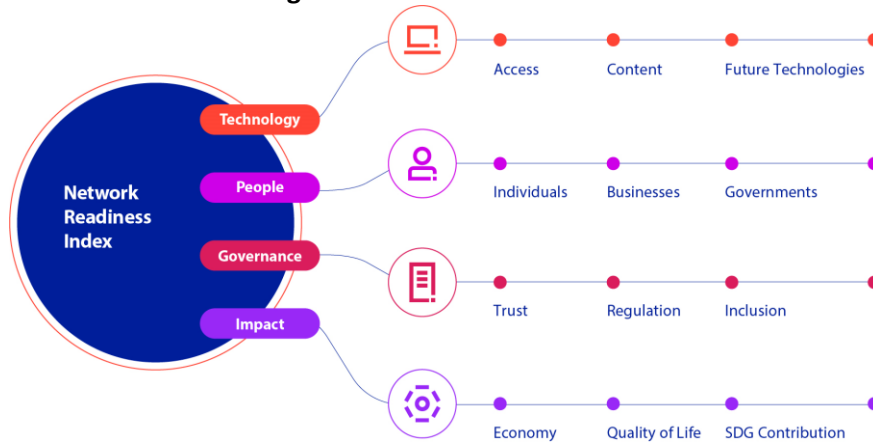# Croatia

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 2023 the NRI Report maps the network-based readiness landscape of 134 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.
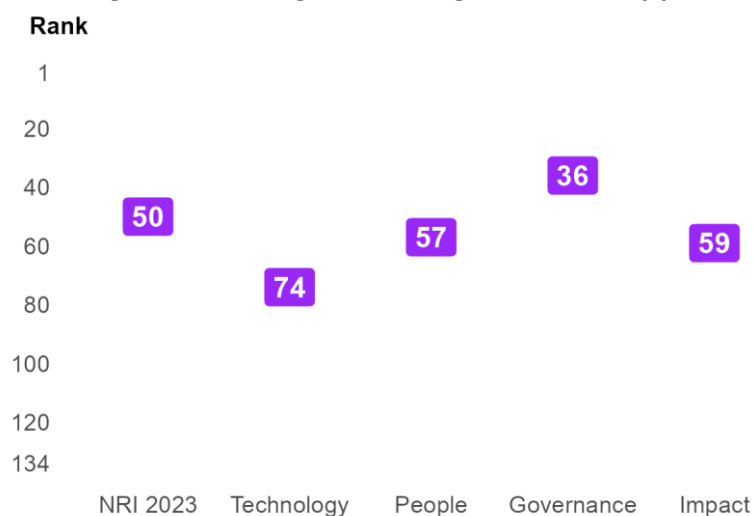
Figure 1: The NRI 2023 model

Global NRI position of Croatia

Croatia ranks 50th out of the 134 economies included in the NRI 2023 (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 Trust, Regulation and SDG Contribution, 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: Croatia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	39	Access	57
Regulation	39	Individuals	61
SDG Contribution	41	Governments	70
Inclusion	42	Economy	74
Businesses	47	Quality of Life	79
Content	49	Future Technologies	110

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 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)
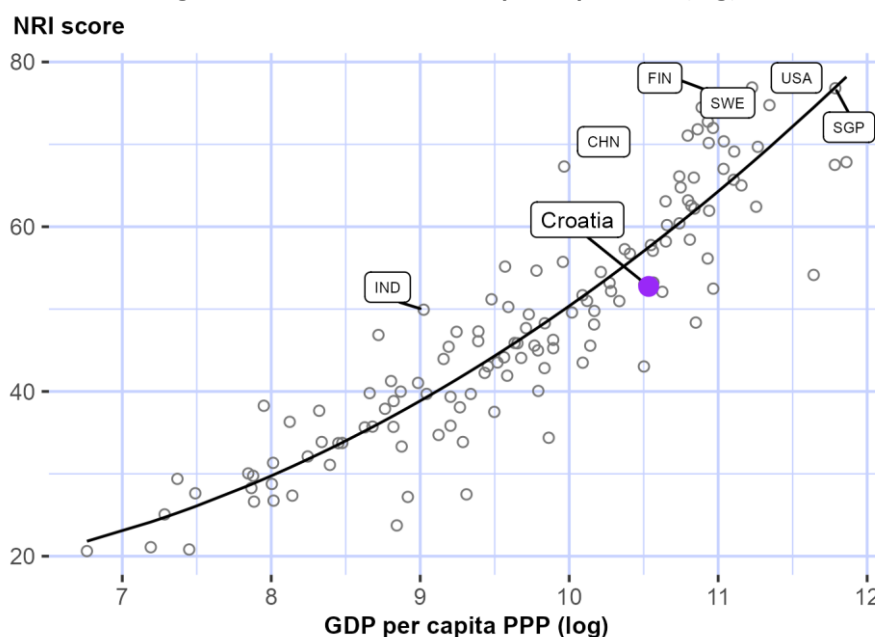
Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Croatia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries
Croatia 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 trails high-income countries in all of them.

