# Network Readiness Index 2023

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 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.
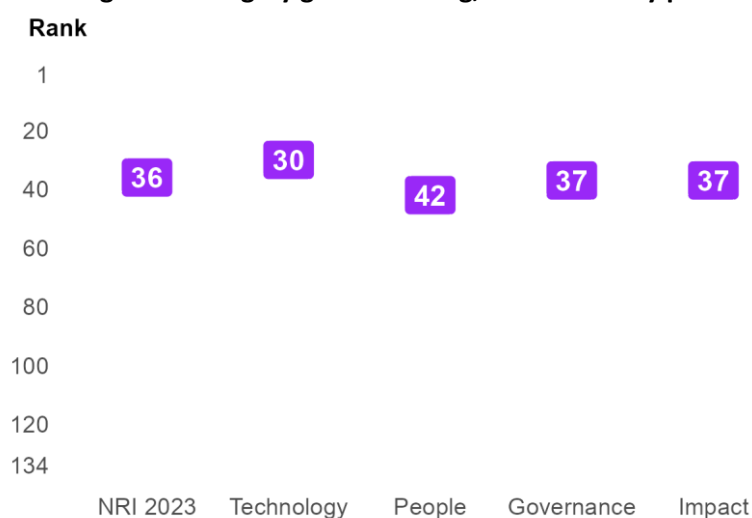
Figure 1: The NRI 2023 model
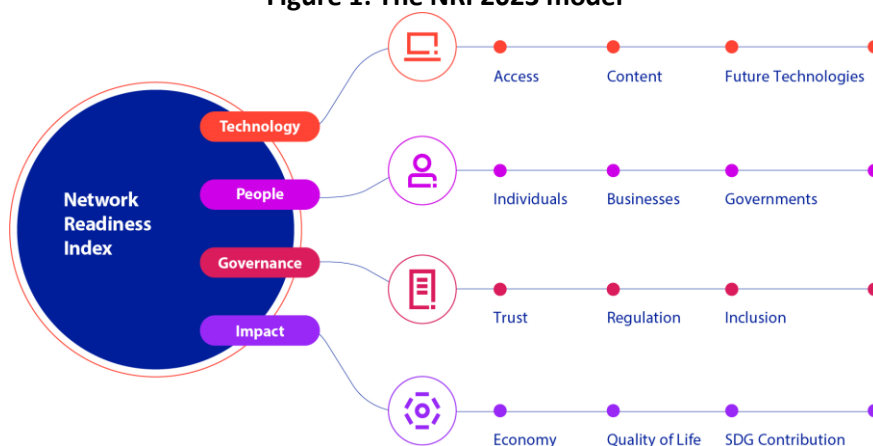
Global NRI position of Hungary

Hungary ranks 36th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. 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 Content, Trust and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Individuals and Future Technologies sub-pillars.

Table 1: Hungary rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	16	SDG Contribution	38
Trust	30	Quality of Life	49
Regulation	33	Governments	55
Access	34	Inclusion	57
Businesses	35	Individuals	68
Economy	38	Future Technologies	77

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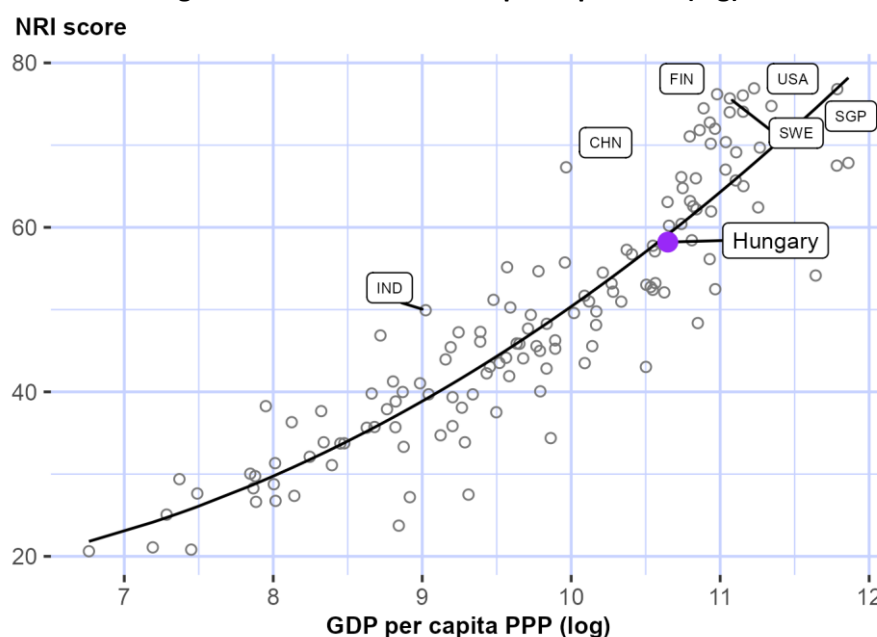
Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Hungary belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is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

