: ● a strength and ○ a weakness.

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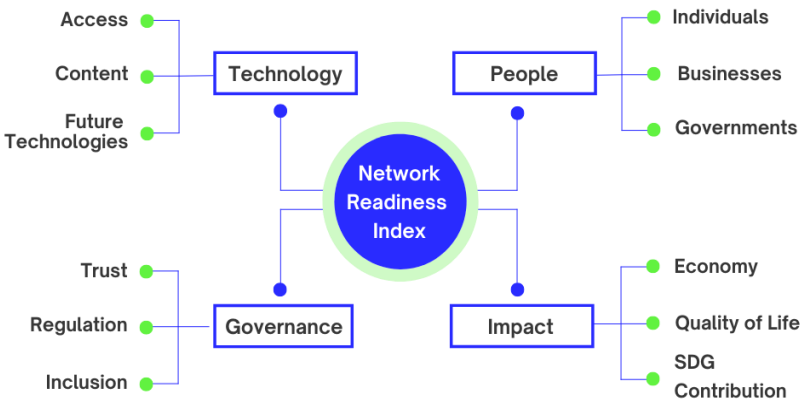
Network Readiness Index 2022 Norway

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

Figure 1: The NRI 2022 model



Global NRI position of Norway

Norway ranks 10th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Norway global ranking, overall and by pillar

Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Norway relate to Access, Trust and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Economy and Individuals sub-pillars.

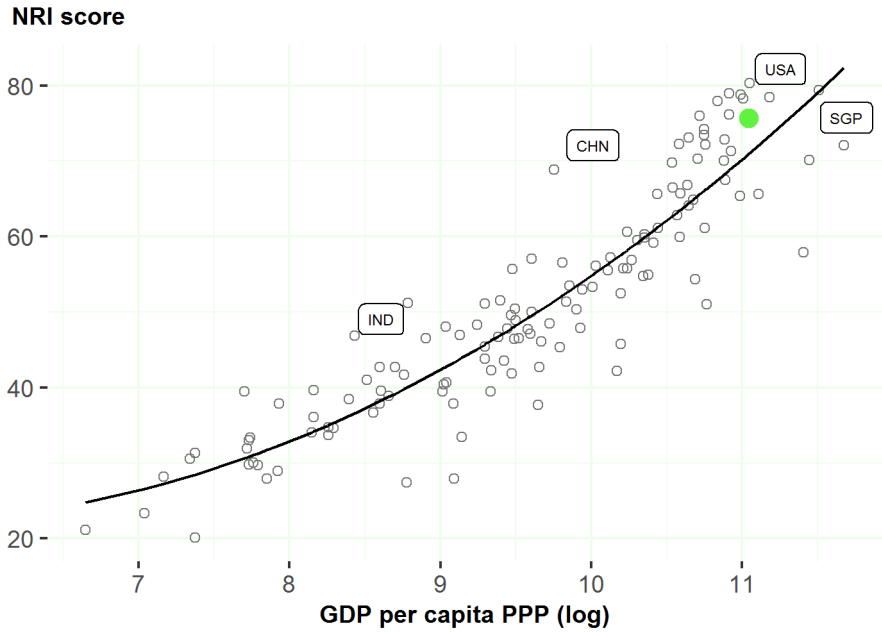
Table 1: Norway rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	2	Content	9
Trust	2	Inclusion	15
Regulation	2	Businesses	19
Governments	3	Future Technologies	31
Quality of Life	5	Economy	32
SDG Contribution	8	Individuals	60

NRI score and income

Figure 3 shows the position of Norway in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Norway is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Norway belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Norway is ranked 10th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Europe

Norway is ranked 7th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Norway against its income group and region, overall and by pillar

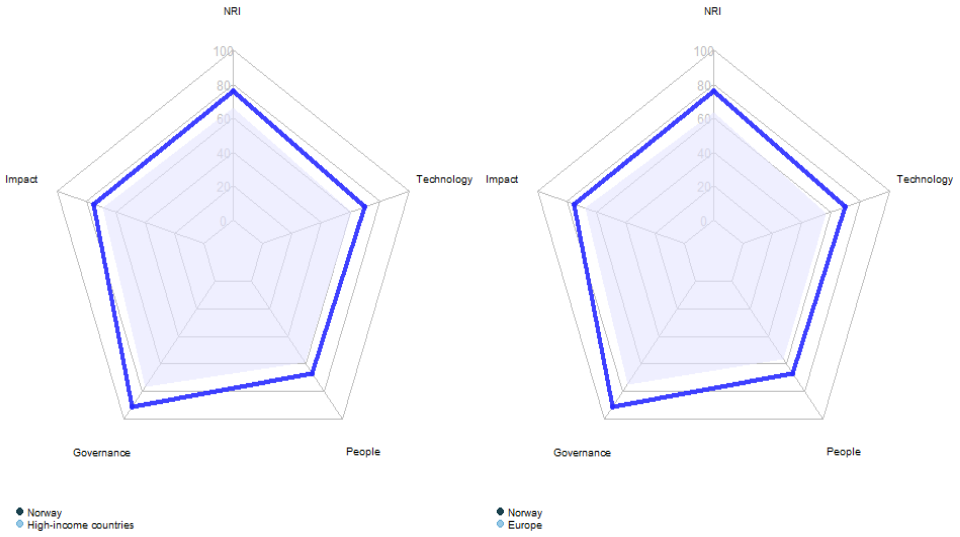


Table 2: Norway scores vs. averages of its income group and region, overall and by pillar

Dimension	Norway	High-income countries	Europe
NRI	75.68	66.21	63.72
Technology	69.69	60.28	56.43
People	67.31	58.83	56.35
Governance	91.00	76.89	74.79
Impact	74.72	68.86	67.30

Strongest and weakest indicators

The indicators where Norway performs particularly well include 1.1.6 Internet access in schools, 3.1.3 Online access to financial account, and 3.1.4 Internet shopping (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 2.1.1 Mobile broadband internet traffic within the country, and 4.1.6 ICT services exports.

Table 3: Strongest and weakest indicators of Norway

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	1.3.3 Robot density	24
3.1.3 Online access to financial account	1	4.1.6 ICT services exports	57
3.1.4 Internet shopping	1	2.1.1 Mobile broadband internet traffic within the country	73
3.2.4 E-commerce legislation	1	1.1.5 International Internet bandwidth	74
2.3.4 R&D expenditure by governments and higher education	2		
4.3.5 SDG 11: Sustainable Cities and Communities	2		
1.1.1 Mobile tariffs	4		
2.2.3 Knowledge intensive employment	4		
1.2.1 GitHub commits	5		
4.2.2 Freedom to make life choices	6		
3.2.5 Privacy protection by law content	7		
4.2.1 Happiness	7		

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NRI 2022 At-A-Glance: Norway

Network Readiness Index — Rank: 10 (out of 131) — Score: 75.68

Pillar/sub-pillar	Rank	Score
A. Technology pillar	12	69.69
1st sub-pillar: Access	2	87.80
2nd sub-pillar: Content	9	75.98
3rd sub-pillar: Future Technologies	31	45.28
B. People pillar	12	67.31
1st sub-pillar: Individuals	60	50.11
2nd sub-pillar: Businesses	19	67.36
3rd sub-pillar: Governments	3	84.47

Pillar/sub-pillar	Rank	Score
C. Governance pillar	1	91.00
1st sub-pillar: Trust	2	95.30
2nd sub-pillar: Regulation	2	93.32
3rd sub-pillar: Inclusion	15	84.37
D. Impact pillar	14	74.72
1st sub-pillar: Economy	32	44.50
2nd sub-pillar: Quality of Life	5	91.74
3rd sub-pillar: SDG Contribution	8	87.91

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	12	69.69	
1st sub-pillar: Access	2	87.80	
1.1.1 Mobile tariffs	4	92.11	●
1.1.2 Handset prices	21	77.03	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	74	69.89	○
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	9	75.98	
1.2.1 GitHub commits	5	78.90	●
1.2.2 Internet domain registrations	14	52.63	
1.2.3 Mobile apps development	16	96.58	
1.2.4 AI scientific publications	17	75.79	
3rd sub-pillar: Future Technologies	31	45.28	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	16	73.50	
1.3.3 Robot density	24	13.03	○
1.3.4 Computer software spending	15	49.31	

Indicator	Rank	Score	
C. Governance pillar	1	91.00	
1st sub-pillar: Trust	2	95.30	
3.1.1 Secure Internet servers	19	84.36	
3.1.2 Cybersecurity	23	96.84	
3.1.3 Online access to financial account	1	100.00	●
3.1.4 Internet shopping	1	100.00	●
2nd sub-pillar: Regulation	2	93.32	
3.2.1 Regulatory quality	9	86.40	
3.2.2 ICT regulatory environment	11	94.71	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	7	92.16	●
3rd sub-pillar: Inclusion	15	84.37	
3.3.1 E-Participation	18	90.13	
3.3.2 Socioeconomic gap in use of digital payments	12	97.56	
3.3.3 Availability of local online content	27	84.13	
3.3.4 Gender gap in Internet use	31	73.53	
3.3.5 Rural gap in use of digital payments	16	76.50	

Indicator	Rank	Score	
B. People pillar	12	67.31	
1st sub-pillar: Individuals	60	50.11	
2.1.1 Mobile broadband internet traffic within the country	73	6.93	○
2.1.2 ICT skills in the education system	13	79.59	
2.1.3 Use of virtual social networks	19	81.01	
2.1.4 Tertiary enrollment	17	55.52	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	14	27.49	
2nd sub-pillar: Businesses	19	67.36	
2.2.1 Firms with website	10	85.44	
2.2.2 GERD financed by business enterprise	37	53.45	
2.2.3 Knowledge intensive employment	4	81.98	●
2.2.4 Annual investment in telecommunication services	27	83.42	
2.2.5 GERD performed by business enterprise	18	32.50	
3rd sub-pillar: Governments	3	84.47	
2.3.1 Government online services	19	87.28	
2.3.2 Publication and use of open data	11	73.53	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	2	92.60	●

Indicator	Rank	Score	
D. Impact pillar	14	74.72	
1st sub-pillar: Economy	32	44.50	
4.1.1 High-tech and medium-high-tech manufacturing	33	48.29	
4.1.2 High-tech exports	46	38.41	
4.1.3 PCT patent applications	17	45.36	
4.1.4 Domestic market size	49	58.09	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	57	32.34	○
2nd sub-pillar: Quality of Life	5	91.74	
4.2.1 Happiness	7	92.29	●
4.2.2 Freedom to make life choices	6	95.14	●
4.2.3 Income inequality	11	88.69	
4.2.4 Healthy life expectancy at birth	15	90.85	
3rd sub-pillar: SDG Contribution	8	87.91	
4.3.1 SDG 3: Good Health and Well-Being	12	93.86	
4.3.2 SDG 4: Quality Education	22	67.70	
4.3.3 SDG 5: Women's economic opportunity	20	95.61	
4.3.4 SDG 7: Affordable and Clean Energy	45	83.21	
4.3.5 SDG 11: Sustainable Cities and Communities	2	99.19	●

NOTE: ● a strength and ○ a weakness.

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Network Readiness Index 2022 Oman

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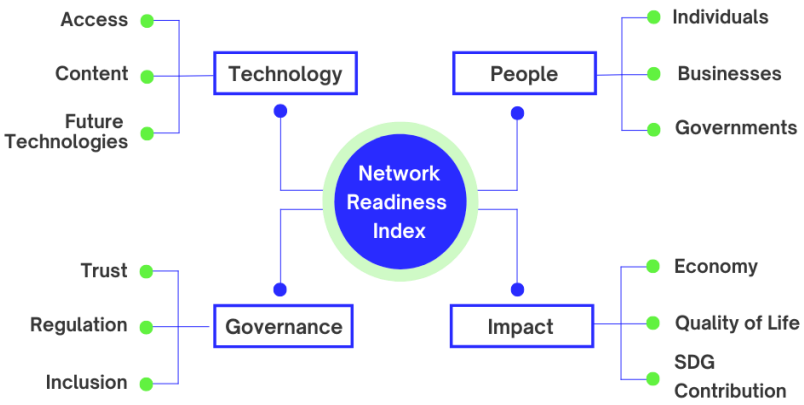
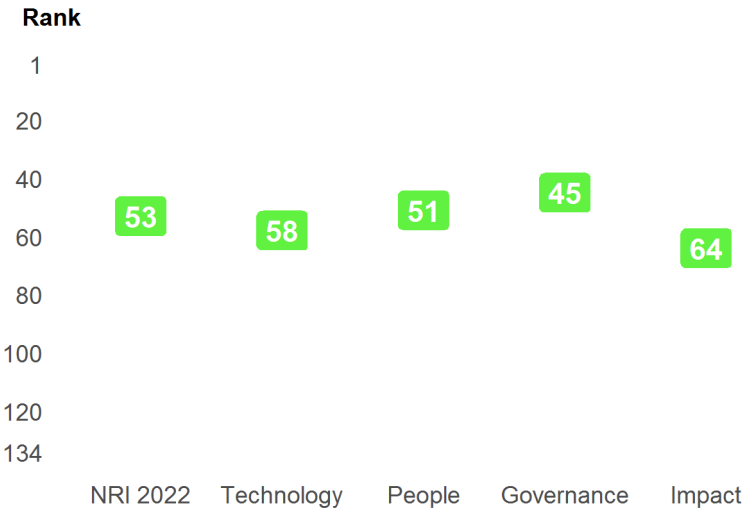
Figure 1: The NRI 2022 model



Global NRI position of Oman

Oman ranks 53rd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Oman global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Oman relate to Quality of Life, Trust and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Regulation and SDG Contribution sub-pillars.

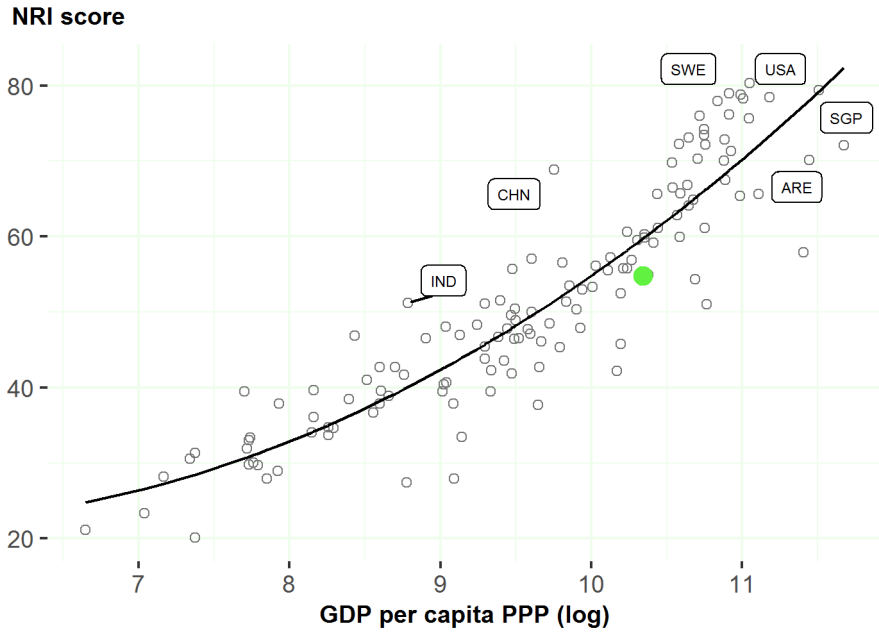
Table 1: Oman rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	24	Access	53
Trust	34	Economy	72
Inclusion	34	Businesses	75
Individuals	35	Content	76
Governments	40	Regulation	90
Future Technologies	50	SDG Contribution	102

NRI score and income

Figure 3 shows the position of Oman in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Oman is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Oman belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

Oman is ranked 45th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in two of the twelve sub-pillars: Individuals and Quality of Life.

Arab States

Oman is ranked 4th within Arab States (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, people, governance and impact. With regard to sub-pillars, it outperforms the average in Arab States in six of the twelve sub-pillars: Access, Individuals, Governments, Trust, Inclusion and Quality of Life.

Figure 4: Performance of Oman against its income group and region, overall and by pillar

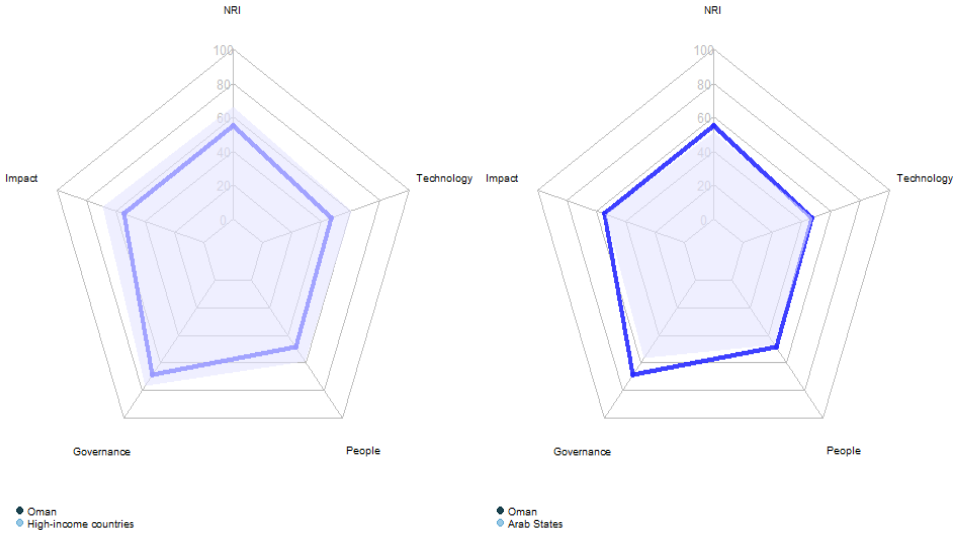


Table 2: Oman scores vs. averages of its income group and region, overall and by pillar

Dimension	Oman	High-income countries	Arab States
NRI	54.72	66.21	51.21
Technology	46.61	60.28	47.66
People	48.77	58.83	47.11
Governance	68.81	76.89	56.68
Impact	54.69	68.86	53.39

Strongest and weakest indicators

The indicators where Oman performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.3.4 Gender gap in Internet use (Table 3). By contrast, the economy's weakest indicators include 4.3.3 SDG 5: Women's economic opportunity, 3.2.5 Privacy protection by law content, and 4.3.4 SDG 7: Affordable and Clean Energy.

Table 3: Strongest and weakest indicators of Oman

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	3.2.4 E-commerce legislation	87
1.1.6 Internet access in schools	1	1.2.1 GitHub commits	105
3.3.4 Gender gap in Internet use	8	4.3.4 SDG 7: Affordable and Clean Energy	116
4.2.2 Freedom to make life choices	14	3.2.5 Privacy protection by law content	119
4.2.1 Happiness	17	4.3.3 SDG 5: Women's economic opportunity	128
2.1.2 ICT skills in the education system	22		
2.3.1 Government online services	24		
2.3.3 Government promotion of investment in emerging technologies	24		
4.3.5 SDG 11: Sustainable Cities and Communities	27		
3.1.2 Cybersecurity	28		
2.1.3 Use of virtual social networks	30		

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NRI 2022 At-A-Glance: Oman

Network Readiness Index — Rank: 53 (out of 131) — Score: 54.72

Pillar/sub-pillar	Rank	Score
A. Technology pillar	58	46.61
1st sub-pillar: Access	53	68.94
2nd sub-pillar: Content	76	33.48
3rd sub-pillar: Future Technologies	50	37.41
B. People pillar	51	48.77
1st sub-pillar: Individuals	35	55.51
2nd sub-pillar: Businesses	75	37.89
3rd sub-pillar: Governments	40	52.92

Pillar/sub-pillar	Rank	Score
C. Governance pillar	45	68.81
1st sub-pillar: Trust	34	69.73
2nd sub-pillar: Regulation	90	58.27
3rd sub-pillar: Inclusion	34	78.42
D. Impact pillar	64	54.69
1st sub-pillar: Economy	72	29.57
2nd sub-pillar: Quality of Life	24	81.14
3rd sub-pillar: SDG Contribution	102	53.37

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	58	46.61	
1st sub-pillar: Access	53	68.94	
1.1.1 Mobile tariffs	65	59.85	
1.1.2 Handset prices	49	63.90	
1.1.3 FTTH/building Internet subscriptions	76	17.77	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	56	72.10	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	76	33.48	
1.2.1 GitHub commits	105	1.33	○
1.2.2 Internet domain registrations	88	1.39	
1.2.3 Mobile apps development	61	81.09	
1.2.4 AI scientific publications	54	50.13	
3rd sub-pillar: Future Technologies	50	37.41	
1.3.1 Adoption of emerging technologies	44	57.47	
1.3.2 Investment in emerging technologies	42	50.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	98	4.75	

Indicator	Rank	Score	
C. Governance pillar	45	68.81	
1st sub-pillar: Trust	34	69.73	
3.1.1 Secure Internet servers	87	43.50	
3.1.2 Cybersecurity	28	95.97	●
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	90	58.27	
3.2.1 Regulatory quality	49	53.33	
3.2.2 ICT regulatory environment	61	83.92	
3.2.3 Regulation of emerging technologies	46	55.53	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	119	31.89	○
3rd sub-pillar: Inclusion	34	78.42	
3.3.1 E-Participation	38	82.71	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	42	74.52	
3.3.4 Gender gap in Internet use	8	78.03	●
3.3.5 Rural gap in use of digital payments	NA	NA	

Indicator	Rank	Score	
B. People pillar	51	48.77	
1st sub-pillar: Individuals	35	55.51	
2.1.1 Mobile broadband internet traffic within the country	82	4.20	
2.1.2 ICT skills in the education system	22	71.30	●
2.1.3 Use of virtual social networks	30	77.80	●
2.1.4 Tertiary enrollment	69	29.81	
2.1.5 Adult literacy rate	44	94.43	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	75	37.89	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	54	39.30	
2.2.3 Knowledge intensive employment	73	31.11	
2.2.4 Annual investment in telecommunication services	52	79.35	
2.2.5 GERD performed by business enterprise	65	1.79	
3rd sub-pillar: Governments	40	52.92	
2.3.1 Government online services	24	84.84	●
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	24	61.97	
2.3.4 R&D expenditure by governments and higher education	86	11.95	

Indicator	Rank	Score	
D. Impact pillar	64	54.69	
1st sub-pillar: Economy	72	29.57	
4.1.1 High-tech and medium-high-tech manufacturing	67	20.56	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	67	3.18	
4.1.4 Domestic market size	72	48.76	
4.1.5 Prevalence of gig economy	30	61.92	
4.1.6 ICT services exports	93	13.43	
2nd sub-pillar: Quality of Life	24	81.14	
4.2.1 Happiness	17	83.24	●
4.2.2 Freedom to make life choices	14	91.74	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	79	68.45	
3rd sub-pillar: SDG Contribution	102	53.37	
4.3.1 SDG 3: Good Health and Well-Being	76	66.17	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	128	9.65	○
4.3.4 SDG 7: Affordable and Clean Energy	116	50.63	○
4.3.5 SDG 11: Sustainable Cities and Communities	27	87.04	●

NOTE: ● a strength and ○ a weakness.

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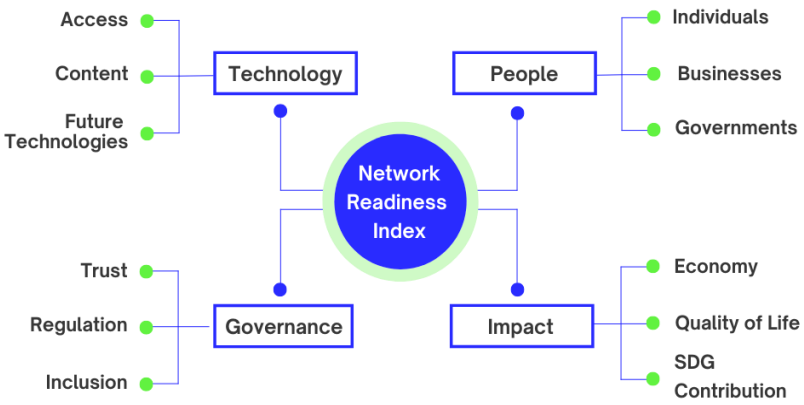
Network Readiness Index 2022 Pakistan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

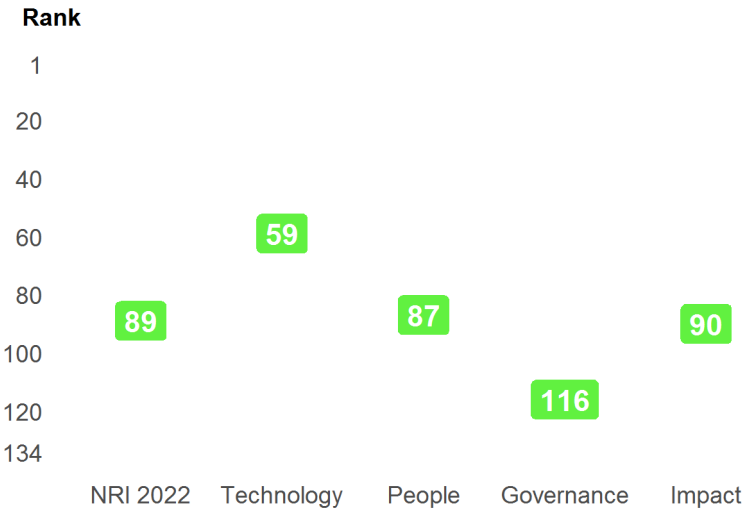
Figure 1: The NRI 2022 model



Global NRI position of Pakistan

Pakistan ranks 89th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Pakistan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Pakistan relate to Future Technologies, Economy and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, SDG Contribution and Inclusion sub-pillars.

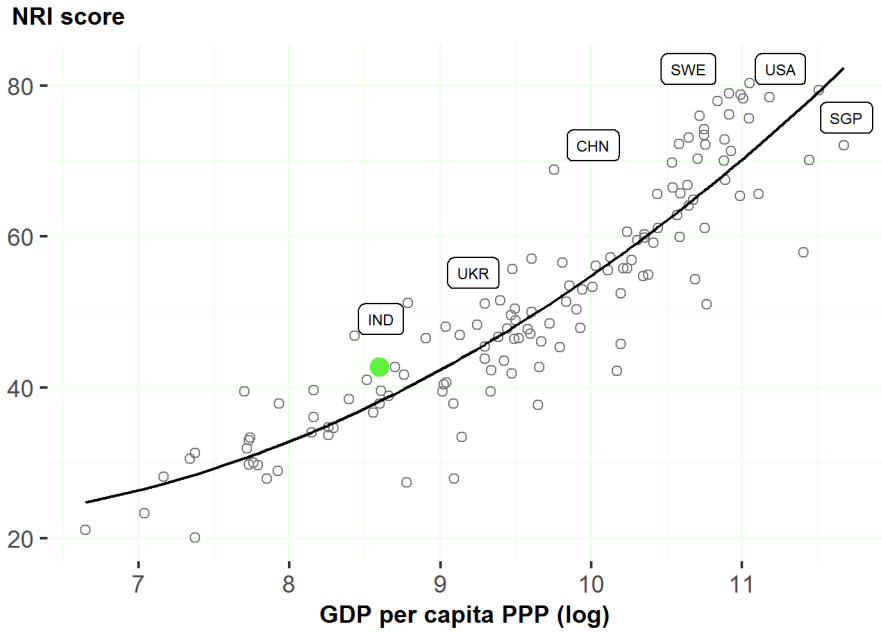
Table 1: Pakistan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	42	Quality of Life	94
Economy	42	Individuals	99
Businesses	56	Trust	103
Access	67	Regulation	114
Content	71	SDG Contribution	115
Governments	94	Inclusion	117

NRI score and income

Figure 3 shows the position of Pakistan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Pakistan is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Pakistan belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Pakistan is ranked 14th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, people and impact. At the sub-pillar level, it outperforms lower-middle-income countries in six of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Economy and Quality of Life.

Asia & Pacific

Pakistan is ranked 18th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Pakistan against its income group and region, overall and by pillar

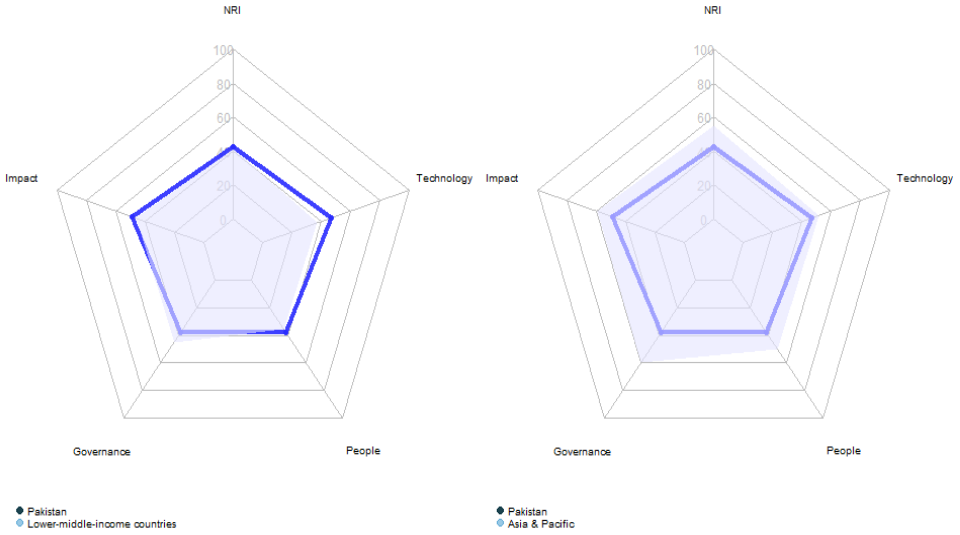


Table 2: Pakistan scores vs. averages of its income group and region, overall and by pillar

Dimension	Pakistan	Lower-middle-income countries	Asia & Pacific
NRI	42.70	40.94	55.18
Technology	46.47	37.28	51.78
People	37.72	35.42	50.21
Governance	37.85	45.00	59.66
Impact	48.78	46.09	59.07

Strongest and weakest indicators

The indicators where Pakistan performs particularly well include 2.1.1 Mobile broadband internet traffic within the country, 4.2.3 Income inequality, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 3.3.5 Rural gap in use of digital payments, 3.2.4 E-commerce legislation, and 3.1.4 Internet shopping.

Table 3: Strongest and weakest indicators of Pakistan

Strongest indicators	Rank	Weakest indicators	Rank
2.1.1 Mobile broadband internet traffic within the country	15	2.3.2 Publication and use of open data	100
4.2.3 Income inequality	19	3.3.4 Gender gap in Internet use	101
1.1.3 FTTH/building Internet subscriptions	21	3.1.4 Internet shopping	113
1.2.4 AI scientific publications	21	3.2.4 E-commerce legislation	118
4.1.6 ICT services exports	21	3.3.5 Rural gap in use of digital payments	122
4.1.4 Domestic market size	23		
1.1.5 International Internet bandwidth	24		
1.3.4 Computer software spending	37		
2.2.4 Annual investment in telecommunication services	40		
1.3.2 Investment in emerging technologies	48		

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NRI 2022 At-A-Glance: Pakistan

Network Readiness Index Rank: 89 (out of 131) Score: 42.70

Pillar/sub-pillar	Rank	Score
A. Technology pillar	59	46.47
1st sub-pillar: Access	67	63.42
2nd sub-pillar: Content	71	35.61
3rd sub-pillar: Future Technologies	42	40.37
B. People pillar	87	37.72
1st sub-pillar: Individuals	99	34.69
2nd sub-pillar: Businesses	56	46.57
3rd sub-pillar: Governments	94	31.91

Pillar/sub-pillar	Rank	Score
C. Governance pillar	116	37.85
1st sub-pillar: Trust	103	27.71
2nd sub-pillar: Regulation	114	47.35
3rd sub-pillar: Inclusion	117	38.50
D. Impact pillar	90	48.78
1st sub-pillar: Economy	42	41.03
2nd sub-pillar: Quality of Life	94	58.31
3rd sub-pillar: SDG Contribution	115	46.99

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	59	46.47	
1st sub-pillar: Access	67	63.42	
1.1.1 Mobile tariffs	56	66.99	
1.1.2 Handset prices	112	34.46	
1.1.3 FTTH/building Internet subscriptions	21	43.79	•
1.1.4 Population covered by at least a 3G mobile network	120	91.46	
1.1.5 International Internet bandwidth	24	80.39	•
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	71	35.61	
1.2.1 GitHub commits	104	1.35	
1.2.2 Internet domain registrations	110	0.40	
1.2.3 Mobile apps development	95	66.09	
1.2.4 AI scientific publications	21	74.62	•
3rd sub-pillar: Future Technologies	42	40.37	
1.3.1 Adoption of emerging technologies	68	45.59	
1.3.2 Investment in emerging technologies	48	48.25	•
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	37	27.28	•

Indicator	Rank	Score	
C. Governance pillar	116	37.85	
1st sub-pillar: Trust	103	27.71	
3.1.1 Secure Internet servers	105	34.34	
3.1.2 Cybersecurity	85	64.26	
3.1.3 Online access to financial account	102	11.51	
3.1.4 Internet shopping	113	0.71	○
2nd sub-pillar: Regulation	114	47.35	
3.2.1 Regulatory quality	113	21.87	
3.2.2 ICT regulatory environment	58	84.71	
3.2.3 Regulation of emerging technologies	50	51.58	
3.2.4 E-commerce legislation	118	33.33	○
3.2.5 Privacy protection by law content	108	45.26	
3rd sub-pillar: Inclusion	117	38.50	
3.3.1 E-Participation	94	50.62	
3.3.2 Socioeconomic gap in use of digital payments	67	72.53	
3.3.3 Availability of local online content	83	51.44	
3.3.4 Gender gap in Internet use	101	12.66	○
3.3.5 Rural gap in use of digital payments	122	5.25	○

Indicator	Rank	Score	
B. People pillar	87	37.72	
1st sub-pillar: Individuals	99	34.69	
2.1.1 Mobile broadband internet traffic within the country	15	40.50	●
2.1.2 ICT skills in the education system	52	52.37	
2.1.3 Use of virtual social networks	104	27.46	
2.1.4 Tertiary enrollment	104	7.15	
2.1.5 Adult literacy rate	98	45.95	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	56	46.57	
2.2.1 Firms with website	75	43.21	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	103	15.46	
2.2.4 Annual investment in telecommunication services	40	81.04	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	94	31.91	
2.3.1 Government online services	79	61.82	
2.3.2 Publication and use of open data	100	2.94	○
2.3.3 Government promotion of investment in emerging tech	53	42.82	
2.3.4 R&D expenditure by governments and higher education	72	20.07	

Indicator	Rank	Score	
D. Impact pillar	90	48.78	
1st sub-pillar: Economy	42	41.03	
4.1.1 High-tech and medium-high-tech manufacturing	58	26.18	
4.1.2 High-tech exports	73	16.40	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	23	69.09	●
4.1.5 Prevalence of gig economy	53	45.35	
4.1.6 ICT services exports	21	48.11	●
2nd sub-pillar: Quality of Life	94	58.31	
4.2.1 Happiness	104	41.10	
4.2.2 Freedom to make life choices	85	65.95	
4.2.3 Income inequality	19	83.92	●
4.2.4 Healthy life expectancy at birth	111	42.29	
3rd sub-pillar: SDG Contribution	115	46.99	
4.3.1 SDG 3: Good Health and Well-Being	118	27.44	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	120	37.72	
4.3.4 SDG 7: Affordable and Clean Energy	87	72.68	
4.3.5 SDG 11: Sustainable Cities and Communities	90	50.12	

NOTE: ● a strength and ○ a weakness.

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Network Readiness Index 2022 Panama

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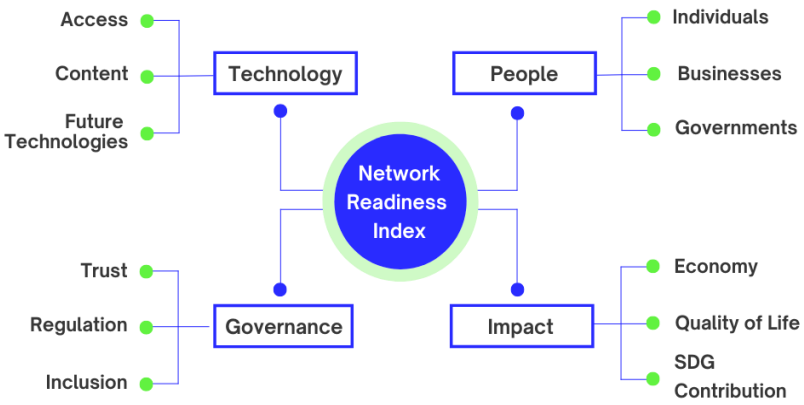
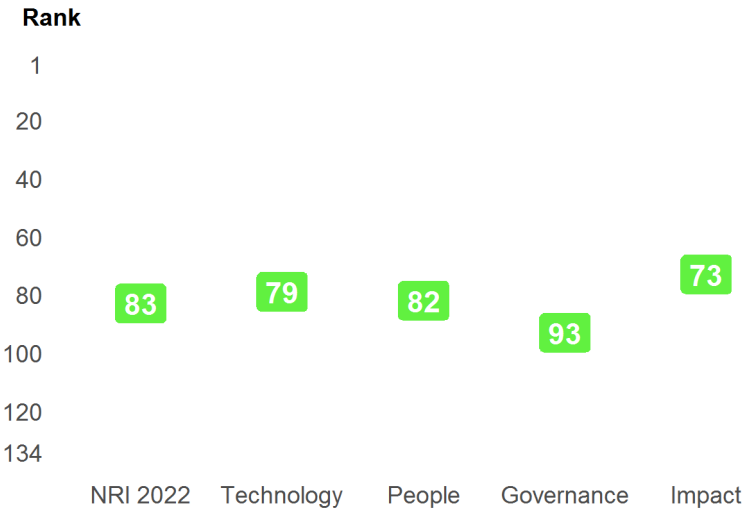
Figure 1: The NRI 2022 model



Global NRI position of Panama

Panama ranks 83rd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Panama global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Panama relate to Individuals, SDG Contribution and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Trust and Businesses sub-pillars.

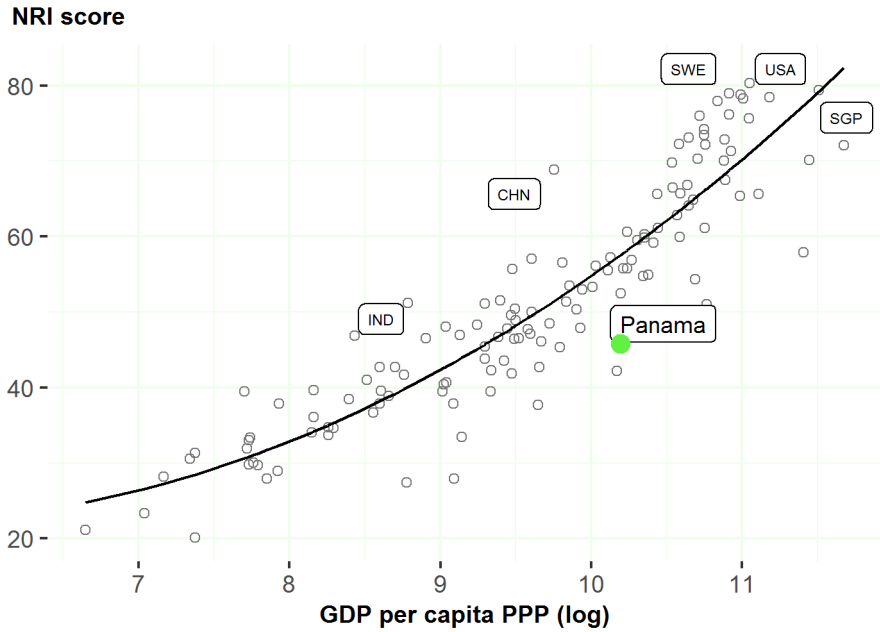
Table 1: Panama rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	25	Inclusion	88
SDG Contribution	55	Access	95
Future Technologies	56	Governments	95
Content	70	Economy	95
Quality of Life	74	Trust	99
Regulation	78	Businesses	103

NRI score and income

Figure 3 shows the position of Panama in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Panama is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Panama belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-The Americas-is also United States of America (USA).

Performance against its income group and region

High-income countries

Panama is ranked 48th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in one of the twelve sub-pillars: Individuals.

The Americas

Panama is ranked 12th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in two of the twelve sub-pillars: Future Technologies and Individuals.

Figure 4: Performance of Panama against its income group and region, overall and by pillar

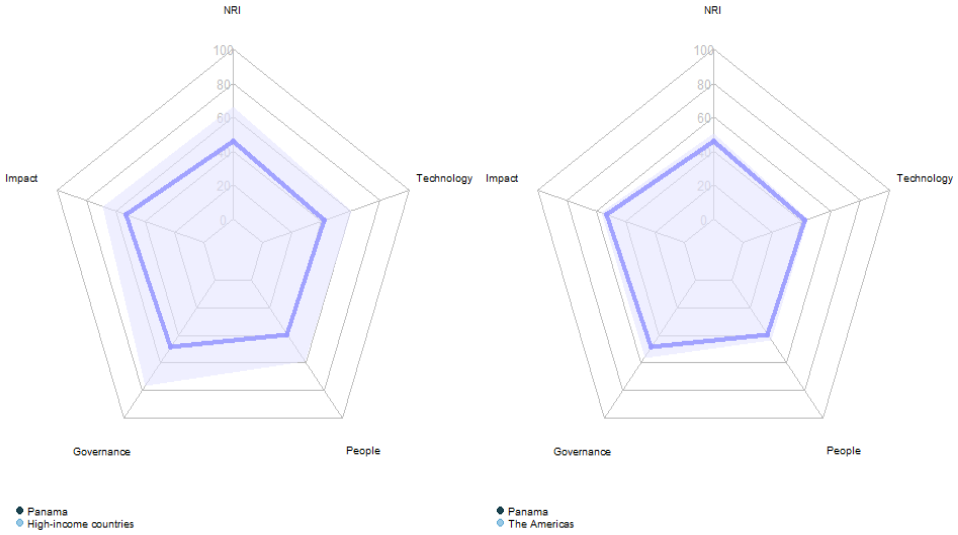


Table 2: Panama scores vs. averages of its income group and region, overall and by pillar

Dimension	Panama	High-income countries	The Americas
NRI	45.72	66.21	50.09
Technology	41.74	60.28	44.16
People	39.28	58.83	43.67
Governance	48.64	76.89	56.24
Impact	53.24	68.86	56.30

Strongest and weakest indicators

The indicators where Panama performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 3.3.4 Gender gap in Internet use, and 4.2.1 Happiness (Table 3). By contrast, the economy's weakest indicators include 4.2.3 Income inequality, 2.3.4 R&D expenditure by governments and higher education, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Strongest and weakest indicators of Panama

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	4	4.3.2 SDG 4: Quality Education	75
3.3.4 Gender gap in Internet use	26	2.2.5 GERD performed by business enterprise	94
4.2.1 Happiness	26	1.1.3 FTTH/building Internet subscriptions	99
1.2.2 Internet domain registrations	31	2.3.4 R&D expenditure by governments and higher education	105
4.3.5 SDG 11: Sustainable Cities and Communities	33	4.2.3 Income inequality	108
4.2.4 Healthy life expectancy at birth	37		
4.3.1 SDG 3: Good Health and Well-Being	42		
2.1.5 Adult literacy rate	43		
1.1.2 Handset prices	47		
2.1.3 Use of virtual social networks	52		

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NRI 2022 At-A-Glance: Panama

Network Readiness Index — Rank: 83 (out of 131) — Score: 45.72

Pillar/sub-pillar	Rank	Score
A. Technology pillar	79	41.74
1st sub-pillar: Access	95	54.64
2nd sub-pillar: Content	70	35.64
3rd sub-pillar: Future Technologies	56	34.94
B. People pillar	82	39.28
1st sub-pillar: Individuals	25	56.45
2nd sub-pillar: Businesses	103	30.00
3rd sub-pillar: Governments	95	31.39

Pillar/sub-pillar	Rank	Score
C. Governance pillar	93	48.64
1st sub-pillar: Trust	99	30.06
2nd sub-pillar: Regulation	78	60.96
3rd sub-pillar: Inclusion	88	54.92
D. Impact pillar	73	53.24
1st sub-pillar: Economy	95	23.75
2nd sub-pillar: Quality of Life	74	66.70
3rd sub-pillar: SDG Contribution	55	69.28

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	79	41.74	
1st sub-pillar: Access	95	54.64	
1.1.1 Mobile tariffs	80	49.59	
1.1.2 Handset prices	47	65.76	●
1.1.3 FTTH/building Internet subscriptions	99	3.21	○
1.1.4 Population covered by at least a 3G mobile network	89	98.33	
1.1.5 International Internet bandwidth	92	64.74	
1.1.6 Internet access in schools	51	46.20	
2nd sub-pillar: Content	70	35.64	
1.2.1 GitHub commits	90	2.68	
1.2.2 Internet domain registrations	31	23.32	●
1.2.3 Mobile apps development	65	79.06	
1.2.4 AI scientific publications	71	37.48	
3rd sub-pillar: Future Technologies	56	34.94	
1.3.1 Adoption of emerging technologies	66	47.02	
1.3.2 Investment in emerging technologies	64	40.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	70	17.54	

Indicator	Rank	Score	
C. Governance pillar	93	48.64	
1st sub-pillar: Trust	99	30.06	
3.1.1 Secure Internet servers	60	58.23	
3.1.2 Cybersecurity	103	32.95	
3.1.3 Online access to financial account	98	13.18	
3.1.4 Internet shopping	73	15.86	
2nd sub-pillar: Regulation	78	60.96	
3.2.1 Regulatory quality	55	49.60	
3.2.2 ICT regulatory environment	75	77.06	
3.2.3 Regulation of emerging technologies	64	43.42	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	59	68.04	
3rd sub-pillar: Inclusion	88	54.92	
3.3.1 E-Participation	87	56.79	
3.3.2 Socioeconomic gap in use of digital payments	103	44.45	
3.3.3 Availability of local online content	74	56.01	
3.3.4 Gender gap in Internet use	26	74.45	●
3.3.5 Rural gap in use of digital payments	99	42.90	

Indicator	Rank	Score	
B. People pillar	82	39.28	
1st sub-pillar: Individuals	25	56.45	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	107	26.92	
2.1.3 Use of virtual social networks	52	72.93	●
2.1.4 Tertiary enrollment	66	31.39	
2.1.5 Adult literacy rate	43	94.54	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	103	30.00	
2.2.1 Firms with website	87	35.81	
2.2.2 GERD financed by business enterprise	94	1.85	
2.2.3 Knowledge intensive employment	65	35.21	
2.2.4 Annual investment in telecommunication services	61	77.09	
2.2.5 GERD performed by business enterprise	94	0.02	○
3rd sub-pillar: Governments	95	31.39	
2.3.1 Government online services	80	61.21	
2.3.2 Publication and use of open data	55	32.35	
2.3.3 Government promotion of investment in emerging tech	93	28.82	
2.3.4 R&D expenditure by governments and higher education	105	3.16	○

Indicator	Rank	Score	
D. Impact pillar	73	53.24	
1st sub-pillar: Economy	95	23.75	
4.1.1 High-tech and medium-high-tech manufacturing	90	7.45	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	65	3.50	
4.1.4 Domestic market size	74	47.78	
4.1.5 Prevalence of gig economy	89	31.98	
4.1.6 ICT services exports	70	28.07	
2nd sub-pillar: Quality of Life	74	66.70	
4.2.1 Happiness	26	77.89	●
4.2.2 Freedom to make life choices	66	73.85	
4.2.3 Income inequality	108	33.17	○
4.2.4 Healthy life expectancy at birth	37	81.88	●
3rd sub-pillar: SDG Contribution	55	69.28	
4.3.1 SDG 3: Good Health and Well-Being	42	80.25	●
4.3.2 SDG 4: Quality Education	75	15.70	○
4.3.3 SDG 5: Women's economic opportunity	79	71.05	
4.3.4 SDG 7: Affordable and Clean Energy	4	98.16	●
4.3.5 SDG 11: Sustainable Cities and Communities	33	81.21	●

NOTE: ● a strength and ○ a weakness.

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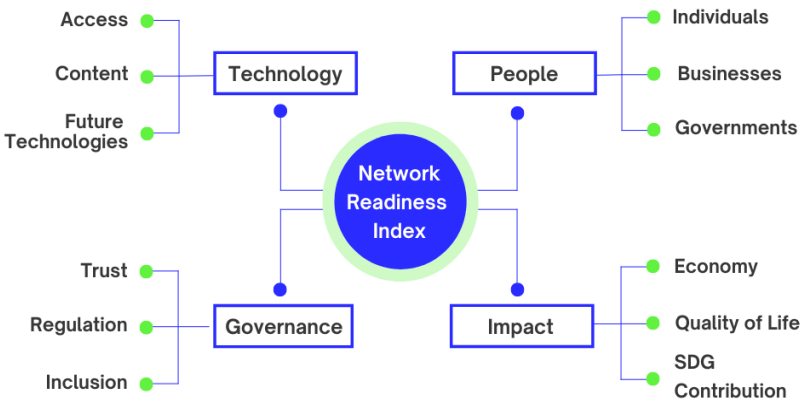
Network Readiness Index 2022 Paraguay

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

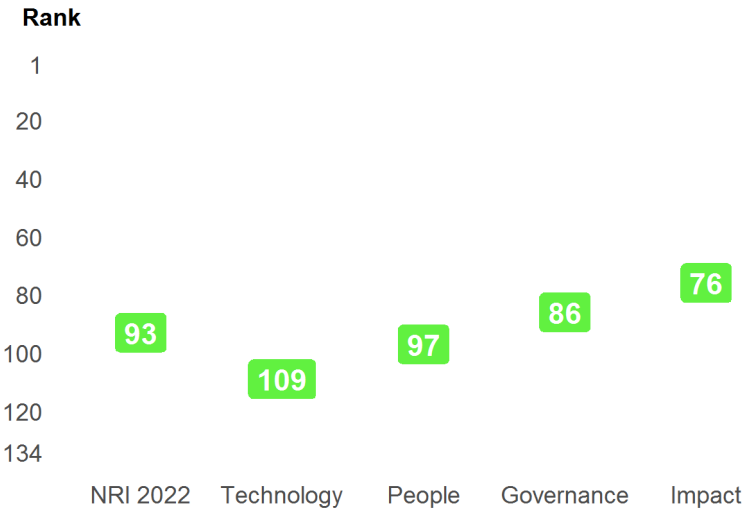
Figure 1: The NRI 2022 model



Global NRI position of Paraguay

Paraguay ranks 93rd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Paraguay global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Paraguay relate to SDG Contribution, Quality of Life and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Businesses and Future Technologies sub-pillars.

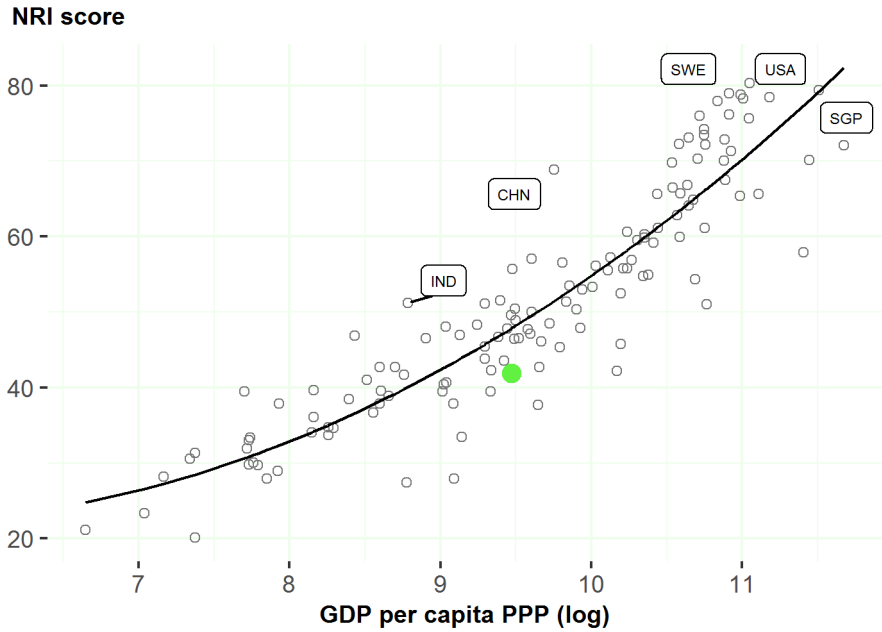
Table 1: Paraguay rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	44	Governments	97
Quality of Life	69	Trust	97
Inclusion	72	Access	106
Individuals	73	Economy	112
Regulation	91	Businesses	116
Content	95	Future Technologies	120

NRI score and income

Figure 3 shows the position of Paraguay in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Paraguay is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Paraguay belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Paraguay is ranked 29th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in two of the twelve sub-pillars: Quality of Life and SDG Contribution.

The Americas

Paraguay is ranked 16th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in one of the twelve sub-pillars: SDG Contribution.

Figure 4: Performance of Paraguay against its income group and region, overall and by pillar

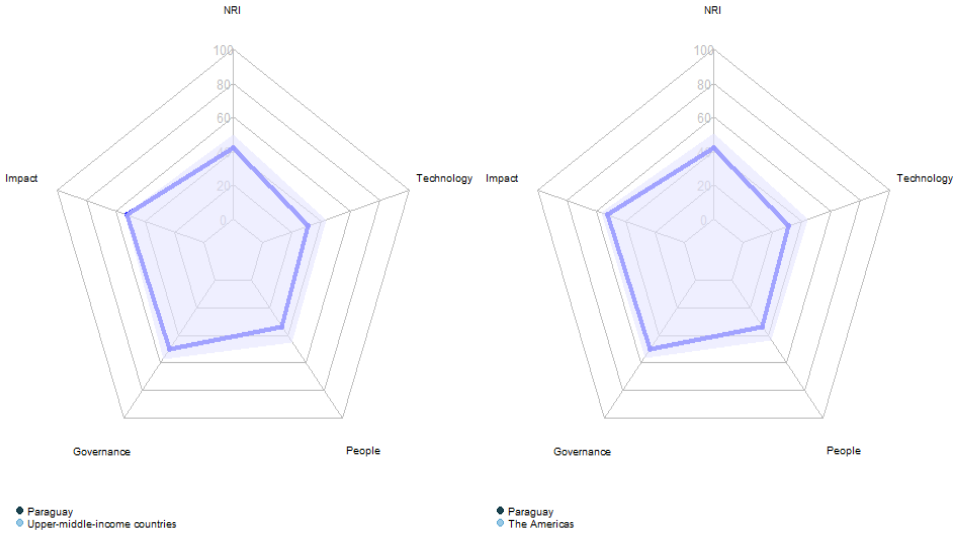


Table 2: Paraguay scores vs. averages of its income group and region, overall and by pillar

Dimension	Paraguay	Upper-middle-income countries	The Americas
NRI	41.86	49.66	50.09
Technology	31.18	43.11	44.16
People	33.79	44.94	43.67
Governance	50.28	57.08	56.24
Impact	52.21	53.50	56.30

Strongest and weakest indicators

The indicators where Paraguay performs particularly well include 3.2.4 E-commerce legislation, 3.3.4 Gender gap in Internet use, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 4.1.6 ICT services exports, 4.1.5 Prevalence of gig economy, and 2.3.3 Government promotion of investment in emerging technologies.

Table 3: Strongest and weakest indicators of Paraguay

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.5 GERD performed by business enterprise	96
3.3.4 Gender gap in Internet use	11	2.2.2 GERD financed by business enterprise	101
4.3.3 SDG 5: Women's economic opportunity	26	2.3.3 Government promotion of investment in emerging technologies	122
4.2.2 Freedom to make life choices	27	4.1.5 Prevalence of gig economy	123
2.2.1 Firms with website	33	4.1.6 ICT services exports	125
3.2.5 Privacy protection by law content	36		
2.3.2 Publication and use of open data	41		
2.1.5 Adult literacy rate	51		
4.3.4 SDG 7: Affordable and Clean Energy	51		
3.3.1 E-Participation	56		
3.3.2 Socioeconomic gap in use of digital payments	61		

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NRI 2022 At-A-Glance: Paraguay

Network Readiness Index Rank: 93 (out of 131) Score: 41.86

Pillar/sub-pillar	Rank	Score
A. Technology pillar	109	31.18
1st sub-pillar: Access	106	48.17
2nd sub-pillar: Content	95	27.97
3rd sub-pillar: Future Technologies	120	17.38
B. People pillar	97	33.79
1st sub-pillar: Individuals	73	46.40
2nd sub-pillar: Businesses	116	24.35
3rd sub-pillar: Governments	97	30.62

Pillar/sub-pillar	Rank	Score
C. Governance pillar	86	50.28
1st sub-pillar: Trust	97	30.84
2nd sub-pillar: Regulation	91	57.74
3rd sub-pillar: Inclusion	72	62.24
D. Impact pillar	76	52.21
1st sub-pillar: Economy	112	16.25
2nd sub-pillar: Quality of Life	69	67.16
3rd sub-pillar: SDG Contribution	44	73.21

The Network Readiness Index in detail

Indicator	Rank	Score
A. Technology pillar	109	31.18
1st sub-pillar: Access	106	48.17
1.1.1 Mobile tariffs	81	49.52
1.1.2 Handset prices	75	47.95
1.1.3 FTTH/building Internet subscriptions	55	27.84
1.1.4 Population covered by at least a 3G mobile network	88	98.40
1.1.5 International Internet bandwidth	110	59.92
1.1.6 Internet access in schools	74	5.41
2nd sub-pillar: Content	95	27.97
1.2.1 GitHub commits	93	2.02
1.2.2 Internet domain registrations	89	1.34
1.2.3 Mobile apps development	72	75.57
1.2.4 AI scientific publications	78	32.95
3rd sub-pillar: Future Technologies	120	17.38
1.3.1 Adoption of emerging technologies	103	28.79
1.3.2 Investment in emerging technologies	121	19.00
1.3.3 Robot density	NA	NA
1.3.4 Computer software spending	101	4.36

Indicator	Rank	Score	
C. Governance pillar	86	50.28	
1st sub-pillar: Trust	97	30.84	
3.1.1 Secure Internet servers	70	49.18	
3.1.2 Cybersecurity	89	56.33	
3.1.3 Online access to financial account	106	10.29	
3.1.4 Internet shopping	90	7.57	
2nd sub-pillar: Regulation	91	57.74	
3.2.1 Regulatory quality	87	35.73	
3.2.2 ICT regulatory environment	117	58.62	
3.2.3 Regulation of emerging technologies	107	16.05	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	36	78.30	•
3rd sub-pillar: Inclusion	72	62.24	
3.3.1 E-Participation	56	74.07	•
3.3.2 Socioeconomic gap in use of digital payments	61	76.27	•
3.3.3 Availability of local online content	106	37.26	
3.3.4 Gender gap in Internet use	11	77.81	•
3.3.5 Rural gap in use of digital payments	96	45.81	

Indicator	Rank	Score	
B. People pillar	97	33.79	
1st sub-pillar: Individuals	73	46.40	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	123	12.43	
2.1.3 Use of virtual social networks	84	57.74	
2.1.4 Tertiary enrollment	80	22.41	
2.1.5 Adult literacy rate	51	93.01	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	116	24.35	
2.2.1 Firms with website	33	71.74	●
2.2.2 GERD financed by business enterprise	101	0.24	○
2.2.3 Knowledge intensive employment	85	25.40	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	96	0.00	○
3rd sub-pillar: Governments	97	30.62	
2.3.1 Government online services	64	69.70	
2.3.2 Publication and use of open data	41	38.24	●
2.3.3 Government promotion of investment in emerging tech	122	6.69	
2.3.4 R&D expenditure by governments and higher education	92	7.84	

Indicator	Rank	Score	
D. Impact pillar	76	52.21	
1st sub-pillar: Economy	112	16.25	
4.1.1 High-tech and medium-high-tech manufacturing	74	17.68	
4.1.2 High-tech exports	86	10.10	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	85	44.93	
4.1.5 Prevalence of gig economy	123	4.94	○
4.1.6 ICT services exports	125	3.60	○
2nd sub-pillar: Quality of Life	69	67.16	
4.2.1 Happiness	70	60.49	
4.2.2 Freedom to make life choices	27	86.94	●
4.2.3 Income inequality	93	48.99	
4.2.4 Healthy life expectancy at birth	69	72.22	
3rd sub-pillar: SDG Contribution	44	73.21	
4.3.1 SDG 3: Good Health and Well-Being	93	54.31	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	26	92.11	●
4.3.4 SDG 7: Affordable and Clean Energy	51	82.71	●
4.3.5 SDG 11: Sustainable Cities and Communities	70	63.70	

NOTE: ● a strength and ○ a weakness.

