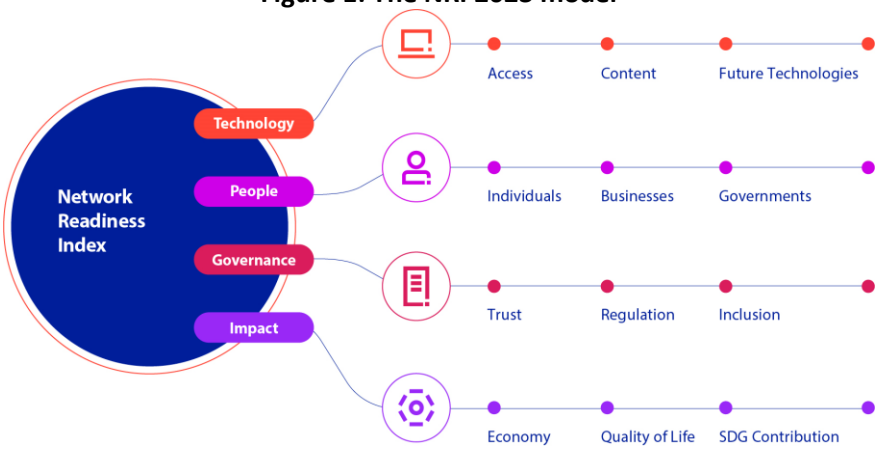
Netherlands

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.

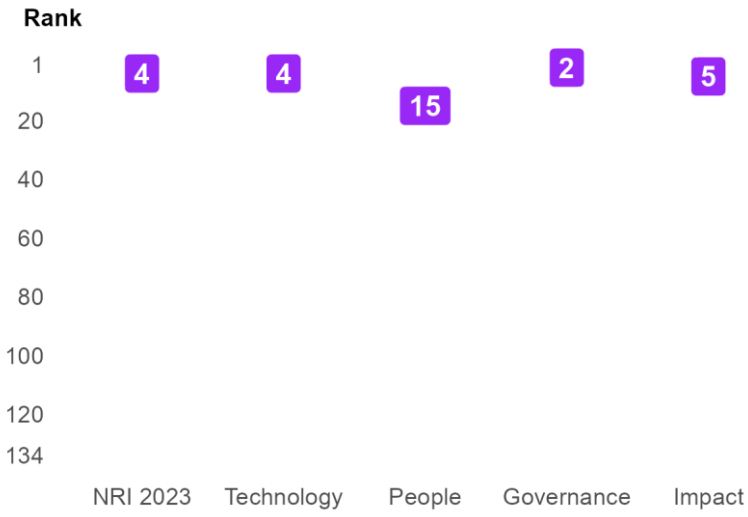
Figure 1: The NRI 2023 model



Global NRI position of Netherlands

Netherlands ranks 4th 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 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 Inclusion, Trust and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Access and Individuals sub-pillars.

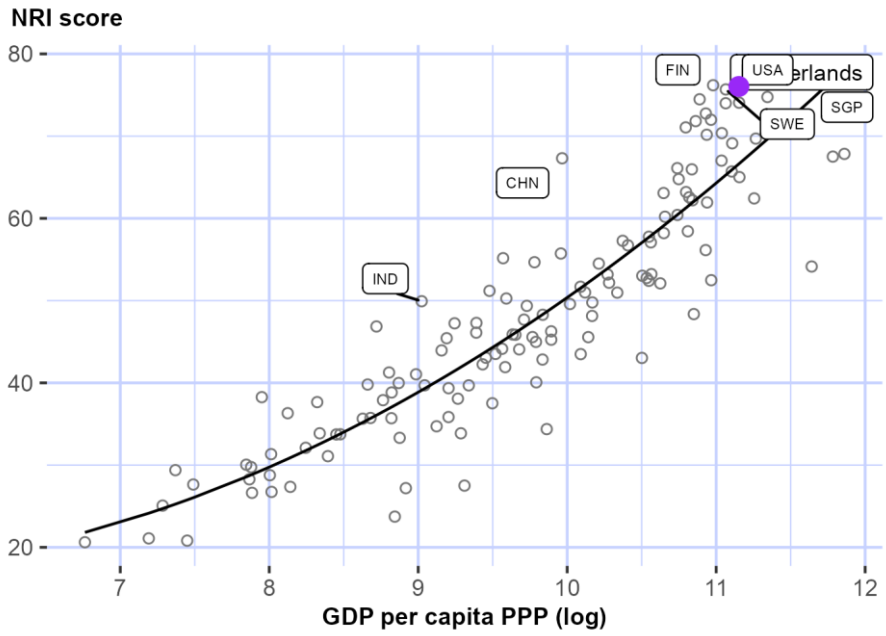
Table 1: Netherlands rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	2	Quality of Life	7
Trust	3	Economy	8
Content	4	Businesses	10
Regulation	5	Governments	14
SDG Contribution	5	Access	19
Future Technologies	6	Individuals	57