Performance against its income group and region

High-income countries
Hungary is ranked 35th 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 Content.

Europe
Hungary 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: Access, Content and Trust.

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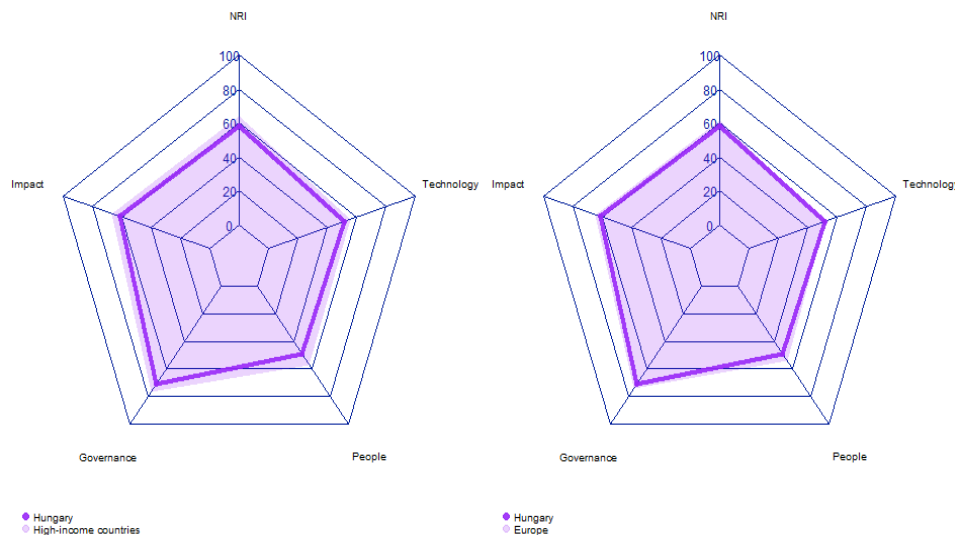

Table 2: Hungary scores vs. averages of its income group and region, overall and by pillar

Dimension	Hungary	High-income countries	Europe
NRI	58.21	64.07	61.25
Technology	51.36	55.76	51.90
People	49.48	56.99	54.16
Governance	70.88	76.81	74.33
Impact	61.11	66.73	64.61

Strongest and weakest indicators

The indicators where Hungary performs particularly well include 1.1.6 Internet access in schools, 1.2.1 GitHub commits, and 3.2.4 E-commerce legislation (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 2.1.2 ICT skills in the education system.

Table 3: Highlight of Strengths and Opportunities for 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
1.2.1 GitHub commits	1	2.1.2 ICT skills in the education system	75
3.2.4 E-commerce legislation	1	4.1.5 Prevalence of gig economy	99
4.1.1 High-tech and medium-high-tech manufacturing	5	1.3.2 Investment in emerging technologies	102
3.2.2 ICT regulatory environment	14		
2.1.5 Adult literacy rate	20		
2.2.5 GERD performed by business enterprise	20		
4.3.3 SDG 5: Women's economic opportunity	20		
3.3.4 Gender gap in Internet use	22		
3.1.1 Secure Internet servers	23		
4.2.3 Income inequality	23		
2.3.4 R&D expenditure by governments and higher education	24		