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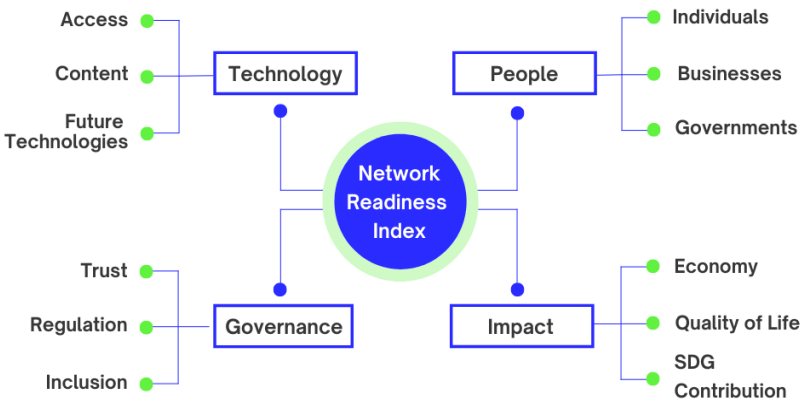
Network Readiness Index 2022 Peru

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

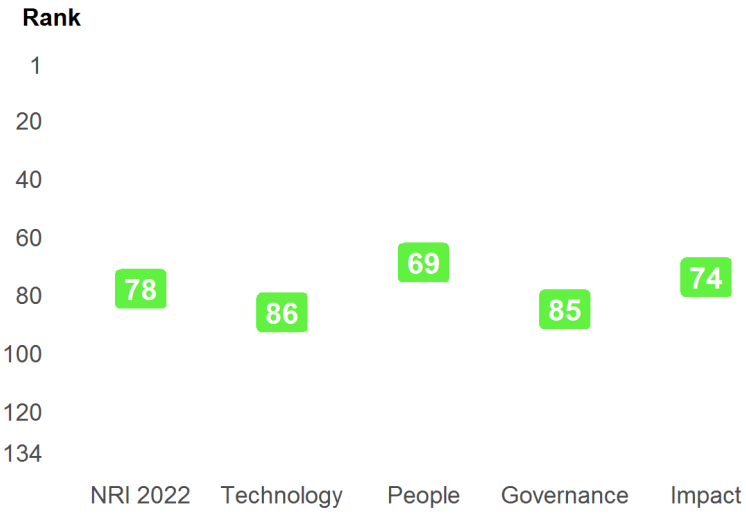
Figure 1: The NRI 2022 model



Global NRI position of Peru

Peru ranks 78th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Peru global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Peru relate to Individuals, SDG Contribution and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Economy and Future Technologies sub-pillars.

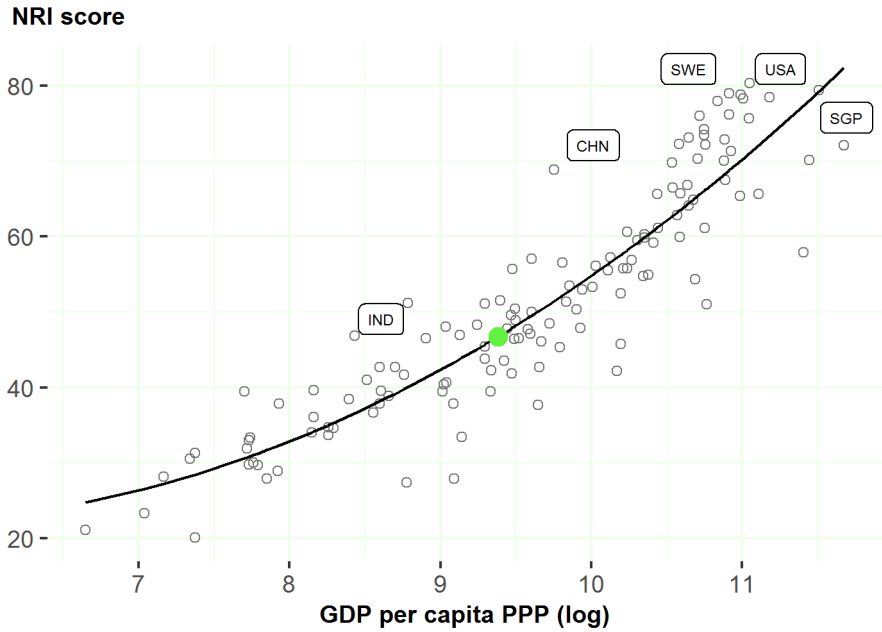
Table 1: Peru rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	39	Content	74
SDG Contribution	46	Inclusion	83
Businesses	61	Governments	90
Quality of Life	67	Trust	94
Regulation	72	Economy	102
Access	73	Future Technologies	105

NRI score and income

Figure 3 shows the position of Peru in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Peru is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Peru belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Peru is ranked 24th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in four of the twelve sub-pillars: Individuals, Businesses, Quality of Life and SDG Contribution.

The Americas

Peru is ranked 11th within The Americas (Figure 4, right panel). It has a score above the regional average in one of the four pillars: people. With regard to sub-pillars, it outperforms the average in The Americas in three of the twelve sub-pillars: Individuals, Businesses and SDG Contribution.

Figure 4: Performance of Peru against its income group and region, overall and by pillar

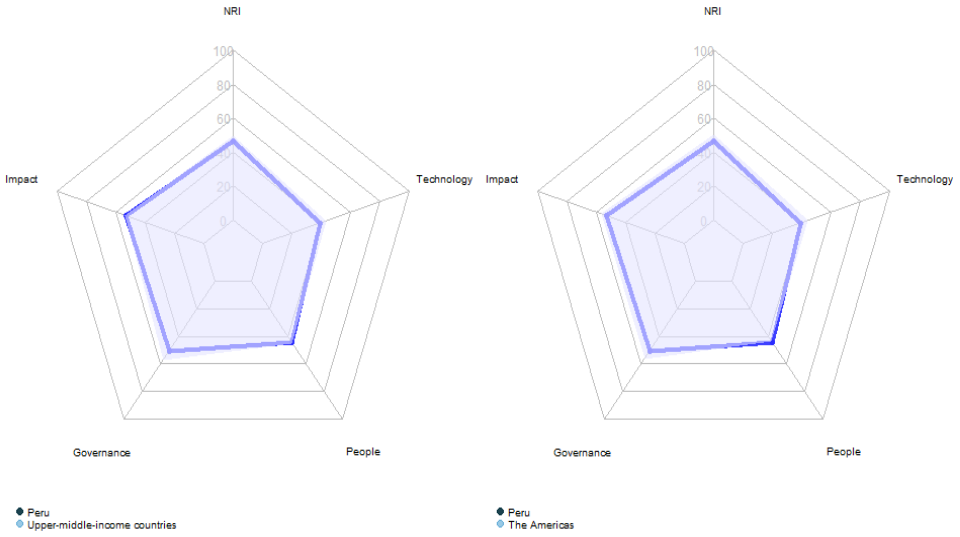


Table 2: Peru scores vs. averages of its income group and region, overall and by pillar

Dimension	Peru	Upper-middle-income countries	The Americas
NRI	46.71	49.66	50.09
Technology	38.92	43.11	44.16
People	44.35	44.94	43.67
Governance	50.63	57.08	56.24
Impact	52.95	53.50	56.30

Strongest and weakest indicators

The indicators where Peru performs particularly well include 3.2.4 E-commerce legislation, 4.3.4 SDG 7: Affordable and Clean Energy, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 4.1.5 Prevalence of gig economy, 2.1.2 ICT skills in the education system, and 3.1.3 Online access to financial account.

Table 3: Strongest and weakest indicators of Peru

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	56
4.3.4 SDG 7: Affordable and Clean Energy	21	2.3.4 R&D expenditure by governments and higher education	99
4.3.3 SDG 5: Women's economic opportunity	25	3.1.3 Online access to financial account	107
2.1.3 Use of virtual social networks	28	2.1.2 ICT skills in the education system	110
2.1.1 Mobile broadband internet traffic within the country	30	4.1.5 Prevalence of gig economy	114
2.1.4 Tertiary enrollment	31		
4.2.4 Healthy life expectancy at birth	32		
4.3.1 SDG 3: Good Health and Well-Being	36		
2.2.1 Firms with website	39		
3.2.1 Regulatory quality	44		
4.1.4 Domestic market size	47		

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NRI 2022 At-A-Glance: Peru

Network Readiness Index — Rank: 78 (out of 131) — Score: 46.71

Pillar/sub-pillar	Rank	Score
A. Technology pillar	86	38.92
1st sub-pillar: Access	73	61.37
2nd sub-pillar: Content	74	34.08
3rd sub-pillar: Future Technologies	105	21.32
B. People pillar	69	44.35
1st sub-pillar: Individuals	39	53.95
2nd sub-pillar: Businesses	61	44.13
3rd sub-pillar: Governments	90	34.96

Pillar/sub-pillar	Rank	Score
C. Governance pillar	85	50.63
1st sub-pillar: Trust	94	33.21
2nd sub-pillar: Regulation	72	62.35
3rd sub-pillar: Inclusion	83	56.34
D. Impact pillar	74	52.95
1st sub-pillar: Economy	102	18.65
2nd sub-pillar: Quality of Life	67	67.37
3rd sub-pillar: SDG Contribution	46	72.83

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	86	38.92	
1st sub-pillar: Access	73	61.37	
1.1.1 Mobile tariffs	79	49.67	
1.1.2 Handset prices	71	49.35	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	108	95.21	
1.1.5 International Internet bandwidth	69	70.26	
1.1.6 Internet access in schools	52	42.38	
2nd sub-pillar: Content	74	34.08	
1.2.1 GitHub commits	67	5.34	
1.2.2 Internet domain registrations	68	3.70	
1.2.3 Mobile apps development	73	75.49	
1.2.4 AI scientific publications	49	51.78	
3rd sub-pillar: Future Technologies	105	21.32	
1.3.1 Adoption of emerging technologies	83	38.64	
1.3.2 Investment in emerging technologies	108	25.25	
1.3.3 Robot density	56	0.00	○
1.3.4 Computer software spending	58	21.40	

Indicator	Rank	Score	
C. Governance pillar	85	50.63	
1st sub-pillar: Trust	94	33.21	
3.1.1 Secure Internet servers	71	48.85	
3.1.2 Cybersecurity	90	54.89	
3.1.3 Online access to financial account	107	10.13	○
3.1.4 Internet shopping	65	18.96	
2nd sub-pillar: Regulation	72	62.35	
3.2.1 Regulatory quality	44	55.20	●
3.2.2 ICT regulatory environment	64	83.53	
3.2.3 Regulation of emerging technologies	98	23.42	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	100	49.58	
3rd sub-pillar: Inclusion	83	56.34	
3.3.1 E-Participation	54	75.31	
3.3.2 Socioeconomic gap in use of digital payments	81	58.83	
3.3.3 Availability of local online content	100	40.38	
3.3.4 Gender gap in Internet use	80	61.16	
3.3.5 Rural gap in use of digital payments	94	46.01	

Indicator	Rank	Score	
B. People pillar	69	44.35	
1st sub-pillar: Individuals	39	53.95	
2.1.1 Mobile broadband internet traffic within the country	30	25.97	●
2.1.2 ICT skills in the education system	110	25.44	○
2.1.3 Use of virtual social networks	28	78.38	●
2.1.4 Tertiary enrollment	31	47.01	●
2.1.5 Adult literacy rate	53	92.95	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	61	44.13	
2.2.1 Firms with website	39	68.97	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	94	19.29	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	90	34.96	
2.3.1 Government online services	51	74.54	
2.3.2 Publication and use of open data	47	35.29	
2.3.3 Government promotion of investment in emerging tech	100	25.24	
2.3.4 R&D expenditure by governments and higher education	99	4.76	○

Indicator	Rank	Score	
D. Impact pillar	74	52.95	
1st sub-pillar: Economy	102	18.65	
4.1.1 High-tech and medium-high-tech manufacturing	77	14.51	
4.1.2 High-tech exports	90	8.43	
4.1.3 PCT patent applications	66	3.28	
4.1.4 Domestic market size	47	59.88	●
4.1.5 Prevalence of gig economy	114	18.02	○
4.1.6 ICT services exports	109	7.81	
2nd sub-pillar: Quality of Life	67	67.37	
4.2.1 Happiness	67	62.60	
4.2.2 Freedom to make life choices	65	74.04	
4.2.3 Income inequality	97	48.24	
4.2.4 Healthy life expectancy at birth	32	84.60	●
3rd sub-pillar: SDG Contribution	46	72.83	
4.3.1 SDG 3: Good Health and Well-Being	36	81.99	●
4.3.2 SDG 4: Quality Education	65	30.15	
4.3.3 SDG 5: Women's economic opportunity	25	92.98	●
4.3.4 SDG 7: Affordable and Clean Energy	21	89.31	●
4.3.5 SDG 11: Sustainable Cities and Communities	55	69.72	

NOTE: ● a strength and ○ a weakness.

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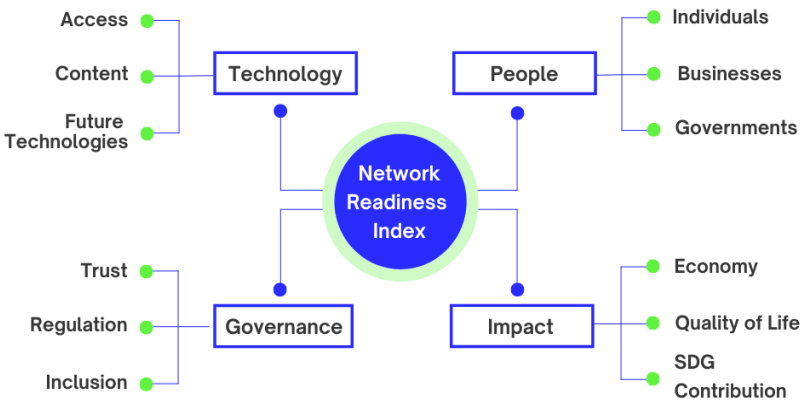
Network Readiness Index 2022 Philippines

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

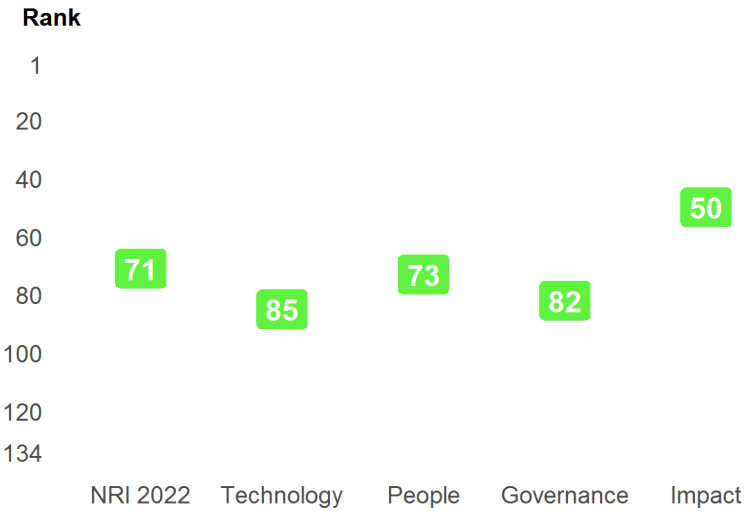
Figure 1: The NRI 2022 model



Global NRI position of Philippines

Philippines ranks 71st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Philippines global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Philippines relate to Economy, Individuals and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Inclusion and SDG Contribution sub-pillars.

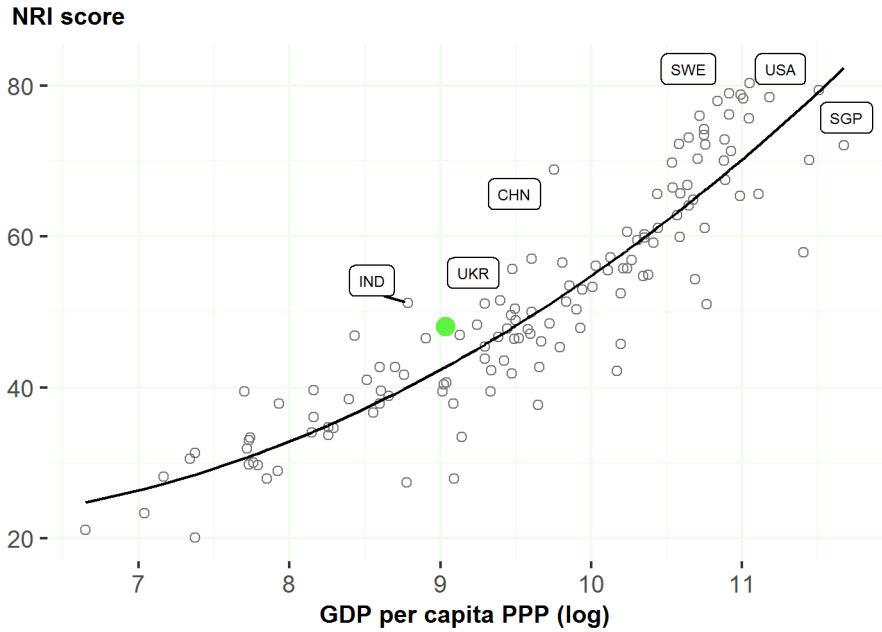
Table 1: Philippines rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	17	Regulation	83
Individuals	34	Content	86
Future Technologies	62	Access	90
Quality of Life	68	Businesses	99
Governments	70	Inclusion	99
Trust	71	SDG Contribution	105

NRI score and income

Figure 3 shows the position of Philippines in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Philippines is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Philippines belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Philippines is ranked 5th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Asia & Pacific

Philippines is ranked 13th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in two of the twelve sub-pillars: Individuals and Economy.

Figure 4: Performance of Philippines against its income group and region, overall and by pillar

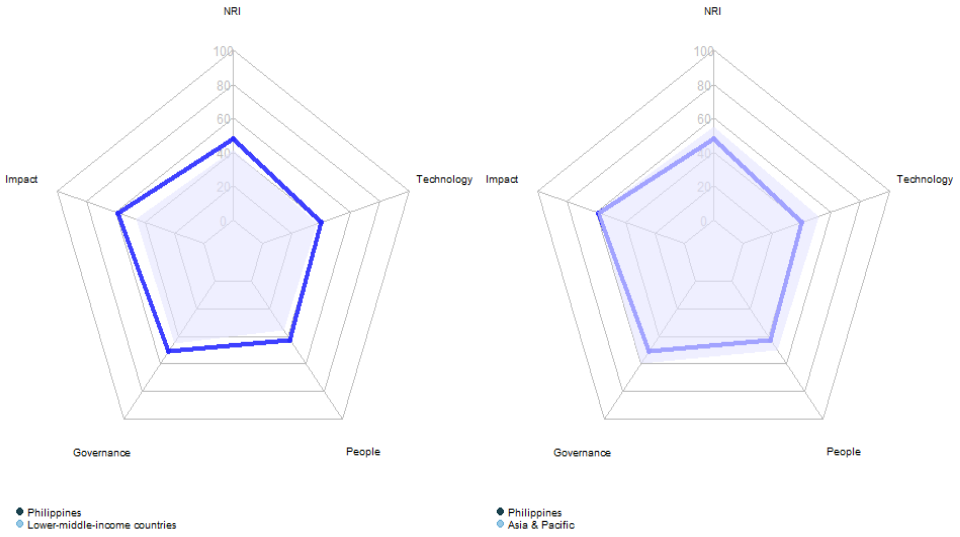


Table 2: Philippines scores vs. averages of its income group and region, overall and by pillar

Dimension	Philippines	Lower-middle-income countries	Asia & Pacific
NRI	48.06	40.94	55.18
Technology	40.02	37.28	51.78
People	42.87	35.42	50.21
Governance	51.07	45.00	59.66
Impact	58.28	46.09	59.07

Strongest and weakest indicators

The indicators where Philippines performs particularly well include 3.2.4 E-commerce legislation, 4.1.2 High-tech exports, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 3.3.5 Rural gap in use of digital payments, 3.3.2 Socioeconomic gap in use of digital payments, and 2.3.4 R&D expenditure by governments and higher education.

Table 3: Strongest and weakest indicators of Philippines

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	50
4.1.2 High-tech exports	2	4.3.2 SDG 4: Quality Education	77
4.1.6 ICT services exports	13	2.3.4 R&D expenditure by governments and higher education	94
2.1.1 Mobile broadband internet traffic within the country	16	3.3.2 Socioeconomic gap in use of digital payments	111
4.2.2 Freedom to make life choices	19	3.3.5 Rural gap in use of digital payments	115
4.3.4 SDG 7: Affordable and Clean Energy	26		
2.3.2 Publication and use of open data	27		
4.1.1 High-tech and medium-high-tech manufacturing	28		
4.1.4 Domestic market size	28		
1.3.2 Investment in emerging technologies	31		
2.1.3 Use of virtual social networks	32		

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NRI 2022 At-A-Glance: Philippines

Network Readiness Index Rank: 71 (out of 131) Score: 48.06

Pillar/sub-pillar	Rank	Score
A. Technology pillar	85	40.02
1st sub-pillar: Access	90	55.40
2nd sub-pillar: Content	86	31.09
3rd sub-pillar: Future Technologies	62	33.57
B. People pillar	73	42.87
1st sub-pillar: Individuals	34	55.53
2nd sub-pillar: Businesses	99	31.08
3rd sub-pillar: Governments	70	41.99

Pillar/sub-pillar	Rank	Score
C. Governance pillar	82	51.07
1st sub-pillar: Trust	71	42.34
2nd sub-pillar: Regulation	83	60.08
3rd sub-pillar: Inclusion	99	50.78
D. Impact pillar	50	58.28
1st sub-pillar: Economy	17	55.03
2nd sub-pillar: Quality of Life	68	67.20
3rd sub-pillar: SDG Contribution	105	52.61

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	85	40.02	
1st sub-pillar: Access	90	55.40	
1.1.1 Mobile tariffs	109	35.79	
1.1.2 Handset prices	104	36.97	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	82	98.67	
1.1.5 International Internet bandwidth	44	74.47	
1.1.6 Internet access in schools	59	31.08	
2nd sub-pillar: Content	86	31.09	
1.2.1 GitHub commits	86	2.96	
1.2.2 Internet domain registrations	97	0.90	
1.2.3 Mobile apps development	102	62.26	
1.2.4 AI scientific publications	42	58.24	
3rd sub-pillar: Future Technologies	62	33.57	
1.3.1 Adoption of emerging technologies	52	51.83	
1.3.2 Investment in emerging technologies	31	61.00	•
1.3.3 Robot density	50	0.85	○
1.3.4 Computer software spending	62	20.59	

Indicator	Rank	Score	
C. Governance pillar	82	51.07	
1st sub-pillar: Trust	71	42.34	
3.1.1 Secure Internet servers	99	37.79	
3.1.2 Cybersecurity	69	76.60	
3.1.3 Online access to financial account	97	13.55	
3.1.4 Internet shopping	46	41.44	
2nd sub-pillar: Regulation	83	60.08	
3.2.1 Regulatory quality	71	41.87	
3.2.2 ICT regulatory environment	90	71.18	
3.2.3 Regulation of emerging technologies	94	25.53	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	73	61.81	
3rd sub-pillar: Inclusion	99	50.78	
3.3.1 E-Participation	56	74.07	
3.3.2 Socioeconomic gap in use of digital payments	111	39.89	○
3.3.3 Availability of local online content	50	67.55	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	115	21.61	○

Indicator	Rank	Score	
B. People pillar	73	42.87	
1st sub-pillar: Individuals	34	55.53	
2.1.1 Mobile broadband internet traffic within the country	16	38.57	●
2.1.2 ICT skills in the education system	70	43.79	
2.1.3 Use of virtual social networks	32	77.02	●
2.1.4 Tertiary enrollment	78	23.02	
2.1.5 Adult literacy rate	39	95.24	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	99	31.08	
2.2.1 Firms with website	64	49.56	
2.2.2 GERD financed by business enterprise	45	46.93	
2.2.3 Knowledge intensive employment	80	26.33	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	69	1.51	
3rd sub-pillar: Governments	70	41.99	
2.3.1 Government online services	59	72.12	
2.3.2 Publication and use of open data	27	50.00	●
2.3.3 Government promotion of investment in emerging tech	59	39.19	
2.3.4 R&D expenditure by governments and higher education	94	6.66	○

Indicator	Rank	Score	
D. Impact pillar	50	58.28	
1st sub-pillar: Economy	17	55.03	
4.1.1 High-tech and medium-high-tech manufacturing	28	50.38	●
4.1.2 High-tech exports	2	95.76	●
4.1.3 PCT patent applications	75	2.02	
4.1.4 Domestic market size	28	67.49	●
4.1.5 Prevalence of gig economy	36	57.85	
4.1.6 ICT services exports	13	56.66	●
2nd sub-pillar: Quality of Life	68	67.20	
4.2.1 Happiness	58	67.42	
4.2.2 Freedom to make life choices	19	89.87	●
4.2.3 Income inequality	88	52.01	
4.2.4 Healthy life expectancy at birth	95	59.48	
3rd sub-pillar: SDG Contribution	105	52.61	
4.3.1 SDG 3: Good Health and Well-Being	101	44.44	
4.3.2 SDG 4: Quality Education	77	9.77	○
4.3.3 SDG 5: Women's economic opportunity	81	70.18	
4.3.4 SDG 7: Affordable and Clean Energy	26	88.64	●
4.3.5 SDG 11: Sustainable Cities and Communities	91	50.03	

NOTE: ● a strength and ○ a weakness.

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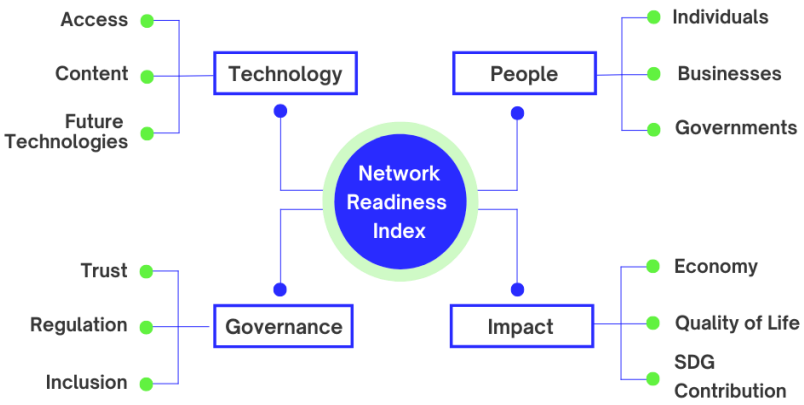
Network Readiness Index 2022 Poland

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

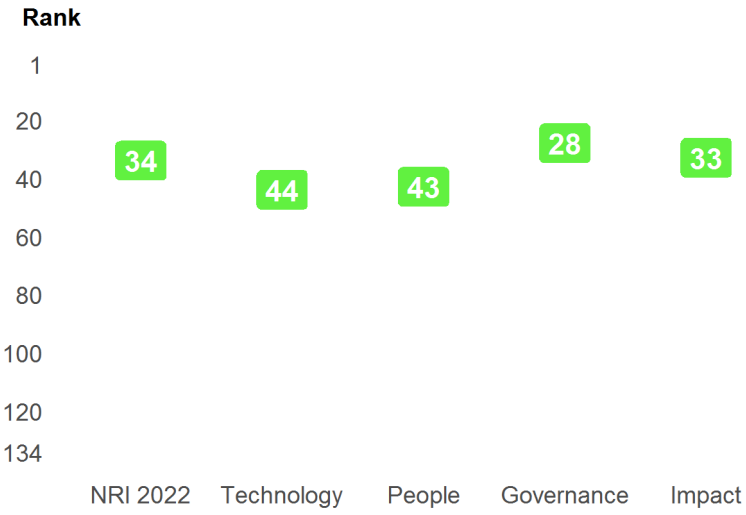
Figure 1: The NRI 2022 model



Global NRI position of Poland

Poland ranks 34th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Poland global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Poland relate to Trust, Access and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Future Technologies and Individuals sub-pillars.

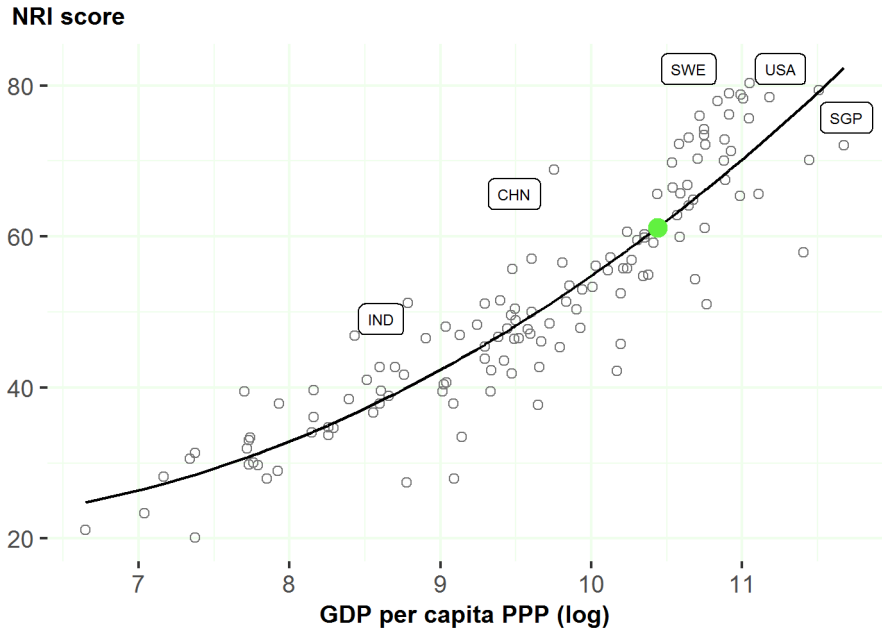
Table 1: Poland rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	16	Content	38
Access	20	Regulation	46
Inclusion	26	Governments	48
Businesses	30	Quality of Life	51
Economy	30	Future Technologies	74
SDG Contribution	32	Individuals	80

NRI score and income

Figure 3 shows the position of Poland in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Poland is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Poland belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Poland is ranked 33rd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: governance. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Access, Businesses, Trust and Inclusion.

Europe

Poland is ranked 24th within Europe (Figure 4, right panel). It has a score above the regional average in one of the four pillars: governance. With regard to sub-pillars, it outperforms the average in Europe in five of the twelve sub-pillars: Access, Businesses, Trust, Inclusion and SDG Contribution.

Figure 4: Performance of Poland against its income group and region, overall and by pillar

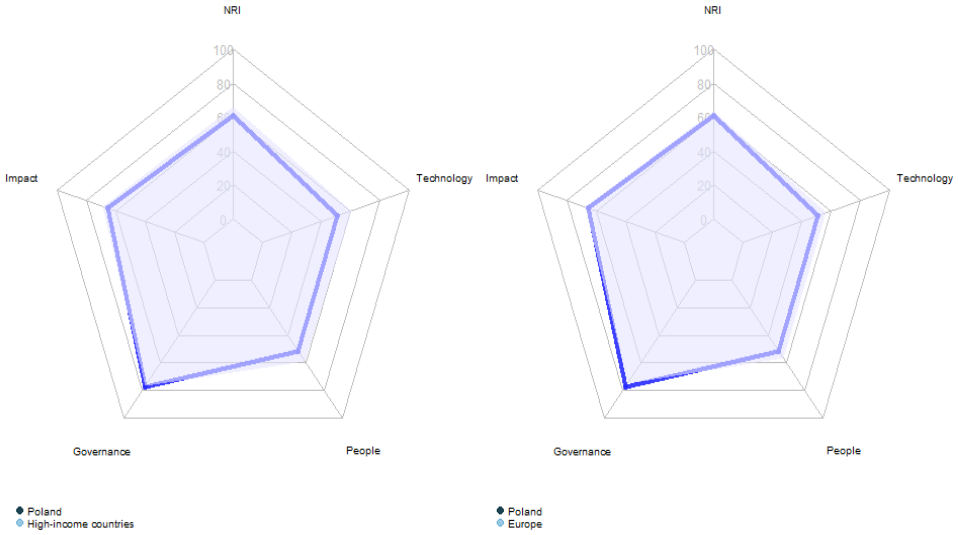


Table 2: Poland scores vs. averages of its income group and region, overall and by pillar

Dimension	Poland	High-income countries	Europe
NRI	61.16	66.21	63.72
Technology	50.61	60.28	56.43
People	51.35	58.83	56.35
Governance	77.32	76.89	74.79
Impact	65.34	68.86	67.30

Strongest and weakest indicators

The indicators where Poland performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 3.2.3 Regulation of emerging technologies, and 1.3.2 Investment in emerging technologies.

Table 3: Strongest and weakest indicators of Poland

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	3.2.5 Privacy protection by law content	71
1.1.6 Internet access in schools	1	1.3.2 Investment in emerging technologies	73
3.2.4 E-commerce legislation	1	3.2.3 Regulation of emerging technologies	74
3.3.1 E-Participation	9	4.2.2 Freedom to make life choices	91
4.3.2 SDG 4: Quality Education	9		
3.1.3 Online access to financial account	15		
3.1.4 Internet shopping	16		
2.1.1 Mobile broadband internet traffic within the country	19		
4.1.4 Domestic market size	19		
2.2.4 Annual investment in telecommunication services	22		
2.3.1 Government online services	22		
4.2.3 Income inequality	22		

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NRI 2022 At-A-Glance: Poland

Network Readiness Index — Rank: 34 (out of 131) — Score: 61.16

Pillar/sub-pillar	Rank	Score
A. Technology pillar	44	50.61
1st sub-pillar: Access	20	76.09
2nd sub-pillar: Content	38	45.82
3rd sub-pillar: Future Technologies	74	29.93
B. People pillar	43	51.35
1st sub-pillar: Individuals	80	43.75
2nd sub-pillar: Businesses	30	61.20
3rd sub-pillar: Governments	48	49.10

Pillar/sub-pillar	Rank	Score
C. Governance pillar	28	77.32
1st sub-pillar: Trust	16	80.80
2nd sub-pillar: Regulation	46	71.05
3rd sub-pillar: Inclusion	26	80.09
D. Impact pillar	33	65.34
1st sub-pillar: Economy	30	44.76
2nd sub-pillar: Quality of Life	51	73.09
3rd sub-pillar: SDG Contribution	32	78.18

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	44	50.61	
1st sub-pillar: Access	20	76.09	
1.1.1 Mobile tariffs	37	73.14	
1.1.2 Handset prices	37	69.58	
1.1.3 FTTH/building Internet subscriptions	23	41.91	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	57	71.90	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	38	45.82	
1.2.1 GitHub commits	32	28.67	
1.2.2 Internet domain registrations	32	21.87	
1.2.3 Mobile apps development	40	86.92	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	74	29.93	
1.3.1 Adoption of emerging technologies	61	48.92	
1.3.2 Investment in emerging technologies	73	37.25	○
1.3.3 Robot density	30	9.31	
1.3.4 Computer software spending	47	24.24	

Indicator	Rank	Score	
C. Governance pillar	28	77.32	
1st sub-pillar: Trust	16	80.80	
3.1.1 Secure Internet servers	26	80.86	
3.1.2 Cybersecurity	37	93.75	
3.1.3 Online access to financial account	15	70.34	●
3.1.4 Internet shopping	16	78.26	●
2nd sub-pillar: Regulation	46	71.05	
3.2.1 Regulatory quality	35	64.80	
3.2.2 ICT regulatory environment	39	87.65	
3.2.3 Regulation of emerging technologies	74	40.26	○
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	71	62.56	○
3rd sub-pillar: Inclusion	26	80.09	
3.3.1 E-Participation	9	96.30	●
3.3.2 Socioeconomic gap in use of digital payments	35	90.29	
3.3.3 Availability of local online content	52	67.07	
3.3.4 Gender gap in Internet use	35	73.02	
3.3.5 Rural gap in use of digital payments	36	73.79	

Indicator	Rank	Score	
B. People pillar	43	51.35	
1st sub-pillar: Individuals	80	43.75	
2.1.1 Mobile broadband internet traffic within the country	19	36.50	●
2.1.2 ICT skills in the education system	60	49.11	
2.1.3 Use of virtual social networks	65	66.89	
2.1.4 Tertiary enrollment	34	45.95	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	21	20.27	
2nd sub-pillar: Businesses	30	61.20	
2.2.1 Firms with website	35	71.52	
2.2.2 GERD financed by business enterprise	28	62.70	
2.2.3 Knowledge intensive employment	30	63.73	
2.2.4 Annual investment in telecommunication services	22	84.93	●
2.2.5 GERD performed by business enterprise	27	23.11	
3rd sub-pillar: Governments	48	49.10	
2.3.1 Government online services	22	85.45	●
2.3.2 Publication and use of open data	45	36.76	
2.3.3 Government promotion of investment in emerging tech	65	37.89	
2.3.4 R&D expenditure by governments and higher education	52	36.30	

Indicator	Rank	Score	
D. Impact pillar	33	65.34	
1st sub-pillar: Economy	30	44.76	
4.1.1 High-tech and medium-high-tech manufacturing	39	44.07	
4.1.2 High-tech exports	31	51.46	
4.1.3 PCT patent applications	42	9.93	
4.1.4 Domestic market size	19	71.05	●
4.1.5 Prevalence of gig economy	47	52.62	
4.1.6 ICT services exports	41	39.42	
2nd sub-pillar: Quality of Life	51	73.09	
4.2.1 Happiness	57	67.66	
4.2.2 Freedom to make life choices	91	60.50	○
4.2.3 Income inequality	22	82.41	●
4.2.4 Healthy life expectancy at birth	38	81.81	
3rd sub-pillar: SDG Contribution	32	78.18	
4.3.1 SDG 3: Good Health and Well-Being	52	74.86	
4.3.2 SDG 4: Quality Education	9	73.96	●
4.3.3 SDG 5: Women's economic opportunity	27	91.23	
4.3.4 SDG 7: Affordable and Clean Energy	55	82.46	
4.3.5 SDG 11: Sustainable Cities and Communities	59	68.39	

NOTE: ● a strength and ○ a weakness.

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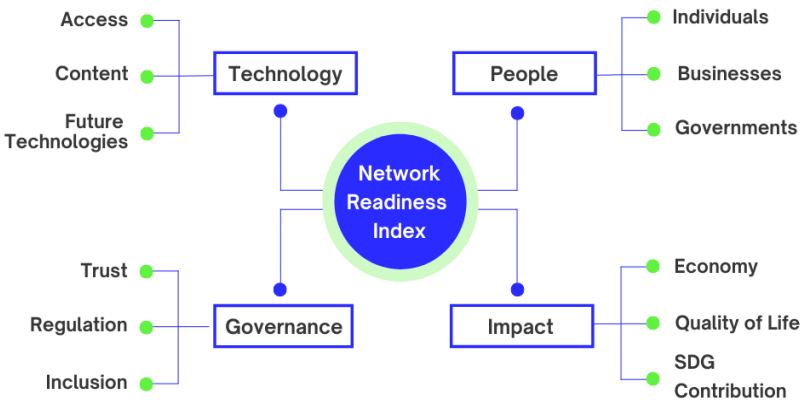
Network Readiness Index 2022 Portugal

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

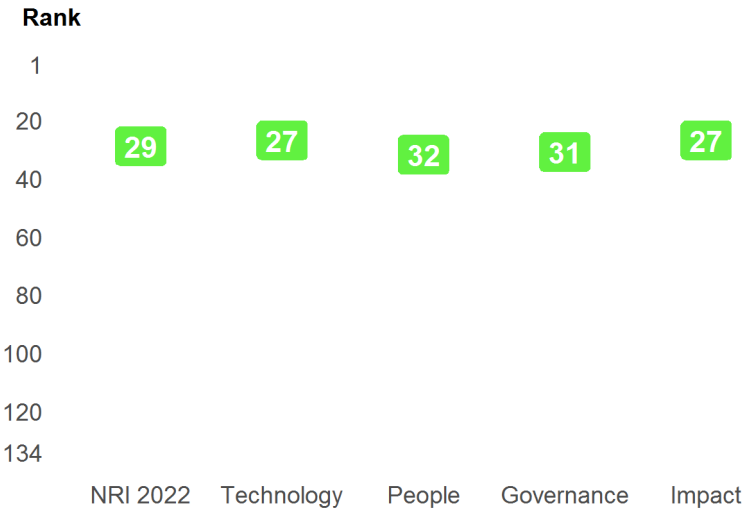
Figure 1: The NRI 2022 model



Global NRI position of Portugal

Portugal ranks 29th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology and Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Portugal global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Portugal relate to SDG Contribution, Regulation and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Trust and Individuals sub-pillars.

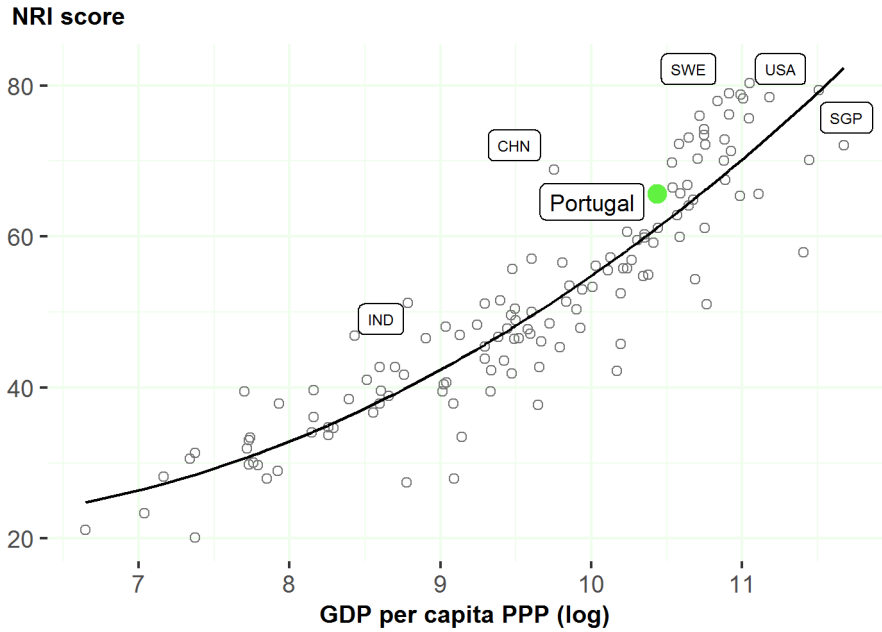
Table 1: Portugal rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	11	Access	29
Regulation	14	Businesses	34
Quality of Life	25	Economy	37
Future Technologies	26	Inclusion	38
Content	27	Trust	43
Governments	28	Individuals	52

NRI score and income

Figure 3 shows the position of Portugal in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Portugal is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Portugal belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Portugal is ranked 28th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: impact. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Access, Regulation, Quality of Life and SDG Contribution.

Europe

Portugal is ranked 20th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in seven of the twelve sub-pillars: Access, Future Technologies, Governments, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Portugal against its income group and region, overall and by pillar

Table 2: Portugal scores vs. averages of its income group and region, overall and by pillar

Dimension	Portugal	High-income countries	Europe
NRI	65.63	66.21	63.72
Technology	59.34	60.28	56.43
People	56.79	58.83	56.35
Governance	76.14	76.89	74.79
Impact	70.26	68.86	67.30

Strongest and weakest indicators

The indicators where Portugal performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 1.1.1 Mobile tariffs, 3.3.4 Gender gap in Internet use, and 2.1.1 Mobile broadband internet traffic within the country.

Table 3: Strongest and weakest indicators of Portugal

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.6 AI talent concentration	33
3.2.4 E-commerce legislation	1	2.1.1 Mobile broadband internet traffic within the country	61
3.2.5 Privacy protection by law content	1	1.1.1 Mobile tariffs	63
4.3.3 SDG 5: Women's economic opportunity	1	3.3.4 Gender gap in Internet use	63
1.3.4 Computer software spending	6		
3.2.2 ICT regulatory environment	14		
4.3.1 SDG 3: Good Health and Well-Being	18		
1.2.2 Internet domain registrations	19		
4.3.4 SDG 7: Affordable and Clean Energy	19		
3.1.2 Cybersecurity	20		
4.2.4 Healthy life expectancy at birth	20		
3.3.5 Rural gap in use of digital payments	22		

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NRI 2022 At-A-Glance: Portugal

Network Readiness Index — Rank: 29 (out of 131) — Score: 65.63

Pillar/sub-pillar	Rank	Score
A. Technology pillar	27	59.34
1st sub-pillar: Access	29	74.74
2nd sub-pillar: Content	27	55.37
3rd sub-pillar: Future Technologies	26	47.92
B. People pillar	32	56.79
1st sub-pillar: Individuals	52	51.46
2nd sub-pillar: Businesses	34	59.21
3rd sub-pillar: Governments	28	59.71

Pillar/sub-pillar	Rank	Score
C. Governance pillar	31	76.14
1st sub-pillar: Trust	43	64.77
2nd sub-pillar: Regulation	14	86.20
3rd sub-pillar: Inclusion	38	77.45
D. Impact pillar	27	70.26
1st sub-pillar: Economy	37	42.66
2nd sub-pillar: Quality of Life	25	81.08
3rd sub-pillar: SDG Contribution	11	87.04

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	27	59.34	
1st sub-pillar: Access	29	74.74	
1.1.1 Mobile tariffs	63	60.99	○
1.1.2 Handset prices	31	72.58	
1.1.3 FTTH/building Internet subscriptions	24	41.49	
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	50	73.41	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	27	55.37	
1.2.1 GitHub commits	33	27.33	
1.2.2 Internet domain registrations	19	49.15	●
1.2.3 Mobile apps development	34	89.62	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	26	47.92	
1.3.1 Adoption of emerging technologies	27	70.91	
1.3.2 Investment in emerging technologies	39	52.75	
1.3.3 Robot density	25	12.07	
1.3.4 Computer software spending	6	55.95	●
B. People pillar	32	56.79	

Indicator	Rank	Score	
C. Governance pillar	31	76.14	
1st sub-pillar: Trust	43	64.77	
3.1.1 Secure Internet servers	31	79.85	
3.1.2 Cybersecurity	20	97.27	●
3.1.3 Online access to financial account	52	34.56	
3.1.4 Internet shopping	42	47.38	
2nd sub-pillar: Regulation	14	86.20	
3.2.1 Regulatory quality	37	63.20	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Regulation of emerging technologies	23	73.68	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	1	100.00	●
3rd sub-pillar: Inclusion	38	77.45	
3.3.1 E-Participation	41	81.48	
3.3.2 Socioeconomic gap in use of digital payments	48	84.24	
3.3.3 Availability of local online content	37	77.64	
3.3.4 Gender gap in Internet use	63	68.05	○
3.3.5 Rural gap in use of digital payments	22	75.82	●
D. Impact pillar	27	70.26	

Indicator	Rank	Score	
1st sub-pillar: Individuals	52	51.46	
2.1.1 Mobile broadband internet traffic within the country	61	8.60	○
2.1.2 ICT skills in the education system	25	69.82	
2.1.3 Use of virtual social networks	29	78.29	
2.1.4 Tertiary enrollment	38	45.10	
2.1.5 Adult literacy rate	40	95.06	
2.1.6 AI talent concentration	33	11.89	○
2nd sub-pillar: Businesses	34	59.21	
2.2.1 Firms with website	53	60.69	
2.2.2 GERD financed by business enterprise	26	64.55	
2.2.3 Knowledge intensive employment	27	65.90	
2.2.4 Annual investment in telecommunication services	42	80.69	
2.2.5 GERD performed by business enterprise	24	24.19	
3rd sub-pillar: Governments	28	59.71	
2.3.1 Government online services	35	83.03	
2.3.2 Publication and use of open data	36	42.65	
2.3.3 Government promotion of investment in emerging tech	30	54.44	
2.3.4 R&D expenditure by governments and higher education	20	58.73	

Indicator	Rank	Score	
1st sub-pillar: Economy	37	42.66	
4.1.1 High-tech and medium-high-tech manufacturing	42	39.21	
4.1.2 High-tech exports	43	40.67	
4.1.3 PCT patent applications	30	21.20	
4.1.4 Domestic market size	50	58.03	
4.1.5 Prevalence of gig economy	36	57.85	
4.1.6 ICT services exports	43	39.03	
2nd sub-pillar: Quality of Life	25	81.08	
4.2.1 Happiness	46	71.31	
4.2.2 Freedom to make life choices	25	87.64	
4.2.3 Income inequality	36	75.88	
4.2.4 Healthy life expectancy at birth	20	89.50	●
3rd sub-pillar: SDG Contribution	11	87.04	
4.3.1 SDG 3: Good Health and Well-Being	18	91.85	●
4.3.2 SDG 4: Quality Education	26	65.75	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	19	89.81	●
4.3.5 SDG 11: Sustainable Cities and Communities	24	87.79	

NOTE: ● a strength and ○ a weakness.

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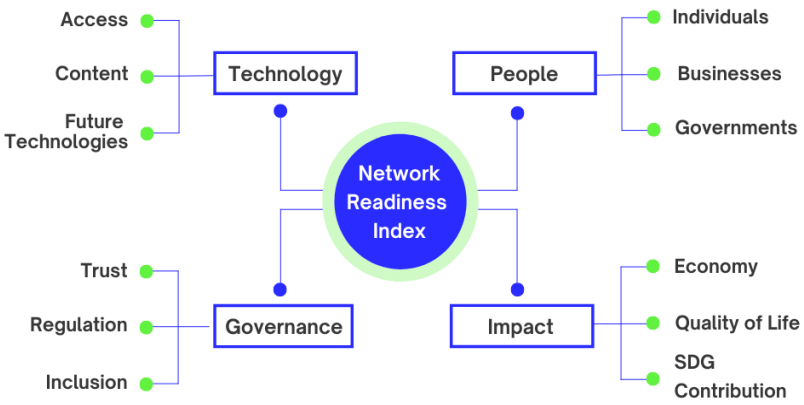
Network Readiness Index 2022 Qatar

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

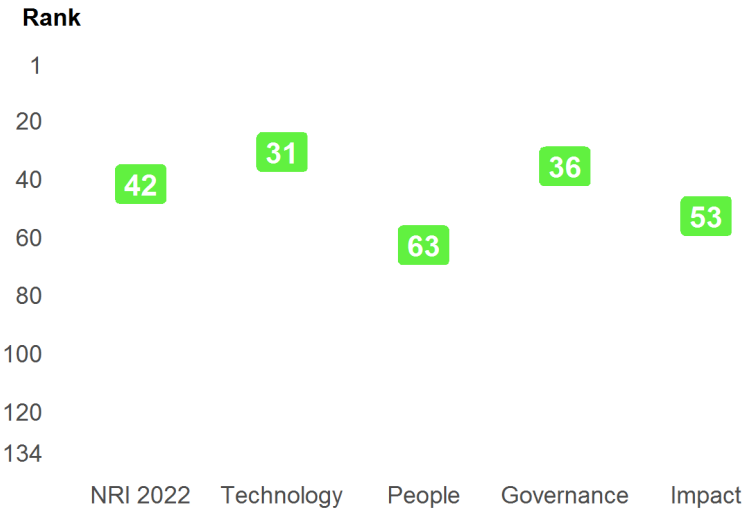
Figure 1: The NRI 2022 model



Global NRI position of Qatar

Qatar ranks 42nd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Qatar global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Qatar relate to Future Technologies, Access and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Businesses and SDG Contribution sub-pillars.

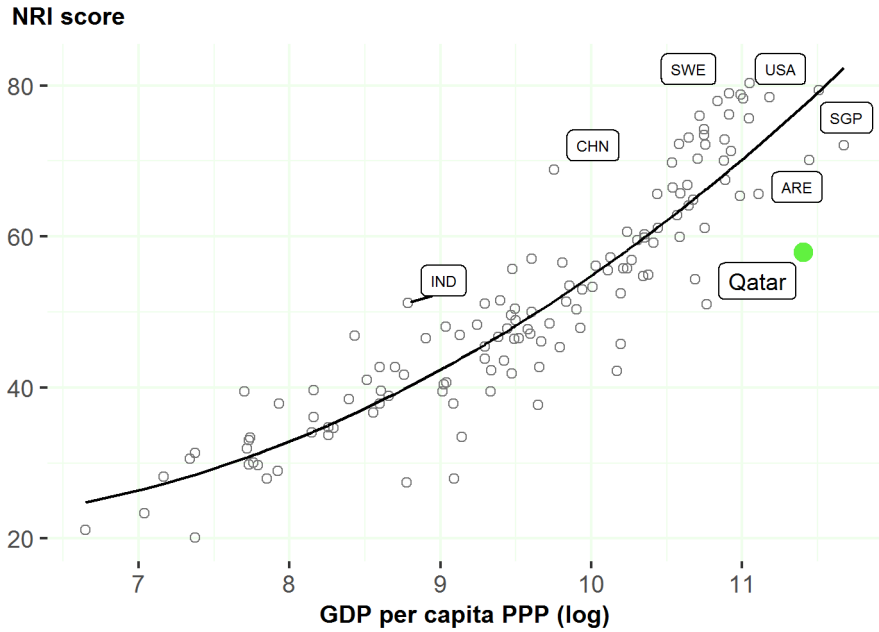
Table 1: Qatar rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	18	Economy	47
Access	21	Governments	49
Quality of Life	23	Inclusion	49
Individuals	24	Content	61
Trust	29	Businesses	101
Regulation	43	SDG Contribution	108

NRI score and income

Figure 3 shows the position of Qatar in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Qatar is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Qatar belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

Qatar is ranked 39th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Access, Future Technologies, Individuals and Quality of Life.

Arab States

Qatar is ranked 3rd within Arab States (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, technology, governance and impact. With regard to sub-pillars, it outperforms the average in Arab States in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Qatar against its income group and region, overall and by pillar

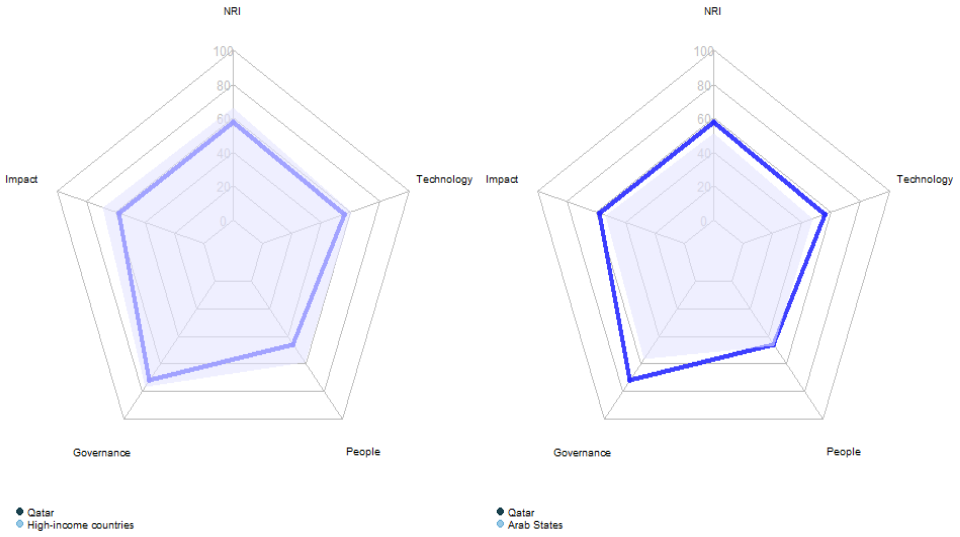


Table 2: Qatar scores vs. averages of its income group and region, overall and by pillar

Dimension	Qatar	High-income countries	Arab States
NRI	57.87	66.21	51.21
Technology	56.02	60.28	47.66
People	45.75	58.83	47.11
Governance	71.94	76.89	56.68
Impact	57.75	68.86	53.39

Strongest and weakest indicators

The indicators where Qatar performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.3.3 SDG 5: Women's economic opportunity, 4.3.4 SDG 7: Affordable and Clean Energy, and 3.2.2 ICT regulatory environment.