Europe
Croatia 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 trails the regional average in each of them.

Figure 4: Performance of Croatia against its income group and region, overall and by pillar
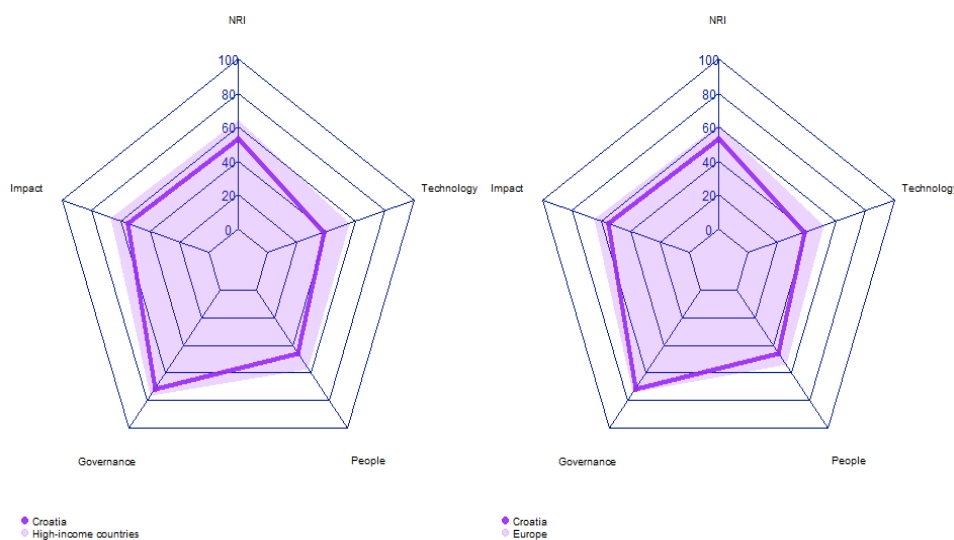
Table 2: Croatia scores vs. averages of its income group and region, overall and by pillar

Dimension	Croatia	High-income countries	Europe
NRI	52.75	64.07	61.25
Technology	38.80	55.76	51.90
People	45.98	56.99	54.16
Governance	71.50	76.81	74.33
Impact	54.71	66.73	64.61

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 3.2.2 ICT regulatory environment (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, 1.3.4 Computer software spending, and 2.3.3 Government promotion of investment in emerging technologies.

Table 3: Highlight of Strengths and Opportunities for Croatia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.1.5 Prevalence of gig economy	104
3.3.5 Rural gap in use of digital payments	5	1.3.4 Computer software spending	107
3.2.2 ICT regulatory environment	14	2.3.3 Government promotion of investment in emerging technologies	107
2.1.5 Adult literacy rate	15	1.3.2 Investment in emerging technologies	109
4.2.3 Income inequality	20	4.2.2 Freedom to make life choices	122
3.3.1 E-Participation	29		
4.3.3 SDG 5: Women's economic opportunity	29		
1.1.1 Mobile tariffs	30		
3.1.1 Secure Internet servers	30		
1.1.2 Handset prices	34		
4.1.6 ICT services exports	34		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Croatia

Network Readiness Index   Rank: 50 (out of 134)   Score: 52.75

Pillar/sub-pillar	Rank	Score
A. Technology pillar	74	38.80
1st sub-pillar: Access	57	67.37
2nd sub-pillar: Content	49	28.93
3rd sub-pillar: Future Technologies	110	20.10
B. People pillar	57	45.98
1st sub-pillar: Individuals	61	48.52
2nd sub-pillar: Businesses	47	52.22
3rd sub-pillar: Governments	70	37.21