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), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). 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 Finland (FIN).

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

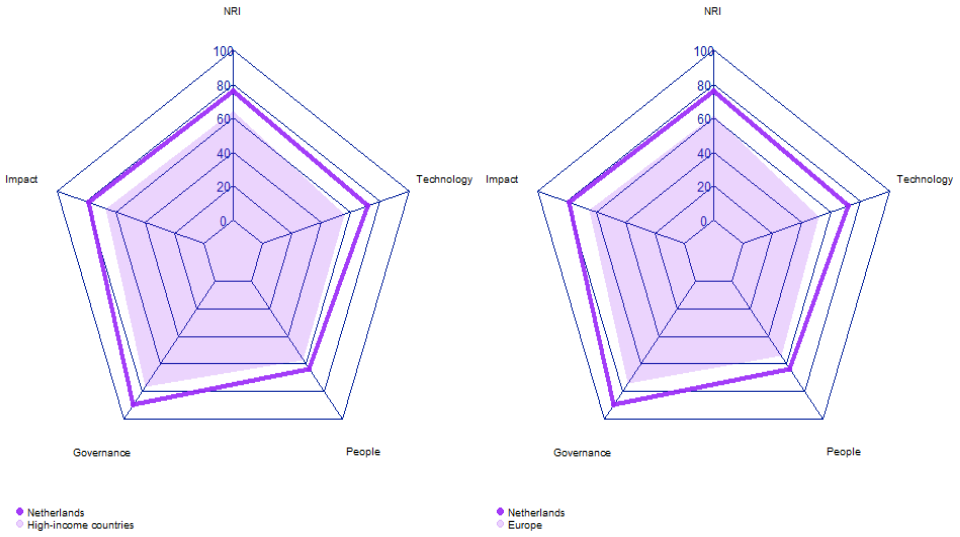


Table 2: Netherlands scores vs. averages of its income group and region, overall and by pillar

Dimension	Netherlands	High-income countries	Europe
NRI	76.04	64.07	61.25
Technology	71.59	55.76	51.90
People	64.09	56.99	54.16
Governance	89.74	76.81	74.33
Impact	78.74	66.73	64.61

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 1.3.1 Adoption of emerging technologies (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: Highlight of Strengths and Opportunities for Netherlands

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.6 AI talent concentration	32
1.2.2 Internet domain registrations	1	1.1.3 FTTH/building Internet subscriptions	50
1.3.1 Adoption of emerging technologies	1	1.1.4 Population covered by at least a 3G mobile network	57
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	61
4.3.3 SDG 5: Women's economic opportunity	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		
2.2.3 Knowledge intensive employment	4		
1.3.2 Investment in emerging technologies	5		
3.1.3 Online access to financial account	5		
3.3.1 E-Participation	5		

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

NRI 2023 At-A-Glance: Netherlands

Network Readiness Index — Rank: 4 (out of 134) — Score: 76.04

Pillar/sub-pillar	Rank	Score
A. Technology pillar	4	71.59
1st sub-pillar: Access	19	76.52
2nd sub-pillar: Content	4	67.29
3rd sub-pillar: Future Technologies	6	70.96
B. People pillar	15	64.09
1st sub-pillar: Individuals	57	49.28
2nd sub-pillar: Businesses	10	74.77
3rd sub-pillar: Governments	14	68.21