Table 3: Strongest and weakest indicators of Qatar

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	1.1.3 FTTH/building Internet subscriptions	83
1.1.6 Internet access in schools	1	2.1.4 Tertiary enrollment	96
3.2.4 E-commerce legislation	1	3.2.2 ICT regulatory environment	101
2.1.3 Use of virtual social networks	4	4.3.4 SDG 7: Affordable and Clean Energy	111
1.1.2 Handset prices	6	4.3.3 SDG 5: Women's economic opportunity	130
2.1.2 ICT skills in the education system	8		
4.2.2 Freedom to make life choices	11		
4.3.5 SDG 11: Sustainable Cities and Communities	12		
4.1.5 Prevalence of gig economy	14		
1.3.2 Investment in emerging technologies	17		
2.3.3 Government promotion of investment in emerging technologies	19		
3.2.3 Regulation of emerging technologies	25		

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NRI 2022 At-A-Glance: Qatar

Network Readiness Index — Rank: 42 (out of 131) — Score: 57.87

Pillar/sub-pillar	Rank	Score
A. Technology pillar	31	56.02
1st sub-pillar: Access	21	76.02
2nd sub-pillar: Content	61	37.73
3rd sub-pillar: Future Technologies	18	54.32
B. People pillar	63	45.75
1st sub-pillar: Individuals	24	57.93
2nd sub-pillar: Businesses	101	30.80
3rd sub-pillar: Governments	49	48.54

Pillar/sub-pillar	Rank	Score
C. Governance pillar	36	71.94
1st sub-pillar: Trust	29	71.42
2nd sub-pillar: Regulation	43	71.52
3rd sub-pillar: Inclusion	49	72.89
D. Impact pillar	53	57.75
1st sub-pillar: Economy	47	39.76
2nd sub-pillar: Quality of Life	23	81.42
3rd sub-pillar: SDG Contribution	108	52.06

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	31	56.02	
1st sub-pillar: Access	21	76.02	
1.1.1 Mobile tariffs	33	76.53	
1.1.2 Handset prices	6	95.60	●
1.1.3 FTTH/building Internet subscriptions	83	13.12	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	66	70.85	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	61	37.73	
1.2.1 GitHub commits	89	2.71	
1.2.2 Internet domain registrations	75	2.83	
1.2.3 Mobile apps development	46	84.75	
1.2.4 AI scientific publications	38	60.61	
3rd sub-pillar: Future Technologies	18	54.32	
1.3.1 Adoption of emerging technologies	35	62.68	
1.3.2 Investment in emerging technologies	17	71.00	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	33	29.26	

Indicator	Rank	Score	
C. Governance pillar	36	71.94	
1st sub-pillar: Trust	29	71.42	
3.1.1 Secure Internet servers	73	48.44	
3.1.2 Cybersecurity	34	94.40	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	43	71.52	
3.2.1 Regulatory quality	36	63.73	
3.2.2 ICT regulatory environment	101	66.67	○
3.2.3 Regulation of emerging technologies	25	73.16	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	90	54.05	
3rd sub-pillar: Inclusion	49	72.89	
3.3.1 E-Participation	75	64.20	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	30	81.97	
3.3.4 Gender gap in Internet use	37	72.48	
3.3.5 Rural gap in use of digital payments	NA	NA	

Indicator	Rank	Score	
B. People pillar	63	45.75	
1st sub-pillar: Individuals	24	57.93	
2.1.1 Mobile broadband internet traffic within the country	66	7.92	
2.1.2 ICT skills in the education system	8	83.14	●
2.1.3 Use of virtual social networks	4	93.96	●
2.1.4 Tertiary enrollment	96	12.99	○
2.1.5 Adult literacy rate	58	91.62	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	101	30.80	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	77	11.40	
2.2.3 Knowledge intensive employment	70	31.92	
2.2.4 Annual investment in telecommunication services	56	78.25	
2.2.5 GERD performed by business enterprise	68	1.62	
3rd sub-pillar: Governments	49	48.54	
2.3.1 Government online services	74	64.85	
2.3.2 Publication and use of open data	73	19.12	
2.3.3 Government promotion of investment in emerging tech	19	70.01	
2.3.4 R&D expenditure by governments and higher education	48	40.18	

Indicator	Rank	Score	
D. Impact pillar	53	57.75	
1st sub-pillar: Economy	47	39.76	
4.1.1 High-tech and medium-high-tech manufacturing	31	49.05	
4.1.2 High-tech exports	69	17.40	
4.1.3 PCT patent applications	63	3.83	
4.1.4 Domestic market size	58	54.89	
4.1.5 Prevalence of gig economy	14	71.22	●
4.1.6 ICT services exports	32	42.18	
2nd sub-pillar: Quality of Life	23	81.42	
4.2.1 Happiness	37	74.72	
4.2.2 Freedom to make life choices	11	93.10	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	51	76.44	
3rd sub-pillar: SDG Contribution	108	52.06	
4.3.1 SDG 3: Good Health and Well-Being	51	75.55	
4.3.2 SDG 4: Quality Education	59	34.86	
4.3.3 SDG 5: Women's economic opportunity	130	0.88	○
4.3.4 SDG 7: Affordable and Clean Energy	111	54.30	○
4.3.5 SDG 11: Sustainable Cities and Communities	12	94.70	●

NOTE: ● a strength and ○ a weakness.

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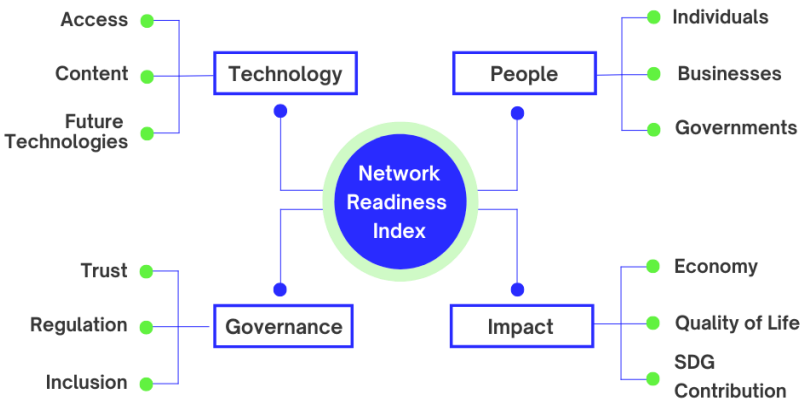
Network Readiness Index 2022 Romania

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

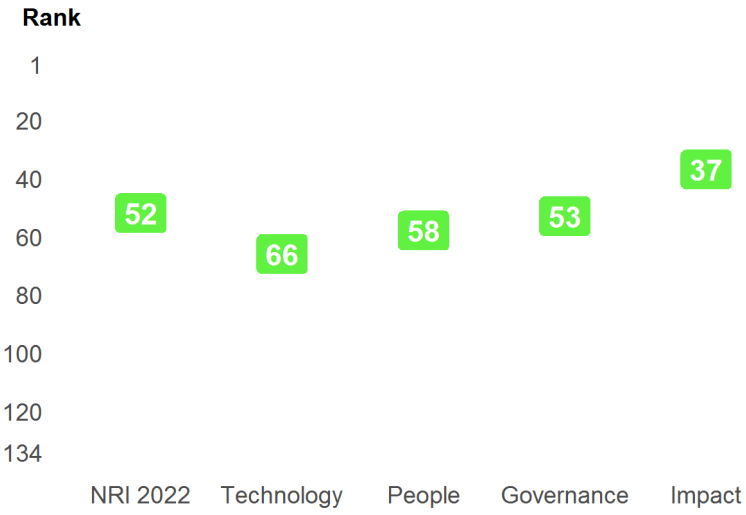
Figure 1: The NRI 2022 model



Global NRI position of Romania

Romania ranks 52nd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Romania global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Romania relate to Economy, Quality of Life and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Governments and Future Technologies sub-pillars.

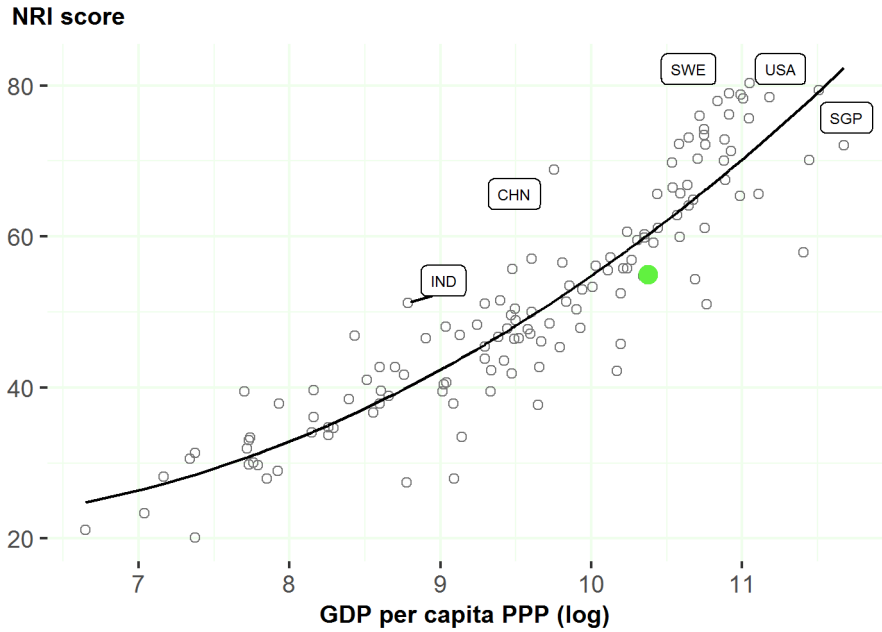
Table 1: Romania rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	29	Access	57
Quality of Life	36	SDG Contribution	58
Regulation	44	Inclusion	63
Individuals	45	Content	64
Trust	51	Governments	76
Businesses	52	Future Technologies	84

NRI score and income

Figure 3 shows the position of Romania in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Romania is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Romania belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Romania is ranked 44th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails high-income countries in all of them.

Europe

Romania is ranked 34th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in one of the twelve sub-pillars: Individuals.

Figure 4: Performance of Romania against its income group and region, overall and by pillar

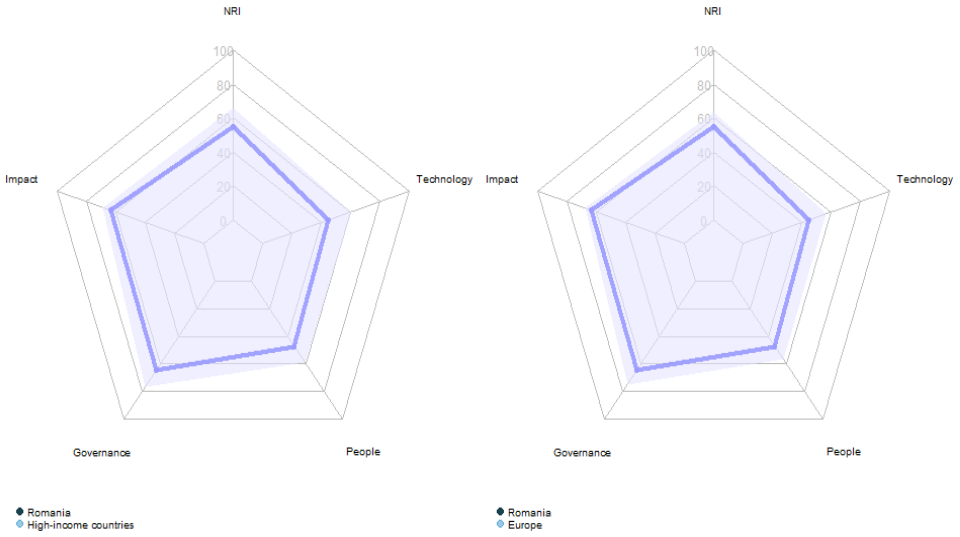


Table 2: Romania scores vs. averages of its income group and region, overall and by pillar

Dimension	Romania	High-income countries	Europe
NRI	54.89	66.21	63.72
Technology	44.45	60.28	56.43
People	47.38	58.83	56.35
Governance	64.31	76.89	74.79
Impact	63.41	68.86	67.30

Strongest and weakest indicators

The indicators where Romania performs particularly well include 3.2.4 E-commerce legislation, 4.1.6 ICT services exports, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 4.3.5 SDG 11: Sustainable Cities and Communities, and 3.3.5 Rural gap in use of digital payments.

Table 3: Strongest and weakest indicators of Romania

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	72
4.1.6 ICT services exports	10	2.3.4 R&D expenditure by governments and higher education	79
4.3.4 SDG 7: Affordable and Clean Energy	14	3.3.5 Rural gap in use of digital payments	91
1.1.3 FTTH/building Internet subscriptions	16	1.3.2 Investment in emerging technologies	92
2.1.5 Adult literacy rate	21	4.3.5 SDG 11: Sustainable Cities and Communities	92
2.2.2 GERD financed by business enterprise	21		
4.1.1 High-tech and medium-high-tech manufacturing	23		
1.1.4 Population covered by at least a 3G mobile network	24		
4.1.2 High-tech exports	26		
4.2.1 Happiness	27		
3.2.2 ICT regulatory environment	30		

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NRI 2022 At-A-Glance: Romania

Network Readiness Index Rank: 52 (out of 131) Score: 54.89

Pillar/sub-pillar	Rank	Score
A. Technology pillar	66	44.45
1st sub-pillar: Access	57	68.28
2nd sub-pillar: Content	64	37.00
3rd sub-pillar: Future Technologies	84	28.06
B. People pillar	58	47.38
1st sub-pillar: Individuals	45	52.97
2nd sub-pillar: Businesses	52	48.92
3rd sub-pillar: Governments	76	40.27

Pillar/sub-pillar	Rank	Score
C. Governance pillar	53	64.31
1st sub-pillar: Trust	51	55.51
2nd sub-pillar: Regulation	44	71.35
3rd sub-pillar: Inclusion	63	66.08
D. Impact pillar	37	63.41
1st sub-pillar: Economy	29	45.33
2nd sub-pillar: Quality of Life	36	77.12
3rd sub-pillar: SDG Contribution	58	67.79

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	66	44.45	
1st sub-pillar: Access	57	68.28	
1.1.1 Mobile tariffs	44	70.87	
1.1.2 Handset prices	66	51.69	
1.1.3 FTTH/building Internet subscriptions	16	47.60	●
1.1.4 Population covered by at least a 3G mobile network	24	99.99	●
1.1.5 International Internet bandwidth	64	71.27	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	64	37.00	
1.2.1 GitHub commits	44	14.15	
1.2.2 Internet domain registrations	43	11.10	
1.2.3 Mobile apps development	43	85.75	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	84	28.06	
1.3.1 Adoption of emerging technologies	50	52.70	
1.3.2 Investment in emerging technologies	92	31.25	○
1.3.3 Robot density	38	4.79	
1.3.4 Computer software spending	49	23.50	

Indicator	Rank	Score	
C. Governance pillar	53	64.31	
1st sub-pillar: Trust	51	55.51	
3.1.1 Secure Internet servers	33	79.56	
3.1.2 Cybersecurity	70	75.87	
3.1.3 Online access to financial account	73	23.59	
3.1.4 Internet shopping	45	43.03	
2nd sub-pillar: Regulation	44	71.35	
3.2.1 Regulatory quality	54	51.20	
3.2.2 ICT regulatory environment	30	90.59	●
3.2.3 Regulation of emerging technologies	54	48.16	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	63	66.81	
3rd sub-pillar: Inclusion	63	66.08	
3.3.1 E-Participation	46	80.24	
3.3.2 Socioeconomic gap in use of digital payments	79	61.43	
3.3.3 Availability of local online content	45	71.88	
3.3.4 Gender gap in Internet use	72	67.11	○
3.3.5 Rural gap in use of digital payments	91	49.73	○

Indicator	Rank	Score	
B. People pillar	58	47.38	
1st sub-pillar: Individuals	45	52.97	
2.1.1 Mobile broadband internet traffic within the country	42	16.34	
2.1.2 ICT skills in the education system	56	51.48	
2.1.3 Use of virtual social networks	71	64.65	
2.1.4 Tertiary enrollment	62	33.81	
2.1.5 Adult literacy rate	21	98.55	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	52	48.92	
2.2.1 Firms with website	65	49.45	
2.2.2 GERD financed by business enterprise	21	67.52	●
2.2.3 Knowledge intensive employment	54	40.58	
2.2.4 Annual investment in telecommunication services	46	79.77	
2.2.5 GERD performed by business enterprise	48	7.26	
3rd sub-pillar: Governments	76	40.27	
2.3.1 Government online services	60	71.51	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	81	32.45	
2.3.4 R&D expenditure by governments and higher education	79	16.85	○

Indicator	Rank	Score	
D. Impact pillar	37	63.41	
1st sub-pillar: Economy	29	45.33	
4.1.1 High-tech and medium-high-tech manufacturing	23	57.02	●
4.1.2 High-tech exports	26	53.83	●
4.1.3 PCT patent applications	78	1.71	
4.1.4 Domestic market size	35	63.48	
4.1.5 Prevalence of gig economy	76	36.34	
4.1.6 ICT services exports	10	59.61	●
2nd sub-pillar: Quality of Life	36	77.12	
4.2.1 Happiness	27	77.82	●
4.2.2 Freedom to make life choices	33	84.06	
4.2.3 Income inequality	51	70.85	
4.2.4 Healthy life expectancy at birth	56	75.73	
3rd sub-pillar: SDG Contribution	58	67.79	
4.3.1 SDG 3: Good Health and Well-Being	63	70.74	
4.3.2 SDG 4: Quality Education	48	40.49	
4.3.3 SDG 5: Women's economic opportunity	35	86.84	
4.3.4 SDG 7: Affordable and Clean Energy	14	91.14	●
4.3.5 SDG 11: Sustainable Cities and Communities	92	49.71	○

NOTE: ● a strength and ○ a weakness.

Sources

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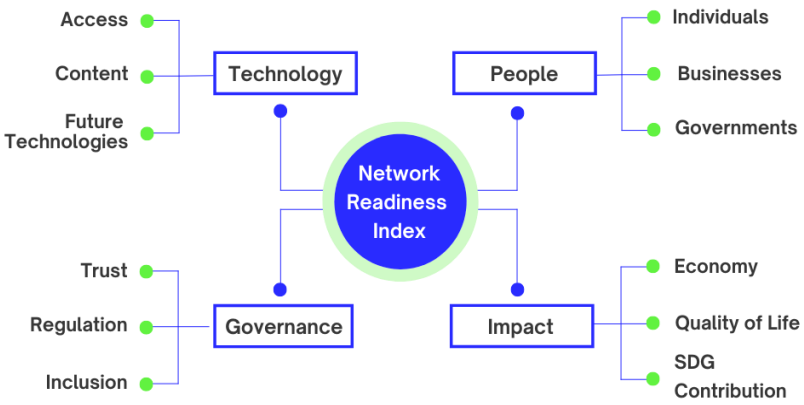
Network Readiness Index 2022 Russian Federation

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

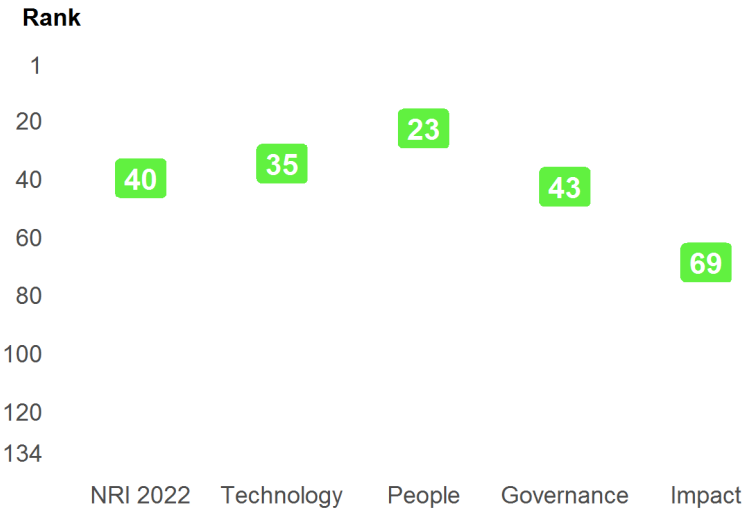
Figure 1: The NRI 2022 model



Global NRI position of Russian Federation

Russian Federation ranks 40th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Russian Federation global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Russian Federation relate to Individuals, Access and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Quality of Life and Regulation sub-pillars.

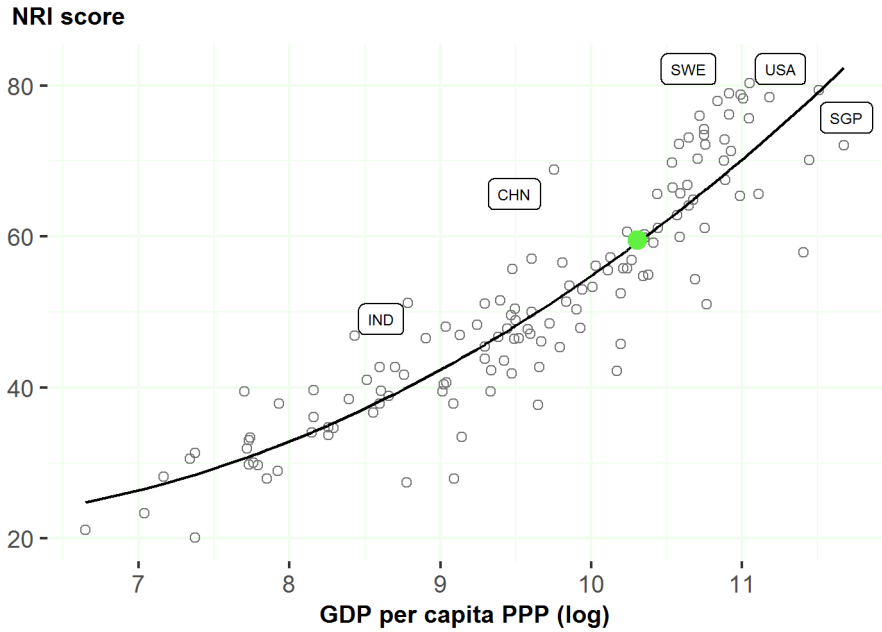
Table 1: Russian Federation rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	4	Businesses	41
Access	11	Economy	46
Trust	27	Future Technologies	61
Inclusion	29	SDG Contribution	75
Governments	31	Quality of Life	88
Content	34	Regulation	103

NRI score and income

Figure 3 shows the position of Russian Federation in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Russian Federation is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Russian Federation belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Upper-middle-income countries

Russian Federation is ranked 3rd in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in nine of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion and Economy.

CIS

Russian Federation is ranked 1st within CIS (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in CIS in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion and Economy.

Figure 4: Performance of Russian Federation against its income group and region, overall and by pillar

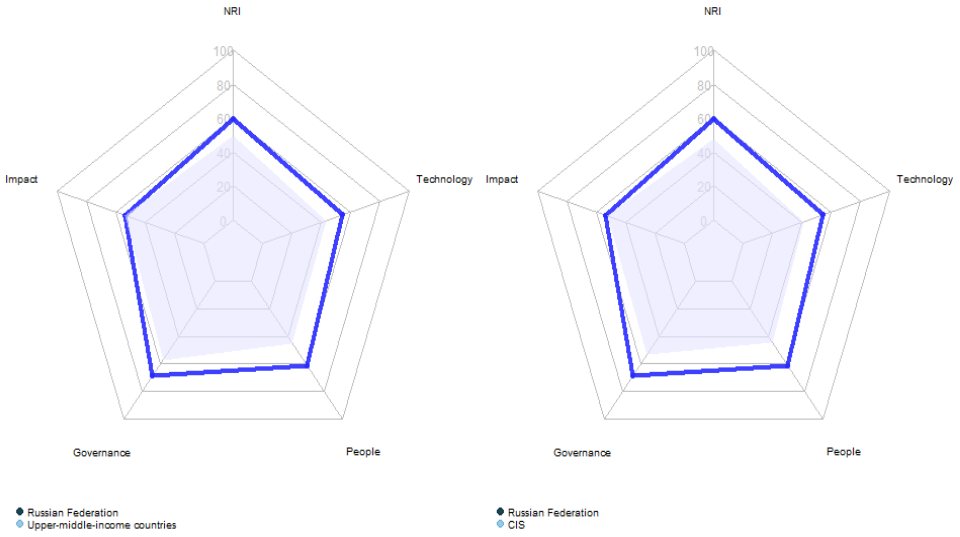


Table 2: Russian Federation scores vs. averages of its income group and region, overall and by pillar

Dimension	Russian Federation	Upper-middle-income countries	CIS
NRI	59.54	49.66	47.65
Technology	54.22	43.11	41.04
People	60.99	44.94	44.26
Governance	69.02	57.08	52.99
Impact	53.96	53.50	52.31

Strongest and weakest indicators

The indicators where Russian Federation performs particularly well include 3.2.4 E-commerce legislation, 2.1.1 Mobile broadband internet traffic within the country, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 4.3.4 SDG 7: Affordable and Clean Energy, and 3.2.5 Privacy protection by law content.

Table 3: Strongest and weakest indicators of Russian Federation

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	48
2.1.1 Mobile broadband internet traffic within the country	4	4.2.2 Freedom to make life choices	112
1.1.3 FTTH/building Internet subscriptions	6	3.2.5 Privacy protection by law content	117
4.1.4 Domestic market size	6	4.3.4 SDG 7: Affordable and Clean Energy	121
3.1.2 Cybersecurity	8	3.2.2 ICT regulatory environment	126
2.1.5 Adult literacy rate	9		
2.2.4 Annual investment in telecommunication services	12		
1.1.5 International Internet bandwidth	13		
1.2.4 AI scientific publications	14		
2.1.4 Tertiary enrollment	15		
2.2.3 Knowledge intensive employment	20		

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NRI 2022 At-A-Glance: Russian Federation

Network Readiness Index — Rank: 40 (out of 131) — Score: 59.54

Pillar/sub-pillar	Rank	Score
A. Technology pillar	35	54.22
1st sub-pillar: Access	11	80.68
2nd sub-pillar: Content	34	48.15
3rd sub-pillar: Future Technologies	61	33.83
B. People pillar	23	60.99
1st sub-pillar: Individuals	4	70.24
2nd sub-pillar: Businesses	41	53.80
3rd sub-pillar: Governments	31	58.92

Pillar/sub-pillar	Rank	Score
C. Governance pillar	43	69.02
1st sub-pillar: Trust	27	74.81
2nd sub-pillar: Regulation	103	52.90
3rd sub-pillar: Inclusion	29	79.35
D. Impact pillar	69	53.96
1st sub-pillar: Economy	46	39.92
2nd sub-pillar: Quality of Life	88	60.78
3rd sub-pillar: SDG Contribution	75	61.16

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	35	54.22	
1st sub-pillar: Access	11	80.68	
1.1.1 Mobile tariffs	26	78.33	
1.1.2 Handset prices	26	73.53	
1.1.3 FTTH/building Internet subscriptions	6	67.59	●
1.1.4 Population covered by at least a 3G mobile network	80	98.74	
1.1.5 International Internet bandwidth	13	85.19	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	34	48.15	
1.2.1 GitHub commits	41	15.63	
1.2.2 Internet domain registrations	42	11.45	
1.2.3 Mobile apps development	41	86.72	
1.2.4 AI scientific publications	14	78.78	●
3rd sub-pillar: Future Technologies	61	33.83	
1.3.1 Adoption of emerging technologies	42	58.81	
1.3.2 Investment in emerging technologies	47	48.75	
1.3.3 Robot density	48	1.15	○
1.3.4 Computer software spending	39	26.60	

Indicator	Rank	Score	
C. Governance pillar	43	69.02	
1st sub-pillar: Trust	27	74.81	
3.1.1 Secure Internet servers	39	75.80	
3.1.2 Cybersecurity	8	98.03	●
3.1.3 Online access to financial account	34	50.60	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	103	52.90	
3.2.1 Regulatory quality	98	29.33	
3.2.2 ICT regulatory environment	126	48.82	○
3.2.3 Regulation of emerging technologies	52	49.47	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	117	36.86	○
3rd sub-pillar: Inclusion	29	79.35	
3.3.1 E-Participation	27	86.42	
3.3.2 Socioeconomic gap in use of digital payments	38	89.13	
3.3.3 Availability of local online content	39	76.68	
3.3.4 Gender gap in Internet use	42	71.81	
3.3.5 Rural gap in use of digital payments	40	72.70	

Indicator	Rank	Score	
B. People pillar	23	60.99	
1st sub-pillar: Individuals	4	70.24	
2.1.1 Mobile broadband internet traffic within the country	4	63.24	●
2.1.2 ICT skills in the education system	35	63.02	
2.1.3 Use of virtual social networks	63	67.58	
2.1.4 Tertiary enrollment	15	57.68	●
2.1.5 Adult literacy rate	9	99.69	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	41	53.80	
2.2.1 Firms with website	56	56.61	
2.2.2 GERD financed by business enterprise	60	36.12	
2.2.3 Knowledge intensive employment	20	71.09	●
2.2.4 Annual investment in telecommunication services	12	88.86	●
2.2.5 GERD performed by business enterprise	35	16.32	
3rd sub-pillar: Governments	31	58.92	
2.3.1 Government online services	39	81.21	
2.3.2 Publication and use of open data	19	63.24	
2.3.3 Government promotion of investment in emerging tech	34	52.35	
2.3.4 R&D expenditure by governments and higher education	49	38.87	

Indicator	Rank	Score	
D. Impact pillar	69	53.96	
1st sub-pillar: Economy	46	39.92	
4.1.1 High-tech and medium-high-tech manufacturing	54	28.51	
4.1.2 High-tech exports	58	27.57	
4.1.3 PCT patent applications	46	9.03	
4.1.4 Domestic market size	6	82.30	●
4.1.5 Prevalence of gig economy	25	63.66	
4.1.6 ICT services exports	68	28.46	
2nd sub-pillar: Quality of Life	88	60.78	
4.2.1 Happiness	74	58.22	
4.2.2 Freedom to make life choices	112	50.17	○
4.2.3 Income inequality	61	67.84	
4.2.4 Healthy life expectancy at birth	83	66.90	
3rd sub-pillar: SDG Contribution	75	61.16	
4.3.1 SDG 3: Good Health and Well-Being	48	77.13	
4.3.2 SDG 4: Quality Education	31	61.56	
4.3.3 SDG 5: Women's economic opportunity	101	62.28	
4.3.4 SDG 7: Affordable and Clean Energy	121	43.36	○
4.3.5 SDG 11: Sustainable Cities and Communities	73	61.48	

NOTE: ● a strength and ○ a weakness.

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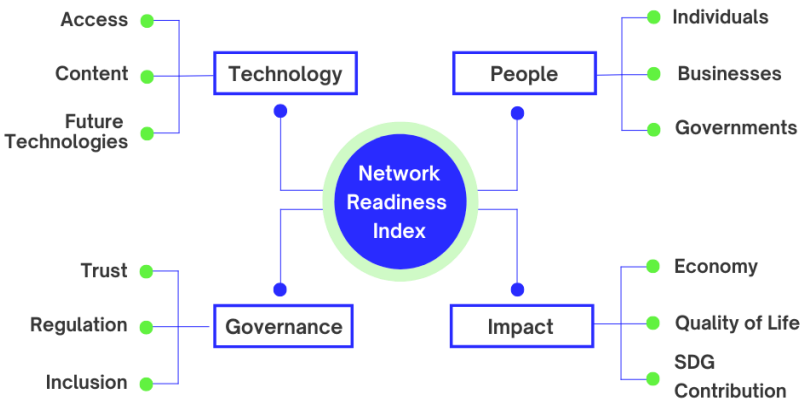
Network Readiness Index 2022 Rwanda

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

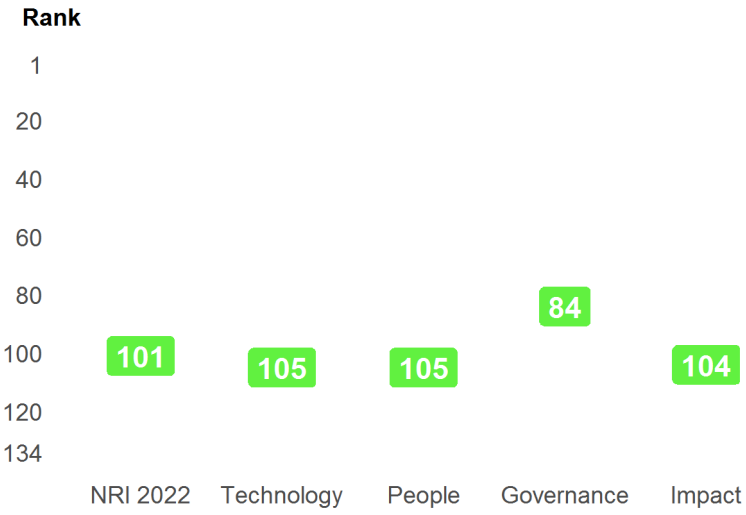
Figure 1: The NRI 2022 model



Global NRI position of Rwanda

Rwanda ranks 101st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology and People.

Figure 2: Rwanda global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Rwanda relate to Regulation, Governments and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Businesses and Access sub-pillars.

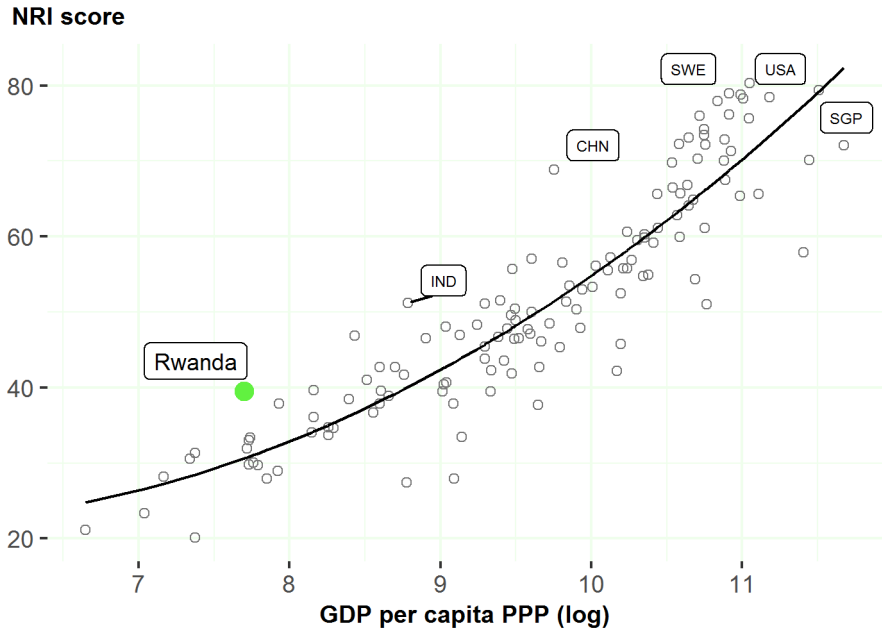
Table 1: Rwanda rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	58	Economy	105
Governments	60	Quality of Life	107
Future Technologies	65	Content	109
SDG Contribution	74	Individuals	117
Inclusion	89	Businesses	117
Trust	95	Access	118

NRI score and income

Figure 3 shows the position of Rwanda in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Rwanda is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Rwanda belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Rwanda is ranked 1st in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms low-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Africa

Rwanda is ranked 7th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in eight of the twelve sub-pillars: Content, Future Technologies, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Rwanda against its income group and region, overall and by pillar

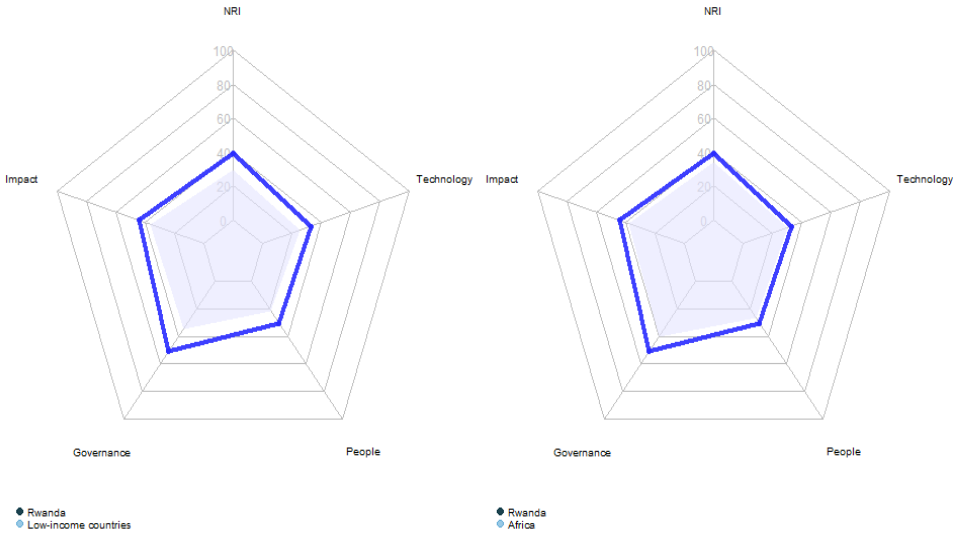


Table 2: Rwanda scores vs. averages of its income group and region, overall and by pillar

Dimension	Rwanda	Low-income countries	Africa
NRI	39.48	29.49	33.77
Technology	32.71	25.43	29.96
People	30.69	21.74	26.81
Governance	50.81	34.28	40.37
Impact	43.72	36.50	37.94

Strongest and weakest indicators

The indicators where Rwanda performs particularly well include 3.2.4 E-commerce legislation, 2.3.4 R&D expenditure by governments and higher education, and 2.3.3 Government promotion of investment in emerging technologies (Table 3). By contrast, the economy's weakest indicators include 1.1.2 Handset prices, 2.1.3 Use of virtual social networks, and 4.2.1 Happiness.

Table 3: Strongest and weakest indicators of Rwanda

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.1.3 PCT patent applications	99
2.3.4 R&D expenditure by governments and higher education	29	3.1.4 Internet shopping	112
2.3.3 Government promotion of investment in emerging technologies	32	4.2.1 Happiness	124
4.2.2 Freedom to make life choices	34	1.1.2 Handset prices	125
1.3.2 Investment in emerging technologies	42	2.1.3 Use of virtual social networks	125
3.3.5 Rural gap in use of digital payments	51		
4.1.5 Prevalence of gig economy	56		
3.2.3 Regulation of emerging technologies	57		
3.2.2 ICT regulatory environment	61		
4.3.3 SDG 5: Women's economic opportunity	63		
3.2.1 Regulatory quality	64		

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NRI 2022 At-A-Glance: Rwanda

Network Readiness Index Rank: 101 (out of 131) Score: 39.48

Pillar/sub-pillar	Rank	Score
A. Technology pillar	105	32.71
1st sub-pillar: Access	118	43.00
2nd sub-pillar: Content	109	23.12
3rd sub-pillar: Future Technologies	65	32.02
B. People pillar	105	30.69
1st sub-pillar: Individuals	117	22.33
2nd sub-pillar: Businesses	117	23.70
3rd sub-pillar: Governments	60	46.03

Pillar/sub-pillar	Rank	Score
C. Governance pillar	84	50.81
1st sub-pillar: Trust	95	32.55
2nd sub-pillar: Regulation	58	65.13
3rd sub-pillar: Inclusion	89	54.74
D. Impact pillar	104	43.72
1st sub-pillar: Economy	105	18.30
2nd sub-pillar: Quality of Life	107	51.27
3rd sub-pillar: SDG Contribution	74	61.57

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	105	32.71	
1st sub-pillar: Access	118	43.00	
1.1.1 Mobile tariffs	118	26.90	
1.1.2 Handset prices	125	18.85	○
1.1.3 FTTH/building Internet subscriptions	70	19.74	
1.1.4 Population covered by at least a 3G mobile network	69	99.55	
1.1.5 International Internet bandwidth	113	58.23	
1.1.6 Internet access in schools	57	34.75	
2nd sub-pillar: Content	109	23.12	
1.2.1 GitHub commits	100	1.71	
1.2.2 Internet domain registrations	120	0.15	
1.2.3 Mobile apps development	118	50.62	
1.2.4 AI scientific publications	66	39.99	
3rd sub-pillar: Future Technologies	65	32.02	
1.3.1 Adoption of emerging technologies	77	41.88	
1.3.2 Investment in emerging technologies	42	50.00	•
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	103	4.17	

Indicator	Rank	Score	
C. Governance pillar	84	50.81	
1st sub-pillar: Trust	95	32.55	
3.1.1 Secure Internet servers	104	35.16	
3.1.2 Cybersecurity	65	79.60	
3.1.3 Online access to financial account	95	14.35	
3.1.4 Internet shopping	112	1.11	○
2nd sub-pillar: Regulation	58	65.13	
3.2.1 Regulatory quality	64	45.33	•
3.2.2 ICT regulatory environment	61	83.92	•
3.2.3 Regulation of emerging technologies	57	46.05	•
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	96	50.33	
3rd sub-pillar: Inclusion	89	54.74	
3.3.1 E-Participation	80	61.73	
3.3.2 Socioeconomic gap in use of digital payments	119	36.12	
3.3.3 Availability of local online content	83	51.44	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	51	69.65	•

Indicator	Rank	Score	
B. People pillar	105	30.69	
1st sub-pillar: Individuals	117	22.33	
2.1.1 Mobile broadband internet traffic within the country	95	1.68	
2.1.2 ICT skills in the education system	83	37.87	
2.1.3 Use of virtual social networks	125	3.51	○
2.1.4 Tertiary enrollment	119	3.07	
2.1.5 Adult literacy rate	90	65.54	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	117	23.70	
2.2.1 Firms with website	80	38.24	
2.2.2 GERD financed by business enterprise	99	0.73	
2.2.3 Knowledge intensive employment	117	7.89	
2.2.4 Annual investment in telecommunication services	101	70.47	
2.2.5 GERD performed by business enterprise	73	1.15	
3rd sub-pillar: Governments	60	46.03	
2.3.1 Government online services	82	60.60	
2.3.2 Publication and use of open data	73	19.12	
2.3.3 Government promotion of investment in emerging tech	32	54.07	
2.3.4 R&D expenditure by governments and higher education	29	50.34	●

Indicator	Rank	Score	
D. Impact pillar	104	43.72	
1st sub-pillar: Economy	105	18.30	
4.1.1 High-tech and medium-high-tech manufacturing	92	7.22	
4.1.2 High-tech exports	87	10.07	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	119	32.79	
4.1.5 Prevalence of gig economy	56	44.77	●
4.1.6 ICT services exports	91	14.98	
2nd sub-pillar: Quality of Life	107	51.27	
4.2.1 Happiness	124	19.40	○
4.2.2 Freedom to make life choices	34	83.73	●
4.2.3 Income inequality	96	48.49	
4.2.4 Healthy life expectancy at birth	101	53.47	
3rd sub-pillar: SDG Contribution	74	61.57	
4.3.1 SDG 3: Good Health and Well-Being	104	41.78	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	63	77.19	●
4.3.4 SDG 7: Affordable and Clean Energy	71	78.11	
4.3.5 SDG 11: Sustainable Cities and Communities	93	49.19	

NOTE: ● a strength and ○ a weakness.

Sources

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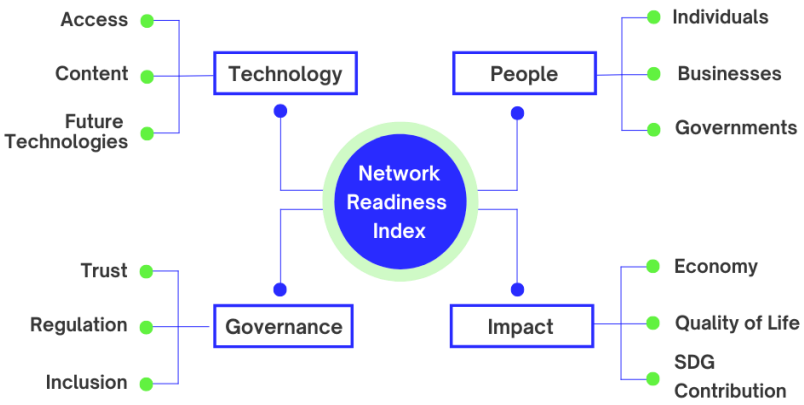
Network Readiness Index 2022 Saudi Arabia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

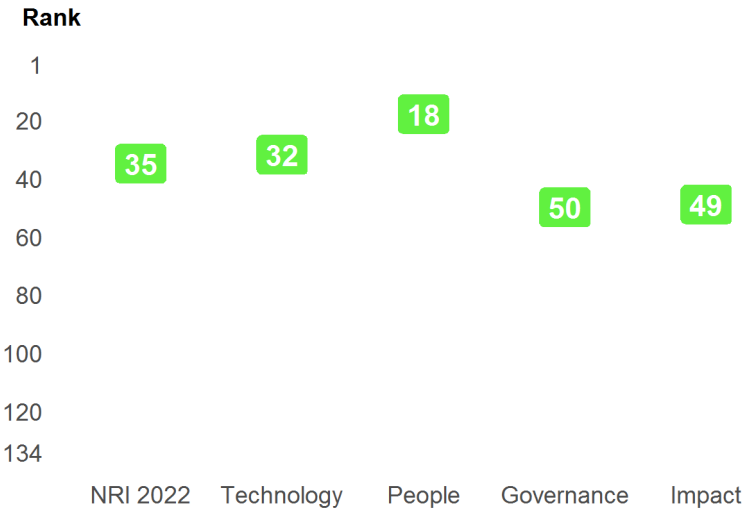
Figure 1: The NRI 2022 model



Global NRI position of Saudi Arabia

Saudi Arabia ranks 35th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Saudi Arabia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Saudi Arabia relate to Individuals, Future Technologies and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, SDG Contribution and Regulation sub-pillars.

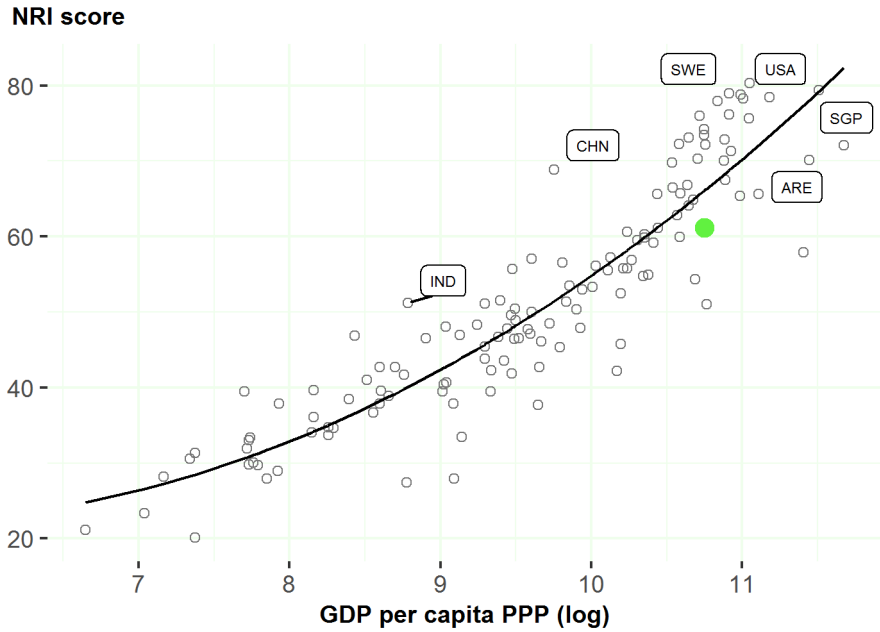
Table 1: Saudi Arabia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	3	Economy	38
Future Technologies	20	Inclusion	39
Businesses	24	Trust	45
Governments	29	Content	54
Access	32	SDG Contribution	92
Quality of Life	35	Regulation	97

NRI score and income

Figure 3 shows the position of Saudi Arabia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Saudi Arabia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Saudi Arabia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

Saudi Arabia is ranked 34th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: people. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Access, Future Technologies, Individuals and Businesses.

Arab States

Saudi Arabia is ranked 2nd within Arab States (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Arab States in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Saudi Arabia against its income group and region, overall and by pillar

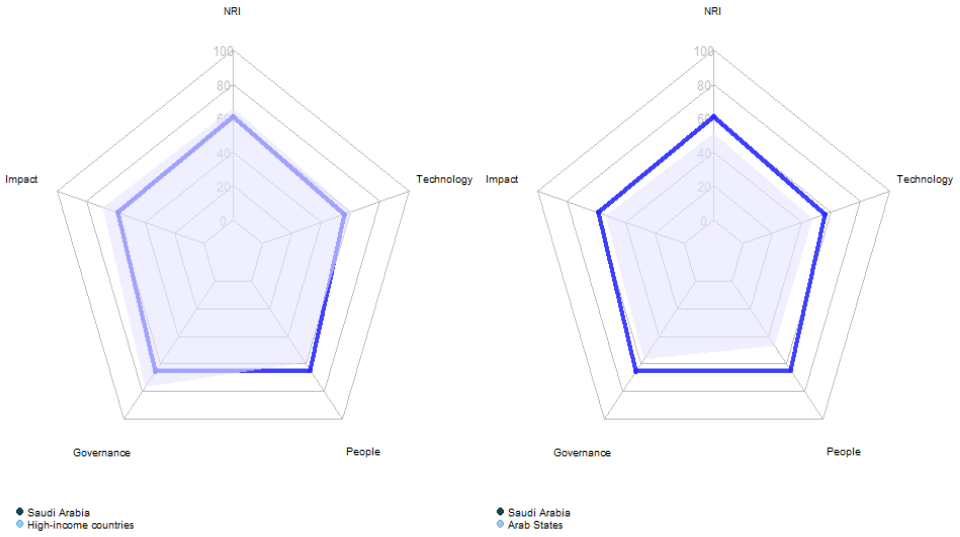


Table 2: Saudi Arabia scores vs. averages of its income group and region, overall and by pillar

Dimension	Saudi Arabia	High-income countries	Arab States
NRI	61.09	66.21	51.21
Technology	55.80	60.28	47.66
People	64.57	58.83	47.11
Governance	65.43	76.89	56.68
Impact	58.53	68.86	53.39

Strongest and weakest indicators

The indicators where Saudi Arabia performs particularly well include 1.1.6 Internet access in schools, 3.1.2 Cybersecurity, and 2.3.3 Government promotion of investment in emerging technologies (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 3.2.4 E-commerce legislation, and 4.3.4 SDG 7: Affordable and Clean Energy.

Table 3: Strongest and weakest indicators of Saudi Arabia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	4.3.2 SDG 4: Quality Education	70
3.1.2 Cybersecurity	2	4.3.5 SDG 11: Sustainable Cities and Communities	95
2.3.3 Government promotion of investment in emerging technologies	5	4.3.4 SDG 7: Affordable and Clean Energy	104
4.1.5 Prevalence of gig economy	5	3.2.4 E-commerce legislation	118
1.1.5 International Internet bandwidth	9	3.2.5 Privacy protection by law content	126
2.1.1 Mobile broadband internet traffic within the country	10		
2.1.2 ICT skills in the education system	10		
3.3.3 Availability of local online content	11		
3.2.2 ICT regulatory environment	14		
2.2.4 Annual investment in telecommunication services	15		
4.1.4 Domestic market size	17		

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NRI 2022 At-A-Glance: Saudi Arabia

Network Readiness Index Rank: 35 (out of 131) Score: 61.09

Pillar/sub-pillar	Rank	Score
A. Technology pillar	32	55.80
1st sub-pillar: Access	32	74.32
2nd sub-pillar: Content	54	39.39
3rd sub-pillar: Future Technologies	20	53.71
B. People pillar	18	64.57
1st sub-pillar: Individuals	3	70.66
2nd sub-pillar: Businesses	24	64.09
3rd sub-pillar: Governments	29	58.98

Pillar/sub-pillar	Rank	Score
C. Governance pillar	50	65.43
1st sub-pillar: Trust	45	63.92
2nd sub-pillar: Regulation	97	55.15
3rd sub-pillar: Inclusion	39	77.23
D. Impact pillar	49	58.53
1st sub-pillar: Economy	38	42.06
2nd sub-pillar: Quality of Life	35	77.21
3rd sub-pillar: SDG Contribution	92	56.33

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	32	55.80	
1st sub-pillar: Access	32	74.32	
1.1.1 Mobile tariffs	34	74.07	
1.1.2 Handset prices	90	42.15	
1.1.3 FTTH/building Internet subscriptions	22	41.95	
1.1.4 Population covered by at least a 3G mobile network	19	100.00	
1.1.5 International Internet bandwidth	9	87.72	●
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	54	39.39	
1.2.1 GitHub commits	95	1.86	
1.2.2 Internet domain registrations	79	1.95	
1.2.3 Mobile apps development	68	78.16	
1.2.4 AI scientific publications	18	75.58	
3rd sub-pillar: Future Technologies	20	53.71	
1.3.1 Adoption of emerging technologies	23	72.31	
1.3.2 Investment in emerging technologies	30	61.50	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	36	27.33	

Indicator	Rank	Score	
C. Governance pillar	50	65.43	
1st sub-pillar: Trust	45	63.92	
3.1.1 Secure Internet servers	88	43.36	
3.1.2 Cybersecurity	2	99.53	●
3.1.3 Online access to financial account	43	40.98	
3.1.4 Internet shopping	19	71.80	
2nd sub-pillar: Regulation	97	55.15	
3.2.1 Regulatory quality	58	48.00	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Regulation of emerging technologies	18	76.84	
3.2.4 E-commerce legislation	118	33.33	○
3.2.5 Privacy protection by law content	126	23.47	○
3rd sub-pillar: Inclusion	39	77.23	
3.3.1 E-Participation	64	70.37	
3.3.2 Socioeconomic gap in use of digital payments	57	78.24	
3.3.3 Availability of local online content	11	91.11	●
3.3.4 Gender gap in Internet use	22	74.86	
3.3.5 Rural gap in use of digital payments	43	71.56	

Indicator	Rank	Score	
B. People pillar	18	64.57	
1st sub-pillar: Individuals	3	70.66	
2.1.1 Mobile broadband internet traffic within the country	10	50.55	●
2.1.2 ICT skills in the education system	10	81.95	●
2.1.3 Use of virtual social networks	33	76.92	
2.1.4 Tertiary enrollment	33	46.94	
2.1.5 Adult literacy rate	32	96.92	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	24	64.09	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	53	40.75	
2.2.4 Annual investment in telecommunication services	15	87.42	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	29	58.98	
2.3.1 Government online services	69	67.88	
2.3.2 Publication and use of open data	65	25.00	
2.3.3 Government promotion of investment in emerging tech	5	84.05	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	49	58.53	
1st sub-pillar: Economy	38	42.06	
4.1.1 High-tech and medium-high-tech manufacturing	36	46.75	
4.1.2 High-tech exports	78	14.12	
4.1.3 PCT patent applications	34	16.05	
4.1.4 Domestic market size	17	73.06	●
4.1.5 Prevalence of gig economy	5	86.05	●
4.1.6 ICT services exports	87	16.33	
2nd sub-pillar: Quality of Life	35	77.21	
4.2.1 Happiness	31	75.98	
4.2.2 Freedom to make life choices	20	89.40	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	84	66.24	
3rd sub-pillar: SDG Contribution	92	56.33	
4.3.1 SDG 3: Good Health and Well-Being	58	73.04	
4.3.2 SDG 4: Quality Education	70	24.12	○
4.3.3 SDG 5: Women's economic opportunity	77	71.93	
4.3.4 SDG 7: Affordable and Clean Energy	104	64.41	○
4.3.5 SDG 11: Sustainable Cities and Communities	95	48.16	○

NOTE: ● a strength and ○ a weakness.

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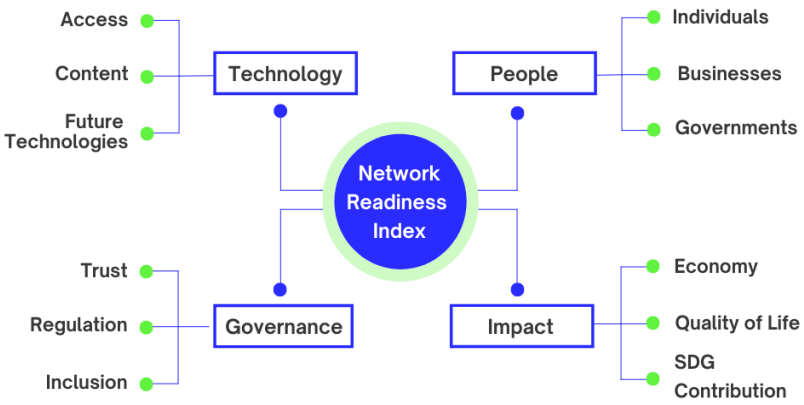
Network Readiness Index 2022 Senegal

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

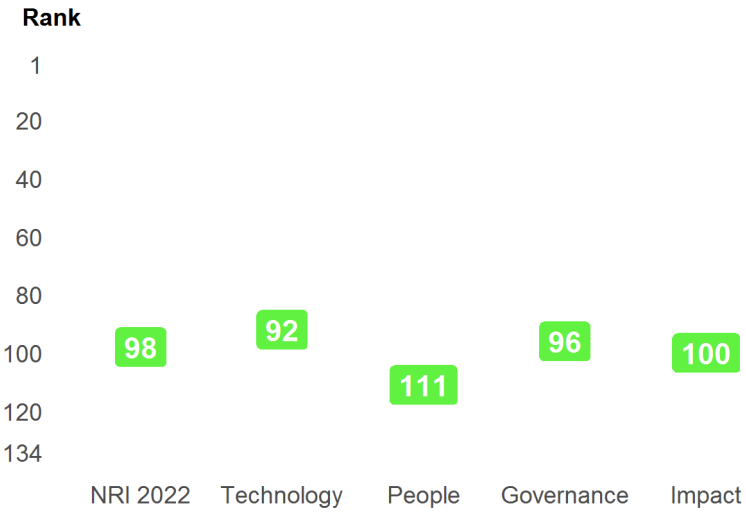
Figure 1: The NRI 2022 model



Global NRI position of Senegal

Senegal ranks 98th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Senegal global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Senegal relate to Regulation, Future Technologies and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Content and Businesses sub-pillars.