Pillar/sub-pillar	Rank	Score
C. Governance pillar	36	71.50
1st sub-pillar: Trust	39	66.65
2nd sub-pillar: Regulation	39	75.56
3rd sub-pillar: Inclusion	42	72.30
D. Impact pillar	59	54.71
1st sub-pillar: Economy	74	25.73
2nd sub-pillar: Quality of Life	79	65.57
3rd sub-pillar: SDG Contribution	41	72.84

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	74	38.80	
1st sub-pillar: Access	57	67.37	
1.1.1 Mobile tariffs	30	78.93	●
1.1.2 Handset prices	34	68.98	●
1.1.3 FTTH/building Internet subscriptions	94	16.94	
1.1.4 Population covered by at least a 3G mobile network	36	99.96	
1.1.5 International Internet bandwidth	61	72.03	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	49	28.93	
1.2.1 GitHub commits	39	24.86	
1.2.2 Internet domain registrations	39	15.28	
1.2.3 Mobile apps development	53	70.79	
1.2.4 AI scientific publications	71	4.81	
3rd sub-pillar: Future Technologies	110	20.10	
1.3.1 Adoption of emerging technologies	57	49.87	
1.3.2 Investment in emerging technologies	109	25.25	○

Indicator	Rank	Score	
C. Governance pillar	36	71.50	
1st sub-pillar: Trust	39	66.65	
3.1.1 Secure Internet servers	30	79.91	●
3.1.2 Cybersecurity	40	92.40	
3.1.3 Online access to financial account	39	43.89	
3.1.4 Internet shopping	43	50.39	
2nd sub-pillar: Regulation	39	75.56	
3.2.1 Regulatory quality	45	60.94	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Regulation of emerging technologies	69	43.12	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	35	79.61	
3rd sub-pillar: Inclusion	42	72.30	
3.3.1 E-Participation	29	73.25	●
3.3.2 Socioeconomic gap in use of digital payments	63	77.08	
3.3.3 Availability of local online content	56	65.87	

Indicator	Rank	Score	
1.3.3 Robot density	46	1.76	
1.3.4 Computer software spending	107	3.54	○
B. People pillar	57	45.98	
1st sub-pillar: Individuals	61	48.52	
2.1.1 Mobile broadband internet traffic within the country	52	13.03	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	53	68.82	
2.1.4 Tertiary enrollment	43	44.13	
2.1.5 Adult literacy rate	15	99.25	●
2.1.6 AI talent concentration	25	17.38	
2nd sub-pillar: Businesses	47	52.22	
2.2.1 Firms with website	40	67.33	
2.2.2 GERD financed by business enterprise	49	46.51	
2.2.3 Knowledge intensive employment	40	52.92	
2.2.4 Annual investment in telecommunication services	52	79.47	
2.2.5 GERD performed by business enterprise	36	14.85	
3rd sub-pillar: Governments	70	37.21	
2.3.1 Government online services	36	79.09	
2.3.2 Publication and use of open data	57	29.41	
2.3.3 Government promotion of investment in emerging tech	107	18.17	○
2.3.4 R&D expenditure by governments and higher education	33	22.17	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	75	64.85	
3.3.5 Rural gap in use of digital payments	5	80.46	●
D. Impact pillar	59	54.71	
1st sub-pillar: Economy	74	25.73	
4.1.1 High-tech and medium-high-tech manufacturing	47	31.80	
4.1.2 High-tech exports	50	17.10	
4.1.3 PCT patent applications	55	4.99	
4.1.4 Domestic market size	78	48.37	
4.1.5 Prevalence of gig economy	104	23.55	○
4.1.6 ICT services exports	34	28.59	●
2nd sub-pillar: Quality of Life	79	65.57	
4.2.1 Happiness	78	60.01	
4.2.2 Freedom to make life choices	122	36.44	○
4.2.3 Income inequality	20	84.17	●
4.2.4 Healthy life expectancy at birth	39	81.67	
3rd sub-pillar: SDG Contribution	41	72.84	
4.3.1 SDG 3: Good Health and Well-Being	56	73.09	
4.3.2 SDG 4: Quality Education	36	56.24	
4.3.3 SDG 5: Women's economic opportunity	29	91.15	●
4.3.4 SDG 7: Affordable and Clean Energy	39	77.17	
4.3.5 SDG 11: Sustainable Cities and Communities	66	66.54	

NOTE: ● a strength and ○ a weakness.

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