Pillar/sub-pillar	Rank	Score
C. Governance pillar	2	89.74
1st sub-pillar: Trust	3	91.89
2nd sub-pillar: Regulation	5	90.62
3rd sub-pillar: Inclusion	2	86.72
D. Impact pillar	5	78.74
1st sub-pillar: Economy	8	59.63
2nd sub-pillar: Quality of Life	7	89.97
3rd sub-pillar: SDG Contribution	5	86.62

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	4	71.59	
1st sub-pillar: Access	19	76.52	
1.1.1 Mobile tariffs	25	81.85	
1.1.2 Handset prices	35	67.46	
1.1.3 FTTH/building Internet subscriptions	50	33.92	○
1.1.4 Population covered by at least a 3G mobile network	57	99.67	○
1.1.5 International Internet bandwidth	38	76.25	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	4	67.29	
1.2.1 GitHub commits	9	76.40	
1.2.2 Internet domain registrations	1	100.00	●
1.2.3 Mobile apps development	33	73.74	
1.2.4 AI scientific publications	29	19.02	
3rd sub-pillar: Future Technologies	6	70.96	
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	33.87	

Indicator	Rank	Score	
C. Governance pillar	2	89.74	
1st sub-pillar: Trust	3	91.89	
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	8	87.19	
2nd sub-pillar: Regulation	5	90.62	
3.2.1 Regulatory quality	7	89.19	
3.2.2 ICT regulatory environment	21	93.53	
3.2.3 Regulation of emerging technologies	11	81.56	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	12	88.81	
3rd sub-pillar: Inclusion	2	86.72	
3.3.1 E-Participation	5	96.51	●
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	61	67.67	○

Indicator	Rank	Score	
1.3.4 Computer software spending	11	62.21	
B. People pillar	15	64.09	
1st sub-pillar: Individuals	57	49.28	
2.1.1 Mobile broadband internet traffic within the country	44	17.58	
2.1.2 ICT skills in the education system	22	73.06	
2.1.3 Use of virtual social networks	9	83.48	
2.1.4 Tertiary enrollment	11	60.27	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	32	12.02	○
2nd sub-pillar: Businesses	10	74.77	
2.2.1 Firms with website	3	95.67	●
2.2.2 GERD financed by business enterprise	18	70.37	
2.2.3 Knowledge intensive employment	4	82.91	●
2.2.4 Annual investment in telecommunication services	22	85.91	
2.2.5 GERD performed by business enterprise	16	39.00	
3rd sub-pillar: Governments	14	68.21	
2.3.1 Government online services	11	89.24	
2.3.2 Publication and use of open data	10	76.47	
2.3.3 Government promotion of investment in emerging tech	21	66.64	
2.3.4 R&D expenditure by governments and higher education	15	40.48	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	21	75.85	
D. Impact pillar	5	78.74	
1st sub-pillar: Economy	8	59.63	
4.1.1 High-tech and medium-high-tech manufacturing	15	59.34	
4.1.2 High-tech exports	19	39.57	
4.1.3 PCT patent applications	9	64.91	
4.1.4 Domestic market size	27	68.94	
4.1.5 Prevalence of gig economy	3	90.12	●
4.1.6 ICT services exports	24	34.91	
2nd sub-pillar: Quality of Life	7	89.97	
4.2.1 Happiness	6	93.69	
4.2.2 Freedom to make life choices	40	82.14	
4.2.3 Income inequality	5	92.96	
4.2.4 Healthy life expectancy at birth	14	91.09	
3rd sub-pillar: SDG Contribution	5	86.62	
4.3.1 SDG 3: Good Health and Well-Being	9	94.99	
4.3.2 SDG 4: Quality Education	15	68.74	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	38	77.31	
4.3.5 SDG 11: Sustainable Cities and Communities	17	92.05	

NOTE: ● a strength and ○ a weakness.

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