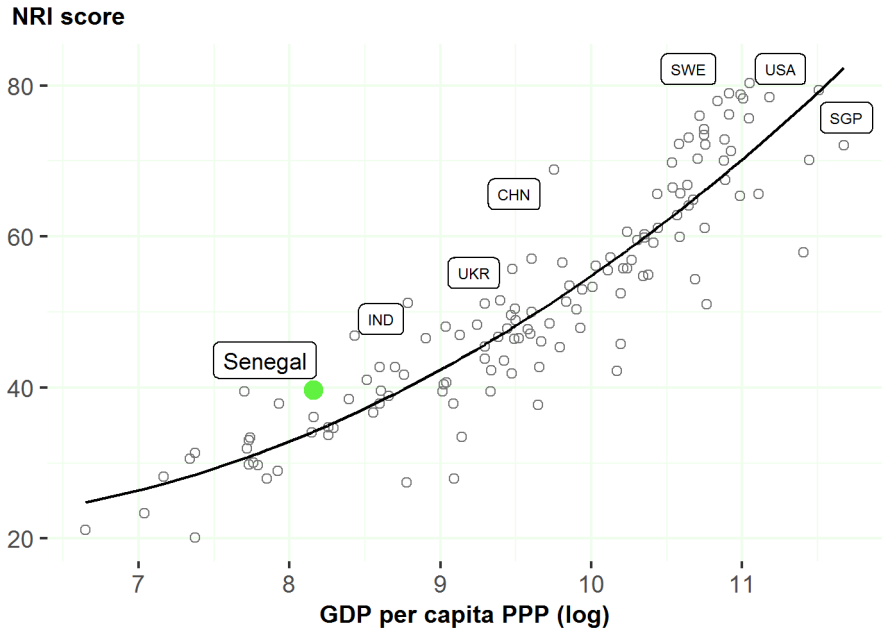
Table 1: Senegal rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	54	Inclusion	101
Future Technologies	58	Access	102
Governments	83	Trust	105
Economy	91	Individuals	110
SDG Contribution	95	Content	111
Quality of Life	100	Businesses	123

NRI score and income

Figure 3 shows the position of Senegal in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Senegal is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Senegal belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Senegal is ranked 20th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: governance. At the sub-pillar level, it outperforms lower-middle-income countries in four of the twelve sub-pillars: Future Technologies, Governments, Regulation and Quality of Life.

Africa

Senegal is ranked 5th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Senegal against its income group and region, overall and by pillar

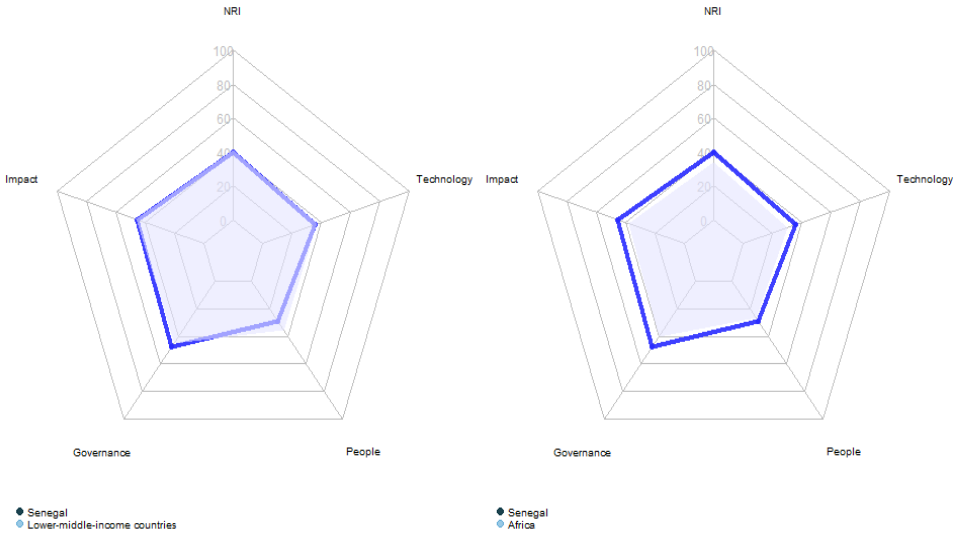


Table 2: Senegal scores vs. averages of its income group and region, overall and by pillar

Dimension	Senegal	Lower-middle-income countries	Africa
NRI	39.62	40.94	33.77
Technology	35.97	37.28	29.96
People	29.37	35.42	26.81
Governance	47.70	45.00	40.37
Impact	45.44	46.09	37.94

Strongest and weakest indicators

The indicators where Senegal performs particularly well include 3.2.4 E-commerce legislation, 2.3.4 R&D expenditure by governments and higher education, and 3.2.3 Regulation of emerging technologies (Table 3). By contrast, the economy's weakest indicators include 2.2.3 Knowledge intensive employment, 3.1.1 Secure Internet servers, and 1.1.5 International Internet bandwidth.

Table 3: Strongest and weakest indicators of Senegal

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.5 GERD performed by business enterprise	92
2.3.4 R&D expenditure by governments and higher education	30	2.1.5 Adult literacy rate	99
3.2.3 Regulation of emerging technologies	44	1.1.5 International Internet bandwidth	118
3.2.2 ICT regulatory environment	51	3.1.1 Secure Internet servers	119
1.1.4 Population covered by at least a 3G mobile network	52	2.2.3 Knowledge intensive employment	122
4.1.5 Prevalence of gig economy	55		
2.3.3 Government promotion of investment in emerging technologies	56		
4.1.6 ICT services exports	58		
2.1.2 ICT skills in the education system	59		
1.3.2 Investment in emerging technologies	60		
4.3.4 SDG 7: Affordable and Clean Energy	62		

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NRI 2022 At-A-Glance: Senegal

Network Readiness Index — Rank: 98 (out of 131) — Score: 39.62

Pillar/sub-pillar	Rank	Score
A. Technology pillar	92	35.97
1st sub-pillar: Access	102	50.92
2nd sub-pillar: Content	111	22.47
3rd sub-pillar: Future Technologies	58	34.53
B. People pillar	111	29.37
1st sub-pillar: Individuals	110	28.92
2nd sub-pillar: Businesses	123	22.29
3rd sub-pillar: Governments	83	36.89

Pillar/sub-pillar	Rank	Score
C. Governance pillar	96	47.70
1st sub-pillar: Trust	105	26.25
2nd sub-pillar: Regulation	54	67.66
3rd sub-pillar: Inclusion	101	49.21
D. Impact pillar	100	45.44
1st sub-pillar: Economy	91	24.88
2nd sub-pillar: Quality of Life	100	56.69
3rd sub-pillar: SDG Contribution	95	54.74

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	92	35.97	
1st sub-pillar: Access	102	50.92	
1.1.1 Mobile tariffs	95	43.05	
1.1.2 Handset prices	87	43.31	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	52	99.81	●
1.1.5 International Internet bandwidth	118	54.68	○
1.1.6 Internet access in schools	66	13.76	
2nd sub-pillar: Content	111	22.47	
1.2.1 GitHub commits	109	0.78	
1.2.2 Internet domain registrations	103	0.70	
1.2.3 Mobile apps development	115	51.83	
1.2.4 AI scientific publications	72	36.55	
3rd sub-pillar: Future Technologies	58	34.53	
1.3.1 Adoption of emerging technologies	73	43.93	
1.3.2 Investment in emerging technologies	60	41.25	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	69	18.40	

Indicator	Rank	Score	
C. Governance pillar	96	47.70	
1st sub-pillar: Trust	105	26.25	
3.1.1 Secure Internet servers	119	26.00	○
3.1.2 Cybersecurity	102	34.72	
3.1.3 Online access to financial account	60	30.80	
3.1.4 Internet shopping	77	13.46	
2nd sub-pillar: Regulation	54	67.66	
3.2.1 Regulatory quality	88	35.47	
3.2.2 ICT regulatory environment	51	85.88	●
3.2.3 Regulation of emerging technologies	44	56.05	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	79	60.88	
3rd sub-pillar: Inclusion	101	49.21	
3.3.1 E-Participation	107	41.98	
3.3.2 Socioeconomic gap in use of digital payments	71	67.58	
3.3.3 Availability of local online content	91	49.52	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	105	37.75	

Indicator	Rank	Score	
B. People pillar	111	29.37	
1st sub-pillar: Individuals	110	28.92	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	59	50.89	●
2.1.3 Use of virtual social networks	109	18.31	
2.1.4 Tertiary enrollment	101	8.39	
2.1.5 Adult literacy rate	99	38.10	○
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	123	22.29	
2.2.1 Firms with website	97	29.00	
2.2.2 GERD financed by business enterprise	91	2.53	
2.2.3 Knowledge intensive employment	122	3.77	○
2.2.4 Annual investment in telecommunication services	68	76.14	
2.2.5 GERD performed by business enterprise	92	0.03	○
3rd sub-pillar: Governments	83	36.89	
2.3.1 Government online services	104	47.88	
2.3.2 Publication and use of open data	91	8.82	
2.3.3 Government promotion of investment in emerging tech	56	40.77	
2.3.4 R&D expenditure by governments and higher education	30	50.09	●

Indicator	Rank	Score	
D. Impact pillar	100	45.44	
1st sub-pillar: Economy	91	24.88	
4.1.1 High-tech and medium-high-tech manufacturing	57	27.55	
4.1.2 High-tech exports	110	2.46	
4.1.3 PCT patent applications	76	1.87	
4.1.4 Domestic market size	94	40.25	
4.1.5 Prevalence of gig economy	55	45.06	●
4.1.6 ICT services exports	58	32.08	●
2nd sub-pillar: Quality of Life	100	56.69	
4.2.1 Happiness	95	48.51	
4.2.2 Freedom to make life choices	88	65.02	
4.2.3 Income inequality	69	62.56	
4.2.4 Healthy life expectancy at birth	103	50.66	
3rd sub-pillar: SDG Contribution	95	54.74	
4.3.1 SDG 3: Good Health and Well-Being	110	34.01	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	110	53.51	
4.3.4 SDG 7: Affordable and Clean Energy	62	80.37	●
4.3.5 SDG 11: Sustainable Cities and Communities	86	51.07	

NOTE: ● a strength and ○ a weakness.

Sources

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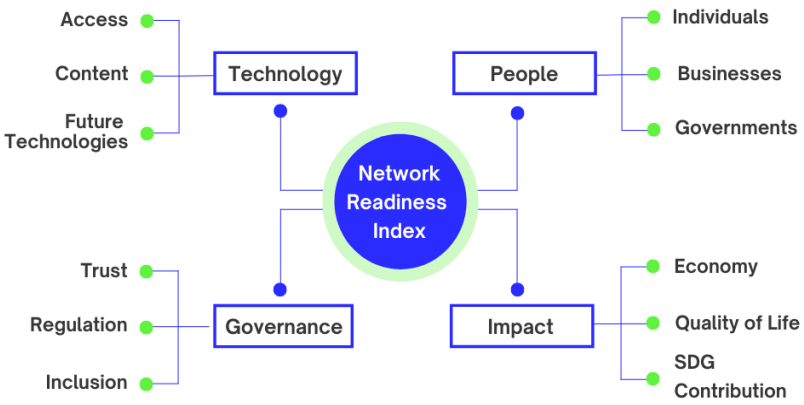
Network Readiness Index 2022 Serbia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

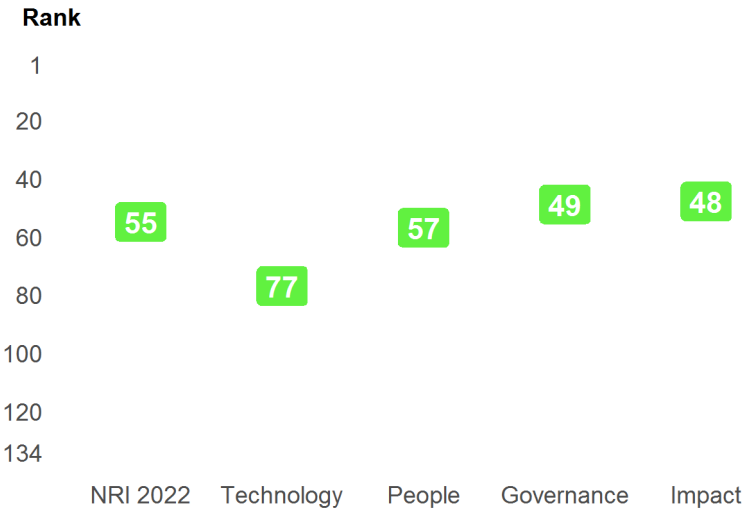
Figure 1: The NRI 2022 model



Global NRI position of Serbia

Serbia ranks 55th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Serbia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Serbia relate to Quality of Life, Content and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Businesses and Future Technologies sub-pillars.

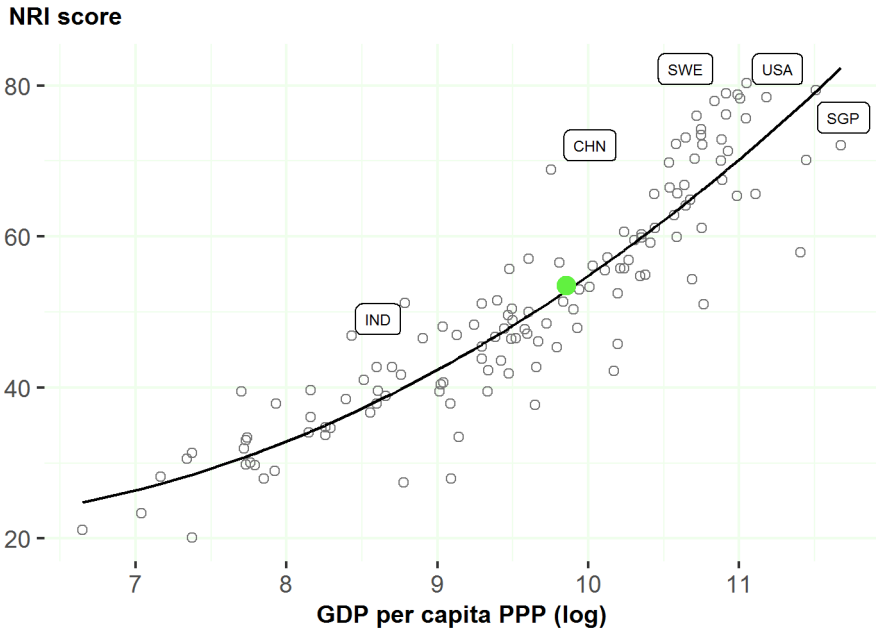
Table 1: Serbia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	43	Trust	53
Content	46	Economy	59
Regulation	48	SDG Contribution	61
Governments	50	Access	65
Inclusion	50	Businesses	65
Individuals	53	Future Technologies	113

NRI score and income

Figure 3 shows the position of Serbia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Serbia is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Serbia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

Upper-middle-income countries

Serbia is ranked 8th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, people, governance and impact. At the sub-pillar level, it outperforms upper-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Serbia is ranked 35th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Serbia against its income group and region, overall and by pillar

Table 2: Serbia scores vs. averages of its income group and region, overall and by pillar

Dimension	Serbia	Upper-middle-income countries	Europe
NRI	53.52	49.66	63.72
Technology	42.26	43.11	56.43
People	47.42	44.94	56.35
Governance	65.85	57.08	74.79
Impact	58.57	53.50	67.30

Strongest and weakest indicators

The indicators where Serbia performs particularly well include 3.2.4 E-commerce legislation, 3.2.2 ICT regulatory environment, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 1.3.4 Computer software spending, 4.3.4 SDG 7: Affordable and Clean Energy, and 2.2.2 GERD financed by business enterprise.

Table 3: Strongest and weakest indicators of Serbia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	47
3.2.2 ICT regulatory environment	11	3.3.4 Gender gap in Internet use	81
2.1.5 Adult literacy rate	13	2.2.2 GERD financed by business enterprise	90
4.1.6 ICT services exports	16	4.3.4 SDG 7: Affordable and Clean Energy	97
2.2.1 Firms with website	23	1.3.4 Computer software spending	105
4.3.3 SDG 5: Women's economic opportunity	27		
2.3.4 R&D expenditure by governments and higher education	28		
3.2.5 Privacy protection by law content	31		
2.1.4 Tertiary enrollment	37		
3.3.2 Socioeconomic gap in use of digital payments	40		
1.2.3 Mobile apps development	42		

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NRI 2022 At-A-Glance: Serbia

Network Readiness Index Rank: 55 (out of 131) Score: 53.52

Pillar/sub-pillar	Rank	Score
A. Technology pillar	77	42.26
1st sub-pillar: Access	65	65.19
2nd sub-pillar: Content	46	42.46
3rd sub-pillar: Future Technologies	113	19.12
B. People pillar	57	47.42
1st sub-pillar: Individuals	53	51.45
2nd sub-pillar: Businesses	65	42.84
3rd sub-pillar: Governments	50	47.96

Pillar/sub-pillar	Rank	Score
C. Governance pillar	49	65.85
1st sub-pillar: Trust	53	54.98
2nd sub-pillar: Regulation	48	70.70
3rd sub-pillar: Inclusion	50	71.87
D. Impact pillar	48	58.57
1st sub-pillar: Economy	59	34.62
2nd sub-pillar: Quality of Life	43	75.11
3rd sub-pillar: SDG Contribution	61	65.99

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	77	42.26	
1st sub-pillar: Access	65	65.19	
1.1.1 Mobile tariffs	46	70.10	
1.1.2 Handset prices	58	56.16	
1.1.3 FTTH/building Internet subscriptions	62	25.42	
1.1.4 Population covered by at least a 3G mobile network	51	99.82	
1.1.5 International Internet bandwidth	45	74.45	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	46	42.46	
1.2.1 GitHub commits	46	13.17	
1.2.2 Internet domain registrations	55	5.67	
1.2.3 Mobile apps development	42	86.52	●
1.2.4 AI scientific publications	35	64.48	
3rd sub-pillar: Future Technologies	113	19.12	
1.3.1 Adoption of emerging technologies	80	40.36	
1.3.2 Investment in emerging technologies	92	31.25	
1.3.3 Robot density	47	1.28	○
1.3.4 Computer software spending	105	3.58	○
B. People pillar	57	47.42	

Indicator	Rank	Score	
C. Governance pillar	49	65.85	
1st sub-pillar: Trust	53	54.98	
3.1.1 Secure Internet servers	42	72.97	
3.1.2 Cybersecurity	47	89.62	
3.1.3 Online access to financial account	81	18.74	
3.1.4 Internet shopping	48	38.61	
2nd sub-pillar: Regulation	48	70.70	
3.2.1 Regulatory quality	66	44.27	
3.2.2 ICT regulatory environment	11	94.71	●
3.2.3 Regulation of emerging technologies	80	33.68	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	31	80.86	●
3rd sub-pillar: Inclusion	50	71.87	
3.3.1 E-Participation	41	81.48	
3.3.2 Socioeconomic gap in use of digital payments	40	88.33	●
3.3.3 Availability of local online content	53	66.59	
3.3.4 Gender gap in Internet use	81	60.97	○
3.3.5 Rural gap in use of digital payments	68	62.00	
D. Impact pillar	48	58.57	

Indicator	Rank	Score	
1st sub-pillar: Individuals	53	51.45	
2.1.1 Mobile broadband internet traffic within the country	59	8.69	
2.1.2 ICT skills in the education system	58	51.18	
2.1.3 Use of virtual social networks	87	52.78	
2.1.4 Tertiary enrollment	37	45.24	●
2.1.5 Adult literacy rate	13	99.37	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	65	42.84	
2.2.1 Firms with website	23	80.41	●
2.2.2 GERD financed by business enterprise	90	2.55	○
2.2.3 Knowledge intensive employment	50	42.35	
2.2.4 Annual investment in telecommunication services	47	79.71	
2.2.5 GERD performed by business enterprise	46	9.19	
3rd sub-pillar: Governments	50	47.96	
2.3.1 Government online services	42	78.79	
2.3.2 Publication and use of open data	68	23.53	
2.3.3 Government promotion of investment in emerging tech	61	38.59	
2.3.4 R&D expenditure by governments and higher education	28	50.94	●

Indicator	Rank	Score	
1st sub-pillar: Economy	59	34.62	
4.1.1 High-tech and medium-high-tech manufacturing	49	30.79	
4.1.2 High-tech exports	53	32.33	
4.1.3 PCT patent applications	57	5.72	
4.1.4 Domestic market size	73	48.68	
4.1.5 Prevalence of gig economy	81	35.17	
4.1.6 ICT services exports	16	55.03	●
2nd sub-pillar: Quality of Life	43	75.11	
4.2.1 Happiness	43	72.41	
4.2.2 Freedom to make life choices	43	80.57	
4.2.3 Income inequality	48	71.61	
4.2.4 Healthy life expectancy at birth	55	75.83	
3rd sub-pillar: SDG Contribution	61	65.99	
4.3.1 SDG 3: Good Health and Well-Being	65	69.51	
4.3.2 SDG 4: Quality Education	43	46.29	
4.3.3 SDG 5: Women's economic opportunity	27	91.23	●
4.3.4 SDG 7: Affordable and Clean Energy	97	68.92	○
4.3.5 SDG 11: Sustainable Cities and Communities	83	54.01	

NOTE: ● a strength and ○ a weakness.

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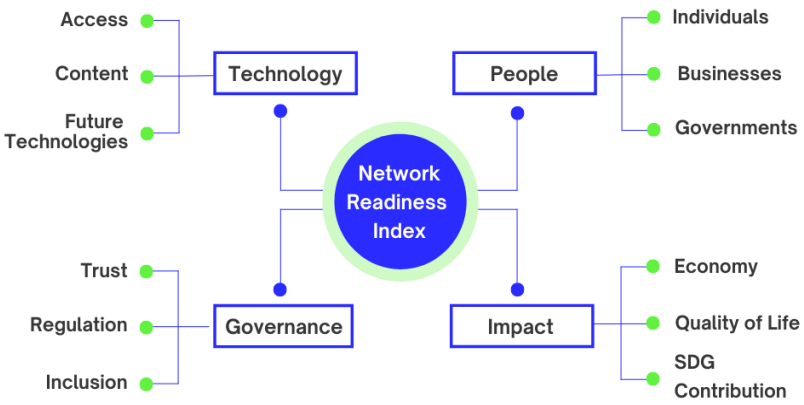
Network Readiness Index 2022 Singapore

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

Figure 1: The NRI 2022 model



Global NRI position of Singapore

Singapore ranks 2nd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Singapore global ranking, overall and by pillar

Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Singapore relate to Inclusion, Future Technologies and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Businesses and Trust sub-pillars.

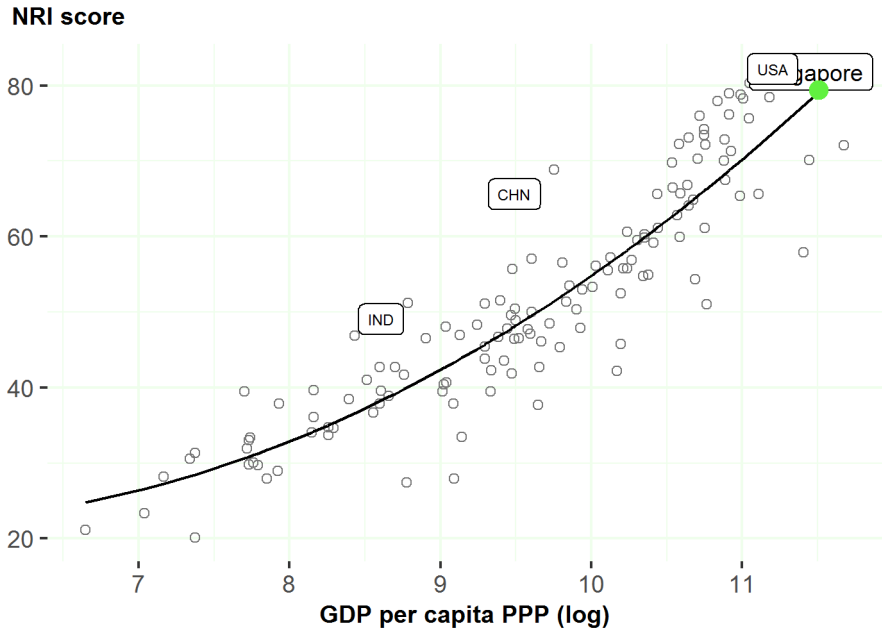
Table 1: Singapore rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	1	Governments	9
Future Technologies	2	Regulation	9
Economy	3	Content	10
Access	6	Quality of Life	10
Individuals	6	Businesses	16
SDG Contribution	6	Trust	17

NRI score and income

Figure 3 shows the position of Singapore in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Singapore is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Singapore belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

Singapore is ranked 2nd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it has a higher score than the average of high-income countries in all of them.

Asia & Pacific

Singapore is ranked 1st within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Singapore against its income group and region, overall and by pillar

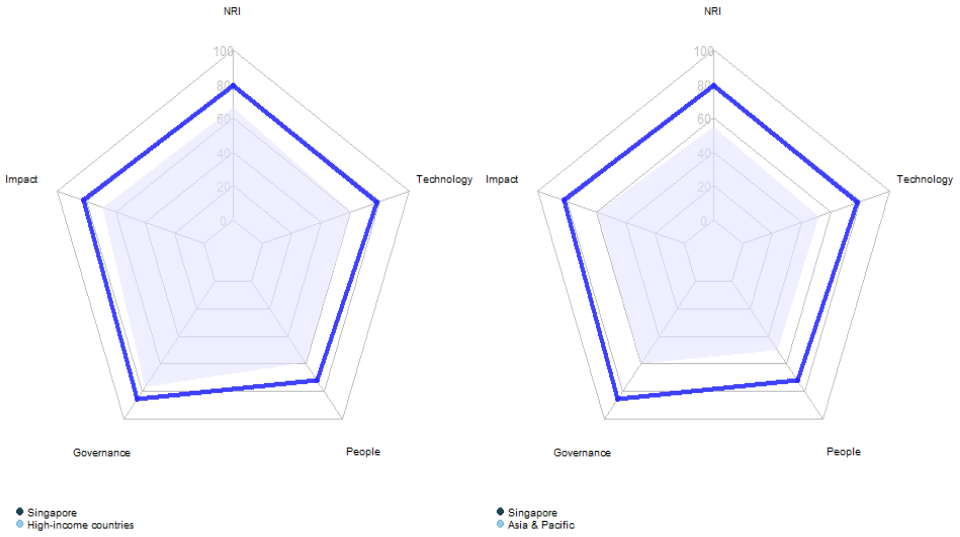


Table 2: Singapore scores vs. averages of its income group and region, overall and by pillar

Dimension	Singapore	High-income countries	Asia & Pacific
NRI	79.35	66.21	55.18
Technology	77.48	60.28	51.78
People	72.03	58.83	50.21
Governance	85.68	76.89	59.66
Impact	82.21	68.86	59.07

Strongest and weakest indicators

The indicators where Singapore performs particularly well include 1.1.2 Handset prices, 1.1.4 Population covered by at least a 3G mobile network, and 1.1.6 Internet access in schools (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 4.3.3 SDG 5: Women's economic opportunity, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Strongest and weakest indicators of Singapore

Strongest indicators	Rank	Weakest indicators	Rank
1.1.2 Handset prices	1	3.3.4 Gender gap in Internet use	54
1.1.4 Population covered by at least a 3G mobile network	1	1.1.3 FTTH/building Internet subscriptions	57
1.1.6 Internet access in schools	1	4.3.3 SDG 5: Women's economic opportunity	65
1.2.1 GitHub commits	1	3.2.5 Privacy protection by law content	94
1.2.3 Mobile apps development	1		
1.3.3 Robot density	1		
3.2.1 Regulatory quality	1		
3.2.4 E-commerce legislation	1		
4.1.1 High-tech and medium-high-tech manufacturing	1		
2.1.2 ICT skills in the education system	2		
2.2.3 Knowledge intensive employment	2		
2.3.3 Government promotion of investment in emerging technologies	2		
3.3.5 Rural gap in use of digital payments	2		
4.2.4 Healthy life expectancy at birth	2		
4.3.2 SDG 4: Quality Education	2		
3.2.3 Regulation of emerging technologies	3		

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NRI 2022 At-A-Glance: Singapore

Network Readiness Index — Rank: 2 (out of 131) — Score: 79.35

Pillar/sub-pillar	Rank	Score
A. Technology pillar	4	77.48
1st sub-pillar: Access	6	85.08
2nd sub-pillar: Content	10	74.76
3rd sub-pillar: Future Technologies	2	72.61
B. People pillar	4	72.03
1st sub-pillar: Individuals	6	68.25
2nd sub-pillar: Businesses	16	68.47
3rd sub-pillar: Governments	9	79.38

Pillar/sub-pillar	Rank	Score
C. Governance pillar	10	85.68
1st sub-pillar: Trust	17	79.18
2nd sub-pillar: Regulation	9	87.74
3rd sub-pillar: Inclusion	1	90.12
D. Impact pillar	2	82.21
1st sub-pillar: Economy	3	70.90
2nd sub-pillar: Quality of Life	10	87.35
3rd sub-pillar: SDG Contribution	6	88.39

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	4	77.48	
1st sub-pillar: Access	6	85.08	
1.1.1 Mobile tariffs	5	90.50	
1.1.2 Handset prices	1	100.00	●
1.1.3 FTTH/building Internet subscriptions	57	27.34	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	4	92.64	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	10	74.76	
1.2.1 GitHub commits	1	100.00	●
1.2.2 Internet domain registrations	35	20.09	
1.2.3 Mobile apps development	1	100.00	●
1.2.4 AI scientific publications	13	78.93	
3rd sub-pillar: Future Technologies	2	72.61	
1.3.1 Adoption of emerging technologies	8	88.54	
1.3.2 Investment in emerging technologies	13	78.50	
1.3.3 Robot density	1	100.00	●
1.3.4 Computer software spending	50	23.42	
B. People pillar	4	72.03	

Indicator	Rank	Score	
C. Governance pillar	10	85.68	
1st sub-pillar: Trust	17	79.18	
3.1.1 Secure Internet servers	4	93.86	
3.1.2 Cybersecurity	5	98.49	
3.1.3 Online access to financial account	26	56.92	
3.1.4 Internet shopping	22	67.43	
2nd sub-pillar: Regulation	9	87.74	
3.2.1 Regulatory quality	1	100.00	●
3.2.2 ICT regulatory environment	20	93.53	
3.2.3 Regulation of emerging technologies	3	93.68	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	94	51.49	○
3rd sub-pillar: Inclusion	1	90.12	
3.3.1 E-Participation	6	97.53	
3.3.2 Socioeconomic gap in use of digital payments	28	92.85	
3.3.3 Availability of local online content	10	91.59	
3.3.4 Gender gap in Internet use	54	69.79	○
3.3.5 Rural gap in use of digital payments	2	98.86	●
D. Impact pillar	2	82.21	

Indicator	Rank	Score	
1st sub-pillar: Individuals	6	68.25	
2.1.1 Mobile broadband internet traffic within the country	56	10.46	
2.1.2 ICT skills in the education system	2	89.64	●
2.1.3 Use of virtual social networks	13	83.93	
2.1.4 Tertiary enrollment	10	60.87	
2.1.5 Adult literacy rate	33	96.34	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	16	68.47	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	20	68.37	
2.2.3 Knowledge intensive employment	2	93.91	●
2.2.4 Annual investment in telecommunication services	39	81.37	
2.2.5 GERD performed by business enterprise	21	30.25	
3rd sub-pillar: Governments	9	79.38	
2.3.1 Government online services	5	96.36	
2.3.2 Publication and use of open data	27	50.00	
2.3.3 Government promotion of investment in emerging tech	2	99.63	
2.3.4 R&D expenditure by governments and higher education	12	71.51	

Indicator	Rank	Score	
1st sub-pillar: Economy	3	70.90	
4.1.1 High-tech and medium-high-tech manufacturing	1	100.00	●
4.1.2 High-tech exports	5	88.15	
4.1.3 PCT patent applications	12	55.02	
4.1.4 Domestic market size	37	62.88	
4.1.5 Prevalence of gig economy	10	81.40	
4.1.6 ICT services exports	44	37.93	
2nd sub-pillar: Quality of Life	10	87.35	
4.2.1 Happiness	24	78.49	
4.2.2 Freedom to make life choices	30	85.37	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	2	98.18	●
3rd sub-pillar: SDG Contribution	6	88.39	
4.3.1 SDG 3: Good Health and Well-Being	10	94.30	
4.3.2 SDG 4: Quality Education	2	91.12	●
4.3.3 SDG 5: Women's economic opportunity	65	75.44	○
4.3.4 SDG 7: Affordable and Clean Energy	20	89.56	
4.3.5 SDG 11: Sustainable Cities and Communities	18	91.51	

NOTE: ● a strength and ○ a weakness.

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Network Readiness Index 2022 Slovakia

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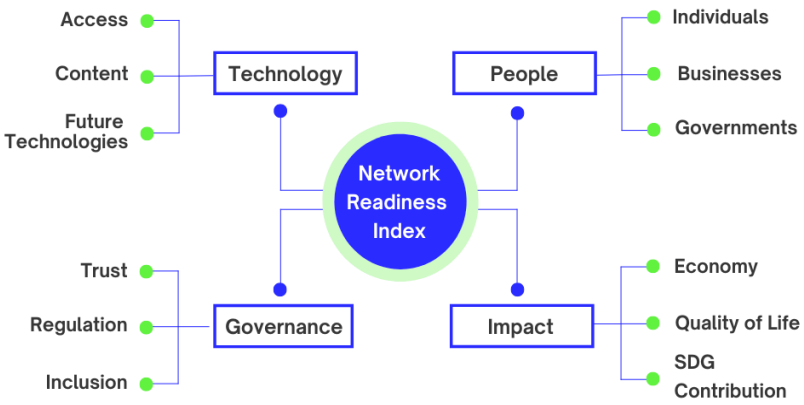
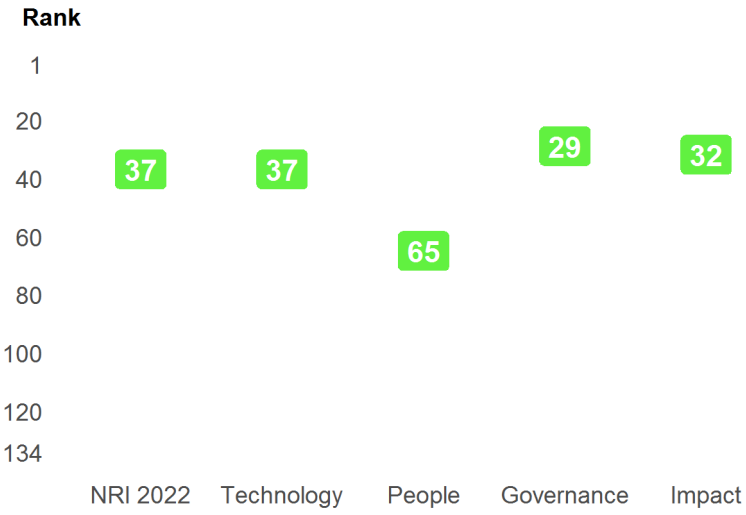
Figure 1: The NRI 2022 model



Global NRI position of Slovakia

Slovakia ranks 37th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Slovakia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Slovakia relate to Trust, Quality of Life and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Governments and Individuals sub-pillars.

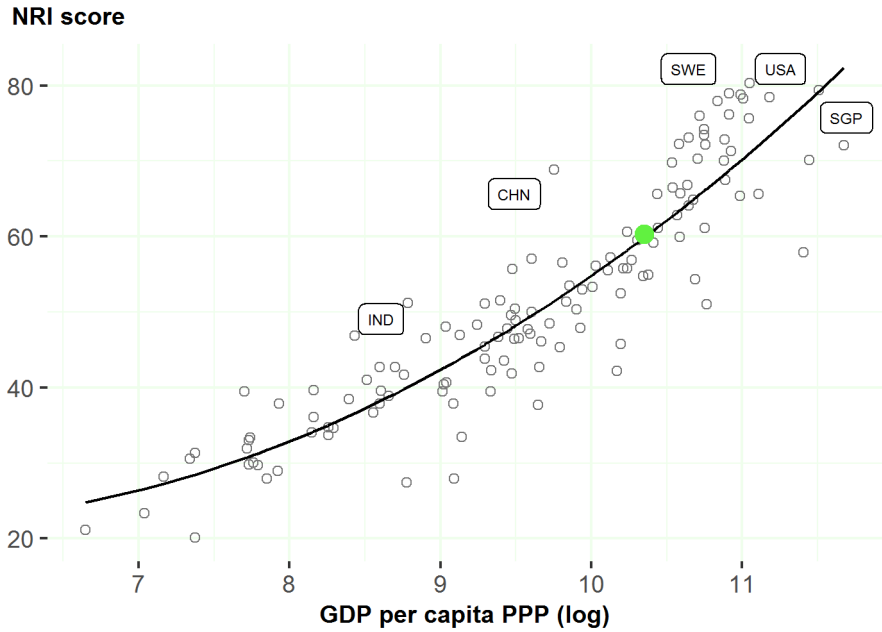
Table 1: Slovakia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	22	Access	39
Quality of Life	29	Inclusion	40
Regulation	32	SDG Contribution	43
Economy	33	Future Technologies	46
Businesses	36	Governments	63
Content	37	Individuals	102

NRI score and income

Figure 3 shows the position of Slovakia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Slovakia is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Slovakia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Slovakia is ranked 35th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: governance. At the sub-pillar level, it outperforms high-income countries in one of the twelve sub-pillars: Trust.

Europe

Slovakia is ranked 25th within Europe (Figure 4, right panel). It has a score above the regional average in one of the four pillars: governance. With regard to sub-pillars, it outperforms the average in Europe in four of the twelve sub-pillars: Access, Trust, Inclusion and Quality of Life.

Figure 4: Performance of Slovakia against its income group and region, overall and by pillar

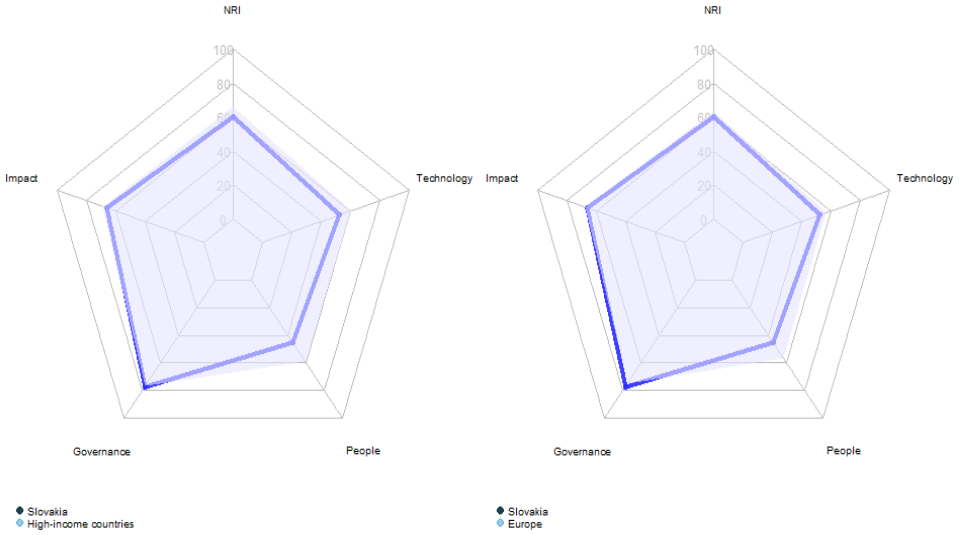


Table 2: Slovakia scores vs. averages of its income group and region, overall and by pillar

Dimension	Slovakia	High-income countries	Europe
NRI	60.27	66.21	63.72
Technology	52.52	60.28	56.43
People	45.25	58.83	56.35
Governance	77.23	76.89	74.79
Impact	66.08	68.86	67.30

Strongest and weakest indicators

The indicators where Slovakia performs particularly well include 3.2.4 E-commerce legislation, 4.2.3 Income inequality, and 4.1.1 High-tech and medium-high-tech manufacturing (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 2.3.3 Government promotion of investment in emerging technologies, and 1.1.5 International Internet bandwidth.

Table 3: Strongest and weakest indicators of Slovakia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	29
4.2.3 Income inequality	1	1.1.5 International Internet bandwidth	83
4.1.1 High-tech and medium-high-tech manufacturing	3	2.3.3 Government promotion of investment in emerging technologies	89
4.1.2 High-tech exports	21	4.2.2 Freedom to make life choices	90
3.1.3 Online access to financial account	24		
3.3.5 Rural gap in use of digital payments	24		
3.1.1 Secure Internet servers	25		
3.2.5 Privacy protection by law content	27		
1.2.2 Internet domain registrations	28		
2.2.1 Firms with website	29		
3.3.3 Availability of local online content	29		

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NRI 2022 At-A-Glance: Slovakia

Network Readiness Index — Rank: 37 (out of 131) — Score: 60.27

Pillar/sub-pillar	Rank	Score
A. Technology pillar	37	52.52
1st sub-pillar: Access	39	72.72
2nd sub-pillar: Content	37	45.90
3rd sub-pillar: Future Technologies	46	38.94
B. People pillar	65	45.25
1st sub-pillar: Individuals	102	34.19
2nd sub-pillar: Businesses	36	56.11
3rd sub-pillar: Governments	63	45.46

Pillar/sub-pillar	Rank	Score
C. Governance pillar	29	77.23
1st sub-pillar: Trust	22	77.42
2nd sub-pillar: Regulation	32	77.06
3rd sub-pillar: Inclusion	40	77.22
D. Impact pillar	32	66.08
1st sub-pillar: Economy	33	44.35
2nd sub-pillar: Quality of Life	29	79.76
3rd sub-pillar: SDG Contribution	43	74.12

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	37	52.52	
1st sub-pillar: Access	39	72.72	
1.1.1 Mobile tariffs	38	73.06	
1.1.2 Handset prices	45	66.61	
1.1.3 FTTH/building Internet subscriptions	50	28.97	
1.1.4 Population covered by at least a 3G mobile network	55	99.68	
1.1.5 International Internet bandwidth	83	68.31	○
1.1.6 Internet access in schools	29	99.70	
2nd sub-pillar: Content	37	45.90	
1.2.1 GitHub commits	35	21.55	
1.2.2 Internet domain registrations	28	26.75	●
1.2.3 Mobile apps development	36	89.41	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	46	38.94	
1.3.1 Adoption of emerging technologies	40	59.51	
1.3.2 Investment in emerging technologies	44	49.25	
1.3.3 Robot density	21	21.28	
1.3.4 Computer software spending	41	25.73	

Indicator	Rank	Score	
C. Governance pillar	29	77.23	
1st sub-pillar: Trust	22	77.42	
3.1.1 Secure Internet servers	25	81.09	●
3.1.2 Cybersecurity	42	92.23	
3.1.3 Online access to financial account	24	58.94	●
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	32	77.06	
3.2.1 Regulatory quality	38	61.87	
3.2.2 ICT regulatory environment	44	87.26	
3.2.3 Regulation of emerging technologies	48	53.68	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	27	82.47	●
3rd sub-pillar: Inclusion	40	77.22	
3.3.1 E-Participation	68	69.14	
3.3.2 Socioeconomic gap in use of digital payments	45	85.89	
3.3.3 Availability of local online content	29	82.93	●
3.3.4 Gender gap in Internet use	36	72.70	
3.3.5 Rural gap in use of digital payments	24	75.42	●

Indicator	Rank	Score	
B. People pillar	65	45.25	
1st sub-pillar: Individuals	102	34.19	
2.1.1 Mobile broadband internet traffic within the country	75	6.03	
2.1.2 ICT skills in the education system	52	52.37	
2.1.3 Use of virtual social networks	60	69.23	
2.1.4 Tertiary enrollment	68	30.45	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	29	12.87	○
2nd sub-pillar: Businesses	36	56.11	
2.2.1 Firms with website	29	76.53	●
2.2.2 GERD financed by business enterprise	35	54.03	
2.2.3 Knowledge intensive employment	37	57.63	
2.2.4 Annual investment in telecommunication services	51	79.43	
2.2.5 GERD performed by business enterprise	40	12.93	
3rd sub-pillar: Governments	63	45.46	
2.3.1 Government online services	62	70.90	
2.3.2 Publication and use of open data	31	47.06	
2.3.3 Government promotion of investment in emerging tech	89	29.99	
2.3.4 R&D expenditure by governments and higher education	54	33.90	

Indicator	Rank	Score	
D. Impact pillar	32	66.08	
1st sub-pillar: Economy	33	44.35	
4.1.1 High-tech and medium-high-tech manufacturing	3	81.80	●
4.1.2 High-tech exports	21	58.91	●
4.1.3 PCT patent applications	53	7.50	
4.1.4 Domestic market size	65	51.48	
4.1.5 Prevalence of gig economy	77	36.05	
4.1.6 ICT services exports	63	30.40	
2nd sub-pillar: Quality of Life	29	79.76	
4.2.1 Happiness	35	75.50	
4.2.2 Freedom to make life choices	90	62.14	○
4.2.3 Income inequality	1	100.00	●
4.2.4 Healthy life expectancy at birth	40	81.38	
3rd sub-pillar: SDG Contribution	43	74.12	
4.3.1 SDG 3: Good Health and Well-Being	44	79.06	
4.3.2 SDG 4: Quality Education	37	56.86	
4.3.3 SDG 5: Women's economic opportunity	55	78.95	
4.3.4 SDG 7: Affordable and Clean Energy	73	76.69	
4.3.5 SDG 11: Sustainable Cities and Communities	40	79.04	

NOTE: ● a strength and ○ a weakness.

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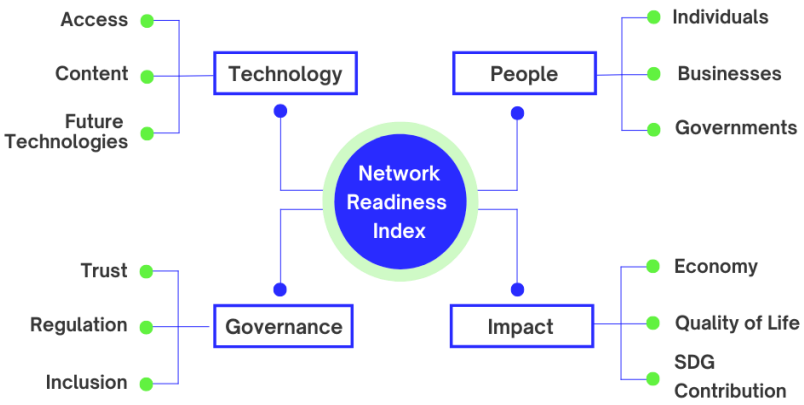
Network Readiness Index 2022 Slovenia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

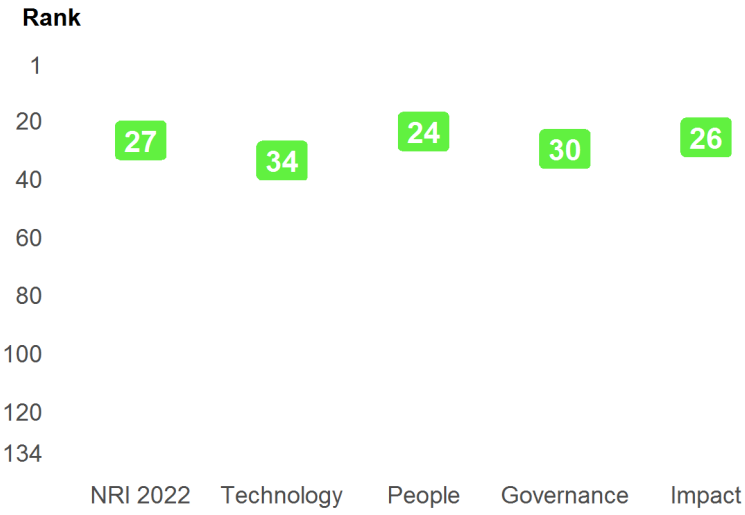
Figure 1: The NRI 2022 model



Global NRI position of Slovenia

Slovenia ranks 27th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Slovenia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Slovenia relate to Quality of Life, Businesses and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Access and Individuals sub-pillars.

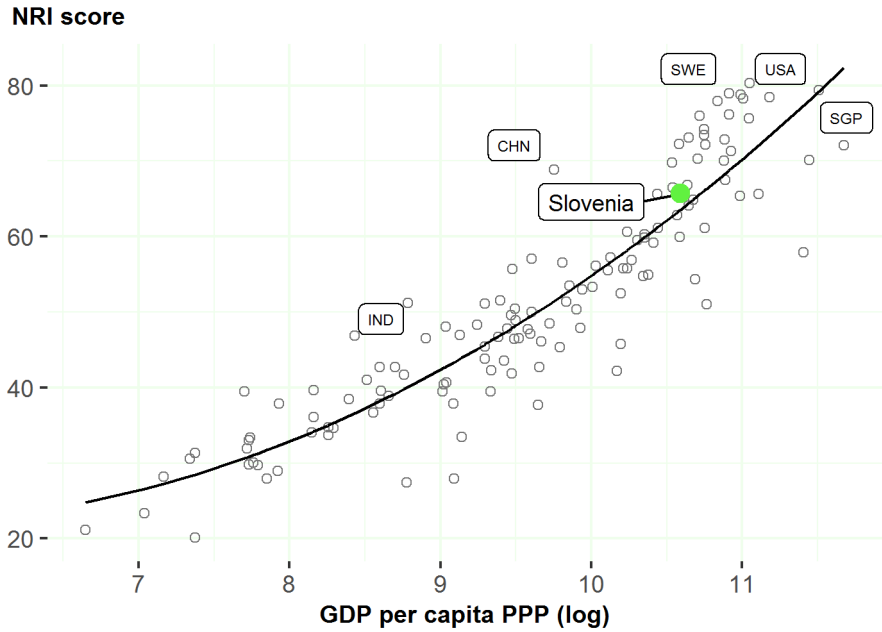
Table 1: Slovenia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	12	Trust	36
Businesses	14	Inclusion	36
Regulation	21	Future Technologies	39
SDG Contribution	22	Economy	40
Content	29	Access	41
Governments	32	Individuals	47

NRI score and income

Figure 3 shows the position of Slovenia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Slovenia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Slovenia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Slovenia is ranked 26th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: people and impact. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Businesses, Regulation, Quality of Life and SDG Contribution.

Europe

Slovenia is ranked 19th within Europe (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, people, governance and impact. With regard to sub-pillars, it outperforms the average in Europe in eight of the twelve sub-pillars: Access, Individuals, Businesses, Governments, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Slovenia against its income group and region, overall and by pillar

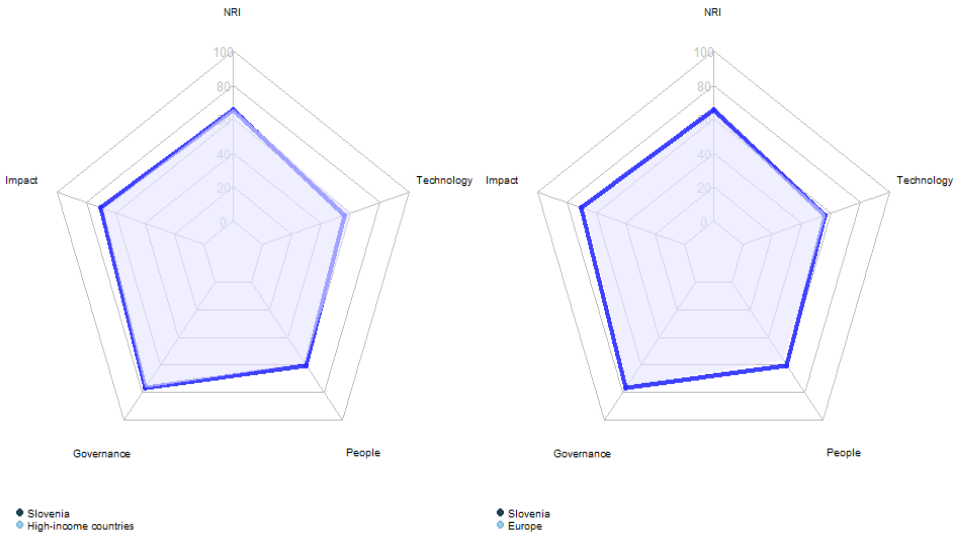


Table 2: Slovenia scores vs. averages of its income group and region, overall and by pillar

Dimension	Slovenia	High-income countries	Europe
NRI	65.67	66.21	63.72
Technology	55.45	60.28	56.43
People	60.45	58.83	56.35
Governance	76.47	76.89	74.79
Impact	70.31	68.86	67.30

Strongest and weakest indicators

The indicators where Slovenia performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 1.3.4 Computer software spending, 4.1.4 Domestic market size, and 2.1.1 Mobile broadband internet traffic within the country.

Table 3: Strongest and weakest indicators of Slovenia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	1.1.3 FTTH/building Internet subscriptions	67
3.2.4 E-commerce legislation	1	2.1.1 Mobile broadband internet traffic within the country	85
4.2.3 Income inequality	2	4.1.4 Domestic market size	86
3.2.2 ICT regulatory environment	3	1.3.4 Computer software spending	90
1.3.3 Robot density	9		
2.1.5 Adult literacy rate	10		
4.3.2 SDG 4: Quality Education	11		
2.2.1 Firms with website	13		
2.2.2 GERD financed by business enterprise	13		
3.1.1 Secure Internet servers	13		
2.2.3 Knowledge intensive employment	14		
2.2.5 GERD performed by business enterprise	14		

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NRI 2022 At-A-Glance: Slovenia

Network Readiness Index Rank: 27 (out of 131) Score: 65.67

Pillar/sub-pillar	Rank	Score
A. Technology pillar	34	55.45
1st sub-pillar: Access	41	71.85
2nd sub-pillar: Content	29	52.84
3rd sub-pillar: Future Technologies	39	41.66
B. People pillar	24	60.45
1st sub-pillar: Individuals	47	52.09
2nd sub-pillar: Businesses	14	70.72
3rd sub-pillar: Governments	32	58.53

Pillar/sub-pillar	Rank	Score
C. Governance pillar	30	76.47
1st sub-pillar: Trust	36	69.13
2nd sub-pillar: Regulation	21	82.33
3rd sub-pillar: Inclusion	36	77.94
D. Impact pillar	26	70.31
1st sub-pillar: Economy	40	41.29
2nd sub-pillar: Quality of Life	12	87.01
3rd sub-pillar: SDG Contribution	22	82.63

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	34	55.45	
1st sub-pillar: Access	41	71.85	
1.1.1 Mobile tariffs	23	78.54	
1.1.2 Handset prices	54	60.84	
1.1.3 FTTH/building Internet subscriptions	67	20.72	○
1.1.4 Population covered by at least a 3G mobile network	19	100.00	
1.1.5 International Internet bandwidth	65	71.03	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	29	52.84	
1.2.1 GitHub commits	24	40.14	
1.2.2 Internet domain registrations	30	23.38	
1.2.3 Mobile apps development	23	95.01	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	39	41.66	
1.3.1 Adoption of emerging technologies	28	69.85	
1.3.2 Investment in emerging technologies	41	51.50	
1.3.3 Robot density	9	37.13	●
1.3.4 Computer software spending	90	8.18	○

Indicator	Rank	Score	
C. Governance pillar	30	76.47	
1st sub-pillar: Trust	36	69.13	
3.1.1 Secure Internet servers	13	86.19	●
3.1.2 Cybersecurity	75	74.49	
3.1.3 Online access to financial account	30	52.32	
3.1.4 Internet shopping	27	63.52	
2nd sub-pillar: Regulation	21	82.33	
3.2.1 Regulatory quality	34	65.60	
3.2.2 ICT regulatory environment	3	98.82	●
3.2.3 Regulation of emerging technologies	32	64.21	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	25	83.00	
3rd sub-pillar: Inclusion	36	77.94	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	34	90.40	
3.3.3 Availability of local online content	49	68.27	
3.3.4 Gender gap in Internet use	44	71.31	
3.3.5 Rural gap in use of digital payments	30	74.54	

Indicator	Rank	Score	
B. People pillar	24	60.45	
1st sub-pillar: Individuals	47	52.09	
2.1.1 Mobile broadband internet traffic within the country	85	3.87	○
2.1.2 ICT skills in the education system	41	60.95	
2.1.3 Use of virtual social networks	56	72.25	
2.1.4 Tertiary enrollment	22	51.88	
2.1.5 Adult literacy rate	10	99.65	●
2.1.6 AI talent concentration	17	23.98	
2nd sub-pillar: Businesses	14	70.72	
2.2.1 Firms with website	13	85.26	●
2.2.2 GERD financed by business enterprise	13	76.07	●
2.2.3 Knowledge intensive employment	14	73.73	●
2.2.4 Annual investment in telecommunication services	59	77.18	
2.2.5 GERD performed by business enterprise	14	41.34	●
3rd sub-pillar: Governments	32	58.53	
2.3.1 Government online services	24	84.84	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	49	45.84	
2.3.4 R&D expenditure by governments and higher education	41	44.91	

Indicator	Rank	Score	
D. Impact pillar	26	70.31	
1st sub-pillar: Economy	40	41.29	
4.1.1 High-tech and medium-high-tech manufacturing	26	54.11	
4.1.2 High-tech exports	30	51.87	
4.1.3 PCT patent applications	27	30.23	
4.1.4 Domestic market size	86	43.88	○
4.1.5 Prevalence of gig economy	71	37.50	
4.1.6 ICT services exports	64	30.15	
2nd sub-pillar: Quality of Life	12	87.01	
4.2.1 Happiness	20	81.60	
4.2.2 Freedom to make life choices	42	80.69	
4.2.3 Income inequality	2	96.98	●
4.2.4 Healthy life expectancy at birth	25	88.76	
3rd sub-pillar: SDG Contribution	22	82.63	
4.3.1 SDG 3: Good Health and Well-Being	31	84.21	
4.3.2 SDG 4: Quality Education	11	70.38	●
4.3.3 SDG 5: Women's economic opportunity	20	95.61	
4.3.4 SDG 7: Affordable and Clean Energy	56	81.79	
4.3.5 SDG 11: Sustainable Cities and Communities	34	81.18	

NOTE: ● a strength and ○ a weakness.

Sources

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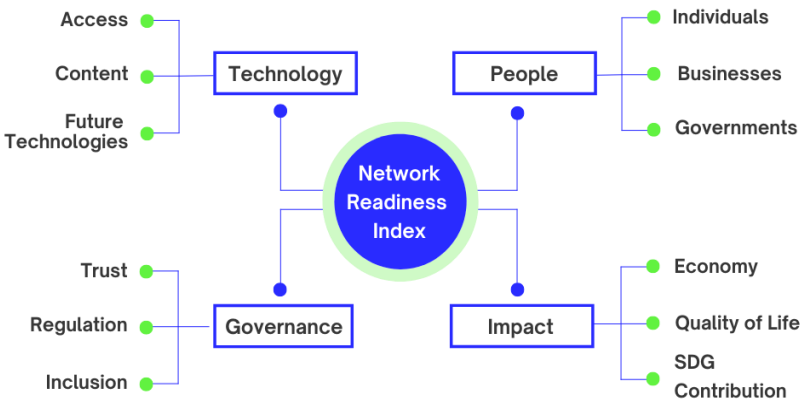
Network Readiness Index 2022 South Africa

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

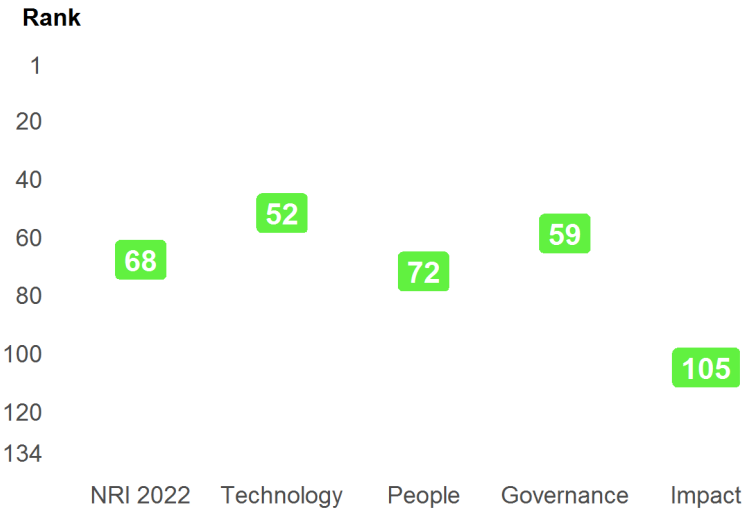
Figure 1: The NRI 2022 model



Global NRI position of South Africa

South Africa ranks 68th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: South Africa global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of South Africa relate to Businesses, Future Technologies and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Individuals and Quality of Life sub-pillars.

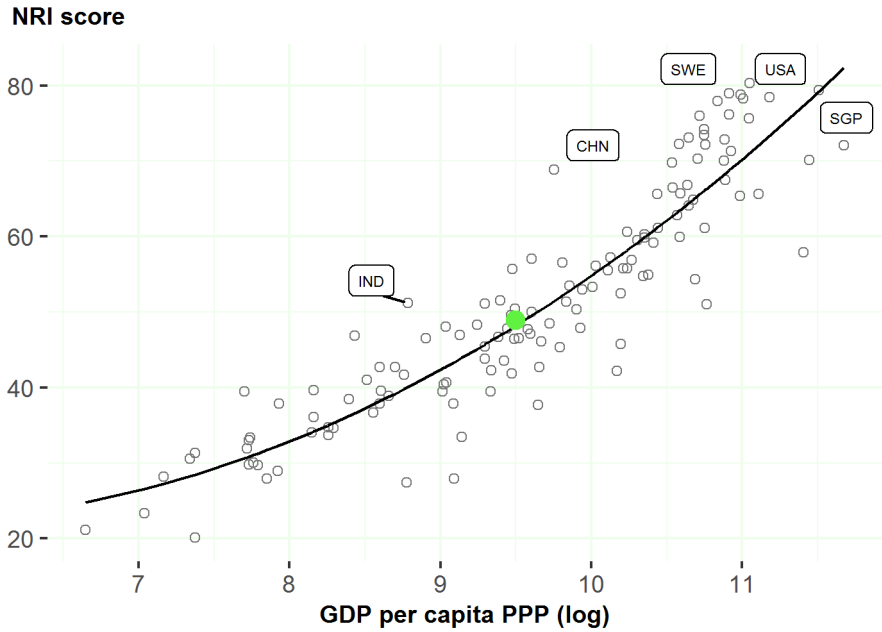
Table 1: South Africa rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	47	Regulation	61
Future Technologies	48	Inclusion	62
Governments	51	SDG Contribution	70
Content	52	Economy	71
Trust	60	Individuals	109
Access	61	Quality of Life	124

NRI score and income

Figure 3 shows the position of South Africa in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, South Africa is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. South Africa belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Upper-middle-income countries

South Africa is ranked 17th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: technology and governance. At the sub-pillar level, it outperforms upper-middle-income countries in eight of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation and Inclusion.

Africa

South Africa is ranked 1st within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Figure 4: Performance of South Africa against its income group and region, overall and by pillar

Table 2: South Africa scores vs. averages of its income group and region, overall and by pillar

Dimension	South Africa	Upper-middle-income countries	Africa
NRI	48.90	49.66	33.77
Technology	48.79	43.11	29.96
People	42.96	44.94	26.81
Governance	60.13	57.08	40.37
Impact	43.71	53.50	37.94

Strongest and weakest indicators

The indicators where South Africa performs particularly well include 3.2.4 E-commerce legislation, 2.2.1 Firms with website, and 1.2.4 AI scientific publications (Table 3). By contrast, the economy's weakest indicators include 2.1.2 ICT skills in the education system, 4.3.4 SDG 7: Affordable and Clean Energy, and 4.2.3 Income inequality.

Table 3: Strongest and weakest indicators of South Africa

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	39
2.2.1 Firms with website	22	4.2.4 Healthy life expectancy at birth	112
1.2.4 AI scientific publications	23	4.2.3 Income inequality	117
2.2.4 Annual investment in telecommunication services	23	4.3.4 SDG 7: Affordable and Clean Energy	120
1.3.4 Computer software spending	27	2.1.2 ICT skills in the education system	124
1.1.3 FTTH/building Internet subscriptions	30		
4.1.4 Domestic market size	31		
1.3.1 Adoption of emerging technologies	33		
1.1.4 Population covered by at least a 3G mobile network	37		
1.1.5 International Internet bandwidth	38		
3.1.1 Secure Internet servers	38		

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NRI 2022 At-A-Glance: South Africa

Network Readiness Index Rank: 68 (out of 131) Score: 48.90

Pillar/sub-pillar	Rank	Score
A. Technology pillar	52	48.79
1st sub-pillar: Access	61	67.04
2nd sub-pillar: Content	52	40.84
3rd sub-pillar: Future Technologies	48	38.49
B. People pillar	72	42.96
1st sub-pillar: Individuals	109	30.37
2nd sub-pillar: Businesses	47	51.36
3rd sub-pillar: Governments	51	47.16

Pillar/sub-pillar	Rank	Score
C. Governance pillar	59	60.13
1st sub-pillar: Trust	60	49.65
2nd sub-pillar: Regulation	61	64.65
3rd sub-pillar: Inclusion	62	66.08
D. Impact pillar	105	43.71
1st sub-pillar: Economy	71	29.71
2nd sub-pillar: Quality of Life	124	39.13
3rd sub-pillar: SDG Contribution	70	62.29

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	52	48.79	
1st sub-pillar: Access	61	67.04	
1.1.1 Mobile tariffs	39	72.73	
1.1.2 Handset prices	76	47.86	
1.1.3 FTTH/building Internet subscriptions	30	39.26	•
1.1.4 Population covered by at least a 3G mobile network	37	99.96	•
1.1.5 International Internet bandwidth	38	75.38	•
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	52	40.84	
1.2.1 GitHub commits	73	4.13	
1.2.2 Internet domain registrations	50	7.93	
1.2.3 Mobile apps development	69	77.60	
1.2.4 AI scientific publications	23	73.70	•
3rd sub-pillar: Future Technologies	48	38.49	
1.3.1 Adoption of emerging technologies	33	64.29	•
1.3.2 Investment in emerging technologies	40	51.75	
1.3.3 Robot density	34	5.97	
1.3.4 Computer software spending	27	31.96	•

Indicator	Rank	Score	
C. Governance pillar	59	60.13	
1st sub-pillar: Trust	60	49.65	
3.1.1 Secure Internet servers	38	76.42	•
3.1.2 Cybersecurity	67	78.08	
3.1.3 Online access to financial account	65	28.13	
3.1.4 Internet shopping	72	15.99	
2nd sub-pillar: Regulation	61	64.65	
3.2.1 Regulatory quality	62	46.40	
3.2.2 ICT regulatory environment	73	80.39	
3.2.3 Regulation of emerging technologies	60	44.74	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	93	51.70	
3rd sub-pillar: Inclusion	62	66.08	
3.3.1 E-Participation	56	74.07	
3.3.2 Socioeconomic gap in use of digital payments	65	72.97	
3.3.3 Availability of local online content	90	49.76	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	53	67.52	

Indicator	Rank	Score	
B. People pillar	72	42.96	
1st sub-pillar: Individuals	109	30.37	
2.1.1 Mobile broadband internet traffic within the country	37	19.82	
2.1.2 ICT skills in the education system	124	9.76	○
2.1.3 Use of virtual social networks	98	41.97	
2.1.4 Tertiary enrollment	91	15.08	
2.1.5 Adult literacy rate	49	93.62	
2.1.6 AI talent concentration	39	1.95	○
2nd sub-pillar: Businesses	47	51.36	
2.2.1 Firms with website	22	80.98	●
2.2.2 GERD financed by business enterprise	39	51.30	
2.2.3 Knowledge intensive employment	72	31.17	
2.2.4 Annual investment in telecommunication services	23	84.42	●
2.2.5 GERD performed by business enterprise	47	8.94	
3rd sub-pillar: Governments	51	47.16	
2.3.1 Government online services	54	73.94	
2.3.2 Publication and use of open data	38	41.18	
2.3.3 Government promotion of investment in emerging tech	84	31.61	
2.3.4 R&D expenditure by governments and higher education	47	41.90	

Indicator	Rank	Score	
D. Impact pillar	105	43.71	
1st sub-pillar: Economy	71	29.71	
4.1.1 High-tech and medium-high-tech manufacturing	60	25.91	
4.1.2 High-tech exports	55	29.53	
4.1.3 PCT patent applications	44	9.64	
4.1.4 Domestic market size	31	66.19	●
4.1.5 Prevalence of gig economy	86	33.72	
4.1.6 ICT services exports	95	13.24	
2nd sub-pillar: Quality of Life	124	39.13	
4.2.1 Happiness	69	60.90	
4.2.2 Freedom to make life choices	106	55.71	
4.2.3 Income inequality	117	0.00	○
4.2.4 Healthy life expectancy at birth	112	39.90	○
3rd sub-pillar: SDG Contribution	70	62.29	
4.3.1 SDG 3: Good Health and Well-Being	78	64.22	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	45	83.33	
4.3.4 SDG 7: Affordable and Clean Energy	120	43.94	○
4.3.5 SDG 11: Sustainable Cities and Communities	79	57.67	

NOTE: ● a strength and ○ a weakness.

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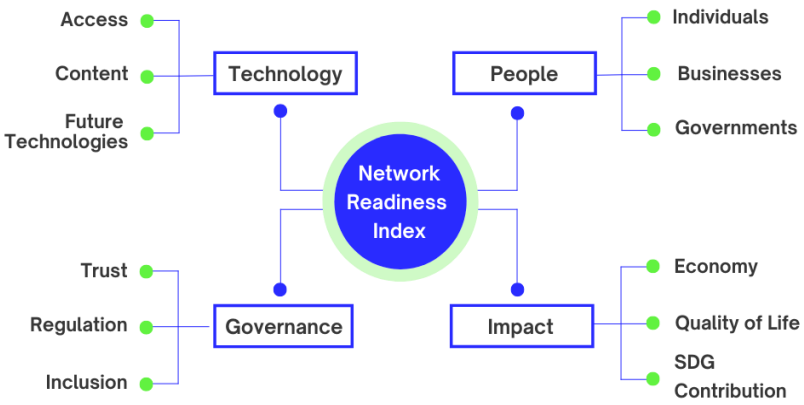
Network Readiness Index 2022 Spain

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

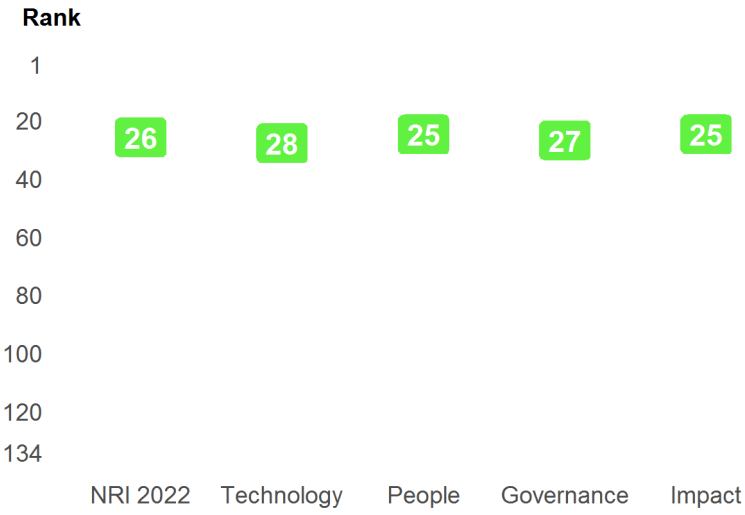
Figure 1: The NRI 2022 model



Global NRI position of Spain

Spain ranks 26th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People and Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Spain global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Spain relate to SDG Contribution, Access and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Quality of Life and Content sub-pillars.

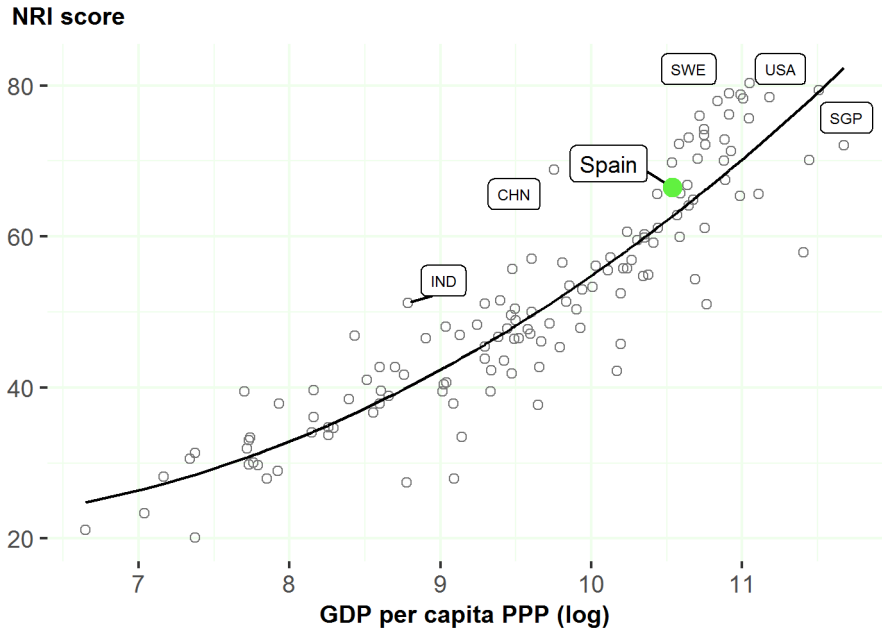
Table 1: Spain rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	12	Regulation	27
Access	15	Individuals	29
Inclusion	16	Businesses	32
Governments	23	Trust	33
Future Technologies	24	Quality of Life	33
Economy	26	Content	35

NRI score and income

Figure 3 shows the position of Spain in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Spain is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Spain belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Spain is ranked 25th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, people, governance and impact. At the sub-pillar level, it outperforms high-income countries in five of the twelve sub-pillars: Access, Individuals, Governments, Inclusion and SDG Contribution.

Europe

Spain is ranked 18th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Figure 4: Performance of Spain against its income group and region, overall and by pillar

Table 2: Spain scores vs. averages of its income group and region, overall and by pillar

Dimension	Spain	High-income countries	Europe
NRI	66.51	66.21	63.72
Technology	58.34	60.28	56.43
People	59.56	58.83	56.35
Governance	77.56	76.89	74.79
Impact	70.57	68.86	67.30

Strongest and weakest indicators

The indicators where Spain performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 3.3.2 Socioeconomic gap in use of digital payments (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 3.2.2 ICT regulatory environment, and 2.1.2 ICT skills in the education system.

Table 3: Strongest and weakest indicators of Spain

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.6 AI talent concentration	23
3.2.4 E-commerce legislation	1	2.1.2 ICT skills in the education system	67
3.3.2 Socioeconomic gap in use of digital payments	3	3.2.2 ICT regulatory environment	71
1.3.4 Computer software spending	5	4.2.2 Freedom to make life choices	75
3.1.2 Cybersecurity	5		
4.2.4 Healthy life expectancy at birth	7		
2.1.4 Tertiary enrollment	9		
2.3.2 Publication and use of open data	11		
3.3.5 Rural gap in use of digital payments	11		
2.2.4 Annual investment in telecommunication services	13		
4.3.1 SDG 3: Good Health and Well-Being	13		
4.3.5 SDG 11: Sustainable Cities and Communities	13		

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NRI 2022 At-A-Glance: Spain

Network Readiness Index — Rank: 26 (out of 131) — Score: 66.51

Pillar/sub-pillar	Rank	Score
A. Technology pillar	28	58.34
1st sub-pillar: Access	15	78.63
2nd sub-pillar: Content	35	47.88
3rd sub-pillar: Future Technologies	24	48.50
B. People pillar	25	59.56
1st sub-pillar: Individuals	29	56.08
2nd sub-pillar: Businesses	32	60.39
3rd sub-pillar: Governments	23	62.22

Pillar/sub-pillar	Rank	Score
C. Governance pillar	27	77.56
1st sub-pillar: Trust	33	70.29
2nd sub-pillar: Regulation	27	78.44
3rd sub-pillar: Inclusion	16	83.96
D. Impact pillar	25	70.57
1st sub-pillar: Economy	26	47.05
2nd sub-pillar: Quality of Life	33	77.69
3rd sub-pillar: SDG Contribution	12	86.99

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	28	58.34	
1st sub-pillar: Access	15	78.63	
1.1.1 Mobile tariffs	59	64.49	
1.1.2 Handset prices	20	77.04	
1.1.3 FTTH/building Internet subscriptions	14	56.21	
1.1.4 Population covered by at least a 3G mobile network	40	99.94	
1.1.5 International Internet bandwidth	46	74.12	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	35	47.88	
1.2.1 GitHub commits	31	30.19	
1.2.2 Internet domain registrations	33	20.29	
1.2.3 Mobile apps development	26	93.15	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	24	48.50	
1.3.1 Adoption of emerging technologies	29	68.80	
1.3.2 Investment in emerging technologies	56	43.00	
1.3.3 Robot density	18	24.79	
1.3.4 Computer software spending	5	57.40	●

Indicator	Rank	Score	
C. Governance pillar	27	77.56	
1st sub-pillar: Trust	33	70.29	
3.1.1 Secure Internet servers	32	79.63	
3.1.2 Cybersecurity	5	98.49	●
3.1.3 Online access to financial account	48	36.31	
3.1.4 Internet shopping	23	66.71	
2nd sub-pillar: Regulation	27	78.44	
3.2.1 Regulatory quality	39	61.60	
3.2.2 ICT regulatory environment	71	81.18	○
3.2.3 Regulation of emerging technologies	30	65.00	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	21	84.42	
3rd sub-pillar: Inclusion	16	83.96	
3.3.1 E-Participation	36	83.95	
3.3.2 Socioeconomic gap in use of digital payments	3	99.47	●
3.3.3 Availability of local online content	22	85.58	
3.3.4 Gender gap in Internet use	34	73.45	
3.3.5 Rural gap in use of digital payments	11	77.36	●

Indicator	Rank	Score	
B. People pillar	25	59.56	
1st sub-pillar: Individuals	29	56.08	
2.1.1 Mobile broadband internet traffic within the country	23	30.96	
2.1.2 ICT skills in the education system	67	44.67	○
2.1.3 Use of virtual social networks	17	81.60	
2.1.4 Tertiary enrollment	9	62.09	●
2.1.5 Adult literacy rate	25	98.22	
2.1.6 AI talent concentration	23	18.91	○
2nd sub-pillar: Businesses	32	60.39	
2.2.1 Firms with website	28	77.72	
2.2.2 GERD financed by business enterprise	33	60.72	
2.2.3 Knowledge intensive employment	43	54.18	
2.2.4 Annual investment in telecommunication services	13	88.82	●
2.2.5 GERD performed by business enterprise	32	20.52	
3rd sub-pillar: Governments	23	62.22	
2.3.1 Government online services	17	88.48	
2.3.2 Publication and use of open data	11	73.53	●
2.3.3 Government promotion of investment in emerging tech	63	38.08	
2.3.4 R&D expenditure by governments and higher education	32	48.78	

Indicator	Rank	Score	
D. Impact pillar	25	70.57	
1st sub-pillar: Economy	26	47.05	
4.1.1 High-tech and medium-high-tech manufacturing	30	49.49	
4.1.2 High-tech exports	39	43.41	
4.1.3 PCT patent applications	29	24.37	
4.1.4 Domestic market size	16	74.38	
4.1.5 Prevalence of gig economy	48	51.16	
4.1.6 ICT services exports	39	39.46	
2nd sub-pillar: Quality of Life	33	77.69	
4.2.1 Happiness	29	76.41	
4.2.2 Freedom to make life choices	75	68.96	○
4.2.3 Income inequality	46	72.11	
4.2.4 Healthy life expectancy at birth	7	93.28	●
3rd sub-pillar: SDG Contribution	12	86.99	
4.3.1 SDG 3: Good Health and Well-Being	13	93.79	●
4.3.2 SDG 4: Quality Education	29	61.95	
4.3.3 SDG 5: Women's economic opportunity	11	96.49	
4.3.4 SDG 7: Affordable and Clean Energy	24	88.97	
4.3.5 SDG 11: Sustainable Cities and Communities	13	93.74	●

NOTE: ● a strength and ○ a weakness.

Sources

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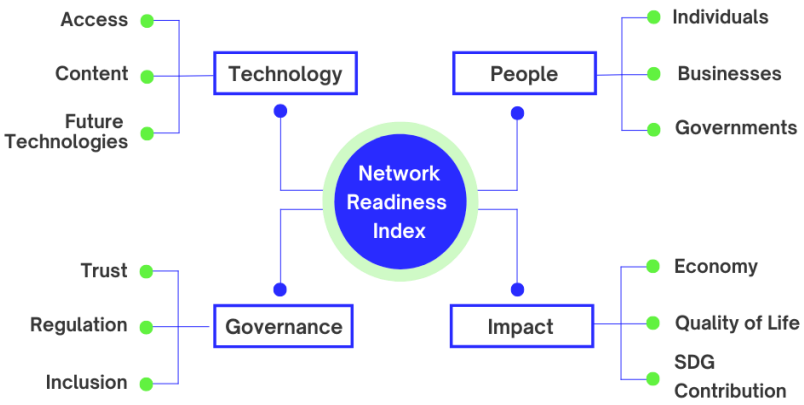
Network Readiness Index 2022 Sri Lanka

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

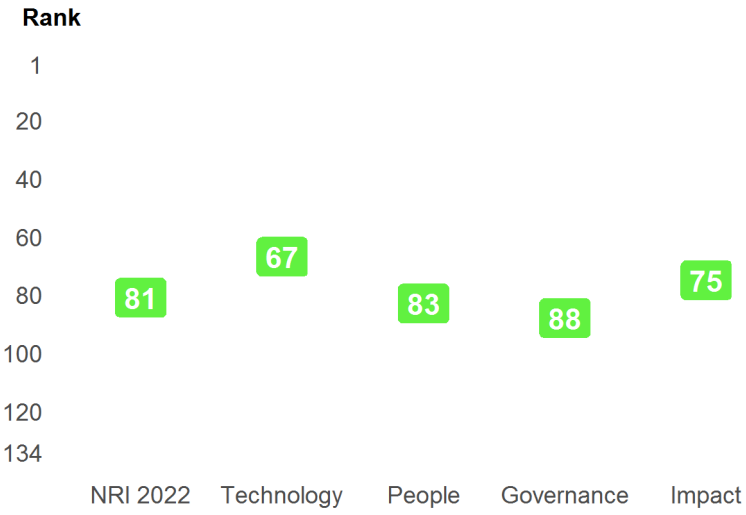
Figure 1: The NRI 2022 model



Global NRI position of Sri Lanka

Sri Lanka ranks 81st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Sri Lanka global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Sri Lanka relate to Future Technologies, Economy and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Trust and Regulation sub-pillars.

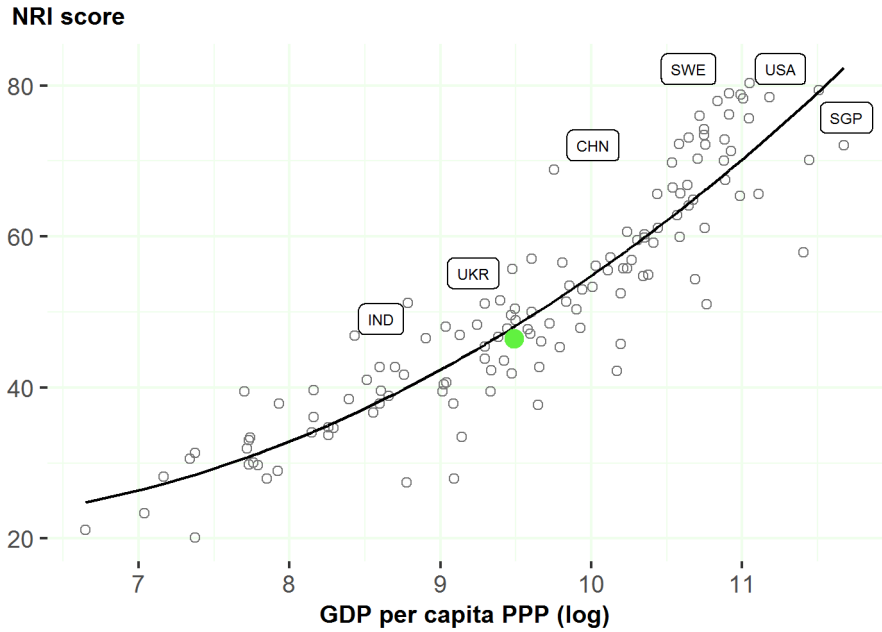
Table 1: Sri Lanka rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	38	Businesses	87
Economy	64	Quality of Life	91
SDG Contribution	64	Individuals	92
Inclusion	65	Access	93
Content	67	Trust	96
Governments	73	Regulation	105

NRI score and income

Figure 3 shows the position of Sri Lanka in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Sri Lanka is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Sri Lanka belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Sri Lanka is ranked 9th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in ten of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Governments, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Asia & Pacific

Sri Lanka is ranked 14th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in two of the twelve sub-pillars: Future Technologies and SDG Contribution.

Figure 4: Performance of Sri Lanka against its income group and region, overall and by pillar

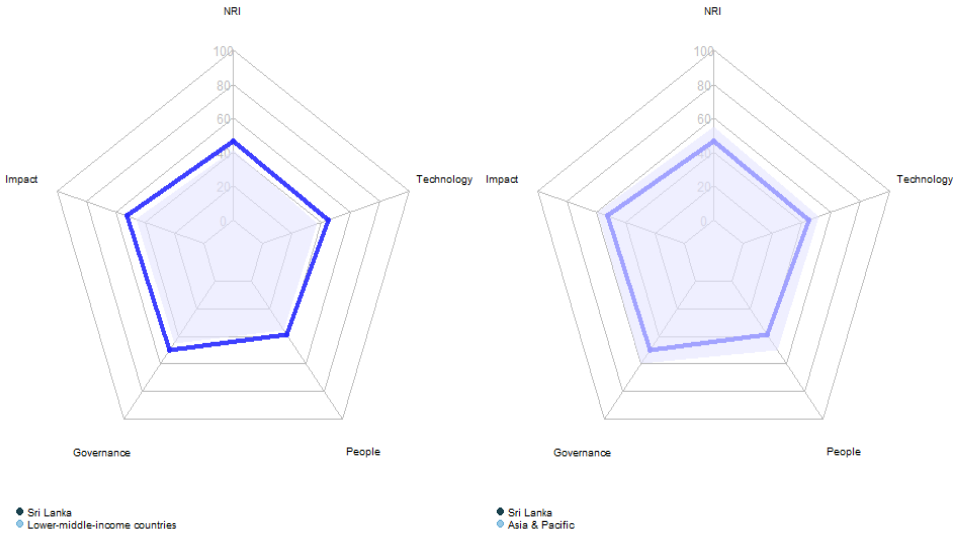


Table 2: Sri Lanka scores vs. averages of its income group and region, overall and by pillar

Dimension	Sri Lanka	Lower-middle-income countries	Asia & Pacific
NRI	46.45	40.94	55.18
Technology	44.42	37.28	51.78
People	38.95	35.42	50.21
Governance	49.98	45.00	59.66
Impact	52.45	46.09	59.07

Strongest and weakest indicators

The indicators where Sri Lanka performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 4.1.6 ICT services exports, and 1.1.1 Mobile tariffs (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 2.2.1 Firms with website, and 4.2.1 Happiness.

Table 3: Strongest and weakest indicators of Sri Lanka

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	6	3.2.4 E-commerce legislation	87
4.1.6 ICT services exports	14	2.3.4 R&D expenditure by governments and higher education	100
1.1.1 Mobile tariffs	20	4.2.1 Happiness	114
1.3.4 Computer software spending	25	2.2.1 Firms with website	116
2.2.2 GERD financed by business enterprise	40	3.2.2 ICT regulatory environment	121
2.1.1 Mobile broadband internet traffic within the country	41		
2.3.3 Government promotion of investment in emerging technologies	41		
1.2.1 GitHub commits	42		
1.3.1 Adoption of emerging technologies	45		
4.1.5 Prevalence of gig economy	45		

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NRI 2022 At-A-Glance: Sri Lanka

Network Readiness Index Rank: 81 (out of 131) Score: 46.45

Pillar/sub-pillar	Rank	Score
A. Technology pillar	67	44.42
1st sub-pillar: Access	93	54.93
2nd sub-pillar: Content	67	35.93
3rd sub-pillar: Future Technologies	38	42.39
B. People pillar	83	38.95
1st sub-pillar: Individuals	92	40.39
2nd sub-pillar: Businesses	87	34.90
3rd sub-pillar: Governments	73	41.55

Pillar/sub-pillar	Rank	Score
C. Governance pillar	88	49.98
1st sub-pillar: Trust	96	31.99
2nd sub-pillar: Regulation	105	52.68
3rd sub-pillar: Inclusion	65	65.27
D. Impact pillar	75	52.45
1st sub-pillar: Economy	64	32.66
2nd sub-pillar: Quality of Life	91	59.35
3rd sub-pillar: SDG Contribution	64	65.33

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	67	44.42	
1st sub-pillar: Access	93	54.93	
1.1.1 Mobile tariffs	20	81.96	•
1.1.2 Handset prices	113	33.83	
1.1.3 FTTH/building Internet subscriptions	58	26.70	
1.1.4 Population covered by at least a 3G mobile network	82	98.67	
1.1.5 International Internet bandwidth	75	69.86	
1.1.6 Internet access in schools	64	18.57	
2nd sub-pillar: Content	67	35.93	
1.2.1 GitHub commits	42	14.85	•
1.2.2 Internet domain registrations	101	0.76	
1.2.3 Mobile apps development	80	72.79	
1.2.4 AI scientific publications	47	55.34	
3rd sub-pillar: Future Technologies	38	42.39	
1.3.1 Adoption of emerging technologies	45	56.01	•
1.3.2 Investment in emerging technologies	70	38.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	25	32.92	•

Indicator	Rank	Score	
C. Governance pillar	88	49.98	
1st sub-pillar: Trust	96	31.99	
3.1.1 Secure Internet servers	78	47.48	
3.1.2 Cybersecurity	88	57.92	
3.1.3 Online access to financial account	110	9.76	
3.1.4 Internet shopping	79	12.80	
2nd sub-pillar: Regulation	105	52.68	
3.2.1 Regulatory quality	86	36.27	
3.2.2 ICT regulatory environment	121	56.86	○
3.2.3 Regulation of emerging technologies	71	41.84	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	74	61.79	
3rd sub-pillar: Inclusion	65	65.27	
3.3.1 E-Participation	64	70.37	
3.3.2 Socioeconomic gap in use of digital payments	58	77.51	
3.3.3 Availability of local online content	94	47.12	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	58	66.10	

Indicator	Rank	Score	
B. People pillar	83	38.95	
1st sub-pillar: Individuals	92	40.39	
2.1.1 Mobile broadband internet traffic within the country	41	16.68	●
2.1.2 ICT skills in the education system	61	47.63	
2.1.3 Use of virtual social networks	100	33.89	
2.1.4 Tertiary enrollment	95	13.55	
2.1.5 Adult literacy rate	61	90.22	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	87	34.90	
2.2.1 Firms with website	116	10.51	○
2.2.2 GERD financed by business enterprise	40	49.78	●
2.2.3 Knowledge intensive employment	61	35.58	
2.2.4 Annual investment in telecommunication services	58	77.29	
2.2.5 GERD performed by business enterprise	71	1.33	
3rd sub-pillar: Governments	73	41.55	
2.3.1 Government online services	62	70.90	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	41	49.00	
2.3.4 R&D expenditure by governments and higher education	100	4.76	○

Indicator	Rank	Score	
D. Impact pillar	75	52.45	
1st sub-pillar: Economy	64	32.66	
4.1.1 High-tech and medium-high-tech manufacturing	91	7.37	
4.1.2 High-tech exports	68	17.57	
4.1.3 PCT patent applications	59	4.70	
4.1.4 Domestic market size	54	56.16	
4.1.5 Prevalence of gig economy	45	53.49	●
4.1.6 ICT services exports	14	56.65	●
2nd sub-pillar: Quality of Life	91	59.35	
4.2.1 Happiness	114	34.27	○
4.2.2 Freedom to make life choices	81	67.21	
4.2.3 Income inequality	76	59.55	
4.2.4 Healthy life expectancy at birth	52	76.39	
3rd sub-pillar: SDG Contribution	64	65.33	
4.3.1 SDG 3: Good Health and Well-Being	81	63.12	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	112	51.75	
4.3.4 SDG 7: Affordable and Clean Energy	6	96.16	●
4.3.5 SDG 11: Sustainable Cities and Communities	89	50.30	

NOTE: ● a strength and ○ a weakness.

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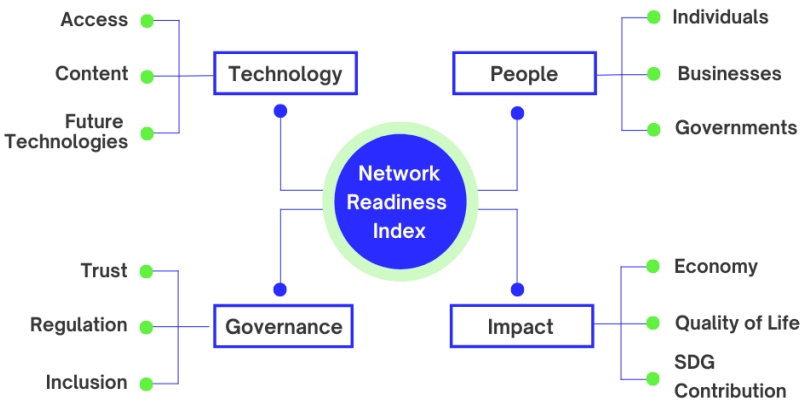
Network Readiness Index 2022 Sweden

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

Figure 1: The NRI 2022 model



Global NRI position of Sweden

Sweden ranks 3rd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Sweden global ranking, overall and by pillar

Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Sweden relate to Businesses, Future Technologies and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Access and Individuals sub-pillars.

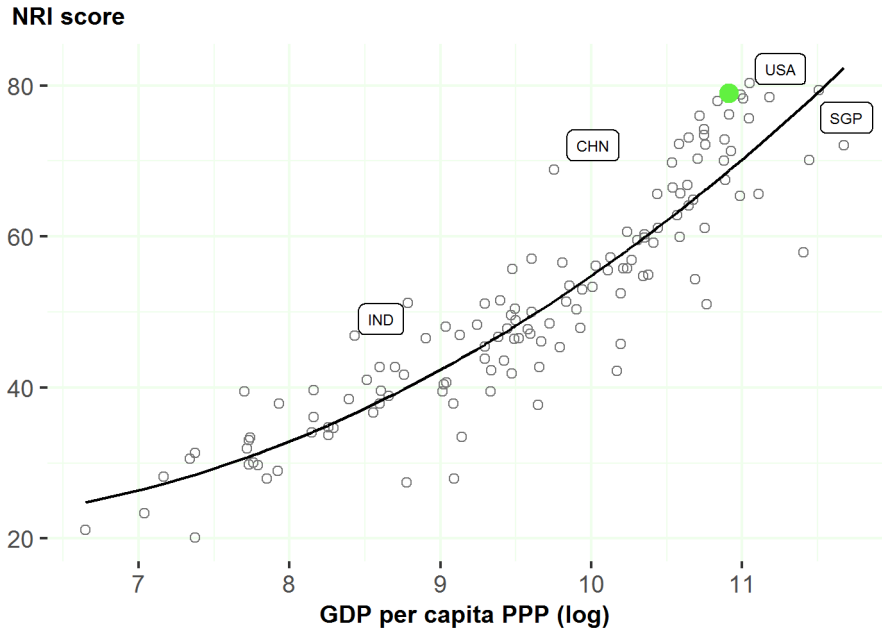
Table 1: Sweden rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	2	Governments	7
Future Technologies	3	Regulation	7
Quality of Life	4	Inclusion	12
SDG Contribution	4	Content	13
Trust	6	Access	28
Economy	6	Individuals	42

NRI score and income

Figure 3 shows the position of Sweden in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Sweden is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Sweden belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Sweden is ranked 3rd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Sweden is ranked 1st within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Sweden against its income group and region, overall and by pillar

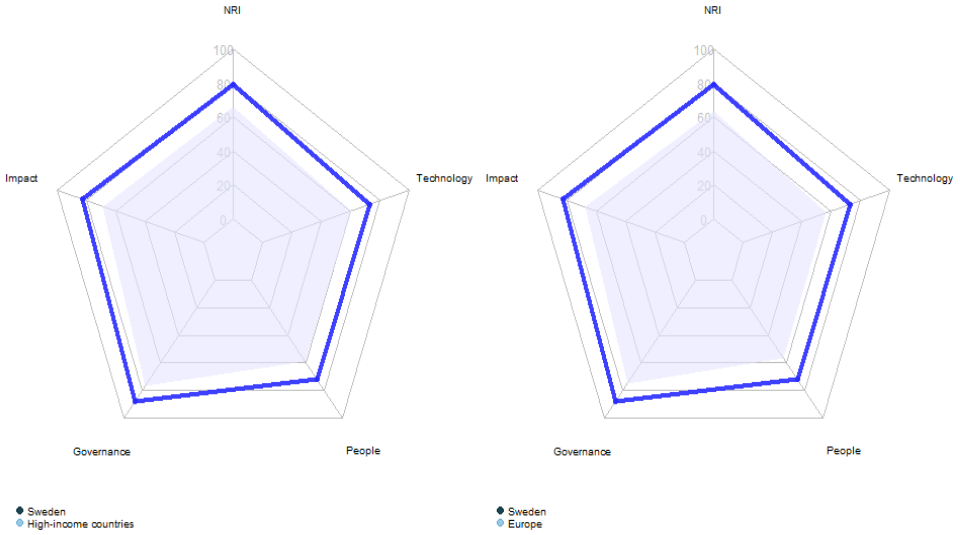


Table 2: Sweden scores vs. averages of its income group and region, overall and by pillar

Dimension	Sweden	High-income countries	Europe
NRI	78.91	66.21	63.72
Technology	73.09	60.28	56.43
People	72.02	58.83	56.35
Governance	87.89	76.89	74.79
Impact	82.66	68.86	67.30

Strongest and weakest indicators

The indicators where Sweden performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 3.2.4 E-commerce legislation, and 3.3.3 Availability of local online content (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 1.1.5 International Internet bandwidth, and 3.2.2 ICT regulatory environment.

Table 3: Strongest and weakest indicators of Sweden

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	3.3.4 Gender gap in Internet use	46
3.2.4 E-commerce legislation	1	3.2.2 ICT regulatory environment	51
3.3.3 Availability of local online content	1	1.1.5 International Internet bandwidth	61
4.3.3 SDG 5: Women's economic opportunity	1	4.3.4 SDG 7: Affordable and Clean Energy	65
1.3.2 Investment in emerging technologies	3		
2.1.2 ICT skills in the education system	3		
2.2.3 Knowledge intensive employment	3		
4.2.2 Freedom to make life choices	3		
4.3.1 SDG 3: Good Health and Well-Being	3		
4.3.5 SDG 11: Sustainable Cities and Communities	3		
3.1.3 Online access to financial account	4		
3.1.4 Internet shopping	4		
4.1.3 PCT patent applications	4		

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NRI 2022 At-A-Glance: Sweden

Network Readiness Index — Rank: 3 (out of 131) — Score: 78.91

Pillar/sub-pillar	Rank	Score
A. Technology pillar	8	73.09
1st sub-pillar: Access	28	74.74
2nd sub-pillar: Content	13	73.07
3rd sub-pillar: Future Technologies	3	71.46
B. People pillar	5	72.02
1st sub-pillar: Individuals	42	53.73
2nd sub-pillar: Businesses	2	82.13
3rd sub-pillar: Governments	7	80.22
C. Governance pillar	5	87.89
1st sub-pillar: Trust	6	90.28
2nd sub-pillar: Regulation	7	88.34
3rd sub-pillar: Inclusion	12	85.04
D. Impact pillar	1	82.66
1st sub-pillar: Economy	6	67.00
2nd sub-pillar: Quality of Life	4	92.26
3rd sub-pillar: SDG Contribution	4	88.72

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	8	73.09	
1st sub-pillar: Access	28	74.74	
1.1.1 Mobile tariffs	6	90.39	
1.1.2 Handset prices	33	71.97	
1.1.3 FTTH/building Internet subscriptions	28	39.89	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	61	71.46	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	13	73.07	
1.2.1 GitHub commits	8	71.28	
1.2.2 Internet domain registrations	17	50.85	
1.2.3 Mobile apps development	15	97.09	
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	3	71.46	
1.3.1 Adoption of emerging technologies	5	96.31	
1.3.2 Investment in emerging technologies	3	92.00	●
1.3.3 Robot density	6	47.81	
1.3.4 Computer software spending	13	49.71	
B. People pillar	5	72.02	

Indicator	Rank	Score	
C. Governance pillar	5	87.89	
1st sub-pillar: Trust	6	90.28	
3.1.1 Secure Internet servers	24	82.96	
3.1.2 Cybersecurity	33	94.45	
3.1.3 Online access to financial account	4	93.08	●
3.1.4 Internet shopping	4	90.62	●
2nd sub-pillar: Regulation	7	88.34	
3.2.1 Regulatory quality	10	85.87	
3.2.2 ICT regulatory environment	51	85.88	○
3.2.3 Regulation of emerging technologies	15	79.21	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	9	90.74	
3rd sub-pillar: Inclusion	12	85.04	
3.3.1 E-Participation	41	81.48	
3.3.2 Socioeconomic gap in use of digital payments	16	96.66	
3.3.3 Availability of local online content	1	100.00	●
3.3.4 Gender gap in Internet use	46	71.07	○
3.3.5 Rural gap in use of digital payments	20	75.98	
D. Impact pillar	1	82.66	

Indicator	Rank	Score	
1st sub-pillar: Individuals	42	53.73	
2.1.1 Mobile broadband internet traffic within the country	38	19.11	
2.1.2 ICT skills in the education system	3	88.46	●
2.1.3 Use of virtual social networks	10	85.20	
2.1.4 Tertiary enrollment	24	51.50	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	16	24.37	
2nd sub-pillar: Businesses	2	82.13	
2.2.1 Firms with website	7	93.91	
2.2.2 GERD financed by business enterprise	12	77.20	
2.2.3 Knowledge intensive employment	3	88.67	●
2.2.4 Annual investment in telecommunication services	25	83.83	
2.2.5 GERD performed by business enterprise	5	67.02	
3rd sub-pillar: Governments	7	80.22	
2.3.1 Government online services	15	89.70	
2.3.2 Publication and use of open data	14	70.59	
2.3.3 Government promotion of investment in emerging tech	17	71.41	
2.3.4 R&D expenditure by governments and higher education	4	89.17	

Indicator	Rank	Score	
1st sub-pillar: Economy	6	67.00	
4.1.1 High-tech and medium-high-tech manufacturing	13	64.37	
4.1.2 High-tech exports	24	55.91	
4.1.3 PCT patent applications	4	91.99	●
4.1.4 Domestic market size	38	62.79	
4.1.5 Prevalence of gig economy	18	68.90	
4.1.6 ICT services exports	11	58.03	
2nd sub-pillar: Quality of Life	4	92.26	
4.2.1 Happiness	5	93.68	
4.2.2 Freedom to make life choices	3	98.02	●
4.2.3 Income inequality	18	84.67	
4.2.4 Healthy life expectancy at birth	11	92.69	
3rd sub-pillar: SDG Contribution	4	88.72	
4.3.1 SDG 3: Good Health and Well-Being	3	96.42	●
4.3.2 SDG 4: Quality Education	14	69.90	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	65	79.28	○
4.3.5 SDG 11: Sustainable Cities and Communities	3	97.98	●

NOTE: ● a strength and ○ a weakness.

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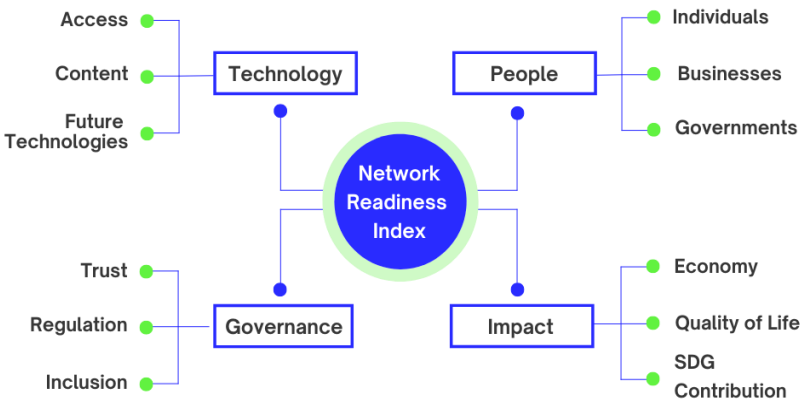
Network Readiness Index 2022 Switzerland

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

Figure 1: The NRI 2022 model



Global NRI position of Switzerland

Switzerland ranks 5th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Switzerland global ranking, overall and by pillar

Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Switzerland relate to Content, Future Technologies and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Trust and Individuals sub-pillars.

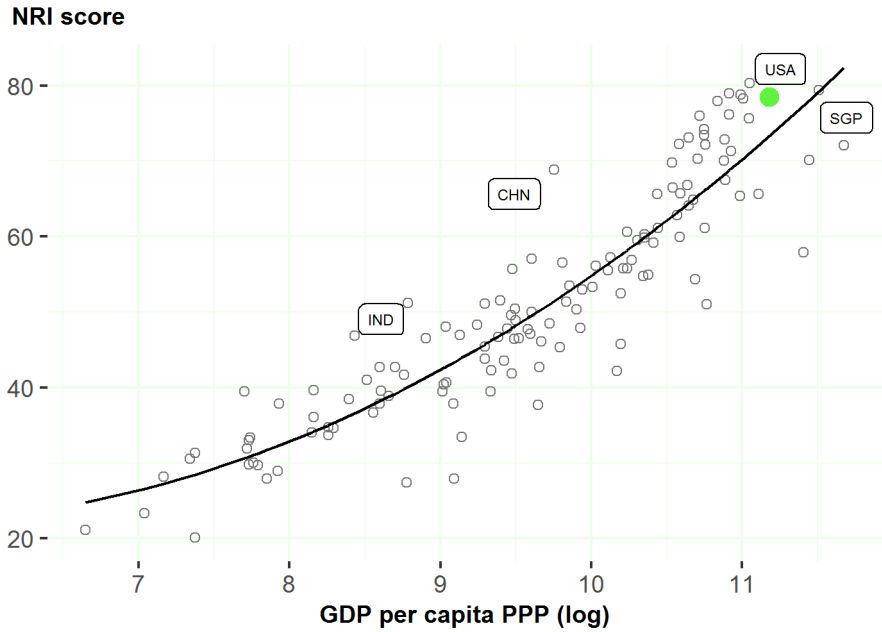
Table 1: Switzerland rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	1	SDG Contribution	10
Future Technologies	4	Economy	11
Businesses	4	Access	16
Regulation	4	Governments	18
Quality of Life	8	Trust	25
Inclusion	9	Individuals	49

NRI score and income

Figure 3 shows the position of Switzerland in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Switzerland is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Switzerland belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

Switzerland is ranked 5th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Switzerland is ranked 3rd within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Switzerland against its income group and region, overall and by pillar

Table 2: Switzerland scores vs. averages of its income group and region, overall and by pillar

Dimension	Switzerland	High-income countries	Europe
NRI	78.45	66.21	63.72
Technology	81.02	60.28	56.43
People	67.44	58.83	56.35
Governance	84.65	76.89	74.79
Impact	80.68	68.86	67.30

Strongest and weakest indicators

The indicators where Switzerland performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 1.2.1 GitHub commits (Table 3). By contrast, the economy's weakest indicators include 3.3.4 Gender gap in Internet use, 1.1.5 International Internet bandwidth, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Strongest and weakest indicators of Switzerland

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	4.3.3 SDG 5: Women's economic opportunity	53
1.1.6 Internet access in schools	1	1.1.3 FTTH/building Internet subscriptions	60
1.2.1 GitHub commits	1	1.1.5 International Internet bandwidth	62
1.2.3 Mobile apps development	1	3.3.4 Gender gap in Internet use	69
3.2.4 E-commerce legislation	1		
3.3.2 Socioeconomic gap in use of digital payments	1		
1.3.4 Computer software spending	2		
4.1.1 High-tech and medium-high-tech manufacturing	2		
3.2.5 Privacy protection by law content	3		
4.1.3 PCT patent applications	3		
1.2.2 Internet domain registrations	4		
1.3.2 Investment in emerging technologies	4		
4.2.4 Healthy life expectancy at birth	4		
3.1.1 Secure Internet servers	5		

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NRI 2022 At-A-Glance: Switzerland

Network Readiness Index — Rank: 5 (out of 131) — Score: 78.45

Pillar/sub-pillar	Rank	Score
A. Technology pillar	2	81.02
1st sub-pillar: Access	16	78.41
2nd sub-pillar: Content	1	94.39
3rd sub-pillar: Future Technologies	4	70.25
B. People pillar	11	67.44
1st sub-pillar: Individuals	49	51.60
2nd sub-pillar: Businesses	4	79.28
3rd sub-pillar: Governments	18	71.44

Pillar/sub-pillar	Rank	Score
C. Governance pillar	12	84.65
1st sub-pillar: Trust	25	76.18
2nd sub-pillar: Regulation	4	92.08
3rd sub-pillar: Inclusion	9	85.69
D. Impact pillar	5	80.68
1st sub-pillar: Economy	11	66.49
2nd sub-pillar: Quality of Life	8	87.97
3rd sub-pillar: SDG Contribution	10	87.60

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	2	81.02	
1st sub-pillar: Access	16	78.41	
1.1.1 Mobile tariffs	10	88.36	
1.1.2 Handset prices	10	85.03	
1.1.3 FTTH/building Internet subscriptions	60	25.67	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	62	71.43	○
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	1	94.39	
1.2.1 GitHub commits	1	100.00	●
1.2.2 Internet domain registrations	4	95.87	●
1.2.3 Mobile apps development	1	100.00	●
1.2.4 AI scientific publications	11	81.68	
3rd sub-pillar: Future Technologies	4	70.25	
1.3.1 Adoption of emerging technologies	6	93.09	
1.3.2 Investment in emerging technologies	4	89.25	●
1.3.3 Robot density	10	35.75	
1.3.4 Computer software spending	2	62.91	●
B. People pillar	11	67.44	

Indicator	Rank	Score	
C. Governance pillar	12	84.65	
1st sub-pillar: Trust	25	76.18	
3.1.1 Secure Internet servers	5	93.32	●
3.1.2 Cybersecurity	50	86.74	
3.1.3 Online access to financial account	19	66.23	
3.1.4 Internet shopping	35	58.42	
2nd sub-pillar: Regulation	4	92.08	
3.2.1 Regulatory quality	12	83.47	
3.2.2 ICT regulatory environment	20	93.53	
3.2.3 Regulation of emerging technologies	5	89.47	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	3	93.93	●
3rd sub-pillar: Inclusion	9	85.69	
3.3.1 E-Participation	18	90.13	
3.3.2 Socioeconomic gap in use of digital payments	1	100.00	●
3.3.3 Availability of local online content	6	95.43	
3.3.4 Gender gap in Internet use	69	67.34	○
3.3.5 Rural gap in use of digital payments	23	75.53	
D. Impact pillar	5	80.68	

Indicator	Rank	Score
1st sub-pillar: Individuals	49	51.60
2.1.1 Mobile broadband internet traffic within the country	43	16.18
2.1.2 ICT skills in the education system	14	78.99
2.1.3 Use of virtual social networks	22	80.72
2.1.4 Tertiary enrollment	46	41.95
2.1.5 Adult literacy rate	NA	NA
2.1.6 AI talent concentration	6	40.16
2nd sub-pillar: Businesses	4	79.28
2.2.1 Firms with website	5	95.01
2.2.2 GERD financed by business enterprise	7	80.02
2.2.3 Knowledge intensive employment	7	79.34
2.2.4 Annual investment in telecommunication services	17	86.24
2.2.5 GERD performed by business enterprise	8	55.81
3rd sub-pillar: Governments	18	71.44
2.3.1 Government online services	36	82.42
2.3.2 Publication and use of open data	23	57.35
2.3.3 Government promotion of investment in emerging tech	28	57.28
2.3.4 R&D expenditure by governments and higher education	5	88.71

Indicator	Rank	Score	
1st sub-pillar: Economy	11	66.49	
4.1.1 High-tech and medium-high-tech manufacturing	2	89.81	●
4.1.2 High-tech exports	29	52.60	
4.1.3 PCT patent applications	3	95.37	●
4.1.4 Domestic market size	34	63.82	
4.1.5 Prevalence of gig economy	28	62.79	
4.1.6 ICT services exports	51	34.53	
2nd sub-pillar: Quality of Life	8	87.97	
4.2.1 Happiness	8	91.69	
4.2.2 Freedom to make life choices	18	90.31	
4.2.3 Income inequality	41	75.13	
4.2.4 Healthy life expectancy at birth	4	94.74	●
3rd sub-pillar: SDG Contribution	10	87.60	
4.3.1 SDG 3: Good Health and Well-Being	5	96.38	
4.3.2 SDG 4: Quality Education	21	68.18	
4.3.3 SDG 5: Women's economic opportunity	53	79.82	○
4.3.4 SDG 7: Affordable and Clean Energy	5	96.99	
4.3.5 SDG 11: Sustainable Cities and Communities	6	96.62	

NOTE: ● a strength and ○ a weakness.

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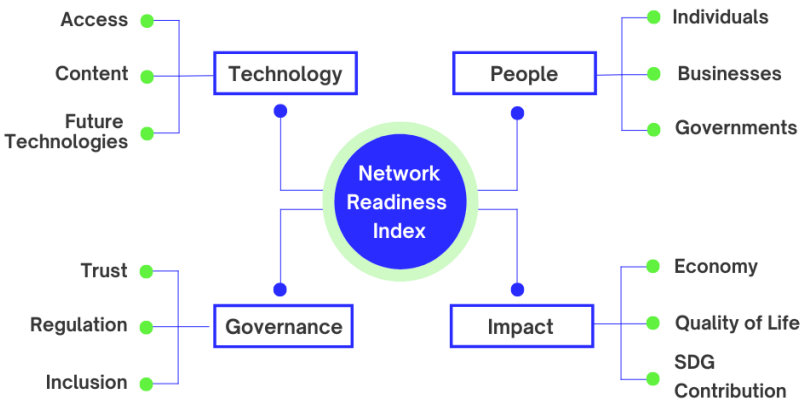
Network Readiness Index 2022 Tajikistan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

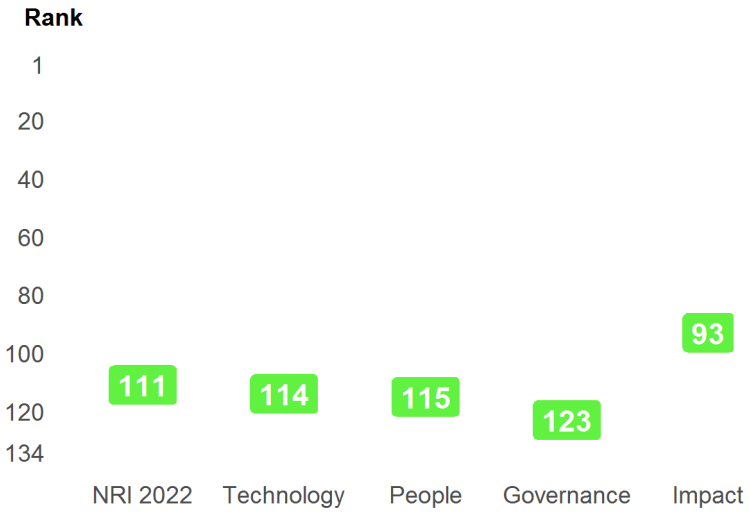
Figure 1: The NRI 2022 model



Global NRI position of Tajikistan

Tajikistan ranks 111th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Tajikistan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Tajikistan relate to SDG Contribution, Individuals and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Regulation and Businesses sub-pillars.

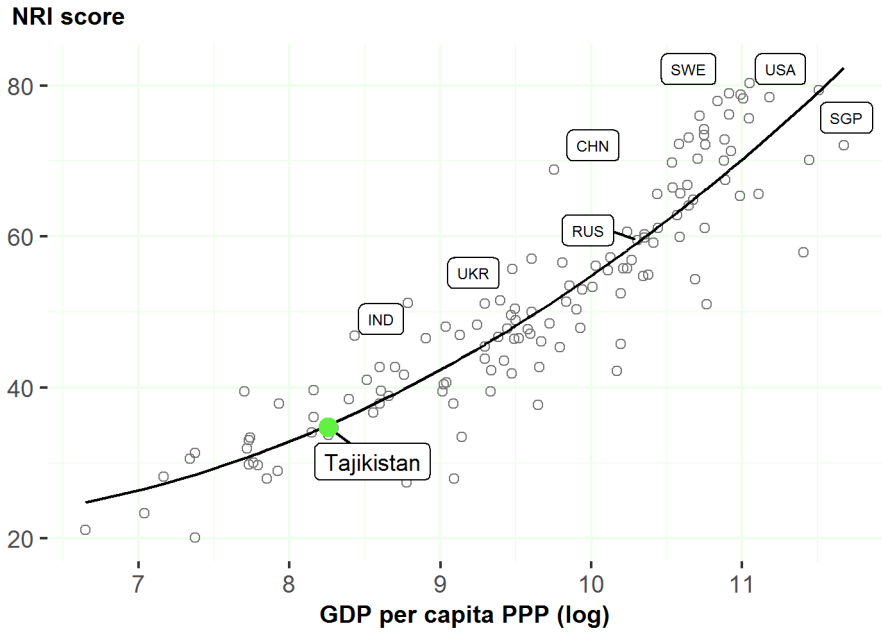
Table 1: Tajikistan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	60	Trust	120
Individuals	77	Content	122
Quality of Life	77	Governments	122
Inclusion	79	Economy	128
Future Technologies	91	Regulation	129
Access	116	Businesses	130

NRI score and income

Figure 3 shows the position of Tajikistan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Tajikistan is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Tajikistan belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Lower-middle-income countries

Tajikistan is ranked 30th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: impact. At the sub-pillar level, it outperforms lower-middle-income countries in four of the twelve sub-pillars: Individuals, Inclusion, Quality of Life and SDG Contribution.

CIS

Tajikistan is ranked 6th within CIS (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in CIS in one of the twelve sub-pillars: SDG Contribution.

Figure 4: Performance of Tajikistan against its income group and region, overall and by pillar

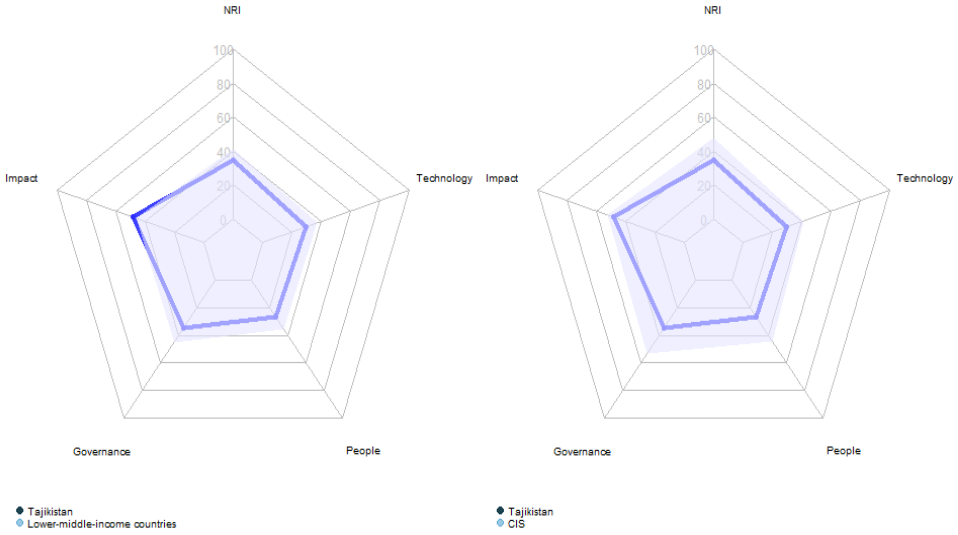


Table 2: Tajikistan scores vs. averages of its income group and region, overall and by pillar

Dimension	Tajikistan	Lower-middle-income countries	CIS
NRI	34.73	40.94	47.65
Technology	29.41	37.28	41.04
People	26.89	35.42	44.26
Governance	34.69	45.00	52.99
Impact	47.92	46.09	52.31

Strongest and weakest indicators

The indicators where Tajikistan performs particularly well include 2.1.5 Adult literacy rate, 2.1.1 Mobile broadband internet traffic within the country, and 3.3.2 Socioeconomic gap in use of digital payments (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 1.1.5 International Internet bandwidth, and 3.1.4 Internet shopping.

Table 3: Strongest and weakest indicators of Tajikistan

Strongest indicators	Rank	Weakest indicators	Rank
2.1.5 Adult literacy rate	5	4.1.3 PCT patent applications	99
2.1.1 Mobile broadband internet traffic within the country	6	4.1.1 High-tech and medium-high-tech manufacturing	106
3.3.2 Socioeconomic gap in use of digital payments	27	3.1.4 Internet shopping	110
4.2.3 Income inequality	44	1.1.5 International Internet bandwidth	129
4.2.2 Freedom to make life choices	55	3.2.2 ICT regulatory environment	131
1.3.2 Investment in emerging technologies	58		
4.3.5 SDG 11: Sustainable Cities and Communities	71		
3.3.5 Rural gap in use of digital payments	74		
2.3.3 Government promotion of investment in emerging technologies	75		
3.3.3 Availability of local online content	79		

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NRI 2022 At-A-Glance: Tajikistan

Network Readiness Index Rank: 111 (out of 131) Score: 34.73

Pillar/sub-pillar	Rank	Score
A. Technology pillar	114	29.41
1st sub-pillar: Access	116	43.28
2nd sub-pillar: Content	122	18.31
3rd sub-pillar: Future Technologies	91	26.65
B. People pillar	115	26.89
1st sub-pillar: Individuals	77	45.34
2nd sub-pillar: Businesses	130	15.52
3rd sub-pillar: Governments	122	19.80

Pillar/sub-pillar	Rank	Score
C. Governance pillar	123	34.69
1st sub-pillar: Trust	120	18.14
2nd sub-pillar: Regulation	129	26.89
3rd sub-pillar: Inclusion	79	59.04
D. Impact pillar	93	47.92
1st sub-pillar: Economy	128	11.10
2nd sub-pillar: Quality of Life	77	66.30
3rd sub-pillar: SDG Contribution	60	66.38

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	114	29.41	
1st sub-pillar: Access	116	43.28	
1.1.1 Mobile tariffs	123	17.57	
1.1.2 Handset prices	126	18.29	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	104	96.51	
1.1.5 International Internet bandwidth	129	40.74	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	122	18.31	
1.2.1 GitHub commits	118	0.35	
1.2.2 Internet domain registrations	115	0.26	
1.2.3 Mobile apps development	105	58.68	
1.2.4 AI scientific publications	93	13.95	
3rd sub-pillar: Future Technologies	91	26.65	
1.3.1 Adoption of emerging technologies	99	31.62	
1.3.2 Investment in emerging technologies	58	41.75	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	94	6.58	

Indicator	Rank	Score	
C. Governance pillar	123	34.69	
1st sub-pillar: Trust	120	18.14	
3.1.1 Secure Internet servers	103	36.08	
3.1.2 Cybersecurity	120	15.64	
3.1.3 Online access to financial account	79	19.40	
3.1.4 Internet shopping	110	1.43	○
2nd sub-pillar: Regulation	129	26.89	
3.2.1 Regulatory quality	124	13.87	
3.2.2 ICT regulatory environment	131	0.00	○
3.2.3 Regulation of emerging technologies	88	29.74	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	125	24.19	
3rd sub-pillar: Inclusion	79	59.04	
3.3.1 E-Participation	116	32.10	
3.3.2 Socioeconomic gap in use of digital payments	27	92.97	●
3.3.3 Availability of local online content	79	53.61	●
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	74	57.47	●

Indicator	Rank	Score	
B. People pillar	115	26.89	
1st sub-pillar: Individuals	77	45.34	
2.1.1 Mobile broadband internet traffic within the country	6	60.08	●
2.1.2 ICT skills in the education system	90	35.80	
2.1.3 Use of virtual social networks	116	10.91	
2.1.4 Tertiary enrollment	83	20.12	
2.1.5 Adult literacy rate	5	99.78	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	130	15.52	
2.2.1 Firms with website	103	21.60	
2.2.2 GERD financed by business enterprise	93	1.99	
2.2.3 Knowledge intensive employment	89	22.97	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	122	19.80	
2.3.1 Government online services	122	29.69	
2.3.2 Publication and use of open data	91	8.82	
2.3.3 Government promotion of investment in emerging tech	75	33.89	
2.3.4 R&D expenditure by governments and higher education	93	6.79	

Indicator	Rank	Score	
D. Impact pillar	93	47.92	
1st sub-pillar: Economy	128	11.10	
4.1.1 High-tech and medium-high-tech manufacturing	106	0.66	○
4.1.2 High-tech exports	112	1.58	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	112	34.85	
4.1.5 Prevalence of gig economy	105	23.26	
4.1.6 ICT services exports	118	6.25	
2nd sub-pillar: Quality of Life	77	66.30	
4.2.1 Happiness	83	55.35	
4.2.2 Freedom to make life choices	55	77.46	●
4.2.3 Income inequality	44	72.86	●
4.2.4 Healthy life expectancy at birth	94	59.51	
3rd sub-pillar: SDG Contribution	60	66.38	
4.3.1 SDG 3: Good Health and Well-Being	83	62.25	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	81	70.18	
4.3.4 SDG 7: Affordable and Clean Energy	94	70.59	
4.3.5 SDG 11: Sustainable Cities and Communities	71	62.49	●

NOTE: ● a strength and ○ a weakness.

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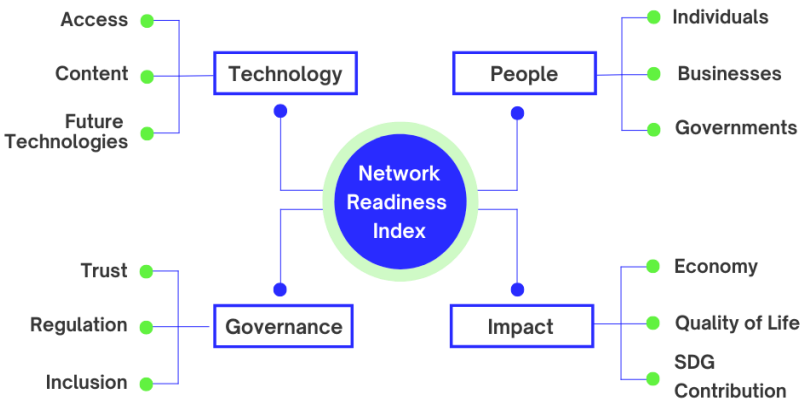
Network Readiness Index 2022 Tanzania

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

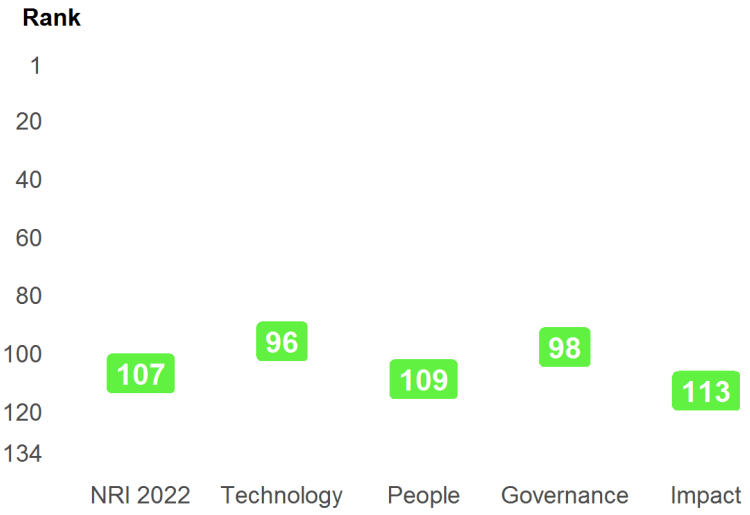
Figure 1: The NRI 2022 model



Global NRI position of Tanzania

Tanzania ranks 107th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Tanzania global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Tanzania relate to Trust, Governments and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Inclusion and Businesses sub-pillars.

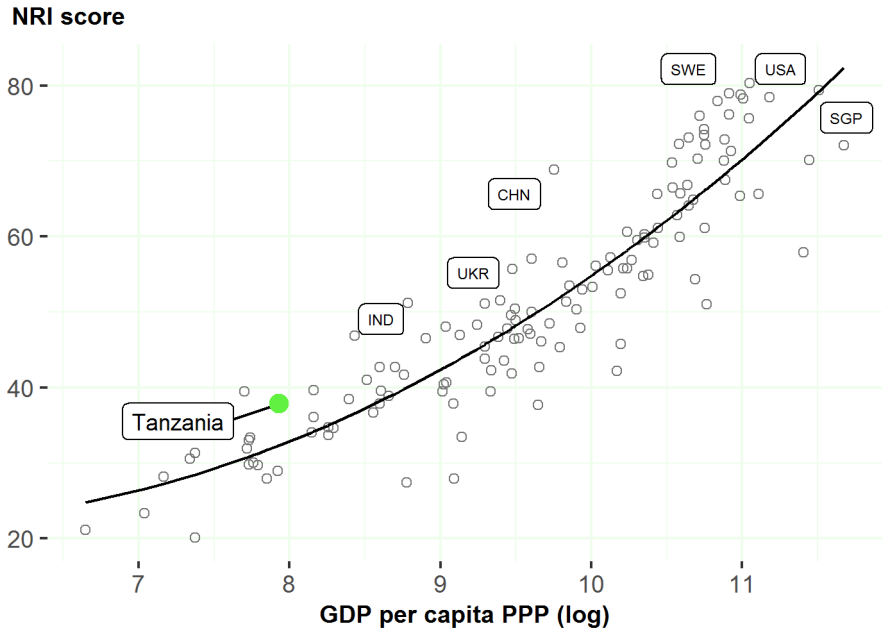
Table 1: Tanzania rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	75	Quality of Life	106
Governments	79	Economy	107
Regulation	89	SDG Contribution	112
Future Technologies	93	Individuals	114
Access	98	Inclusion	114
Content	104	Businesses	121

NRI score and income

Figure 3 shows the position of Tanzania in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Tanzania is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Tanzania belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Tanzania is ranked 27th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: governance. At the sub-pillar level, it outperforms lower-middle-income countries in three of the twelve sub-pillars: Governments, Trust and Regulation.

Africa

Tanzania is ranked 9th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in nine of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Quality of Life and SDG Contribution.

Figure 4: Performance of Tanzania against its income group and region, overall and by pillar

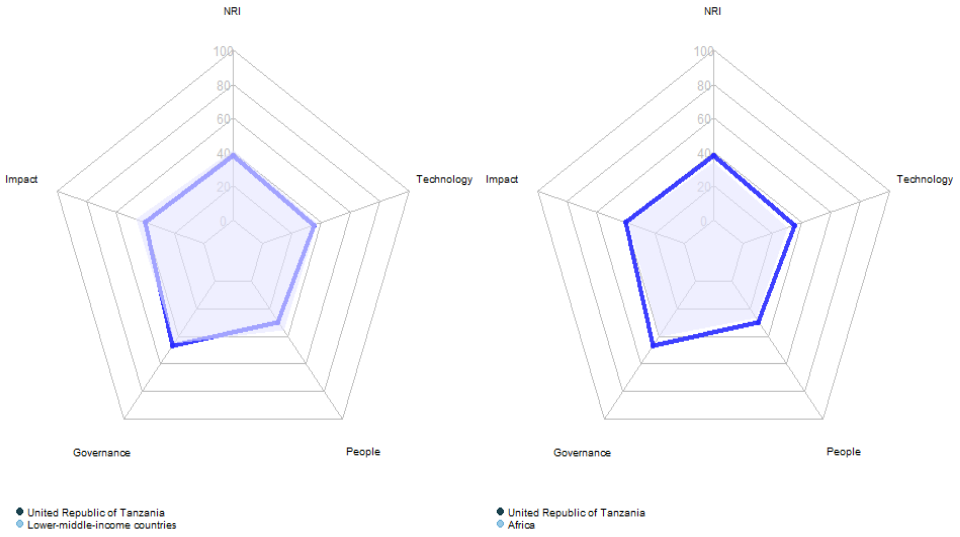


Table 2: Tanzania scores vs. averages of its income group and region, overall and by pillar

Dimension	Tanzania	Lower-middle-income countries	Africa
NRI	37.84	40.94	33.77
Technology	34.91	37.28	29.96
People	29.55	35.42	26.81
Governance	46.67	45.00	40.37
Impact	40.22	46.09	37.94

Strongest and weakest indicators

The indicators where Tanzania performs particularly well include 3.2.5 Privacy protection by law content, 1.1.3 FTTH/building Internet subscriptions, and 2.3.4 R&D expenditure by governments and higher education (Table 3). By contrast, the economy's weakest indicators include 2.2.3 Knowledge intensive employment, 1.3.4 Computer software spending, 2.2.2 GERD financed by business enterprise, and 3.3.4 Gender gap in Internet use.

Table 3: Strongest and weakest indicators of Tanzania

Strongest indicators	Rank	Weakest indicators	Rank
3.2.5 Privacy protection by law content	8	4.1.3 PCT patent applications	99
1.1.3 FTTH/building Internet subscriptions	20	2.2.2 GERD financed by business enterprise	104
2.3.4 R&D expenditure by governments and higher education	36	3.3.4 Gender gap in Internet use	104
3.1.2 Cybersecurity	45	1.3.4 Computer software spending	121
3.1.3 Online access to financial account	50	2.2.3 Knowledge intensive employment	128
4.2.2 Freedom to make life choices	57		
1.3.2 Investment in emerging technologies	59		
4.1.4 Domestic market size	67		
2.1.2 ICT skills in the education system	70		
4.1.5 Prevalence of gig economy	70		

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NRI 2022 At-A-Glance: Tanzania

Network Readiness Index Rank: 107 (out of 131) Score: 37.84

Pillar/sub-pillar	Rank	Score
A. Technology pillar	96	34.91
1st sub-pillar: Access	98	53.48
2nd sub-pillar: Content	104	24.73
3rd sub-pillar: Future Technologies	93	26.51
B. People pillar	109	29.55
1st sub-pillar: Individuals	114	26.63
2nd sub-pillar: Businesses	121	22.72
3rd sub-pillar: Governments	79	39.31

Pillar/sub-pillar	Rank	Score
C. Governance pillar	98	46.67
1st sub-pillar: Trust	75	40.49
2nd sub-pillar: Regulation	89	58.49
3rd sub-pillar: Inclusion	114	41.03
D. Impact pillar	113	40.22
1st sub-pillar: Economy	107	18.04
2nd sub-pillar: Quality of Life	106	51.66
3rd sub-pillar: SDG Contribution	112	50.97

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	96	34.91	
1st sub-pillar: Access	98	53.48	
1.1.1 Mobile tariffs	112	30.31	
1.1.2 Handset prices	105	36.83	
1.1.3 FTTH/building Internet subscriptions	20	43.98	●
1.1.4 Population covered by at least a 3G mobile network	109	94.53	
1.1.5 International Internet bandwidth	107	61.73	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	104	24.73	
1.2.1 GitHub commits	122	0.29	
1.2.2 Internet domain registrations	121	0.14	
1.2.3 Mobile apps development	112	53.59	
1.2.4 AI scientific publications	59	44.91	
3rd sub-pillar: Future Technologies	93	26.51	
1.3.1 Adoption of emerging technologies	87	37.57	
1.3.2 Investment in emerging technologies	59	41.50	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	121	0.46	○

Indicator	Rank	Score	
C. Governance pillar	98	46.67	
1st sub-pillar: Trust	75	40.49	
3.1.1 Secure Internet servers	115	29.03	
3.1.2 Cybersecurity	45	90.41	●
3.1.3 Online access to financial account	50	35.69	●
3.1.4 Internet shopping	91	6.82	
2nd sub-pillar: Regulation	89	58.49	
3.2.1 Regulatory quality	108	23.47	
3.2.2 ICT regulatory environment	76	76.47	
3.2.3 Regulation of emerging technologies	77	34.74	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	8	91.12	●
3rd sub-pillar: Inclusion	114	41.03	
3.3.1 E-Participation	91	54.32	
3.3.2 Socioeconomic gap in use of digital payments	95	52.28	
3.3.3 Availability of local online content	96	44.71	
3.3.4 Gender gap in Internet use	104	0.00	○
3.3.5 Rural gap in use of digital payments	85	53.84	

Indicator	Rank	Score	
B. People pillar	109	29.55	
1st sub-pillar: Individuals	114	26.63	
2.1.1 Mobile broadband internet traffic within the country	70	7.31	
2.1.2 ICT skills in the education system	70	43.79	●
2.1.3 Use of virtual social networks	122	6.33	
2.1.4 Tertiary enrollment	114	4.16	
2.1.5 Adult literacy rate	81	71.56	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	121	22.72	
2.2.1 Firms with website	108	15.13	
2.2.2 GERD financed by business enterprise	104	0.05	○
2.2.3 Knowledge intensive employment	128	1.73	○
2.2.4 Annual investment in telecommunication services	79	73.98	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	79	39.31	
2.3.1 Government online services	92	53.94	
2.3.2 Publication and use of open data	69	22.06	
2.3.3 Government promotion of investment in emerging tech	73	34.64	
2.3.4 R&D expenditure by governments and higher education	36	46.60	●

Indicator	Rank	Score	
D. Impact pillar	113	40.22	
1st sub-pillar: Economy	107	18.04	
4.1.1 High-tech and medium-high-tech manufacturing	93	6.64	
4.1.2 High-tech exports	97	5.58	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	67	50.88	●
4.1.5 Prevalence of gig economy	70	38.08	●
4.1.6 ICT services exports	114	7.07	
2nd sub-pillar: Quality of Life	106	51.66	
4.2.1 Happiness	119	26.74	
4.2.2 Freedom to make life choices	57	75.73	●
4.2.3 Income inequality	81	56.53	
4.2.4 Healthy life expectancy at birth	104	47.63	
3rd sub-pillar: SDG Contribution	112	50.97	
4.3.1 SDG 3: Good Health and Well-Being	115	29.80	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	72	73.68	
4.3.4 SDG 7: Affordable and Clean Energy	107	59.31	
4.3.5 SDG 11: Sustainable Cities and Communities	107	41.06	

NOTE: ● a strength and ○ a weakness.

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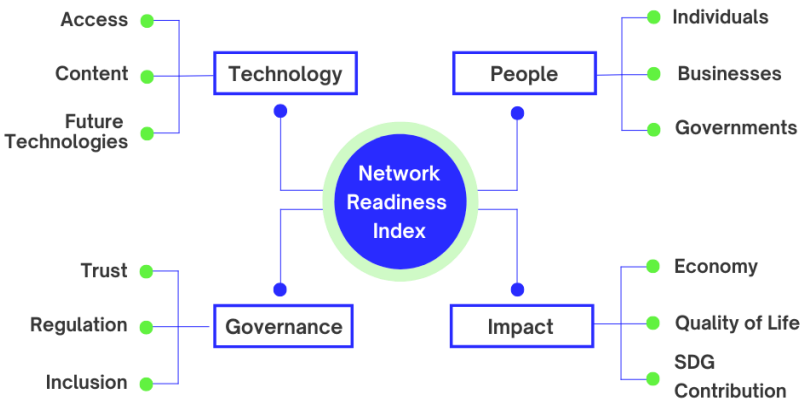
Network Readiness Index 2022 Thailand

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

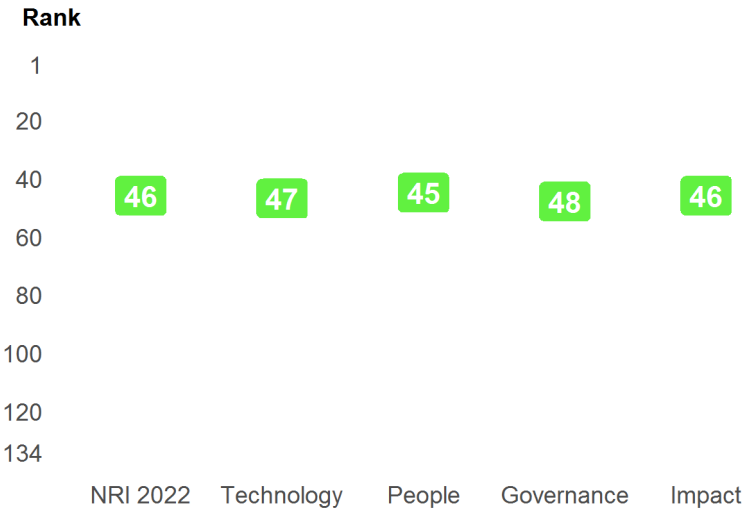
Figure 1: The NRI 2022 model



Global NRI position of Thailand

Thailand ranks 46th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Thailand global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Thailand relate to Individuals, Access and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Businesses and SDG Contribution sub-pillars.

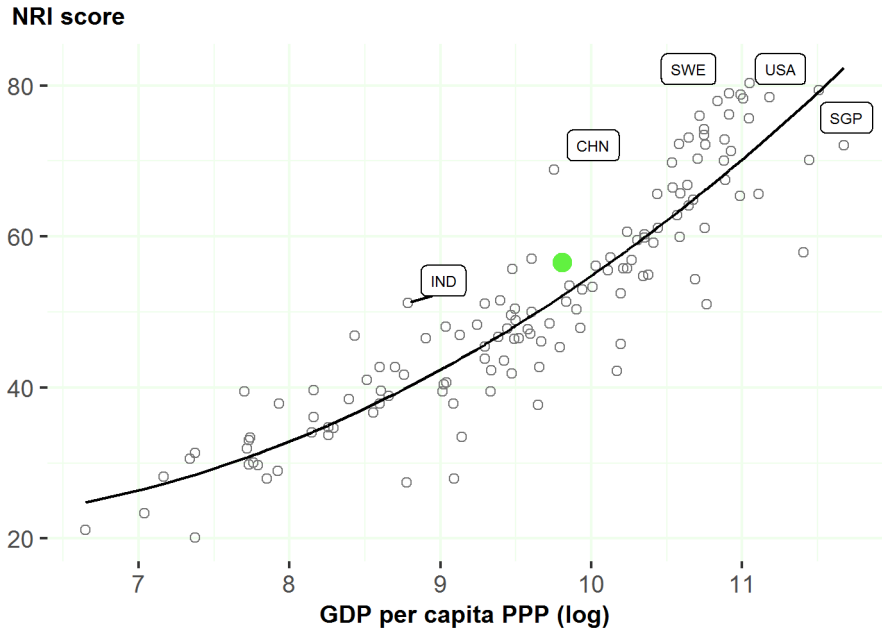
Table 1: Thailand rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	16	Quality of Life	53
Access	26	Regulation	56
Economy	34	Governments	58
Inclusion	44	Content	59
Trust	50	Businesses	59
Future Technologies	52	SDG Contribution	79

NRI score and income

Figure 3 shows the position of Thailand in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Thailand is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Thailand belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Upper-middle-income countries

Thailand is ranked 5th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Asia & Pacific

Thailand is ranked 9th within Asia & Pacific (Figure 4, right panel). It has a score above the regional average in three of the four pillars: nri.score, people, governance and impact. With regard to sub-pillars, it outperforms the average in Asia & Pacific in seven of the twelve sub-pillars: Access, Individuals, Trust, Regulation, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Thailand against its income group and region, overall and by pillar

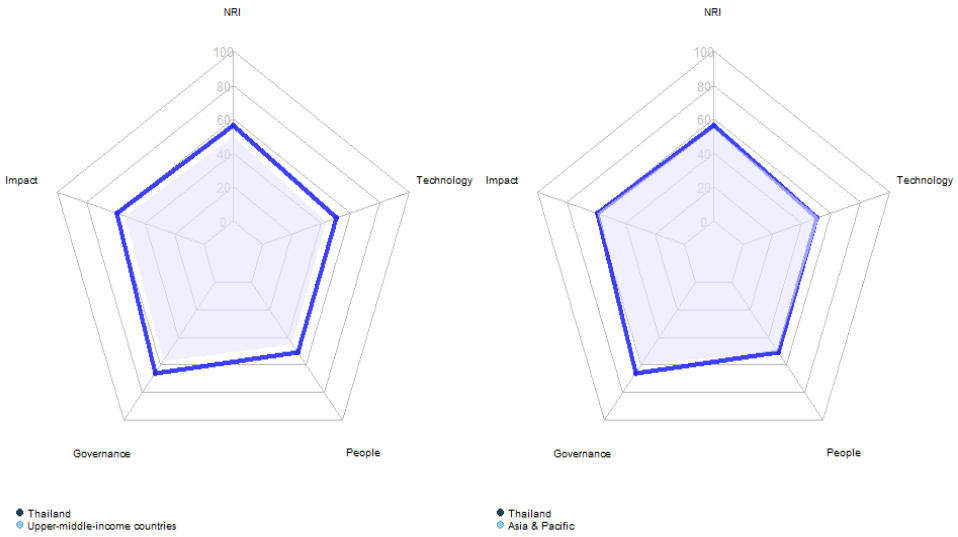


Table 2: Thailand scores vs. averages of its income group and region, overall and by pillar

Dimension	Thailand	Upper-middle-income countries	Asia & Pacific
NRI	56.56	49.66	55.18
Technology	49.97	43.11	51.78
People	50.97	44.94	50.21
Governance	66.19	57.08	59.66
Impact	59.12	53.50	59.07

Strongest and weakest indicators

The indicators where Thailand performs particularly well include 2.2.2 GERD financed by business enterprise, 3.2.4 E-commerce legislation, and 2.1.1 Mobile broadband internet traffic within the country (Table 3). By contrast, the economy's weakest indicators include 4.1.6 ICT services exports, 4.3.5 SDG 11: Sustainable Cities and Communities, and 2.2.3 Knowledge intensive employment.

Table 3: Strongest and weakest indicators of Thailand

Strongest indicators	Rank	Weakest indicators	Rank
2.2.2 GERD financed by business enterprise	1	4.3.2 SDG 4: Quality Education	60
3.2.4 E-commerce legislation	1	2.3.4 R&D expenditure by governments and higher education	81
2.1.1 Mobile broadband internet traffic within the country	8	2.2.3 Knowledge intensive employment	93
3.3.2 Socioeconomic gap in use of digital payments	8	4.3.5 SDG 11: Sustainable Cities and Communities	114
4.1.2 High-tech exports	8	4.1.6 ICT services exports	123
1.1.3 FTTH/building Internet subscriptions	10		
1.1.5 International Internet bandwidth	12		
4.1.4 Domestic market size	21		
4.1.1 High-tech and medium-high-tech manufacturing	22		
2.3.3 Government promotion of investment in emerging technologies	23		
4.3.1 SDG 3: Good Health and Well-Being	23		

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NRI 2022 At-A-Glance: Thailand

Network Readiness Index Rank: 46 (out of 131) Score: 56.56

Pillar/sub-pillar	Rank	Score
A. Technology pillar	47	49.97
1st sub-pillar: Access	26	75.04
2nd sub-pillar: Content	59	38.16
3rd sub-pillar: Future Technologies	52	36.69
B. People pillar	45	50.97
1st sub-pillar: Individuals	16	60.30
2nd sub-pillar: Businesses	59	45.87
3rd sub-pillar: Governments	58	46.76

Pillar/sub-pillar	Rank	Score
C. Governance pillar	48	66.19
1st sub-pillar: Trust	50	56.97
2nd sub-pillar: Regulation	56	66.41
3rd sub-pillar: Inclusion	44	75.19
D. Impact pillar	46	59.12
1st sub-pillar: Economy	34	44.20
2nd sub-pillar: Quality of Life	53	72.62
3rd sub-pillar: SDG Contribution	79	60.53

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	47	49.97	
1st sub-pillar: Access	26	75.04	
1.1.1 Mobile tariffs	90	46.53	
1.1.2 Handset prices	56	58.95	
1.1.3 FTTH/building Internet subscriptions	10	59.90	•
1.1.4 Population covered by at least a 3G mobile network	67	99.61	
1.1.5 International Internet bandwidth	12	85.41	•
1.1.6 Internet access in schools	28	99.84	
2nd sub-pillar: Content	59	38.16	
1.2.1 GitHub commits	81	3.27	
1.2.2 Internet domain registrations	66	3.87	
1.2.3 Mobile apps development	71	76.16	
1.2.4 AI scientific publications	25	69.35	
3rd sub-pillar: Future Technologies	52	36.69	
1.3.1 Adoption of emerging technologies	39	60.58	
1.3.2 Investment in emerging technologies	37	54.50	
1.3.3 Robot density	28	9.51	
1.3.4 Computer software spending	54	22.19	

Indicator	Rank	Score	
C. Governance pillar	48	66.19	
1st sub-pillar: Trust	50	56.97	
3.1.1 Secure Internet servers	57	60.28	
3.1.2 Cybersecurity	52	86.26	
3.1.3 Online access to financial account	76	22.52	
3.1.4 Internet shopping	33	58.84	
2nd sub-pillar: Regulation	56	66.41	
3.2.1 Regulatory quality	63	45.87	
3.2.2 ICT regulatory environment	70	81.76	
3.2.3 Regulation of emerging technologies	66	42.89	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	75	61.54	
3rd sub-pillar: Inclusion	44	75.19	
3.3.1 E-Participation	50	76.54	
3.3.2 Socioeconomic gap in use of digital payments	8	98.84	•
3.3.3 Availability of local online content	60	63.94	
3.3.4 Gender gap in Internet use	58	69.32	
3.3.5 Rural gap in use of digital payments	54	67.30	

Indicator	Rank	Score	
B. People pillar	45	50.97	
1st sub-pillar: Individuals	16	60.30	
2.1.1 Mobile broadband internet traffic within the country	8	55.95	●
2.1.2 ICT skills in the education system	65	45.27	
2.1.3 Use of virtual social networks	38	75.85	
2.1.4 Tertiary enrollment	64	32.40	
2.1.5 Adult literacy rate	56	92.01	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	59	45.87	
2.2.1 Firms with website	77	41.59	
2.2.2 GERD financed by business enterprise	1	100.00	●
2.2.3 Knowledge intensive employment	93	20.83	○
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	30	21.04	
3rd sub-pillar: Governments	58	46.76	
2.3.1 Government online services	42	78.79	
2.3.2 Publication and use of open data	58	27.94	
2.3.3 Government promotion of investment in emerging tech	23	64.34	
2.3.4 R&D expenditure by governments and higher education	81	15.97	○

Indicator	Rank	Score	
D. Impact pillar	46	59.12	
1st sub-pillar: Economy	34	44.20	
4.1.1 High-tech and medium-high-tech manufacturing	22	57.76	●
4.1.2 High-tech exports	8	76.85	●
4.1.3 PCT patent applications	62	4.30	
4.1.4 Domestic market size	21	70.46	●
4.1.5 Prevalence of gig economy	49	50.87	
4.1.6 ICT services exports	123	4.98	○
2nd sub-pillar: Quality of Life	53	72.62	
4.2.1 Happiness	68	61.60	
4.2.2 Freedom to make life choices	50	78.07	
4.2.3 Income inequality	52	70.35	
4.2.4 Healthy life expectancy at birth	44	80.45	
3rd sub-pillar: SDG Contribution	79	60.53	
4.3.1 SDG 3: Good Health and Well-Being	23	89.56	●
4.3.2 SDG 4: Quality Education	60	34.44	○
4.3.3 SDG 5: Women's economic opportunity	86	69.30	
4.3.4 SDG 7: Affordable and Clean Energy	86	73.27	
4.3.5 SDG 11: Sustainable Cities and Communities	114	36.09	○

NOTE: ● a strength and ○ a weakness.

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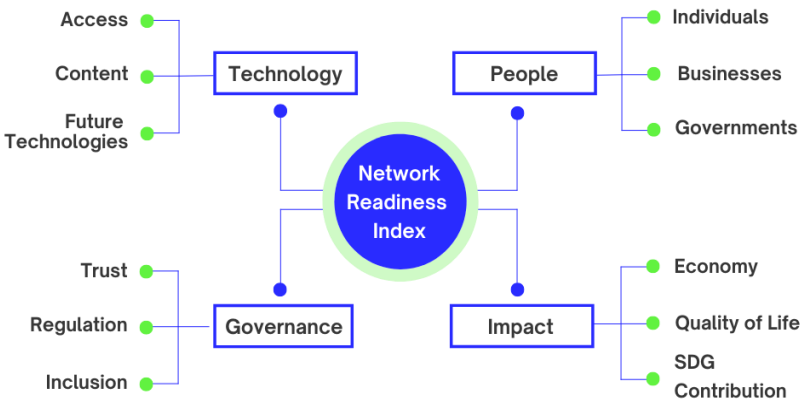
Network Readiness Index 2022 Trinidad and Tobago

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

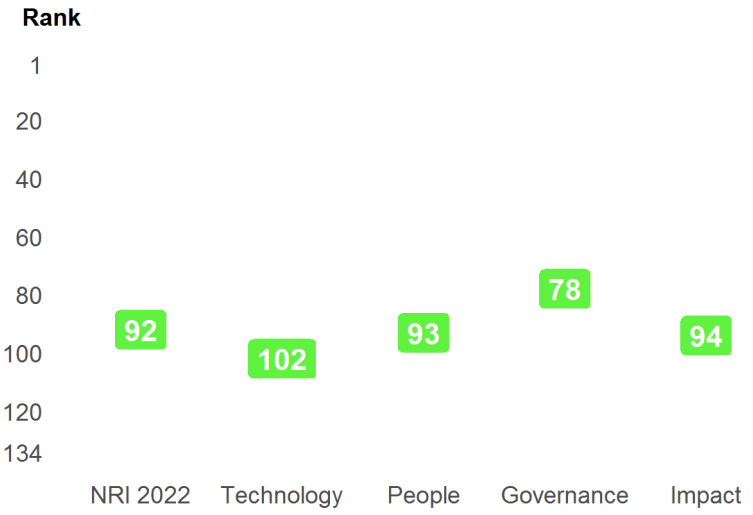
Figure 1: The NRI 2022 model



Global NRI position of Trinidad and Tobago

Trinidad and Tobago ranks 92nd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Trinidad and Tobago global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Trinidad and Tobago relate to Quality of Life, Inclusion and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Content and Economy sub-pillars.

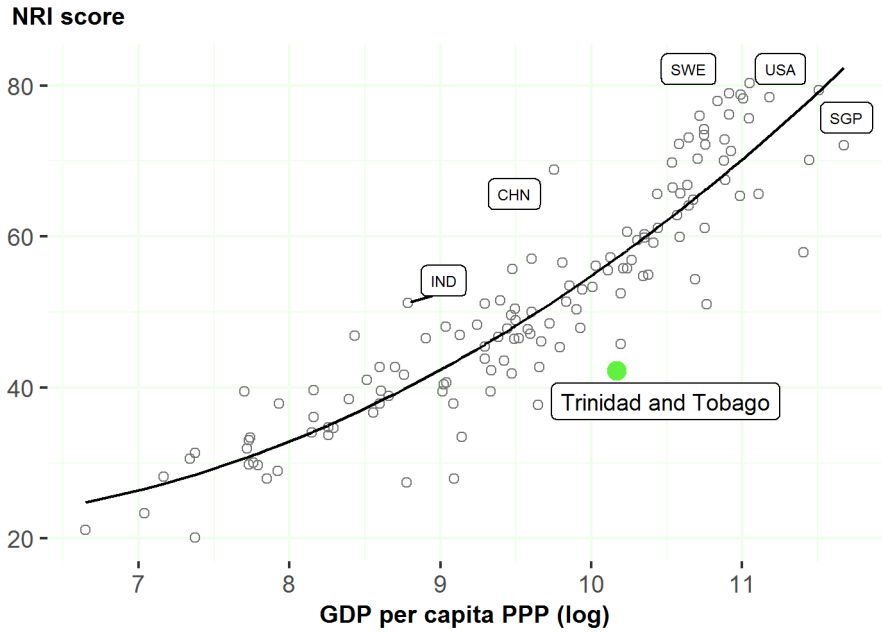
Table 1: Trinidad and Tobago rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	41	Future Technologies	98
Inclusion	51	Trust	106
Individuals	55	SDG Contribution	111
Regulation	87	Governments	113
Access	96	Content	115
Businesses	96	Economy	117

NRI score and income

Figure 3 shows the position of Trinidad and Tobago in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Trinidad and Tobago is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Trinidad and Tobago belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-The Americas-is also United States of America (USA).

Performance against its income group and region

High-income countries

Trinidad and Tobago is ranked 49th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails high-income countries in all of them.

The Americas

Trinidad and Tobago is ranked 15th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in three of the twelve sub-pillars: Individuals, Inclusion and Quality of Life.

Figure 4: Performance of Trinidad and Tobago against its income group and region, overall and by pillar

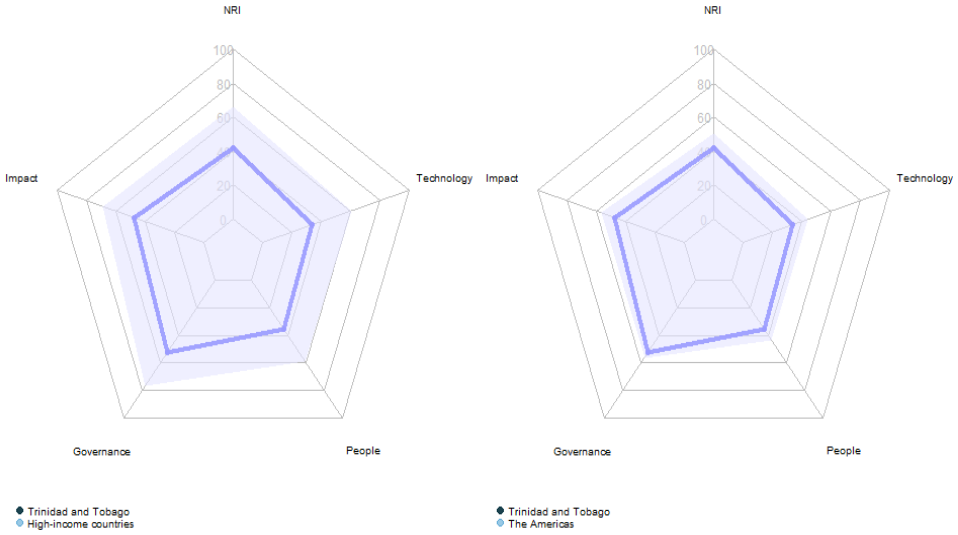


Table 2: Trinidad and Tobago scores vs. averages of its income group and region, overall and by pillar

Dimension	Trinidad and Tobago	High-income countries	The Americas
NRI	42.18	66.21	50.09
Technology	33.37	60.28	44.16
People	35.62	58.83	43.67
Governance	52.24	76.89	56.24
Impact	47.50	68.86	56.30

Strongest and weakest indicators

The indicators where Trinidad and Tobago performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 3.2.4 E-commerce legislation, and 3.3.4 Gender gap in Internet use (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 4.1.6 ICT services exports, and 3.2.3 Regulation of emerging technologies.

Table 3: Strongest and weakest indicators of Trinidad and Tobago

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	1.2.4 AI scientific publications	96
3.2.4 E-commerce legislation	1	2.3.4 R&D expenditure by governments and higher education	101
3.3.4 Gender gap in Internet use	4	3.2.3 Regulation of emerging technologies	109
2.1.5 Adult literacy rate	23	4.1.6 ICT services exports	121
3.3.5 Rural gap in use of digital payments	34	4.3.4 SDG 7: Affordable and Clean Energy	130
4.3.5 SDG 11: Sustainable Cities and Communities	36		
4.2.2 Freedom to make life choices	39		
4.2.1 Happiness	45		
3.3.2 Socioeconomic gap in use of digital payments	46		
2.2.3 Knowledge intensive employment	49		
2.1.3 Use of virtual social networks	50		

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NRI 2022 At-A-Glance: Trinidad and Tobago

Network Readiness Index Rank: 92 (out of 131) Score: 42.18

Pillar/sub-pillar	Rank	Score
A. Technology pillar	102	33.37
1st sub-pillar: Access	96	53.83
2nd sub-pillar: Content	115	21.22
3rd sub-pillar: Future Technologies	98	25.06
B. People pillar	93	35.62
1st sub-pillar: Individuals	55	51.05
2nd sub-pillar: Businesses	96	31.47
3rd sub-pillar: Governments	113	24.34

Pillar/sub-pillar	Rank	Score
C. Governance pillar	78	52.24
1st sub-pillar: Trust	106	26.00
2nd sub-pillar: Regulation	87	59.23
3rd sub-pillar: Inclusion	51	71.49
D. Impact pillar	94	47.50
1st sub-pillar: Economy	117	15.25
2nd sub-pillar: Quality of Life	41	75.72
3rd sub-pillar: SDG Contribution	111	51.51

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	102	33.37	
1st sub-pillar: Access	96	53.83	
1.1.1 Mobile tariffs	115	28.23	
1.1.2 Handset prices	59	56.00	
1.1.3 FTTH/building Internet subscriptions	74	18.05	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	87	66.85	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	115	21.22	
1.2.1 GitHub commits	76	3.73	
1.2.2 Internet domain registrations	76	2.81	
1.2.3 Mobile apps development	86	71.14	
1.2.4 AI scientific publications	96	7.18	○
3rd sub-pillar: Future Technologies	98	25.06	
1.3.1 Adoption of emerging technologies	104	27.86	
1.3.2 Investment in emerging technologies	115	22.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	78	52.24	
1st sub-pillar: Trust	106	26.00	
3.1.1 Secure Internet servers	80	46.51	
3.1.2 Cybersecurity	114	20.81	
3.1.3 Online access to financial account	83	17.67	
3.1.4 Internet shopping	64	18.99	
2nd sub-pillar: Regulation	87	59.23	
3.2.1 Regulatory quality	81	37.33	
3.2.2 ICT regulatory environment	61	83.92	
3.2.3 Regulation of emerging technologies	109	11.32	○
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	68	63.60	
3rd sub-pillar: Inclusion	51	71.49	
3.3.1 E-Participation	82	60.49	
3.3.2 Socioeconomic gap in use of digital payments	46	84.90	●
3.3.3 Availability of local online content	87	50.48	
3.3.4 Gender gap in Internet use	4	87.67	●
3.3.5 Rural gap in use of digital payments	34	73.91	●

Indicator	Rank	Score	
B. People pillar	93	35.62	
1st sub-pillar: Individuals	55	51.05	
2.1.1 Mobile broadband internet traffic within the country	96	1.64	
2.1.2 ICT skills in the education system	98	31.07	
2.1.3 Use of virtual social networks	50	73.13	●
2.1.4 Tertiary enrollment	NA	NA	
2.1.5 Adult literacy rate	23	98.36	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	96	31.47	
2.2.1 Firms with website	100	24.61	
2.2.2 GERD financed by business enterprise	72	16.77	
2.2.3 Knowledge intensive employment	49	44.91	●
2.2.4 Annual investment in telecommunication services	99	70.80	
2.2.5 GERD performed by business enterprise	84	0.24	
3rd sub-pillar: Governments	113	24.34	
2.3.1 Government online services	83	60.00	
2.3.2 Publication and use of open data	73	19.12	
2.3.3 Government promotion of investment in emerging tech	114	13.62	
2.3.4 R&D expenditure by governments and higher education	101	4.62	○

Indicator	Rank	Score	
D. Impact pillar	94	47.50	
1st sub-pillar: Economy	117	15.25	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	73	2.21	
4.1.4 Domestic market size	116	34.29	
4.1.5 Prevalence of gig economy	111	19.19	
4.1.6 ICT services exports	121	5.33	○
2nd sub-pillar: Quality of Life	41	75.72	
4.2.1 Happiness	45	71.46	●
4.2.2 Freedom to make life choices	39	82.06	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	63	73.65	
3rd sub-pillar: SDG Contribution	111	51.51	
4.3.1 SDG 3: Good Health and Well-Being	55	73.80	
4.3.2 SDG 4: Quality Education	52	38.62	
4.3.3 SDG 5: Women's economic opportunity	95	64.91	
4.3.4 SDG 7: Affordable and Clean Energy	130	0.00	○
4.3.5 SDG 11: Sustainable Cities and Communities	36	80.24	●

NOTE: ● a strength and ○ a weakness.

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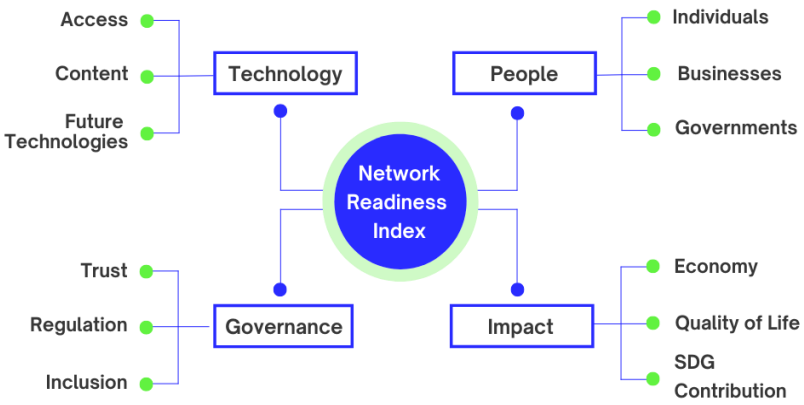
Network Readiness Index 2022 Tunisia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

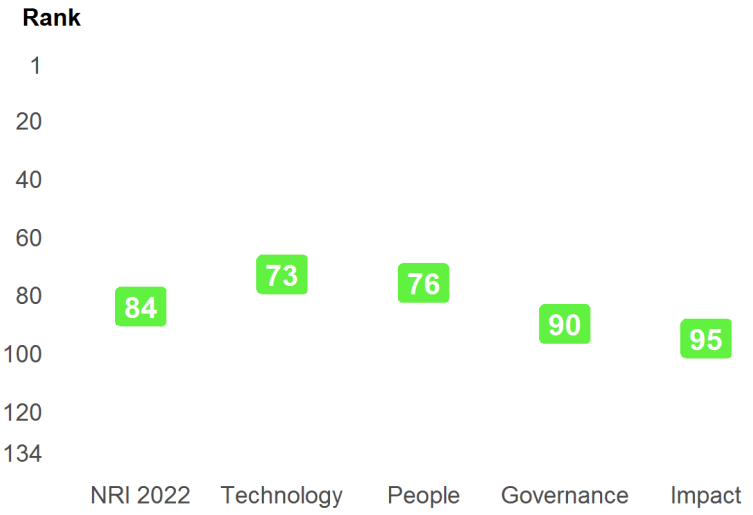
Figure 1: The NRI 2022 model



Global NRI position of Tunisia

Tunisia ranks 84th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Tunisia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Tunisia relate to Governments, Content and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Regulation and Quality of Life sub-pillars.

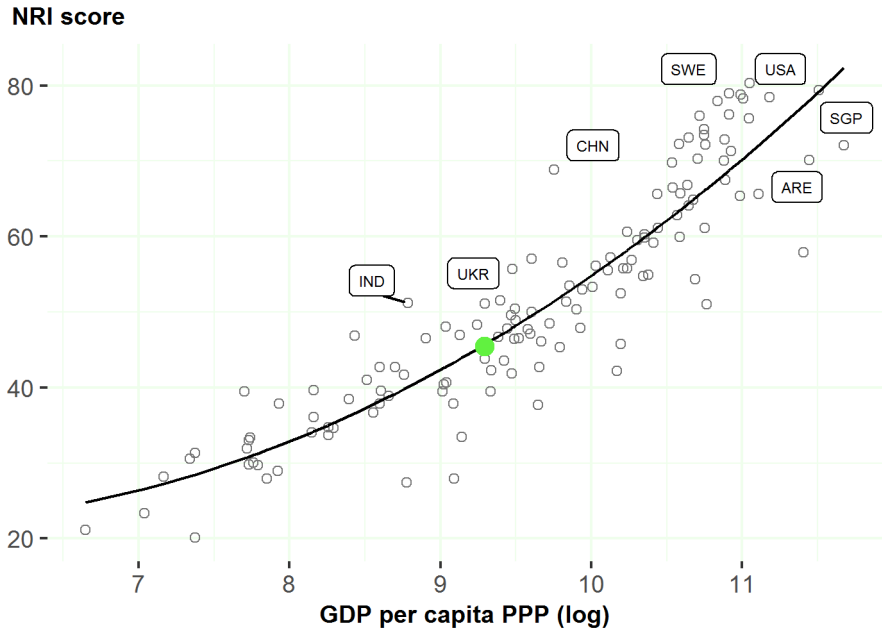
Table 1: Tunisia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	55	Economy	81
Content	68	Businesses	84
Access	70	SDG Contribution	91
Future Technologies	72	Inclusion	94
Trust	74	Regulation	98
Individuals	81	Quality of Life	98

NRI score and income

Figure 3 shows the position of Tunisia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Tunisia is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Tunisia belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Tunisia is ranked 11th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it has a higher score than the average of lower-middle-income countries in all of them.

Arab States

Tunisia is ranked 10th within Arab States (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Arab States in one of the twelve sub-pillars: Governments.

Figure 4: Performance of Tunisia against its income group and region, overall and by pillar

Table 2: Tunisia scores vs. averages of its income group and region, overall and by pillar

Dimension	Tunisia	Lower-middle-income countries	Arab States
NRI	45.46	40.94	51.21
Technology	43.04	37.28	47.66
People	42.08	35.42	47.11
Governance	49.35	45.00	56.68
Impact	47.36	46.09	53.39

Strongest and weakest indicators

The indicators where Tunisia performs particularly well include 2.3.4 R&D expenditure by governments and higher education, 1.2.4 AI scientific publications, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 3.3.5 Rural gap in use of digital payments, and 3.3.4 Gender gap in Internet use.

Table 3: Strongest and weakest indicators of Tunisia

Strongest indicators	Rank	Weakest indicators	Rank
2.3.4 R&D expenditure by governments and higher education	35	4.3.2 SDG 4: Quality Education	73
1.2.4 AI scientific publications	36	3.2.4 E-commerce legislation	87
4.2.3 Income inequality	36	3.3.4 Gender gap in Internet use	93
1.1.2 Handset prices	38	3.3.5 Rural gap in use of digital payments	111
1.3.4 Computer software spending	42	4.2.2 Freedom to make life choices	120
4.1.2 High-tech exports	42		
1.1.1 Mobile tariffs	51		
2.3.3 Government promotion of investment in emerging technologies	51		
3.1.2 Cybersecurity	53		
4.2.4 Healthy life expectancy at birth	54		

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NRI 2022 At-A-Glance: Tunisia

Network Readiness Index — Rank: 84 (out of 131) — Score: 45.46

Pillar/sub-pillar	Rank	Score
A. Technology pillar	73	43.04
1st sub-pillar: Access	70	63.08
2nd sub-pillar: Content	68	35.93
3rd sub-pillar: Future Technologies	72	30.10
B. People pillar	76	42.08
1st sub-pillar: Individuals	81	43.54
2nd sub-pillar: Businesses	84	35.64
3rd sub-pillar: Governments	55	47.05

Pillar/sub-pillar	Rank	Score
C. Governance pillar	90	49.35
1st sub-pillar: Trust	74	40.50
2nd sub-pillar: Regulation	98	55.13
3rd sub-pillar: Inclusion	94	52.42
D. Impact pillar	95	47.36
1st sub-pillar: Economy	81	28.15
2nd sub-pillar: Quality of Life	98	57.44
3rd sub-pillar: SDG Contribution	91	56.49

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	73	43.04	
1st sub-pillar: Access	70	63.08	
1.1.1 Mobile tariffs	51	68.67	•
1.1.2 Handset prices	38	69.24	•
1.1.3 FTTH/building Internet subscriptions	69	19.90	
1.1.4 Population covered by at least a 3G mobile network	55	99.68	
1.1.5 International Internet bandwidth	55	72.35	
1.1.6 Internet access in schools	50	48.66	
2nd sub-pillar: Content	68	35.93	
1.2.1 GitHub commits	61	6.58	
1.2.2 Internet domain registrations	80	1.93	
1.2.3 Mobile apps development	76	74.06	
1.2.4 AI scientific publications	36	61.13	•
3rd sub-pillar: Future Technologies	72	30.10	
1.3.1 Adoption of emerging technologies	102	29.39	
1.3.2 Investment in emerging technologies	80	35.50	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	42	25.41	•
B. People pillar	76	42.08	

Indicator	Rank	Score	
C. Governance pillar	90	49.35	
1st sub-pillar: Trust	74	40.50	
3.1.1 Secure Internet servers	81	46.23	
3.1.2 Cybersecurity	53	85.99	•
3.1.3 Online access to financial account	105	10.37	
3.1.4 Internet shopping	63	19.44	
2nd sub-pillar: Regulation	98	55.13	
3.2.1 Regulatory quality	93	31.47	
3.2.2 ICT regulatory environment	92	70.79	
3.2.3 Regulation of emerging technologies	63	43.68	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	70	63.04	
3rd sub-pillar: Inclusion	94	52.42	
3.3.1 E-Participation	71	67.90	
3.3.2 Socioeconomic gap in use of digital payments	75	65.35	
3.3.3 Availability of local online content	83	51.44	
3.3.4 Gender gap in Internet use	93	49.35	○
3.3.5 Rural gap in use of digital payments	111	28.07	○
D. Impact pillar	95	47.36	

Indicator	Rank	Score	
1st sub-pillar: Individuals	81	43.54	
2.1.1 Mobile broadband internet traffic within the country	57	9.05	
2.1.2 ICT skills in the education system	56	51.48	
2.1.3 Use of virtual social networks	75	63.00	
2.1.4 Tertiary enrollment	82	21.14	
2.1.5 Adult literacy rate	80	73.04	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	84	35.64	
2.2.1 Firms with website	60	54.30	
2.2.2 GERD financed by business enterprise	67	23.40	
2.2.3 Knowledge intensive employment	90	22.09	
2.2.4 Annual investment in telecommunication services	74	75.26	
2.2.5 GERD performed by business enterprise	59	3.17	
3rd sub-pillar: Governments	55	47.05	
2.3.1 Government online services	80	61.21	
2.3.2 Publication and use of open data	49	33.82	
2.3.3 Government promotion of investment in emerging tech	51	44.77	
2.3.4 R&D expenditure by governments and higher education	35	48.38	●

Indicator	Rank	Score	
1st sub-pillar: Economy	81	28.15	
4.1.1 High-tech and medium-high-tech manufacturing	50	30.59	
4.1.2 High-tech exports	42	41.24	●
4.1.3 PCT patent applications	61	4.49	
4.1.4 Domestic market size	75	47.39	
4.1.5 Prevalence of gig economy	107	22.09	
4.1.6 ICT services exports	76	23.09	
2nd sub-pillar: Quality of Life	98	57.44	
4.2.1 Happiness	101	41.33	
4.2.2 Freedom to make life choices	120	36.69	○
4.2.3 Income inequality	36	75.88	●
4.2.4 Healthy life expectancy at birth	54	75.87	●
3rd sub-pillar: SDG Contribution	91	56.49	
4.3.1 SDG 3: Good Health and Well-Being	69	68.12	
4.3.2 SDG 4: Quality Education	73	18.31	○
4.3.3 SDG 5: Women's economic opportunity	113	50.00	
4.3.4 SDG 7: Affordable and Clean Energy	63	79.70	
4.3.5 SDG 11: Sustainable Cities and Communities	66	66.34	

NOTE: ● a strength and ○ a weakness.

Sources

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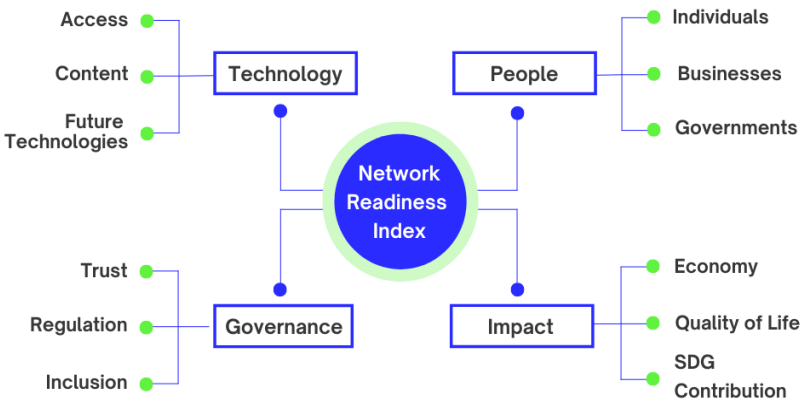
Network Readiness Index 2022 Türkiye

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

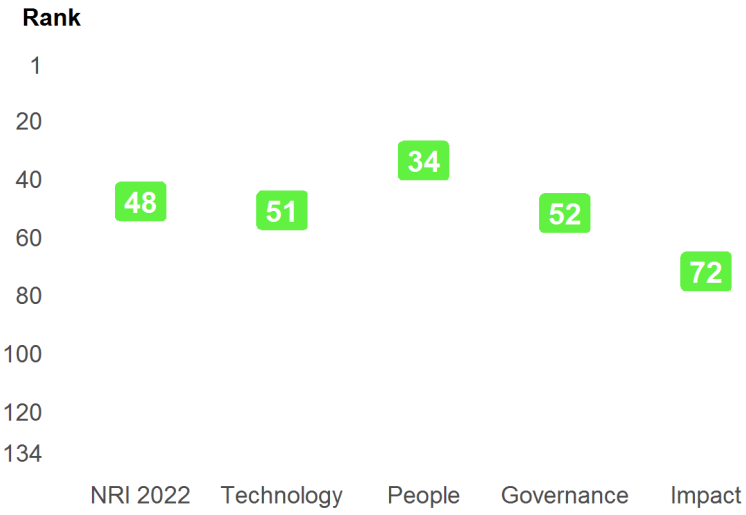
Figure 1: The NRI 2022 model



Global NRI position of Türkiye

Türkiye ranks 48th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Türkiye global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Türkiye relate to Individuals, SDG Contribution and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Future Technologies and Quality of Life sub-pillars.

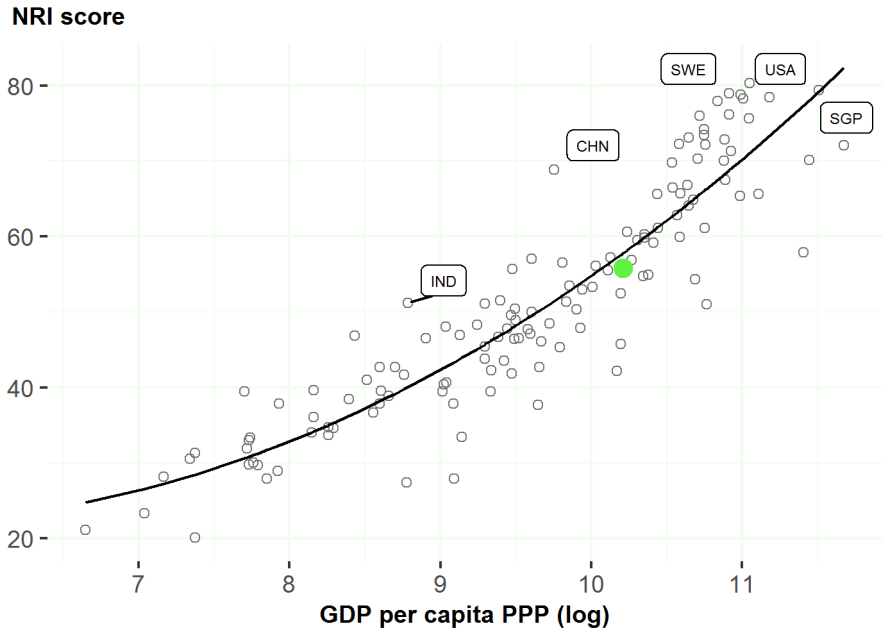
Table 1: Türkiye rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	8	Businesses	48
SDG Contribution	34	Economy	54
Access	42	Regulation	60
Content	42	Inclusion	61
Governments	43	Future Technologies	67
Trust	46	Quality of Life	115

NRI score and income

Figure 3 shows the position of Türkiye in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Türkiye is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Türkiye belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

Upper-middle-income countries

Türkiye is ranked 6th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, people and governance. At the sub-pillar level, it outperforms upper-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Europe

Türkiye is ranked 30th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in two of the twelve sub-pillars: Access and Individuals.

Figure 4: Performance of Türkiye against its income group and region, overall and by pillar

Table 2: Türkiye scores vs. averages of its income group and region, overall and by pillar

Dimension	Türkiye	Upper-middle-income countries	Europe
NRI	55.77	49.66	63.72
Technology	49.05	43.11	56.43
People	56.13	44.94	56.35
Governance	64.54	57.08	74.79
Impact	53.37	53.50	67.30

Strongest and weakest indicators

The indicators where Türkiye performs particularly well include 3.2.4 E-commerce legislation, 2.1.4 Tertiary enrollment, and 2.1.1 Mobile broadband internet traffic within the country (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 4.2.1 Happiness, and 3.2.5 Privacy protection by law content.

Table 3: Strongest and weakest indicators of Türkiye

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	90
2.1.4 Tertiary enrollment	2	1.3.2 Investment in emerging technologies	104
2.1.1 Mobile broadband internet traffic within the country	3	3.2.5 Privacy protection by law content	105
1.1.5 International Internet bandwidth	11	4.2.1 Happiness	108
4.1.4 Domestic market size	11	4.2.2 Freedom to make life choices	125
1.1.1 Mobile tariffs	15		
1.1.3 FTTH/building Internet subscriptions	15		
1.2.4 AI scientific publications	15		
3.1.2 Cybersecurity	16		
2.2.2 GERD financed by business enterprise	17		
1.3.4 Computer software spending	20		

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NRI 2022 At-A-Glance: Türkiye

Network Readiness Index — Rank: 48 (out of 131) — Score: 55.77

Pillar/sub-pillar	Rank	Score
A. Technology pillar	51	49.05
1st sub-pillar: Access	42	71.82
2nd sub-pillar: Content	42	44.23
3rd sub-pillar: Future Technologies	67	31.10
B. People pillar	34	56.13
1st sub-pillar: Individuals	8	65.59
2nd sub-pillar: Businesses	48	51.19
3rd sub-pillar: Governments	43	51.61

Pillar/sub-pillar	Rank	Score
C. Governance pillar	52	64.54
1st sub-pillar: Trust	46	61.55
2nd sub-pillar: Regulation	60	64.88
3rd sub-pillar: Inclusion	61	67.19
D. Impact pillar	72	53.37
1st sub-pillar: Economy	54	36.95
2nd sub-pillar: Quality of Life	115	46.28
3rd sub-pillar: SDG Contribution	34	76.89

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	51	49.05	
1st sub-pillar: Access	42	71.82	
1.1.1 Mobile tariffs	15	85.06	●
1.1.2 Handset prices	95	40.74	
1.1.3 FTTH/building Internet subscriptions	15	47.90	●
1.1.4 Population covered by at least a 3G mobile network	66	99.61	
1.1.5 International Internet bandwidth	11	85.78	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	42	44.23	
1.2.1 GitHub commits	68	5.17	
1.2.2 Internet domain registrations	49	8.08	
1.2.3 Mobile apps development	45	85.29	
1.2.4 AI scientific publications	15	78.37	●
3rd sub-pillar: Future Technologies	67	31.10	
1.3.1 Adoption of emerging technologies	58	49.37	
1.3.2 Investment in emerging technologies	104	27.50	○
1.3.3 Robot density	36	5.59	
1.3.4 Computer software spending	20	41.95	●

Indicator	Rank	Score	
C. Governance pillar	52	64.54	
1st sub-pillar: Trust	46	61.55	
3.1.1 Secure Internet servers	46	70.37	
3.1.2 Cybersecurity	16	97.45	●
3.1.3 Online access to financial account	41	43.39	
3.1.4 Internet shopping	53	35.00	
2nd sub-pillar: Regulation	60	64.88	
3.2.1 Regulatory quality	73	40.80	
3.2.2 ICT regulatory environment	20	93.53	
3.2.3 Regulation of emerging technologies	66	42.89	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	105	47.18	○
3rd sub-pillar: Inclusion	61	67.19	
3.3.1 E-Participation	23	88.89	
3.3.2 Socioeconomic gap in use of digital payments	78	61.83	
3.3.3 Availability of local online content	47	69.95	
3.3.4 Gender gap in Internet use	90	55.48	○
3.3.5 Rural gap in use of digital payments	71	59.78	

Indicator	Rank	Score	
B. People pillar	34	56.13	
1st sub-pillar: Individuals	8	65.59	
2.1.1 Mobile broadband internet traffic within the country	3	81.85	●
2.1.2 ICT skills in the education system	104	28.11	
2.1.3 Use of virtual social networks	42	75.46	
2.1.4 Tertiary enrollment	2	77.19	●
2.1.5 Adult literacy rate	36	95.84	
2.1.6 AI talent concentration	9	35.09	
2nd sub-pillar: Businesses	48	51.19	
2.2.1 Firms with website	69	46.07	
2.2.2 GERD financed by business enterprise	17	70.80	●
2.2.3 Knowledge intensive employment	64	35.45	
2.2.4 Annual investment in telecommunication services	20	85.12	
2.2.5 GERD performed by business enterprise	33	18.53	
3rd sub-pillar: Governments	43	51.61	
2.3.1 Government online services	22	85.45	
2.3.2 Publication and use of open data	49	33.82	
2.3.3 Government promotion of investment in emerging tech	39	50.16	
2.3.4 R&D expenditure by governments and higher education	50	37.01	

Indicator	Rank	Score	
D. Impact pillar	72	53.37	
1st sub-pillar: Economy	54	36.95	
4.1.1 High-tech and medium-high-tech manufacturing	40	40.55	
4.1.2 High-tech exports	60	27.46	
4.1.3 PCT patent applications	31	20.47	
4.1.4 Domestic market size	11	78.02	●
4.1.5 Prevalence of gig economy	66	39.83	
4.1.6 ICT services exports	90	15.37	
2nd sub-pillar: Quality of Life	115	46.28	
4.2.1 Happiness	108	38.96	○
4.2.2 Freedom to make life choices	125	12.19	○
4.2.3 Income inequality	86	53.02	
4.2.4 Healthy life expectancy at birth	43	80.97	
3rd sub-pillar: SDG Contribution	34	76.89	
4.3.1 SDG 3: Good Health and Well-Being	34	82.57	
4.3.2 SDG 4: Quality Education	40	54.14	
4.3.3 SDG 5: Women's economic opportunity	65	75.44	
4.3.4 SDG 7: Affordable and Clean Energy	23	89.22	
4.3.5 SDG 11: Sustainable Cities and Communities	32	83.07	

NOTE: ● a strength and ○ a weakness.

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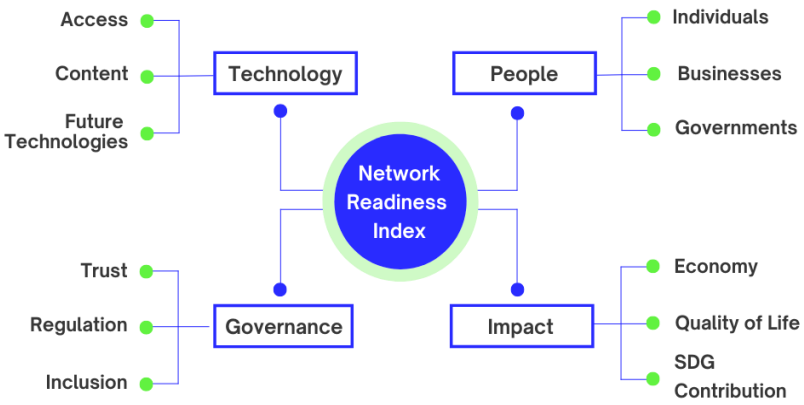
Network Readiness Index 2022 Uganda

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

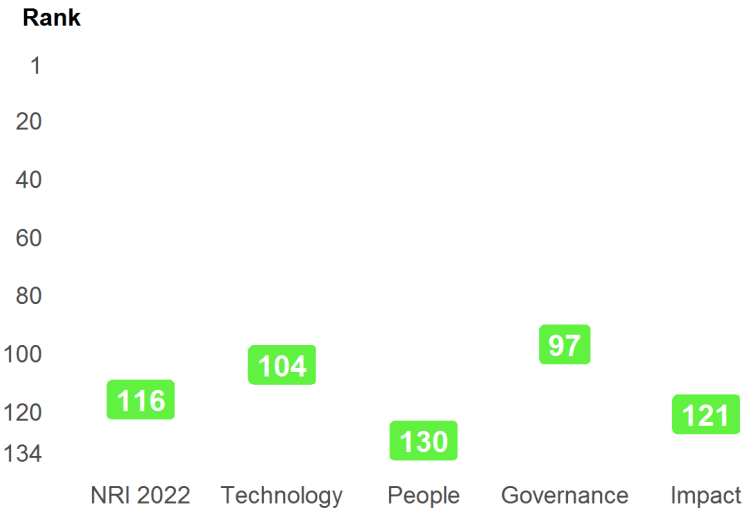
Figure 1: The NRI 2022 model



Global NRI position of Uganda

Uganda ranks 116th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Uganda global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Uganda relate to Trust, Regulation and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, SDG Contribution and Businesses sub-pillars.

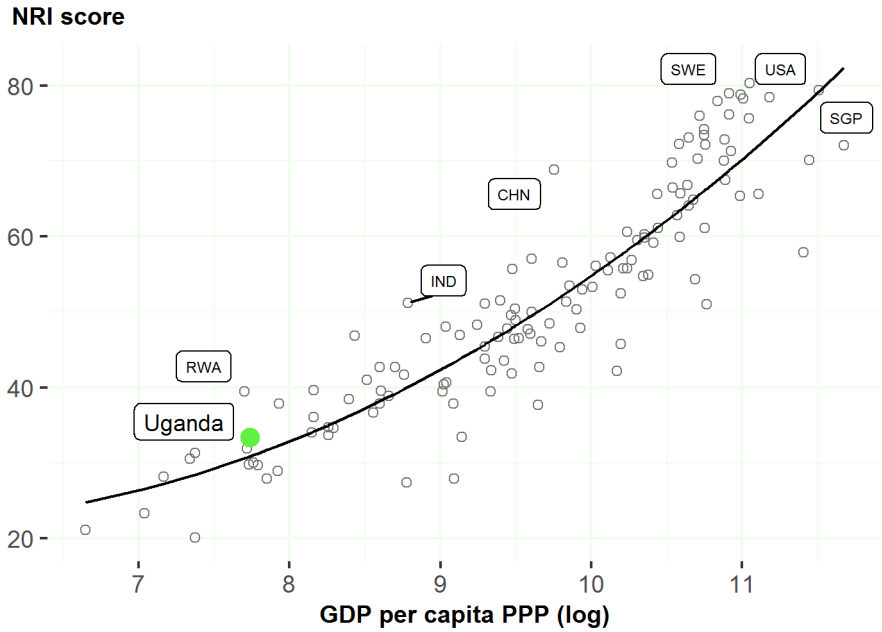
Table 1: Uganda rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	87	Inclusion	104
Regulation	92	Economy	110
Content	100	Quality of Life	113
Governments	102	Individuals	118
Access	103	SDG Contribution	123
Future Technologies	103	Businesses	131

NRI score and income

Figure 3 shows the position of Uganda in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Uganda is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Uganda belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Uganda is ranked 3rd in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: nri.score, technology and governance. At the sub-pillar level, it outperforms low-income countries in nine of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion and Quality of Life.

Africa

Uganda is ranked 16th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: technology and governance. With regard to sub-pillars, it outperforms the average in Africa in six of the twelve sub-pillars: Access, Content, Trust, Regulation, Inclusion and Quality of Life.

Figure 4: Performance of Uganda against its income group and region, overall and by pillar

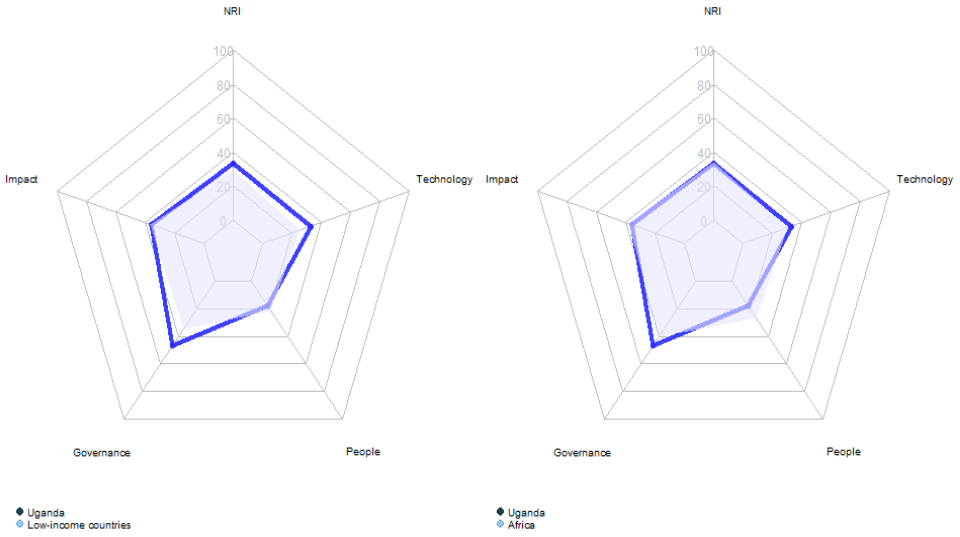


Table 2: Uganda scores vs. averages of its income group and region, overall and by pillar

Dimension	Uganda	Low-income countries	Africa
NRI	33.33	29.49	33.77
Technology	32.95	25.43	29.96
People	17.69	21.74	26.81
Governance	46.78	34.28	40.37
Impact	35.89	36.50	37.94

Strongest and weakest indicators

The indicators where Uganda performs particularly well include 3.2.4 E-commerce legislation, 1.1.5 International Internet bandwidth, and 1.2.4 AI scientific publications (Table 3). By contrast, the economy's weakest indicators include 2.1.3 Use of virtual social networks, 4.3.4 SDG 7: Affordable and Clean Energy, and 2.1.4 Tertiary enrollment.

Table 3: Strongest and weakest indicators of Uganda

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.1 Firms with website	113
1.1.5 International Internet bandwidth	34	1.3.4 Computer software spending	118
1.2.4 AI scientific publications	52	2.1.4 Tertiary enrollment	122
3.2.2 ICT regulatory environment	58	4.3.4 SDG 7: Affordable and Clean Energy	125
3.1.3 Online access to financial account	62	2.1.3 Use of virtual social networks	127
3.3.5 Rural gap in use of digital payments	69		
1.3.2 Investment in emerging technologies	77		
3.1.2 Cybersecurity	78		
4.1.4 Domestic market size	79		
2.3.1 Government online services	87		

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NRI 2022 At-A-Glance: Uganda

Network Readiness Index Rank: 116 (out of 131) Score: 33.33

Pillar/sub-pillar	Rank	Score
A. Technology pillar	104	32.95
1st sub-pillar: Access	103	50.12
2nd sub-pillar: Content	100	26.47
3rd sub-pillar: Future Technologies	103	22.26
B. People pillar	130	17.69
1st sub-pillar: Individuals	118	20.88
2nd sub-pillar: Businesses	131	5.66
3rd sub-pillar: Governments	102	26.53

Pillar/sub-pillar	Rank	Score
C. Governance pillar	97	46.78
1st sub-pillar: Trust	87	34.55
2nd sub-pillar: Regulation	92	57.69
3rd sub-pillar: Inclusion	104	48.11
D. Impact pillar	121	35.89
1st sub-pillar: Economy	110	17.40
2nd sub-pillar: Quality of Life	113	47.78
3rd sub-pillar: SDG Contribution	123	42.50

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	104	32.95	
1st sub-pillar: Access	103	50.12	
1.1.1 Mobile tariffs	105	36.87	
1.1.2 Handset prices	108	36.23	
1.1.3 FTTH/building Internet subscriptions	93	6.20	
1.1.4 Population covered by at least a 3G mobile network	109	94.53	
1.1.5 International Internet bandwidth	34	76.77	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	100	26.47	
1.2.1 GitHub commits	107	0.98	
1.2.2 Internet domain registrations	119	0.16	
1.2.3 Mobile apps development	113	53.37	
1.2.4 AI scientific publications	52	51.35	●
3rd sub-pillar: Future Technologies	103	22.26	
1.3.1 Adoption of emerging technologies	100	29.80	
1.3.2 Investment in emerging technologies	77	36.00	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	118	0.99	○

Indicator	Rank	Score	
C. Governance pillar	97	46.78	
1st sub-pillar: Trust	87	34.55	
3.1.1 Secure Internet servers	116	28.14	
3.1.2 Cybersecurity	78	69.45	●
3.1.3 Online access to financial account	62	30.31	●
3.1.4 Internet shopping	81	10.31	
2nd sub-pillar: Regulation	92	57.69	
3.2.1 Regulatory quality	97	29.60	
3.2.2 ICT regulatory environment	58	84.71	●
3.2.3 Regulation of emerging technologies	100	22.63	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	94	51.49	
3rd sub-pillar: Inclusion	104	48.11	
3.3.1 E-Participation	89	55.55	
3.3.2 Socioeconomic gap in use of digital payments	96	51.47	
3.3.3 Availability of local online content	121	23.56	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	69	61.87	●

Indicator	Rank	Score	
B. People pillar	130	17.69	
1st sub-pillar: Individuals	118	20.88	
2.1.1 Mobile broadband internet traffic within the country	81	4.92	
2.1.2 ICT skills in the education system	112	24.85	
2.1.3 Use of virtual social networks	127	2.53	○
2.1.4 Tertiary enrollment	122	2.27	○
2.1.5 Adult literacy rate	86	69.81	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	131	5.66	
2.2.1 Firms with website	113	11.21	○
2.2.2 GERD financed by business enterprise	88	4.16	
2.2.3 Knowledge intensive employment	120	7.11	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	87	0.16	
3rd sub-pillar: Governments	102	26.53	
2.3.1 Government online services	87	56.98	●
2.3.2 Publication and use of open data	87	11.76	
2.3.3 Government promotion of investment in emerging tech	97	27.06	
2.3.4 R&D expenditure by governments and higher education	89	10.30	

Indicator	Rank	Score	
D. Impact pillar	121	35.89	
1st sub-pillar: Economy	110	17.40	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	103	3.85	
4.1.3 PCT patent applications	81	1.38	
4.1.4 Domestic market size	79	46.33	●
4.1.5 Prevalence of gig economy	102	25.29	
4.1.6 ICT services exports	102	10.16	
2nd sub-pillar: Quality of Life	113	47.78	
4.2.1 Happiness	112	36.43	
4.2.2 Freedom to make life choices	102	56.91	
4.2.3 Income inequality	92	51.01	
4.2.4 Healthy life expectancy at birth	105	46.78	
3rd sub-pillar: SDG Contribution	123	42.50	
4.3.1 SDG 3: Good Health and Well-Being	108	36.40	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	101	62.28	
4.3.4 SDG 7: Affordable and Clean Energy	125	27.65	○
4.3.5 SDG 11: Sustainable Cities and Communities	104	43.67	

NOTE: ● a strength and ○ a weakness.

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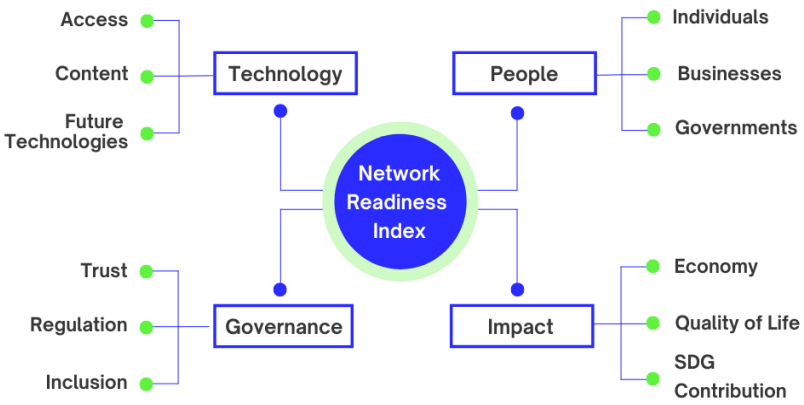
Network Readiness Index 2022 Ukraine

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

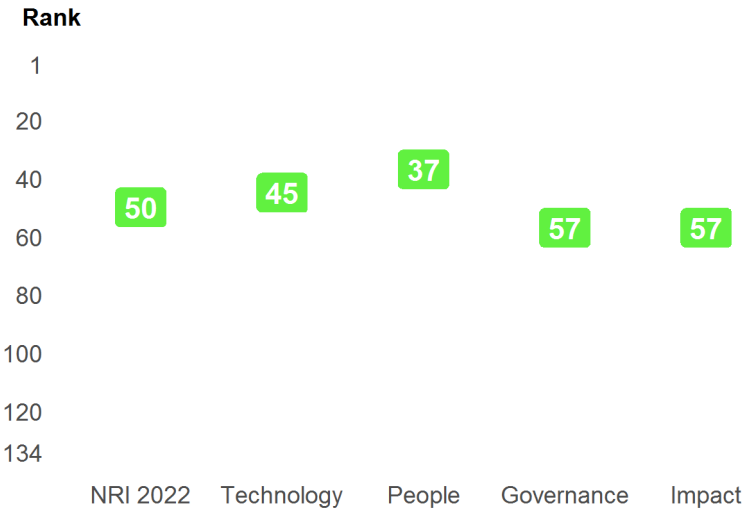
Figure 1: The NRI 2022 model



Global NRI position of Ukraine

Ukraine ranks 50th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance and Impact.

Figure 2: Ukraine global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Ukraine relate to Individuals, Access and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, SDG Contribution and Regulation sub-pillars.

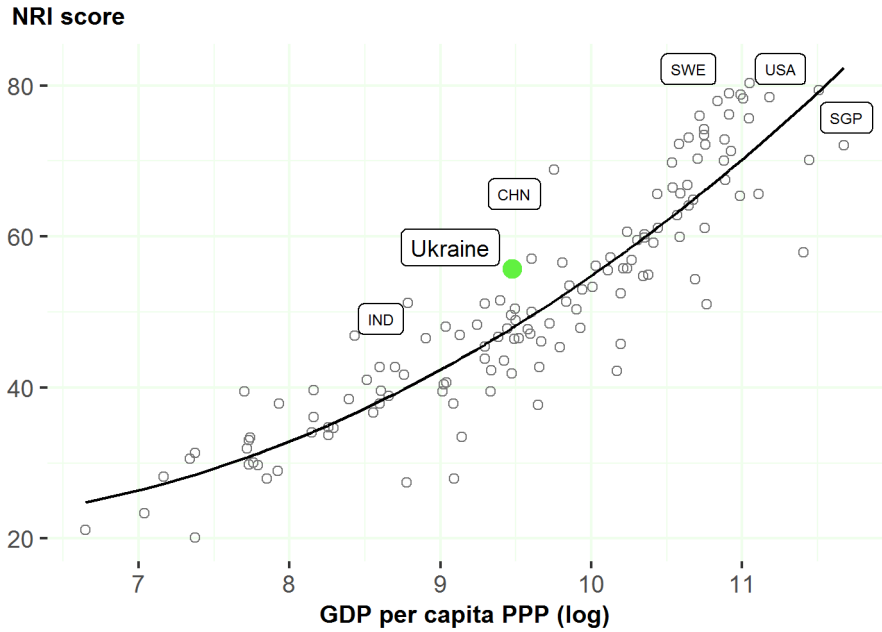
Table 1: Ukraine rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	7	Governments	52
Access	37	Trust	54
Economy	43	Quality of Life	57
Content	50	Inclusion	60
Businesses	50	SDG Contribution	83
Future Technologies	51	Regulation	84

NRI score and income

Figure 3 shows the position of Ukraine in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Ukraine is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Ukraine belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

Lower-middle-income countries

Ukraine is ranked 1st in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it has a higher score than the average of lower-middle-income countries in all of them.

Europe

Ukraine is ranked 32nd within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in two of the twelve sub-pillars: Access and Individuals.

Figure 4: Performance of Ukraine against its income group and region, overall and by pillar

Table 2: Ukraine scores vs. averages of its income group and region, overall and by pillar

Dimension	Ukraine	Lower-middle-income countries	Europe
NRI	55.71	40.94	63.72
Technology	50.52	37.28	56.43
People	54.43	35.42	56.35
Governance	60.81	45.00	74.79
Impact	57.08	46.09	67.30

Strongest and weakest indicators

The indicators where Ukraine performs particularly well include 2.1.5 Adult literacy rate, 3.2.4 E-commerce legislation, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 4.3.5 SDG 11: Sustainable Cities and Communities, and 1.1.4 Population covered by at least a 3G mobile network.

Table 3: Strongest and weakest indicators of Ukraine

Strongest indicators	Rank	Weakest indicators	Rank
2.1.5 Adult literacy rate	1	1.3.3 Robot density	53
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	78
4.2.3 Income inequality	5	1.1.4 Population covered by at least a 3G mobile network	100
4.1.6 ICT services exports	7	4.3.5 SDG 11: Sustainable Cities and Communities	102
1.1.3 FTTH/building Internet subscriptions	9	4.3.4 SDG 7: Affordable and Clean Energy	113
1.3.4 Computer software spending	9		
2.1.4 Tertiary enrollment	18		
2.3.2 Publication and use of open data	23		
1.1.5 International Internet bandwidth	33		
1.2.1 GitHub commits	36		
2.2.3 Knowledge intensive employment	38		

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NRI 2022 At-A-Glance: Ukraine

Network Readiness Index — Rank: 50 (out of 131) — Score: 55.71

Pillar/sub-pillar	Rank	Score
A. Technology pillar	45	50.52
1st sub-pillar: Access	37	73.24
2nd sub-pillar: Content	50	41.35
3rd sub-pillar: Future Technologies	51	36.97
B. People pillar	37	54.43
1st sub-pillar: Individuals	7	67.09
2nd sub-pillar: Businesses	50	49.06
3rd sub-pillar: Governments	52	47.13

Pillar/sub-pillar	Rank	Score
C. Governance pillar	57	60.81
1st sub-pillar: Trust	54	54.70
2nd sub-pillar: Regulation	84	60.03
3rd sub-pillar: Inclusion	60	67.70
D. Impact pillar	57	57.08
1st sub-pillar: Economy	43	40.99
2nd sub-pillar: Quality of Life	57	70.98
3rd sub-pillar: SDG Contribution	83	59.28

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	45	50.52	
1st sub-pillar: Access	37	73.24	
1.1.1 Mobile tariffs	49	69.15	
1.1.2 Handset prices	89	42.55	
1.1.3 FTTH/building Internet subscriptions	9	60.16	●
1.1.4 Population covered by at least a 3G mobile network	100	97.11	○
1.1.5 International Internet bandwidth	33	77.21	●
1.1.6 Internet access in schools	33	93.27	
2nd sub-pillar: Content	50	41.35	
1.2.1 GitHub commits	36	20.56	●
1.2.2 Internet domain registrations	65	4.21	
1.2.3 Mobile apps development	64	80.45	
1.2.4 AI scientific publications	39	60.16	
3rd sub-pillar: Future Technologies	51	36.97	
1.3.1 Adoption of emerging technologies	49	53.00	
1.3.2 Investment in emerging technologies	63	40.50	
1.3.3 Robot density	53	0.26	○
1.3.4 Computer software spending	9	54.12	●

Indicator	Rank	Score	
C. Governance pillar	57	60.81	
1st sub-pillar: Trust	54	54.70	
3.1.1 Secure Internet servers	43	72.61	
3.1.2 Cybersecurity	84	65.33	
3.1.3 Online access to financial account	56	32.53	
3.1.4 Internet shopping	41	48.34	
2nd sub-pillar: Regulation	84	60.03	
3.2.1 Regulatory quality	91	33.07	
3.2.2 ICT regulatory environment	82	75.29	
3.2.3 Regulation of emerging technologies	80	33.68	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	84	58.09	
3rd sub-pillar: Inclusion	60	67.70	
3.3.1 E-Participation	46	80.24	
3.3.2 Socioeconomic gap in use of digital payments	42	87.08	
3.3.3 Availability of local online content	75	54.33	
3.3.4 Gender gap in Internet use	78	62.87	○
3.3.5 Rural gap in use of digital payments	83	53.97	

Indicator	Rank	Score	
B. People pillar	37	54.43	
1st sub-pillar: Individuals	7	67.09	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	48	53.55	
2.1.3 Use of virtual social networks	81	59.69	
2.1.4 Tertiary enrollment	18	55.14	●
2.1.5 Adult literacy rate	1	100.00	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	50	49.06	
2.2.1 Firms with website	46	62.85	
2.2.2 GERD financed by business enterprise	58	37.71	
2.2.3 Knowledge intensive employment	38	57.63	●
2.2.4 Annual investment in telecommunication services	45	79.91	
2.2.5 GERD performed by business enterprise	49	7.23	
3rd sub-pillar: Governments	52	47.13	
2.3.1 Government online services	70	67.28	
2.3.2 Publication and use of open data	23	57.35	●
2.3.3 Government promotion of investment in emerging tech	45	47.70	
2.3.4 R&D expenditure by governments and higher education	80	16.20	

Indicator	Rank	Score	
D. Impact pillar	57	57.08	
1st sub-pillar: Economy	43	40.99	
4.1.1 High-tech and medium-high-tech manufacturing	59	26.02	
4.1.2 High-tech exports	61	27.45	
4.1.3 PCT patent applications	49	8.30	
4.1.4 Domestic market size	39	62.37	
4.1.5 Prevalence of gig economy	36	57.85	
4.1.6 ICT services exports	7	63.98	●
2nd sub-pillar: Quality of Life	57	70.98	
4.2.1 Happiness	80	55.78	
4.2.2 Freedom to make life choices	82	66.95	
4.2.3 Income inequality	5	93.97	●
4.2.4 Healthy life expectancy at birth	81	67.21	
3rd sub-pillar: SDG Contribution	83	59.28	
4.3.1 SDG 3: Good Health and Well-Being	56	73.18	
4.3.2 SDG 4: Quality Education	39	54.22	
4.3.3 SDG 5: Women's economic opportunity	79	71.05	
4.3.4 SDG 7: Affordable and Clean Energy	113	52.97	○
4.3.5 SDG 11: Sustainable Cities and Communities	102	44.97	○

NOTE: ● a strength and ○ a weakness.

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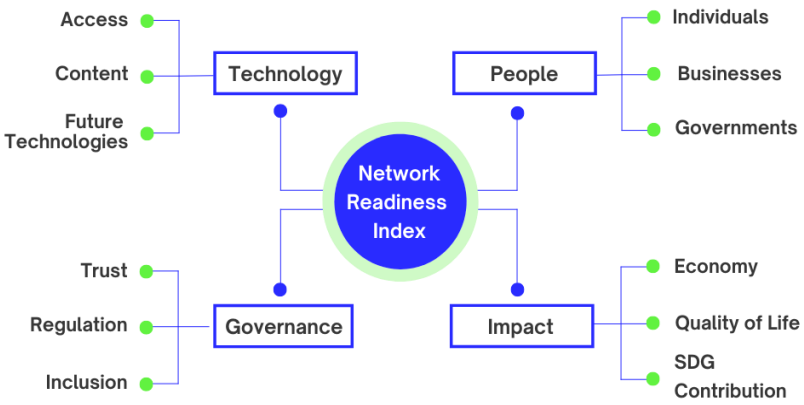
Network Readiness Index 2022
United Arab Emirates

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

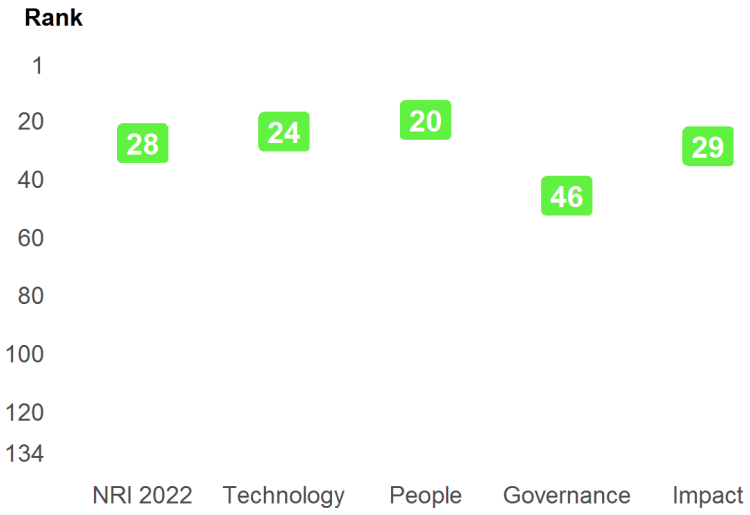
Figure 1: The NRI 2022 model



Global NRI position of United Arab Emirates

United Arab Emirates ranks 28th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: United Arab Emirates global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of United Arab Emirates relate to Individuals, Access and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Trust and Regulation sub-pillars.

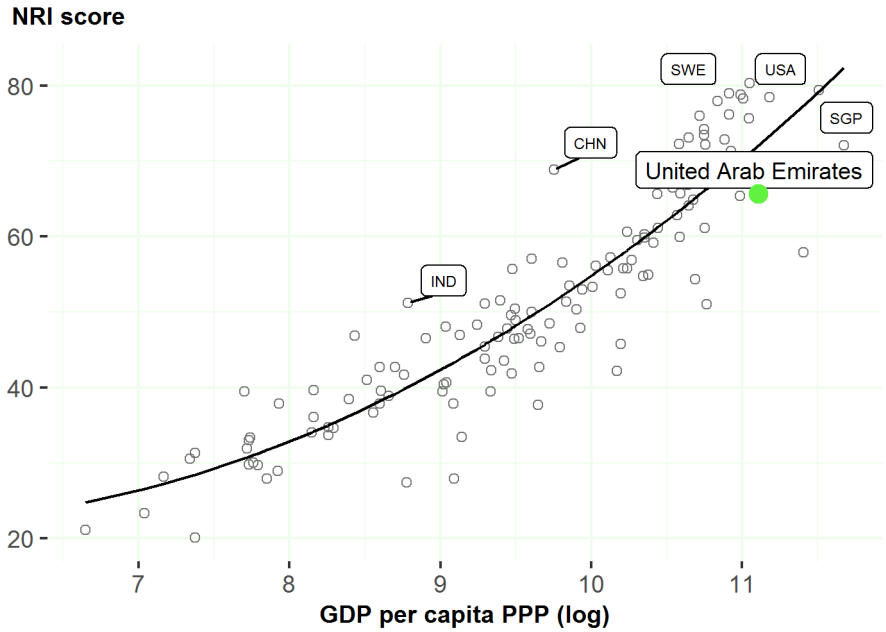
Table 1: United Arab Emirates rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	9	Economy	25
Access	10	Inclusion	28
Future Technologies	13	SDG Contribution	39
Quality of Life	13	Content	43
Businesses	23	Trust	47
Governments	25	Regulation	71

NRI score and income

Figure 3 shows the position of United Arab Emirates in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, United Arab Emirates is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. United Arab Emirates belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

United Arab Emirates is ranked 27th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: technology, people and impact. At the sub-pillar level, it outperforms high-income countries in six of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Inclusion and Quality of Life.

Arab States

United Arab Emirates is ranked 1st within Arab States (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of United Arab Emirates against its income group and region, overall and by pillar

Table 2: United Arab Emirates scores vs. averages of its income group and region, overall and by pillar

Dimension	United Arab Emirates	High-income countries	Arab States
NRI	65.64	66.21	51.21
Technology	61.77	60.28	47.66
People	63.71	58.83	47.11
Governance	67.63	76.89	56.68
Impact	69.44	68.86	53.39

Strongest and weakest indicators

The indicators where United Arab Emirates performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 2.1.3 Use of virtual social networks (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 3.3.5 Rural gap in use of digital payments, and 3.2.4 E-commerce legislation.

Table 3: Strongest and weakest indicators of United Arab Emirates

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	4.3.2 SDG 4: Quality Education	46
1.1.6 Internet access in schools	1	2.3.2 Publication and use of open data	65
2.1.3 Use of virtual social networks	1	3.2.4 E-commerce legislation	87
2.3.3 Government promotion of investment in emerging technologies	4	3.3.5 Rural gap in use of digital payments	89
4.2.2 Freedom to make life choices	4	3.2.5 Privacy protection by law content	128
2.2.2 GERD financed by business enterprise	5		
4.2.3 Income inequality	6		
3.1.2 Cybersecurity	8		
2.1.2 ICT skills in the education system	9		
3.2.3 Regulation of emerging technologies	9		
1.3.2 Investment in emerging technologies	10		
4.1.5 Prevalence of gig economy	11		

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NRI 2022 At-A-Glance: United Arab Emirates

Network Readiness Index Rank: 28 (out of 131) Score: 65.64

Pillar/sub-pillar	Rank	Score
A. Technology pillar	24	61.77
1st sub-pillar: Access	10	80.69
2nd sub-pillar: Content	43	43.70
3rd sub-pillar: Future Technologies	13	60.93
B. People pillar	20	63.71
1st sub-pillar: Individuals	9	65.33
2nd sub-pillar: Businesses	23	65.07
3rd sub-pillar: Governments	25	60.74

Pillar/sub-pillar	Rank	Score
C. Governance pillar	46	67.63
1st sub-pillar: Trust	47	61.08
2nd sub-pillar: Regulation	71	62.42
3rd sub-pillar: Inclusion	28	79.40
D. Impact pillar	29	69.44
1st sub-pillar: Economy	25	47.43
2nd sub-pillar: Quality of Life	13	86.15
3rd sub-pillar: SDG Contribution	39	74.75

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	24	61.77	
1st sub-pillar: Access	10	80.69	
1.1.1 Mobile tariffs	22	79.12	
1.1.2 Handset prices	12	84.14	
1.1.3 FTTH/building Internet subscriptions	34	37.56	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	16	83.34	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	43	43.70	
1.2.1 GitHub commits	55	7.93	
1.2.2 Internet domain registrations	47	8.65	
1.2.3 Mobile apps development	29	92.19	
1.2.4 AI scientific publications	32	66.00	
3rd sub-pillar: Future Technologies	13	60.93	
1.3.1 Adoption of emerging technologies	17	78.00	
1.3.2 Investment in emerging technologies	10	79.50	●
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	44	25.30	

Indicator	Rank	Score	
C. Governance pillar	46	67.63	
1st sub-pillar: Trust	47	61.08	
3.1.1 Secure Internet servers	61	57.84	
3.1.2 Cybersecurity	8	98.03	●
3.1.3 Online access to financial account	23	59.16	
3.1.4 Internet shopping	54	29.29	
2nd sub-pillar: Regulation	71	62.42	
3.2.1 Regulatory quality	30	69.87	
3.2.2 ICT regulatory environment	74	80.00	
3.2.3 Regulation of emerging technologies	9	81.84	●
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	128	13.70	○
3rd sub-pillar: Inclusion	28	79.40	
3.3.1 E-Participation	16	93.83	
3.3.2 Socioeconomic gap in use of digital payments	32	91.47	
3.3.3 Availability of local online content	21	85.82	
3.3.4 Gender gap in Internet use	31	73.53	
3.3.5 Rural gap in use of digital payments	89	52.36	○

Indicator	Rank	Score	
B. People pillar	20	63.71	
1st sub-pillar: Individuals	9	65.33	
2.1.1 Mobile broadband internet traffic within the country	48	14.41	
2.1.2 ICT skills in the education system	9	82.54	●
2.1.3 Use of virtual social networks	1	100.00	●
2.1.4 Tertiary enrollment	59	35.42	
2.1.5 Adult literacy rate	46	94.27	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	23	65.07	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	5	91.89	●
2.2.3 Knowledge intensive employment	28	64.29	
2.2.4 Annual investment in telecommunication services	28	83.31	
2.2.5 GERD performed by business enterprise	31	20.79	
3rd sub-pillar: Governments	25	60.74	
2.3.1 Government online services	15	89.70	
2.3.2 Publication and use of open data	65	25.00	○
2.3.3 Government promotion of investment in emerging tech	4	84.33	
2.3.4 R&D expenditure by governments and higher education	43	43.94	

Indicator	Rank	Score	
D. Impact pillar	29	69.44	
1st sub-pillar: Economy	25	47.43	
4.1.1 High-tech and medium-high-tech manufacturing	45	33.49	
4.1.2 High-tech exports	16	63.93	
4.1.3 PCT patent applications	55	6.58	
4.1.4 Domestic market size	33	64.14	
4.1.5 Prevalence of gig economy	11	79.94	●
4.1.6 ICT services exports	48	36.47	
2nd sub-pillar: Quality of Life	13	86.15	
4.2.1 Happiness	22	81.10	
4.2.2 Freedom to make life choices	4	97.67	●
4.2.3 Income inequality	6	92.96	●
4.2.4 Healthy life expectancy at birth	66	72.86	
3rd sub-pillar: SDG Contribution	39	74.75	
4.3.1 SDG 3: Good Health and Well-Being	39	81.16	
4.3.2 SDG 4: Quality Education	46	42.72	○
4.3.3 SDG 5: Women's economic opportunity	65	75.44	
4.3.4 SDG 7: Affordable and Clean Energy	49	82.96	
4.3.5 SDG 11: Sustainable Cities and Communities	19	91.50	

NOTE: ● a strength and ○ a weakness.

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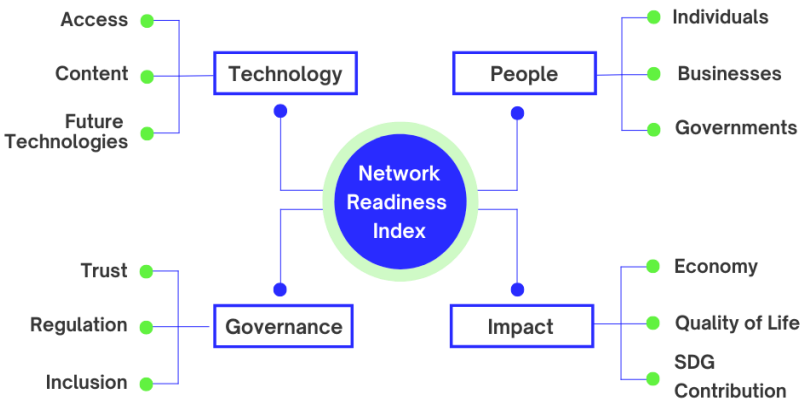
Network Readiness Index 2022 United Kingdom

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

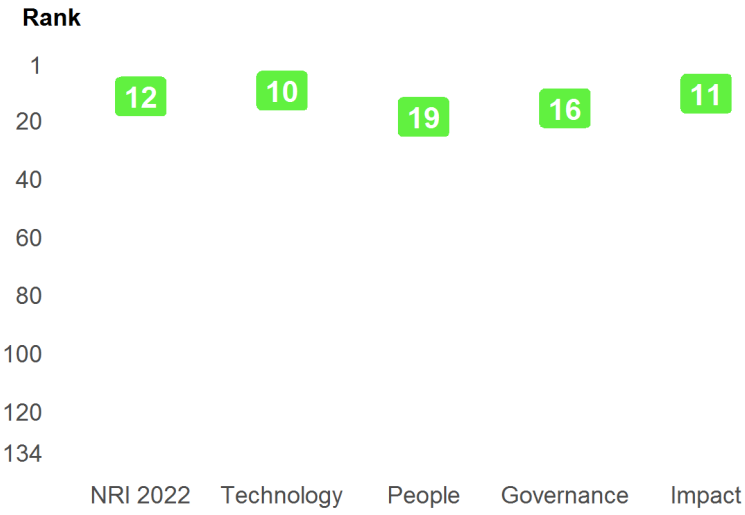
Figure 1: The NRI 2022 model



Global NRI position of United Kingdom

United Kingdom ranks 12th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: United Kingdom global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of United Kingdom relate to Inclusion, SDG Contribution and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Quality of Life and Individuals sub-pillars.

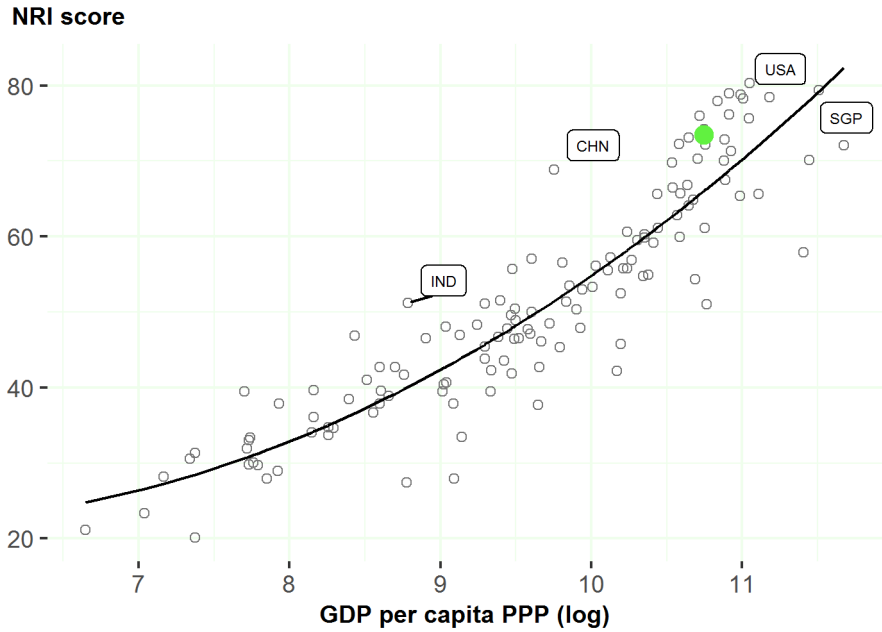
Table 1: United Kingdom rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	2	Future Technologies	14
SDG Contribution	3	Trust	18
Content	11	Businesses	22
Access	12	Regulation	26
Governments	13	Quality of Life	32
Economy	13	Individuals	61

NRI score and income

Figure 3 shows the position of United Kingdom in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, United Kingdom is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. United Kingdom belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Sweden (SWE).

Performance against its income group and region

High-income countries

United Kingdom is ranked 12th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Europe

United Kingdom is ranked 8th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Figure 4: Performance of United Kingdom against its income group and region, overall and by pillar

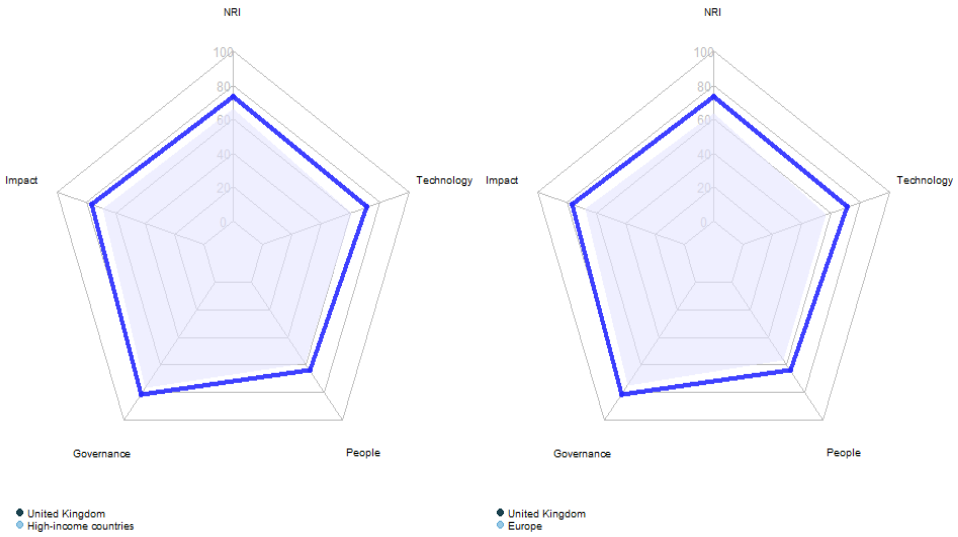


Table 2: United Kingdom scores vs. averages of its income group and region, overall and by pillar

Dimension	United Kingdom	High-income countries	Europe
NRI	73.41	66.21	63.72
Technology	71.19	60.28	56.43
People	64.14	58.83	56.35
Governance	81.76	76.89	74.79
Impact	76.54	68.86	67.30

Strongest and weakest indicators

The indicators where United Kingdom performs particularly well include 2.3.2 Publication and use of open data, 3.2.4 E-commerce legislation, and 3.1.2 Cybersecurity (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 4.2.2 Freedom to make life choices, and 4.2.3 Income inequality.

Table 3: Strongest and weakest indicators of United Kingdom

Strongest indicators	Rank	Weakest indicators	Rank
2.3.2 Publication and use of open data	1	2.1.6 AI talent concentration	27
3.2.4 E-commerce legislation	1	4.2.3 Income inequality	54
3.1.2 Cybersecurity	2	4.2.2 Freedom to make life choices	64
4.3.1 SDG 3: Good Health and Well-Being	2	3.2.5 Privacy protection by law content	86
1.2.4 AI scientific publications	3		
4.1.5 Prevalence of gig economy	4		
3.3.2 Socioeconomic gap in use of digital payments	5		
1.1.5 International Internet bandwidth	6		
2.3.1 Government online services	6		
1.1.2 Handset prices	8		
1.3.2 Investment in emerging technologies	8		

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NRI 2022 At-A-Glance: United Kingdom

Network Readiness Index Rank: 12 (out of 131) Score: 73.41

Pillar/sub-pillar	Rank	Score
A. Technology pillar	10	71.19
1st sub-pillar: Access	12	80.47
2nd sub-pillar: Content	11	74.49
3rd sub-pillar: Future Technologies	14	58.61
B. People pillar	19	64.14
1st sub-pillar: Individuals	61	50.05
2nd sub-pillar: Businesses	22	65.82
3rd sub-pillar: Governments	13	76.56

Pillar/sub-pillar	Rank	Score
C. Governance pillar	16	81.76
1st sub-pillar: Trust	18	78.39
2nd sub-pillar: Regulation	26	79.67
3rd sub-pillar: Inclusion	2	87.21
D. Impact pillar	11	76.54
1st sub-pillar: Economy	13	61.15
2nd sub-pillar: Quality of Life	32	78.73
3rd sub-pillar: SDG Contribution	3	89.73

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	10	71.19	
1st sub-pillar: Access	12	80.47	
1.1.1 Mobile tariffs	16	84.16	
1.1.2 Handset prices	8	93.36	●
1.1.3 FTTH/building Internet subscriptions	43	33.37	
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	6	91.48	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	11	74.49	
1.2.1 GitHub commits	19	50.30	
1.2.2 Internet domain registrations	11	57.85	
1.2.3 Mobile apps development	12	98.50	
1.2.4 AI scientific publications	3	91.31	●
3rd sub-pillar: Future Technologies	14	58.61	
1.3.1 Adoption of emerging technologies	12	84.23	
1.3.2 Investment in emerging technologies	8	82.25	●
1.3.3 Robot density	23	16.55	
1.3.4 Computer software spending	11	51.41	

Indicator	Rank	Score	
C. Governance pillar	16	81.76	
1st sub-pillar: Trust	18	78.39	
3.1.1 Secure Internet servers	20	83.82	
3.1.2 Cybersecurity	2	99.53	●
3.1.3 Online access to financial account	27	55.84	
3.1.4 Internet shopping	17	74.36	
2nd sub-pillar: Regulation	26	79.67	
3.2.1 Regulatory quality	15	80.53	
3.2.2 ICT regulatory environment	8	95.88	
3.2.3 Regulation of emerging technologies	29	66.32	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	86	55.60	○
3rd sub-pillar: Inclusion	2	87.21	
3.3.1 E-Participation	6	97.53	
3.3.2 Socioeconomic gap in use of digital payments	5	99.42	●
3.3.3 Availability of local online content	12	90.87	
3.3.4 Gender gap in Internet use	38	72.19	
3.3.5 Rural gap in use of digital payments	19	76.06	

Indicator	Rank	Score	
B. People pillar	19	64.14	
1st sub-pillar: Individuals	61	50.05	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	40	61.54	
2.1.3 Use of virtual social networks	26	78.87	
2.1.4 Tertiary enrollment	42	43.63	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	27	16.18	○
2nd sub-pillar: Businesses	22	65.82	
2.2.1 Firms with website	11	85.36	
2.2.2 GERD financed by business enterprise	23	66.33	
2.2.3 Knowledge intensive employment	8	78.71	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	17	32.86	
3rd sub-pillar: Governments	13	76.56	
2.3.1 Government online services	6	95.76	●
2.3.2 Publication and use of open data	1	100.00	●
2.3.3 Government promotion of investment in emerging tech	22	66.43	
2.3.4 R&D expenditure by governments and higher education	42	44.05	

Indicator	Rank	Score	
D. Impact pillar	11	76.54	
1st sub-pillar: Economy	13	61.15	
4.1.1 High-tech and medium-high-tech manufacturing	25	55.78	
4.1.2 High-tech exports	23	56.47	
4.1.3 PCT patent applications	19	43.36	
4.1.4 Domestic market size	10	79.30	
4.1.5 Prevalence of gig economy	4	89.24	●
4.1.6 ICT services exports	30	42.75	
2nd sub-pillar: Quality of Life	32	78.73	
4.2.1 Happiness	15	83.48	
4.2.2 Freedom to make life choices	64	74.60	○
4.2.3 Income inequality	54	70.10	○
4.2.4 Healthy life expectancy at birth	28	86.74	
3rd sub-pillar: SDG Contribution	3	89.73	
4.3.1 SDG 3: Good Health and Well-Being	2	97.31	●
4.3.2 SDG 4: Quality Education	12	70.26	
4.3.3 SDG 5: Women's economic opportunity	11	96.49	
4.3.4 SDG 7: Affordable and Clean Energy	11	91.81	
4.3.5 SDG 11: Sustainable Cities and Communities	16	92.78	

NOTE: ● a strength and ○ a weakness.

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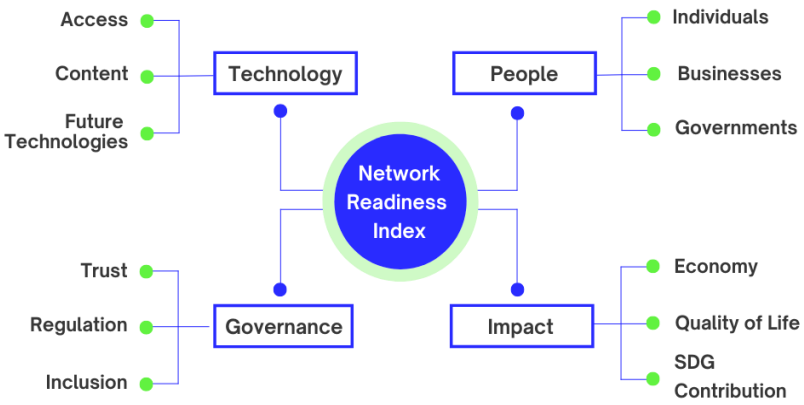
Network Readiness Index 2022 United States

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

Figure 1: The NRI 2022 model



Global NRI position of United States

United States ranks 1st out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: United States global ranking, overall and by pillar

Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of United States relate to Future Technologies, Content and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, SDG Contribution and Quality of Life sub-pillars.

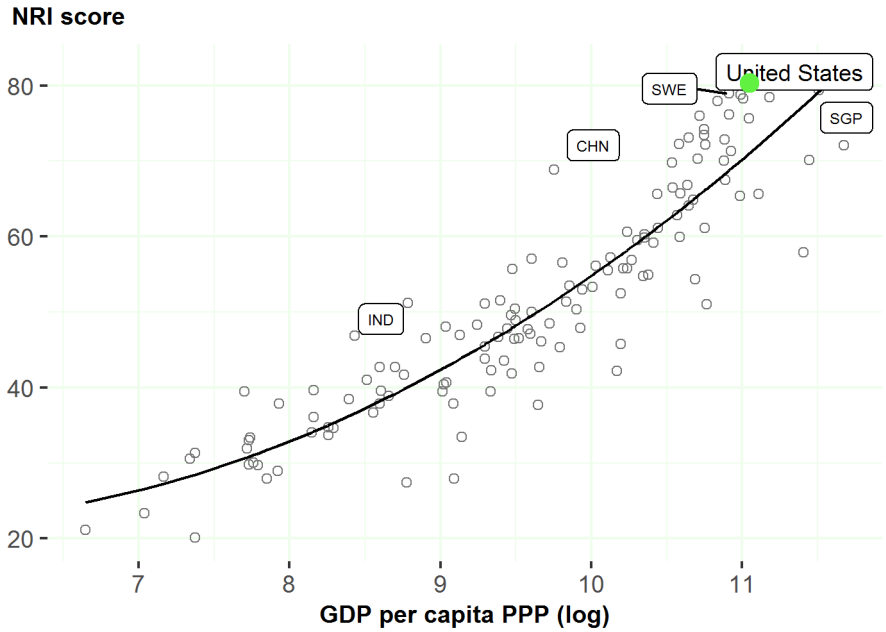
Table 1: United States rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	1	Economy	7
Content	2	Governments	10
Access	4	Individuals	15
Trust	4	Regulation	18
Businesses	5	SDG Contribution	29
Inclusion	5	Quality of Life	55

NRI score and income

Figure 3 shows the position of United States in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, United States is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. United States belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-The Americas-is also United States of America (USA).

Performance against its income group and region

High-income countries

United States is ranked 1st in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

The Americas

United States is ranked 1st within The Americas (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of United States against its income group and region, overall and by pillar

Table 2: United States scores vs. averages of its income group and region, overall and by pillar

Dimension	United States	High-income countries	The Americas
NRI	80.30	66.21	50.09
Technology	88.18	60.28	44.16
People	72.90	58.83	43.67
Governance	87.21	76.89	56.24
Impact	72.91	68.86	56.30

Strongest and weakest indicators

The indicators where United States performs particularly well include 1.1.2 Handset prices, 1.2.2 Internet domain registrations, and 1.2.3 Mobile apps development (Table 3). By contrast, the economy's weakest indicators include 4.2.3 Income inequality, 4.3.4 SDG 7: Affordable and Clean Energy, and 4.2.4 Healthy life expectancy at birth.

Table 3: Strongest and weakest indicators of United States

Strongest indicators	Rank	Weakest indicators	Rank
1.1.2 Handset prices	1	4.2.2 Freedom to make life choices	62
1.2.2 Internet domain registrations	1	4.2.4 Healthy life expectancy at birth	65
1.2.3 Mobile apps development	1	4.2.3 Income inequality	85
1.2.4 AI scientific publications	1	4.3.4 SDG 7: Affordable and Clean Energy	85
1.3.2 Investment in emerging technologies	1		
1.3.4 Computer software spending	1		
2.2.4 Annual investment in telecommunication services	1		
3.1.2 Cybersecurity	1		
3.2.4 E-commerce legislation	1		
3.3.1 E-Participation	1		
1.3.1 Adoption of emerging technologies	2		
3.1.1 Secure Internet servers	2		
4.1.4 Domestic market size	2		
4.1.5 Prevalence of gig economy	2		
2.2.5 GERD performed by business enterprise	3		

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NRI 2022 At-A-Glance: United States

Network Readiness Index — Rank: 1 (out of 131) — Score: 80.30

Pillar/sub-pillar	Rank	Score
A. Technology pillar	1	88.18
1st sub-pillar: Access	4	85.39
2nd sub-pillar: Content	2	94.00
3rd sub-pillar: Future Technologies	1	85.16
B. People pillar	2	72.90
1st sub-pillar: Individuals	15	60.60
2nd sub-pillar: Businesses	5	79.18
3rd sub-pillar: Governments	10	78.93

Pillar/sub-pillar	Rank	Score
C. Governance pillar	7	87.21
1st sub-pillar: Trust	4	91.32
2nd sub-pillar: Regulation	18	83.85
3rd sub-pillar: Inclusion	5	86.45
D. Impact pillar	20	72.91
1st sub-pillar: Economy	7	66.79
2nd sub-pillar: Quality of Life	55	71.78
3rd sub-pillar: SDG Contribution	29	80.14

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	1	88.18	
1st sub-pillar: Access	4	85.39	
1.1.1 Mobile tariffs	25	78.43	
1.1.2 Handset prices	1	100.00	•
1.1.3 FTTH/building Internet subscriptions	13	56.43	
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	5	92.14	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	2	94.00	
1.2.1 GitHub commits	6	75.99	
1.2.2 Internet domain registrations	1	100.00	•
1.2.3 Mobile apps development	1	100.00	•
1.2.4 AI scientific publications	1	100.00	•
3rd sub-pillar: Future Technologies	1	85.16	
1.3.1 Adoption of emerging technologies	2	99.75	•
1.3.2 Investment in emerging technologies	1	100.00	•
1.3.3 Robot density	8	40.90	
1.3.4 Computer software spending	1	100.00	•
B. People pillar	2	72.90	

Indicator	Rank	Score	
C. Governance pillar	7	87.21	
1st sub-pillar: Trust	4	91.32	
3.1.1 Secure Internet servers	2	94.60	•
3.1.2 Cybersecurity	1	100.00	•
3.1.3 Online access to financial account	7	84.40	
3.1.4 Internet shopping	8	86.29	
2nd sub-pillar: Regulation	18	83.85	
3.2.1 Regulatory quality	21	74.13	
3.2.2 ICT regulatory environment	33	90.00	
3.2.3 Regulation of emerging technologies	6	88.16	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	61	66.98	
3rd sub-pillar: Inclusion	5	86.45	
3.3.1 E-Participation	1	100.00	•
3.3.2 Socioeconomic gap in use of digital payments	36	89.92	
3.3.3 Availability of local online content	7	93.51	
3.3.4 Gender gap in Internet use	21	74.93	
3.3.5 Rural gap in use of digital payments	35	73.90	
D. Impact pillar	20	72.91	

Indicator	Rank	Score	
1st sub-pillar: Individuals	15	60.60	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	5	86.69	
2.1.3 Use of virtual social networks	41	75.56	
2.1.4 Tertiary enrollment	12	58.69	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	19	21.44	
2nd sub-pillar: Businesses	5	79.18	
2.2.1 Firms with website	32	73.19	
2.2.2 GERD financed by business enterprise	6	81.94	
2.2.3 Knowledge intensive employment	18	72.53	
2.2.4 Annual investment in telecommunication services	1	100.00	●
2.2.5 GERD performed by business enterprise	3	68.25	●
3rd sub-pillar: Governments	10	78.93	
2.3.1 Government online services	7	94.55	
2.3.2 Publication and use of open data	9	82.35	
2.3.3 Government promotion of investment in emerging tech	8	78.57	
2.3.4 R&D expenditure by governments and higher education	19	60.24	

Indicator	Rank	Score	
1st sub-pillar: Economy	7	66.79	
4.1.1 High-tech and medium-high-tech manufacturing	20	58.17	
4.1.2 High-tech exports	18	60.34	
4.1.3 PCT patent applications	13	54.63	
4.1.4 Domestic market size	2	98.38	●
4.1.5 Prevalence of gig economy	2	95.35	●
4.1.6 ICT services exports	52	33.90	
2nd sub-pillar: Quality of Life	55	71.78	
4.2.1 Happiness	13	85.13	
4.2.2 Freedom to make life choices	62	74.71	○
4.2.3 Income inequality	85	54.02	○
4.2.4 Healthy life expectancy at birth	65	73.28	○
3rd sub-pillar: SDG Contribution	29	80.14	
4.3.1 SDG 3: Good Health and Well-Being	25	88.96	
4.3.2 SDG 4: Quality Education	24	67.06	
4.3.3 SDG 5: Women's economic opportunity	32	87.72	
4.3.4 SDG 7: Affordable and Clean Energy	85	73.35	○
4.3.5 SDG 11: Sustainable Cities and Communities	31	83.60	

NOTE: ● a strength and ○ a weakness.

Sources

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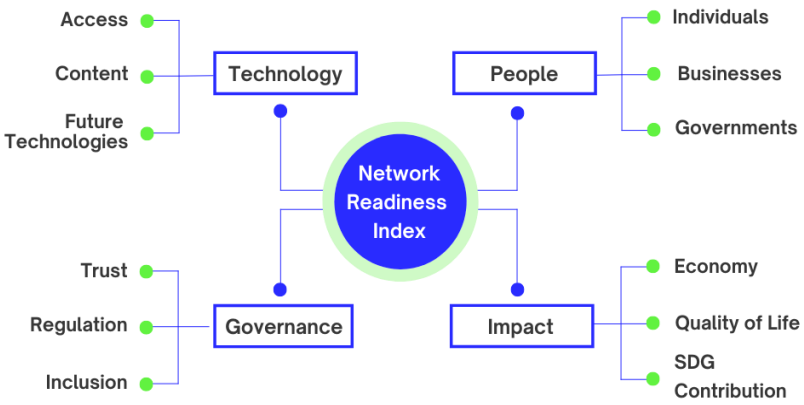
Network Readiness Index 2022 Uruguay

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

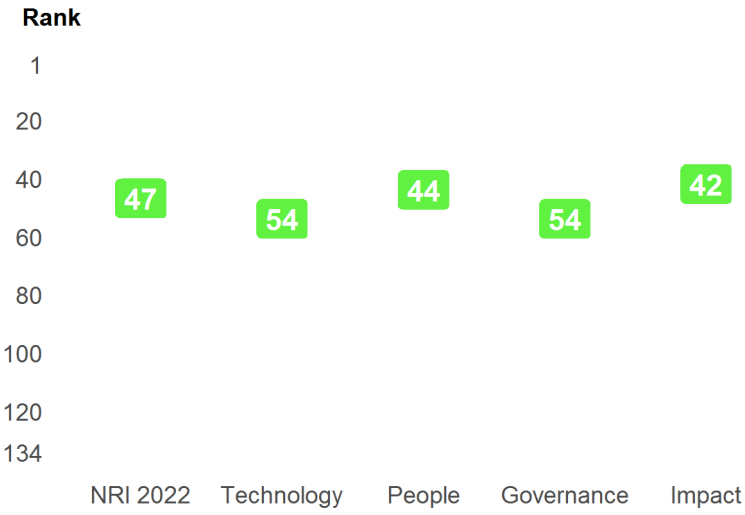
Figure 1: The NRI 2022 model



Global NRI position of Uruguay

Uruguay ranks 47th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology and Governance.

Figure 2: Uruguay global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Uruguay relate to Individuals, Access and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Economy and Businesses sub-pillars.

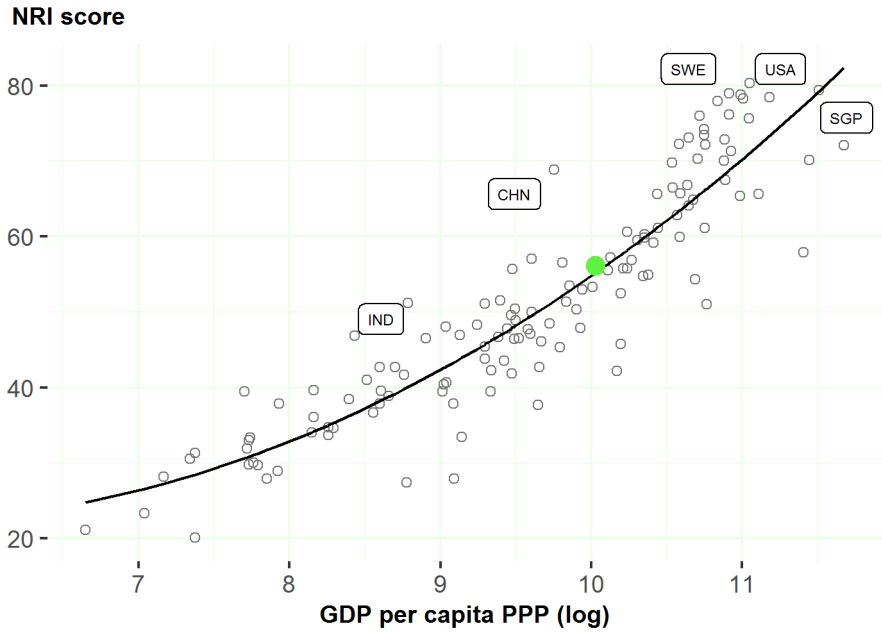
Table 1: Uruguay rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	19	Inclusion	55
Access	33	Content	56
Governments	38	Trust	58
Regulation	41	Future Technologies	63
SDG Contribution	41	Economy	66
Quality of Life	42	Businesses	74

NRI score and income

Figure 3 shows the position of Uruguay in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Uruguay is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Uruguay belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-The Americas-is also United States of America (USA).

Performance against its income group and region

High-income countries

Uruguay is ranked 42nd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in two of the twelve sub-pillars: Access and Individuals.

The Americas

Uruguay is ranked 5th within The Americas (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in ten of the twelve sub-pillars: Access, Content, Individuals, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Uruguay against its income group and region, overall and by pillar

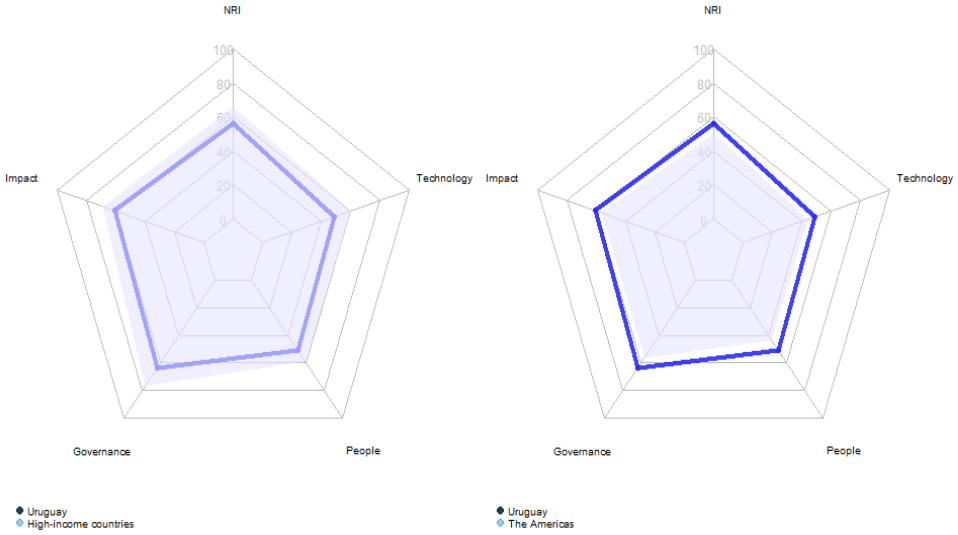


Table 2: Uruguay scores vs. averages of its income group and region, overall and by pillar

Dimension	Uruguay	High-income countries	The Americas
NRI	56.12	66.21	50.09
Technology	48.63	60.28	44.16
People	51.11	58.83	43.67
Governance	64.07	76.89	56.24
Impact	60.66	68.86	56.30

Strongest and weakest indicators

The indicators where Uruguay performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 2.1.3 Use of virtual social networks (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 3.2.2 ICT regulatory environment, and 1.1.4 Population covered by at least a 3G mobile network.

Table 3: Strongest and weakest indicators of Uruguay

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.2.2 GERD financed by business enterprise	84
3.2.4 E-commerce legislation	1	4.1.5 Prevalence of gig economy	97
2.1.3 Use of virtual social networks	12	1.1.4 Population covered by at least a 3G mobile network	98
2.3.2 Publication and use of open data	14	1.3.2 Investment in emerging technologies	105
4.1.6 ICT services exports	15	3.2.2 ICT regulatory environment	105
3.3.4 Gender gap in Internet use	17		
2.1.5 Adult literacy rate	22		
4.2.2 Freedom to make life choices	22		
3.2.5 Privacy protection by law content	28		
4.2.1 Happiness	28		
4.3.4 SDG 7: Affordable and Clean Energy	29		
4.3.1 SDG 3: Good Health and Well-Being	32		

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NRI 2022 At-A-Glance: Uruguay

Network Readiness Index Rank: 47 (out of 131) Score: 56.12

Pillar/sub-pillar	Rank	Score
A. Technology pillar	54	48.63
1st sub-pillar: Access	33	74.07
2nd sub-pillar: Content	56	39.16
3rd sub-pillar: Future Technologies	63	32.66
B. People pillar	44	51.11
1st sub-pillar: Individuals	19	59.07
2nd sub-pillar: Businesses	74	37.92
3rd sub-pillar: Governments	38	56.34

Pillar/sub-pillar	Rank	Score
C. Governance pillar	54	64.07
1st sub-pillar: Trust	58	49.87
2nd sub-pillar: Regulation	41	73.19
3rd sub-pillar: Inclusion	55	69.15
D. Impact pillar	42	60.66
1st sub-pillar: Economy	66	32.25
2nd sub-pillar: Quality of Life	42	75.24
3rd sub-pillar: SDG Contribution	41	74.48

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	54	48.63	
1st sub-pillar: Access	33	74.07	
1.1.1 Mobile tariffs	35	73.69	
1.1.2 Handset prices	34	71.54	
1.1.3 FTTH/building Internet subscriptions	40	35.71	
1.1.4 Population covered by at least a 3G mobile network	98	97.51	○
1.1.5 International Internet bandwidth	90	65.97	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	56	39.16	
1.2.1 GitHub commits	43	14.45	
1.2.2 Internet domain registrations	45	9.68	
1.2.3 Mobile apps development	48	83.67	
1.2.4 AI scientific publications	56	48.85	
3rd sub-pillar: Future Technologies	63	32.66	
1.3.1 Adoption of emerging technologies	54	51.47	
1.3.2 Investment in emerging technologies	105	27.00	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	66	19.50	

Indicator	Rank	Score	
C. Governance pillar	54	64.07	
1st sub-pillar: Trust	58	49.87	
3.1.1 Secure Internet servers	56	60.33	
3.1.2 Cybersecurity	72	74.71	
3.1.3 Online access to financial account	66	27.88	
3.1.4 Internet shopping	50	36.55	
2nd sub-pillar: Regulation	41	73.19	
3.2.1 Regulatory quality	42	56.53	
3.2.2 ICT regulatory environment	105	62.94	○
3.2.3 Regulation of emerging technologies	30	65.00	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	28	81.46	●
3rd sub-pillar: Inclusion	55	69.15	
3.3.1 E-Participation	29	85.18	
3.3.2 Socioeconomic gap in use of digital payments	70	69.00	
3.3.3 Availability of local online content	62	61.78	
3.3.4 Gender gap in Internet use	17	75.41	●
3.3.5 Rural gap in use of digital payments	82	54.37	

Indicator	Rank	Score	
B. People pillar	44	51.11	
1st sub-pillar: Individuals	19	59.07	
2.1.1 Mobile broadband internet traffic within the country	78	5.49	
2.1.2 ICT skills in the education system	34	63.61	
2.1.3 Use of virtual social networks	12	84.62	●
2.1.4 Tertiary enrollment	44	43.21	
2.1.5 Adult literacy rate	22	98.45	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	74	37.92	
2.2.1 Firms with website	40	68.85	
2.2.2 GERD financed by business enterprise	84	5.63	○
2.2.3 Knowledge intensive employment	63	35.53	
2.2.4 Annual investment in telecommunication services	63	76.98	
2.2.5 GERD performed by business enterprise	61	2.62	
3rd sub-pillar: Governments	38	56.34	
2.3.1 Government online services	31	83.64	
2.3.2 Publication and use of open data	14	70.59	●
2.3.3 Government promotion of investment in emerging tech	52	43.51	
2.3.4 R&D expenditure by governments and higher education	60	27.63	

Indicator	Rank	Score	
D. Impact pillar	42	60.66	
1st sub-pillar: Economy	66	32.25	
4.1.1 High-tech and medium-high-tech manufacturing	73	17.72	
4.1.2 High-tech exports	72	16.63	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	87	43.15	
4.1.5 Prevalence of gig economy	97	27.62	○
4.1.6 ICT services exports	15	56.15	●
2nd sub-pillar: Quality of Life	42	75.24	
4.2.1 Happiness	28	76.98	●
4.2.2 Freedom to make life choices	22	88.76	●
4.2.3 Income inequality	79	57.29	
4.2.4 Healthy life expectancy at birth	46	77.94	
3rd sub-pillar: SDG Contribution	41	74.48	
4.3.1 SDG 3: Good Health and Well-Being	32	83.62	●
4.3.2 SDG 4: Quality Education	51	38.81	
4.3.3 SDG 5: Women's economic opportunity	40	84.21	
4.3.4 SDG 7: Affordable and Clean Energy	29	87.89	●
4.3.5 SDG 11: Sustainable Cities and Communities	41	77.85	

NOTE: ● a strength and ○ a weakness.

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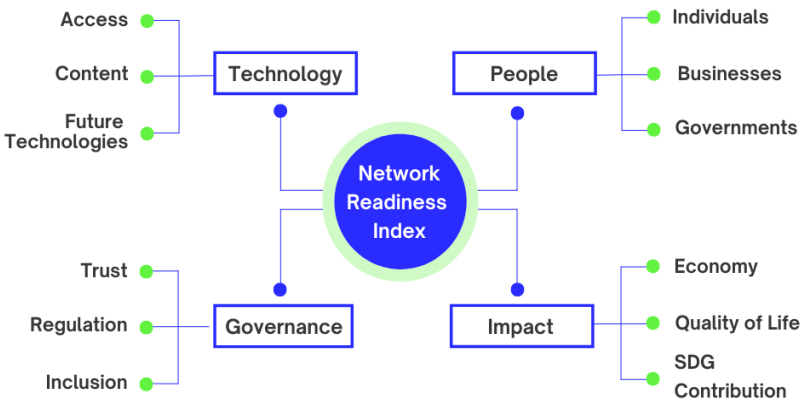
Network Readiness Index 2022 Viet Nam

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

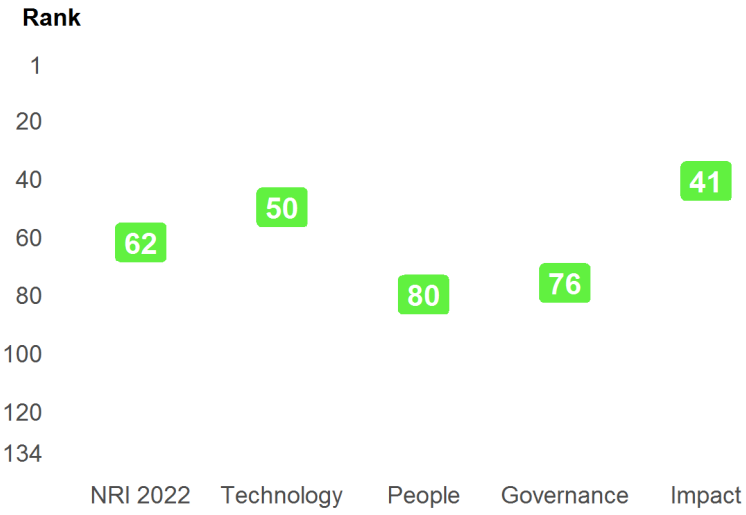
Figure 1: The NRI 2022 model



Global NRI position of Viet Nam

Viet Nam ranks 62nd out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Viet Nam global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Viet Nam relate to Access, Individuals and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Inclusion and Businesses sub-pillars.

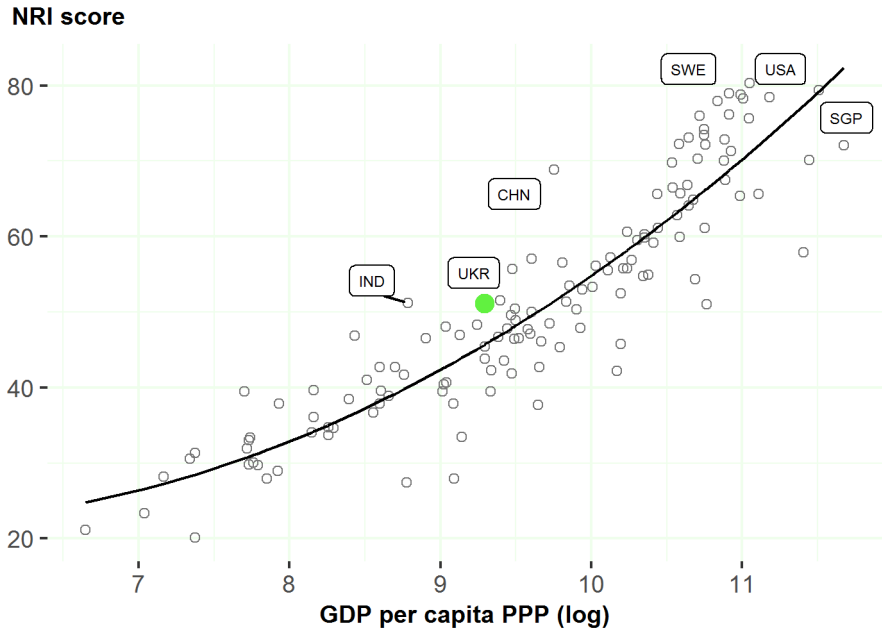
Table 1: Viet Nam rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	14	SDG Contribution	63
Individuals	27	Future Technologies	80
Economy	28	Governments	87
Quality of Life	54	Regulation	95
Content	55	Inclusion	95
Trust	57	Businesses	105

NRI score and income

Figure 3 shows the position of Viet Nam in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Viet Nam is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Viet Nam belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Viet Nam is ranked 4th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Asia & Pacific

Viet Nam is ranked 12th within Asia & Pacific (Figure 4, right panel). It has a score above the regional average in one of the four pillars: impact. With regard to sub-pillars, it outperforms the average in Asia & Pacific in five of the twelve sub-pillars: Access, Individuals, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Viet Nam against its income group and region, overall and by pillar

Table 2: Viet Nam scores vs. averages of its income group and region, overall and by pillar

Dimension	Viet Nam	Lower-middle-income countries	Asia & Pacific
NRI	51.07	40.94	55.18
Technology	49.09	37.28	51.78
People	40.60	35.42	50.21
Governance	53.53	45.00	59.66
Impact	61.04	46.09	59.07

Strongest and weakest indicators

The indicators where Viet Nam performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 3.3.2 Socioeconomic gap in use of digital payments, 3.2.5 Privacy protection by law content, and 4.1.6 ICT services exports.

Table 3: Strongest and weakest indicators of Viet Nam

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.2.3 Knowledge intensive employment	107
3.2.4 E-commerce legislation	1	2.2.4 Annual investment in telecommunication services	112
1.1.3 FTTH/building Internet subscriptions	3	4.1.6 ICT services exports	117
4.1.2 High-tech exports	3	3.2.5 Privacy protection by law content	121
1.1.5 International Internet bandwidth	10	3.3.2 Socioeconomic gap in use of digital payments	123
2.2.2 GERD financed by business enterprise	10		
4.3.2 SDG 4: Quality Education	16		
2.1.1 Mobile broadband internet traffic within the country	17		
4.1.5 Prevalence of gig economy	22		
4.1.4 Domestic market size	24		
4.2.2 Freedom to make life choices	24		
1.1.1 Mobile tariffs	31		

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NRI 2022 At-A-Glance: Viet Nam

Network Readiness Index Rank: 62 (out of 131) Score: 51.07

Pillar/sub-pillar	Rank	Score
A. Technology pillar	50	49.09
1st sub-pillar: Access	14	79.01
2nd sub-pillar: Content	55	39.19
3rd sub-pillar: Future Technologies	80	29.07
B. People pillar	80	40.60
1st sub-pillar: Individuals	27	56.19
2nd sub-pillar: Businesses	105	29.64
3rd sub-pillar: Governments	87	35.99

Pillar/sub-pillar	Rank	Score
C. Governance pillar	76	53.53
1st sub-pillar: Trust	57	52.14
2nd sub-pillar: Regulation	95	56.42
3rd sub-pillar: Inclusion	95	52.04
D. Impact pillar	41	61.04
1st sub-pillar: Economy	28	45.83
2nd sub-pillar: Quality of Life	54	71.85
3rd sub-pillar: SDG Contribution	63	65.43

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	50	49.09	
1st sub-pillar: Access	14	79.01	
1.1.1 Mobile tariffs	31	77.16	●
1.1.2 Handset prices	101	37.93	
1.1.3 FTTH/building Internet subscriptions	3	71.33	●
1.1.4 Population covered by at least a 3G mobile network	40	99.94	
1.1.5 International Internet bandwidth	10	87.67	●
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	55	39.19	
1.2.1 GitHub commits	62	6.57	
1.2.2 Internet domain registrations	81	1.84	
1.2.3 Mobile apps development	62	80.96	
1.2.4 AI scientific publications	30	67.37	
3rd sub-pillar: Future Technologies	80	29.07	
1.3.1 Adoption of emerging technologies	56	50.09	
1.3.2 Investment in emerging technologies	68	38.50	
1.3.3 Robot density	43	2.58	
1.3.4 Computer software spending	45	25.09	

Indicator	Rank	Score	
C. Governance pillar	76	53.53	
1st sub-pillar: Trust	57	52.14	
3.1.1 Secure Internet servers	53	64.16	
3.1.2 Cybersecurity	32	94.49	
3.1.3 Online access to financial account	64	28.29	
3.1.4 Internet shopping	60	21.61	
2nd sub-pillar: Regulation	95	56.42	
3.2.1 Regulatory quality	83	37.07	
3.2.2 ICT regulatory environment	103	65.49	
3.2.3 Regulation of emerging technologies	49	52.63	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	121	26.91	○
3rd sub-pillar: Inclusion	95	52.04	
3.3.1 E-Participation	68	69.14	
3.3.2 Socioeconomic gap in use of digital payments	123	28.41	○
3.3.3 Availability of local online content	64	61.06	
3.3.4 Gender gap in Internet use	85	59.32	
3.3.5 Rural gap in use of digital payments	100	42.27	

Indicator	Rank	Score	
B. People pillar	80	40.60	
1st sub-pillar: Individuals	27	56.19	
2.1.1 Mobile broadband internet traffic within the country	17	38.41	●
2.1.2 ICT skills in the education system	43	56.80	
2.1.3 Use of virtual social networks	53	72.83	
2.1.4 Tertiary enrollment	86	18.33	
2.1.5 Adult literacy rate	42	94.57	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	105	29.64	
2.2.1 Firms with website	71	45.17	
2.2.2 GERD financed by business enterprise	10	79.31	●
2.2.3 Knowledge intensive employment	107	13.60	○
2.2.4 Annual investment in telecommunication services	112	0.00	○
2.2.5 GERD performed by business enterprise	44	10.10	
3rd sub-pillar: Governments	87	35.99	
2.3.1 Government online services	76	64.24	
2.3.2 Publication and use of open data	80	14.71	
2.3.3 Government promotion of investment in emerging tech	31	54.11	
2.3.4 R&D expenditure by governments and higher education	87	10.90	

Indicator	Rank	Score	
D. Impact pillar	41	61.04	
1st sub-pillar: Economy	28	45.83	
4.1.1 High-tech and medium-high-tech manufacturing	44	38.26	
4.1.2 High-tech exports	3	94.17	●
4.1.3 PCT patent applications	84	1.23	
4.1.4 Domestic market size	24	68.95	●
4.1.5 Prevalence of gig economy	22	65.99	●
4.1.6 ICT services exports	117	6.37	○
2nd sub-pillar: Quality of Life	54	71.85	
4.2.1 Happiness	73	59.86	
4.2.2 Freedom to make life choices	24	88.44	●
4.2.3 Income inequality	58	68.59	
4.2.4 Healthy life expectancy at birth	74	70.53	
3rd sub-pillar: SDG Contribution	63	65.43	
4.3.1 SDG 3: Good Health and Well-Being	72	67.61	
4.3.2 SDG 4: Quality Education	16	69.68	●
4.3.3 SDG 5: Women's economic opportunity	70	74.56	
4.3.4 SDG 7: Affordable and Clean Energy	95	69.92	
4.3.5 SDG 11: Sustainable Cities and Communities	100	45.39	

NOTE: ● a strength and ○ a weakness.

Sources

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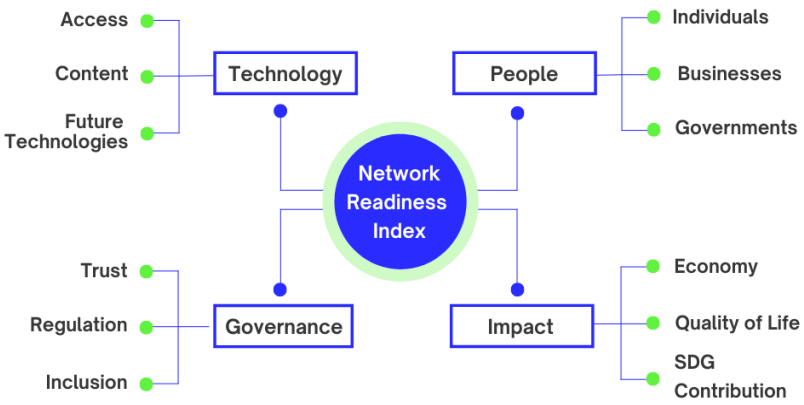
Network Readiness Index 2022 Zambia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

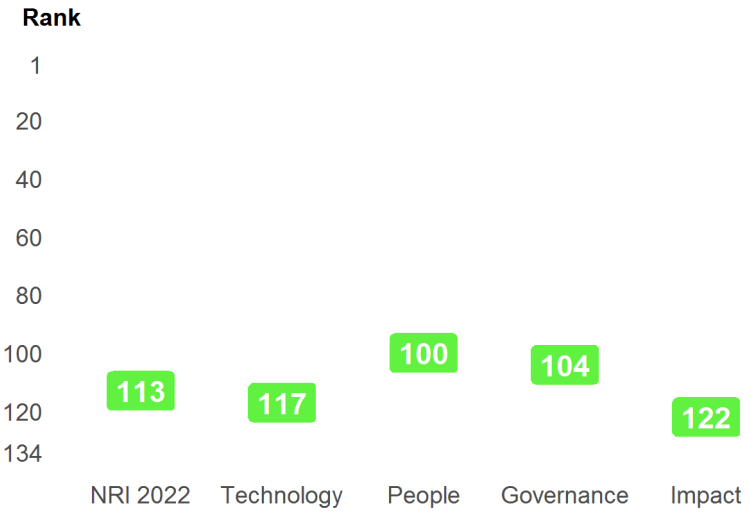
Figure 1: The NRI 2022 model



Global NRI position of Zambia

Zambia ranks 113th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Zambia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Zambia relate to Businesses, Trust and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Quality of Life and Governments sub-pillars.

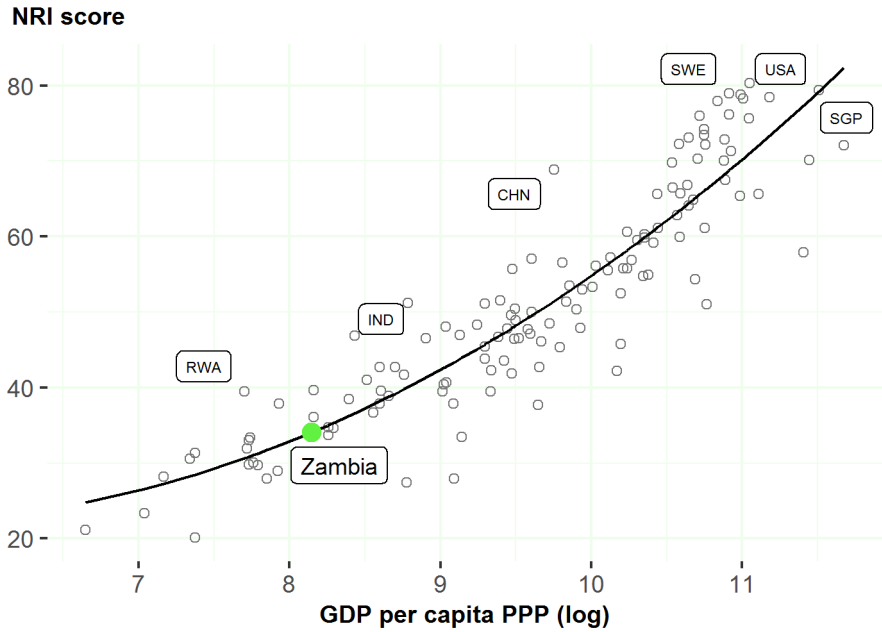
Table 1: Zambia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	54	Content	112
Trust	84	Access	119
SDG Contribution	90	Economy	122
Regulation	99	Inclusion	123
Individuals	103	Quality of Life	126
Future Technologies	111	Governments	130

NRI score and income

Figure 3 shows the position of Zambia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Zambia is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Zambia belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Zambia is ranked 2nd in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: nri.score, technology, people and governance. At the sub-pillar level, it outperforms low-income countries in eight of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Trust, Regulation and SDG Contribution.

Africa

Zambia is ranked 13th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: nri.score, people and governance. With regard to sub-pillars, it outperforms the average in Africa in six of the twelve sub-pillars: Content, Individuals, Businesses, Trust, Regulation and SDG Contribution.

Figure 4: Performance of Zambia against its income group and region, overall and by pillar

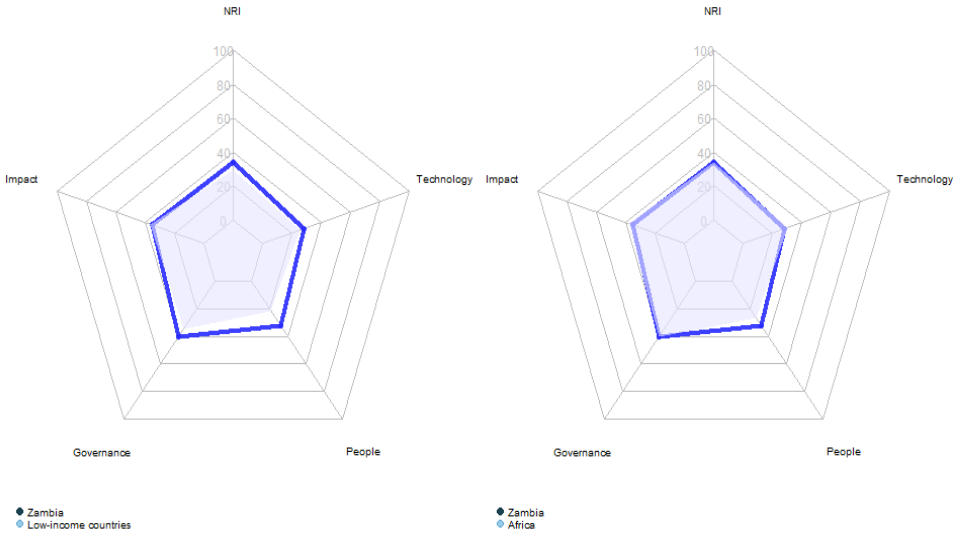


Table 2: Zambia scores vs. averages of its income group and region, overall and by pillar

Dimension	Zambia	Low-income countries	Africa
NRI	34.02	29.49	33.77
Technology	28.16	25.43	29.96
People	32.10	21.74	26.81
Governance	40.48	34.28	40.37
Impact	35.32	36.50	37.94

Strongest and weakest indicators

The indicators where Zambia performs particularly well include 3.2.4 E-commerce legislation, 3.1.3 Online access to financial account, and 4.2.2 Freedom to make life choices (Table 3). By contrast, the economy's weakest indicators include 4.2.1 Happiness, 2.1.4 Tertiary enrollment, and 4.2.3 Income inequality.

Table 3: Strongest and weakest indicators of Zambia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.1.3 PCT patent applications	99
3.1.3 Online access to financial account	44	2.3.2 Publication and use of open data	100
4.2.2 Freedom to make life choices	53	4.2.3 Income inequality	115
2.2.1 Firms with website	55	2.1.4 Tertiary enrollment	124
3.2.5 Privacy protection by law content	56	4.2.1 Happiness	126
4.3.3 SDG 5: Women's economic opportunity	72		
4.3.5 SDG 11: Sustainable Cities and Communities	77		
1.1.2 Handset prices	79		
3.1.2 Cybersecurity	79		
2.1.2 ICT skills in the education system	81		

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NRI 2022 At-A-Glance: Zambia

Network Readiness Index Rank: 113 (out of 131) Score: 34.02

Pillar/sub-pillar	Rank	Score
A. Technology pillar	117	28.16
1st sub-pillar: Access	119	42.38
2nd sub-pillar: Content	112	22.35
3rd sub-pillar: Future Technologies	111	19.77
B. People pillar	100	32.10
1st sub-pillar: Individuals	103	33.56
2nd sub-pillar: Businesses	54	47.96
3rd sub-pillar: Governments	130	14.78

Pillar/sub-pillar	Rank	Score
C. Governance pillar	104	40.48
1st sub-pillar: Trust	84	35.27
2nd sub-pillar: Regulation	99	54.15
3rd sub-pillar: Inclusion	123	32.03
D. Impact pillar	122	35.32
1st sub-pillar: Economy	122	13.42
2nd sub-pillar: Quality of Life	126	35.63
3rd sub-pillar: SDG Contribution	90	56.91

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	117	28.16	
1st sub-pillar: Access	119	42.38	
1.1.1 Mobile tariffs	101	39.28	
1.1.2 Handset prices	79	46.43	•
1.1.3 FTTH/building Internet subscriptions	86	11.63	
1.1.4 Population covered by at least a 3G mobile network	120	91.46	
1.1.5 International Internet bandwidth	111	59.65	
1.1.6 Internet access in schools	73	5.81	
2nd sub-pillar: Content	112	22.35	
1.2.1 GitHub commits	114	0.42	
1.2.2 Internet domain registrations	124	0.09	
1.2.3 Mobile apps development	119	50.08	
1.2.4 AI scientific publications	67	38.81	
3rd sub-pillar: Future Technologies	111	19.77	
1.3.1 Adoption of emerging technologies	113	25.44	
1.3.2 Investment in emerging technologies	92	31.25	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	107	2.62	

Indicator	Rank	Score	
C. Governance pillar	104	40.48	
1st sub-pillar: Trust	84	35.27	
3.1.1 Secure Internet servers	114	29.63	
3.1.2 Cybersecurity	79	68.33	•
3.1.3 Online access to financial account	44	40.46	•
3.1.4 Internet shopping	106	2.66	
2nd sub-pillar: Regulation	99	54.15	
3.2.1 Regulatory quality	105	24.53	
3.2.2 ICT regulatory environment	93	70.20	
3.2.3 Regulation of emerging technologies	113	6.58	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	56	69.44	•
3rd sub-pillar: Inclusion	123	32.03	
3.3.1 E-Participation	123	28.39	
3.3.2 Socioeconomic gap in use of digital payments	118	36.39	
3.3.3 Availability of local online content	124	21.39	
3.3.4 Gender gap in Internet use	91	50.16	
3.3.5 Rural gap in use of digital payments	114	23.83	

Indicator	Rank	Score	
B. People pillar	100	32.10	
1st sub-pillar: Individuals	103	33.56	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	81	38.17	●
2.1.3 Use of virtual social networks	115	11.49	
2.1.4 Tertiary enrollment	124	1.63	○
2.1.5 Adult literacy rate	72	82.97	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	54	47.96	
2.2.1 Firms with website	55	57.19	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	109	12.87	
2.2.4 Annual investment in telecommunication services	81	73.83	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	130	14.78	
2.3.1 Government online services	125	23.63	
2.3.2 Publication and use of open data	100	2.94	○
2.3.3 Government promotion of investment in emerging tech	108	17.76	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	122	35.32	
1st sub-pillar: Economy	122	13.42	
4.1.1 High-tech and medium-high-tech manufacturing	86	11.03	
4.1.2 High-tech exports	105	3.54	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	92	40.68	
4.1.5 Prevalence of gig economy	113	18.90	
4.1.6 ICT services exports	116	6.39	
2nd sub-pillar: Quality of Life	126	35.63	
4.2.1 Happiness	126	16.09	○
4.2.2 Freedom to make life choices	53	77.56	●
4.2.3 Income inequality	115	14.82	○
4.2.4 Healthy life expectancy at birth	121	34.04	
3rd sub-pillar: SDG Contribution	90	56.91	
4.3.1 SDG 3: Good Health and Well-Being	103	43.17	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	72	73.68	●
4.3.4 SDG 7: Affordable and Clean Energy	115	51.80	
4.3.5 SDG 11: Sustainable Cities and Communities	77	58.98	●

NOTE: ● a strength and ○ a weakness.

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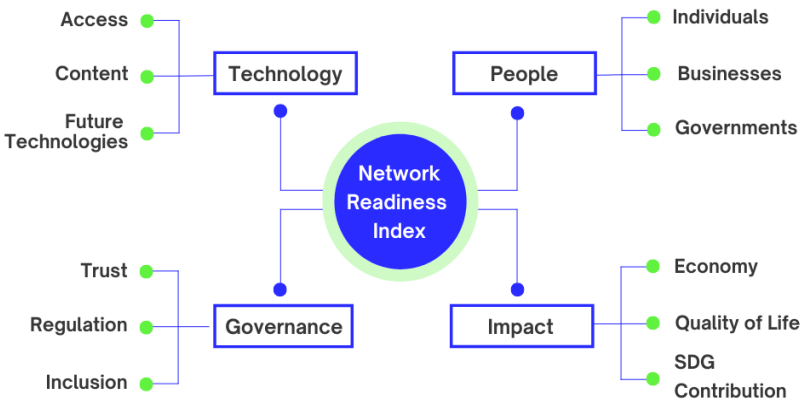
Network Readiness Index 2022 Zimbabwe

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2022 the NRI Report maps the network-based readiness landscape of 131 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

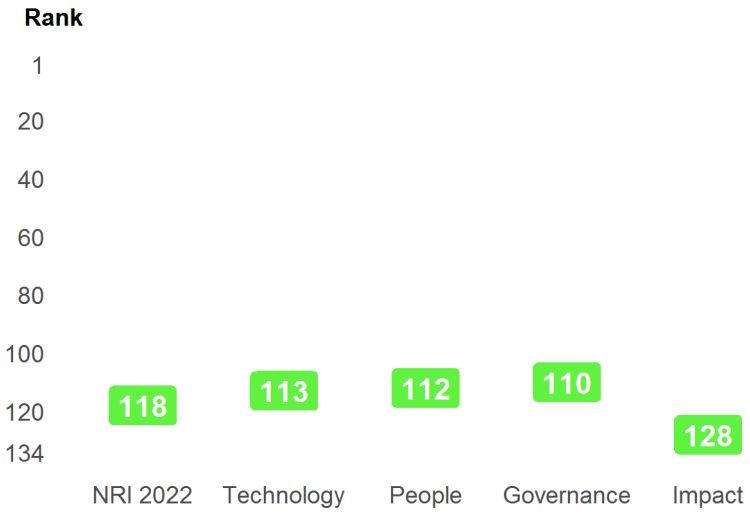
Figure 1: The NRI 2022 model



Global NRI position of Zimbabwe

Zimbabwe ranks 118th out of the 131 economies included in the NRI 2022 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Zimbabwe global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Zimbabwe relate to Businesses, Inclusion and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Economy and Quality of Life sub-pillars.

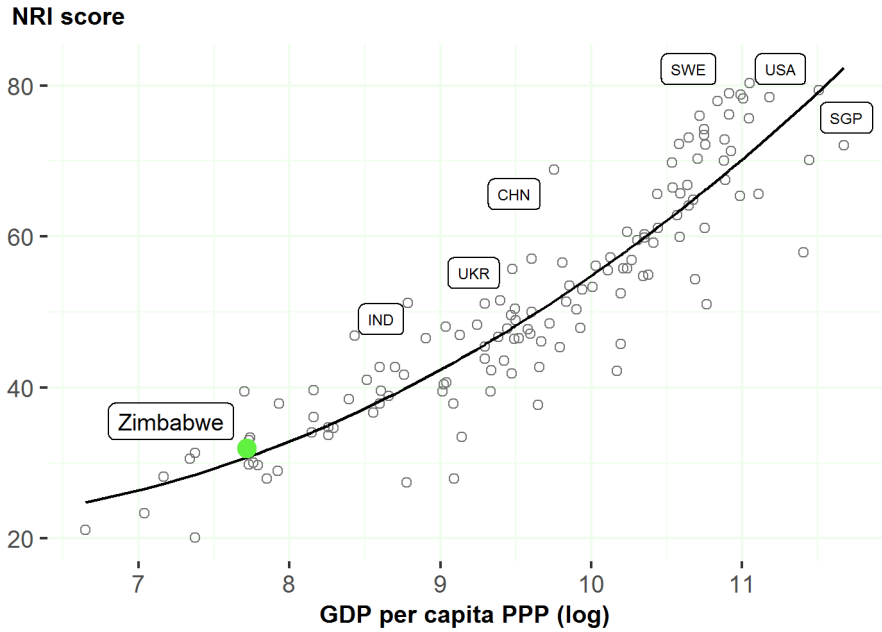
Table 1: Zimbabwe rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	71	Access	115
Inclusion	92	SDG Contribution	117
Content	98	Governments	118
Trust	100	Regulation	122
Future Technologies	110	Economy	126
Individuals	113	Quality of Life	128

NRI score and income

Figure 3 shows the position of Zimbabwe in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Zimbabwe is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), SWE = Sweden (3), CHN = China (23), IND = India (61). Netherlands (NLD) is ranked 4th. Zimbabwe belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Zimbabwe is ranked 33rd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in two of the twelve sub-pillars: Businesses and Inclusion.

Africa

Zimbabwe is ranked 18th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: technology and people. With regard to sub-pillars, it outperforms the average in Africa in five of the twelve sub-pillars: Content, Individuals, Businesses, Trust and Inclusion.

Figure 4: Performance of Zimbabwe against its income group and region, overall and by pillar

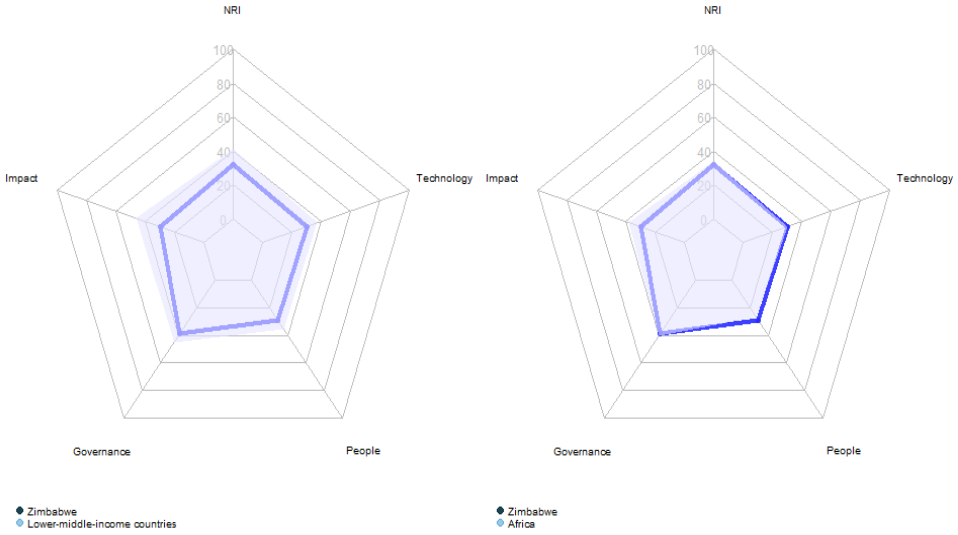


Table 2: Zimbabwe scores vs. averages of its income group and region, overall and by pillar

Dimension	Zimbabwe	Lower-middle-income countries	Africa
NRI	31.95	40.94	33.77
Technology	30.02	37.28	29.96
People	29.27	35.42	26.81
Governance	39.03	45.00	40.37
Impact	29.48	46.09	37.94

Strongest and weakest indicators

The indicators where Zimbabwe performs particularly well include 3.3.4 Gender gap in Internet use, 3.1.3 Online access to financial account, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 3.2.1 Regulatory quality, 1.3.2 Investment in emerging technologies, and 4.1.5 Prevalence of gig economy.

Table 3: Strongest and weakest indicators of Zimbabwe

Strongest indicators	Rank	Weakest indicators	Rank
3.3.4 Gender gap in Internet use	10	2.3.2 Publication and use of open data	103
3.1.3 Online access to financial account	37	4.2.1 Happiness	125
4.3.3 SDG 5: Women's economic opportunity	48	4.1.5 Prevalence of gig economy	126
1.3.4 Computer software spending	56	1.3.2 Investment in emerging technologies	127
1.2.4 AI scientific publications	58	3.2.1 Regulatory quality	129
4.1.1 High-tech and medium-high-tech manufacturing	65		
2.1.5 Adult literacy rate	66		
2.2.4 Annual investment in telecommunication services	71		
2.1.2 ICT skills in the education system	80		
3.3.2 Socioeconomic gap in use of digital payments	80		

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NRI 2022 At-A-Glance: Zimbabwe

Network Readiness Index Rank: 118 (out of 131) Score: 31.95

Pillar/sub-pillar	Rank	Score
A. Technology pillar	113	30.02
1st sub-pillar: Access	115	43.50
2nd sub-pillar: Content	98	26.60
3rd sub-pillar: Future Technologies	110	19.96
B. People pillar	112	29.27
1st sub-pillar: Individuals	113	27.42
2nd sub-pillar: Businesses	71	39.33
3rd sub-pillar: Governments	118	21.07

Pillar/sub-pillar	Rank	Score
C. Governance pillar	110	39.03
1st sub-pillar: Trust	100	29.20
2nd sub-pillar: Regulation	122	34.81
3rd sub-pillar: Inclusion	92	53.07
D. Impact pillar	128	29.48
1st sub-pillar: Economy	126	11.37
2nd sub-pillar: Quality of Life	128	32.12
3rd sub-pillar: SDG Contribution	117	44.96

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	113	30.02	
1st sub-pillar: Access	115	43.50	
1.1.1 Mobile tariffs	124	15.18	
1.1.2 Handset prices	123	21.25	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	117	94.24	
1.1.5 International Internet bandwidth	94	64.29	
1.1.6 Internet access in schools	63	22.55	
2nd sub-pillar: Content	98	26.60	
1.2.1 GitHub commits	112	0.52	
1.2.2 Internet domain registrations	93	1.18	
1.2.3 Mobile apps development	104	59.03	
1.2.4 AI scientific publications	58	45.67	●
3rd sub-pillar: Future Technologies	110	19.96	
1.3.1 Adoption of emerging technologies	110	26.03	
1.3.2 Investment in emerging technologies	127	12.25	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	56	21.61	●

Indicator	Rank	Score	
C. Governance pillar	110	39.03	
1st sub-pillar: Trust	100	29.20	
3.1.1 Secure Internet servers	105	34.34	
3.1.2 Cybersecurity	101	35.37	
3.1.3 Online access to financial account	37	44.27	●
3.1.4 Internet shopping	105	2.81	
2nd sub-pillar: Regulation	122	34.81	
3.2.1 Regulatory quality	129	3.20	○
3.2.2 ICT regulatory environment	106	62.74	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	118	33.33	
3.2.5 Privacy protection by law content	116	39.98	
3rd sub-pillar: Inclusion	92	53.07	
3.3.1 E-Participation	104	43.21	
3.3.2 Socioeconomic gap in use of digital payments	80	60.15	●
3.3.3 Availability of local online content	115	27.64	
3.3.4 Gender gap in Internet use	10	77.88	●
3.3.5 Rural gap in use of digital payments	78	56.47	

Indicator	Rank	Score	
B. People pillar	112	29.27	
1st sub-pillar: Individuals	113	27.42	
2.1.1 Mobile broadband internet traffic within the country	97	1.58	
2.1.2 ICT skills in the education system	80	38.46	●
2.1.3 Use of virtual social networks	119	6.72	
2.1.4 Tertiary enrollment	112	4.87	
2.1.5 Adult literacy rate	66	85.47	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	71	39.33	
2.2.1 Firms with website	90	33.73	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	115	8.41	
2.2.4 Annual investment in telecommunication services	71	75.85	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	118	21.07	
2.3.1 Government online services	96	50.91	
2.3.2 Publication and use of open data	103	1.47	○
2.3.3 Government promotion of investment in emerging tech	116	10.83	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
D. Impact pillar	128	29.48	
1st sub-pillar: Economy	126	11.37	
4.1.1 High-tech and medium-high-tech manufacturing	65	21.16	●
4.1.2 High-tech exports	98	5.14	
4.1.3 PCT patent applications	85	1.08	
4.1.4 Domestic market size	114	34.69	
4.1.5 Prevalence of gig economy	126	0.00	○
4.1.6 ICT services exports	119	6.16	
2nd sub-pillar: Quality of Life	128	32.12	
4.2.1 Happiness	125	17.38	○
4.2.2 Freedom to make life choices	114	49.63	
4.2.3 Income inequality	109	31.91	
4.2.4 Healthy life expectancy at birth	126	29.56	
3rd sub-pillar: SDG Contribution	117	44.96	
4.3.1 SDG 3: Good Health and Well-Being	102	43.46	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	48	81.58	●
4.3.4 SDG 7: Affordable and Clean Energy	126	23.56	
4.3.5 SDG 11: Sustainable Cities and Communities	119	31.24	

NOTE: ● a strength and ○ a weakness.

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