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

NRI 2023 At-A-Glance: Hungary

Network Readiness Index Rank: 36 (out of 134) Score: 58.21

Pillar/sub-pillar	Rank	Score		Pillar/sub-pillar	Rank	Score
A. Technology pillar	30	51.36		C. Governance pillar	37	70.88
1st sub-pillar: Access	34	73.97		1st sub-pillar: Trust	30	70.60
2nd sub-pillar: Content	16	50.29		2nd sub-pillar: Regulation	33	77.03
3rd sub-pillar: Future Technologies	77	29.81		3rd sub-pillar: Inclusion	57	65.01
B. People pillar	42	49.48		D. Impact pillar	37	61.11
1st sub-pillar: Individuals	68	46.99		1st sub-pillar: Economy	38	36.39
2nd sub-pillar: Businesses	35	58.94		2nd sub-pillar: Quality of Life	49	73.13
3rd sub-pillar: Governments	55	42.51		3rd sub-pillar: SDG Contribution	38	73.81

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	30	51.36		**C. Governance pillar**	37	70.88	
1st sub-pillar: Access	34	73.97		*1st sub-pillar: Trust*	30	70.60	
1.1.1 Mobile tariffs	33	77.46		3.1.1 Secure Internet servers	23	82.98	●
1.1.2 Handset prices	41	63.13		3.1.2 Cybersecurity	43	91.13	
1.1.3 FTTH/building Internet subscriptions	49	34.78		3.1.3 Online access to financial account	40	43.79	
1.1.4 Population covered by at least a 3G mobile network	55	99.74		3.1.4 Internet shopping	28	64.52	
1.1.5 International Internet bandwidth	84	68.69		*2nd sub-pillar: Regulation*	33	77.03	
1.1.6 Internet access in schools	1	100.00	●	3.2.1 Regulatory quality	46	60.81	
2nd sub-pillar: Content	16	50.29		3.2.2 ICT regulatory environment	14	94.12	●
1.2.1 GitHub commits	1	100.00	●	3.2.3 Regulation of emerging technologies	46	56.10	
1.2.2 Internet domain registrations	29	25.88		3.2.4 E-commerce legislation	1	100.00	●
1.2.3 Mobile apps development	60	67.33		3.2.5 Privacy protection by law content	42	74.14	
1.2.4 AI scientific publications	57	7.95		*3rd sub-pillar: Inclusion*	57	65.01	
3rd sub-pillar: Future Technologies	77	29.81		3.3.1 E-Participation	75	50.01	
1.3.1 Adoption of emerging technologies	63	47.82		3.3.2 Socioeconomic gap in use of digital payments	55	81.42	
1.3.2 Investment in emerging technologies	102	28.25	○	3.3.3 Availability of local online content	58	65.38	

Indicator	Rank	Score	
1.3.3 Robot density	22	17.20	
1.3.4 Computer software spending	51	25.98	
B. People pillar	42	49.48	
1st sub-pillar: Individuals	68	46.99	
2.1.1 Mobile broadband internet traffic within the country	51	13.35	
2.1.2 ICT skills in the education system	75	43.32	○
2.1.3 Use of virtual social networks	60	67.94	
2.1.4 Tertiary enrollment	61	35.39	
2.1.5 Adult literacy rate	20	98.77	●
2.1.6 AI talent concentration	18	23.18	
2nd sub-pillar: Businesses	35	58.94	
2.2.1 Firms with website	46	62.29	
2.2.2 GERD financed by business enterprise	28	62.13	
2.2.3 Knowledge intensive employment	31	58.62	
2.2.4 Annual investment in telecommunication services	51	79.85	
2.2.5 GERD performed by business enterprise	20	31.83	●
3rd sub-pillar: Governments	55	42.51	
2.3.1 Government online services	56	71.98	
2.3.2 Publication and use of open data	69	22.06	○
2.3.3 Government promotion of investment in emerging tech	47	46.51	
2.3.4 R&D expenditure by governments and higher education	24	29.50	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	22	72.83	●
3.3.5 Rural gap in use of digital payments	80	55.43	
D. Impact pillar	37	61.11	
1st sub-pillar: Economy	38	36.39	
4.1.1 High-tech and medium-high-tech manufacturing	5	74.27	●
4.1.2 High-tech exports	29	29.25	
4.1.3 PCT patent applications	35	12.83	
4.1.4 Domestic market size	52	58.25	
4.1.5 Prevalence of gig economy	99	27.33	○
4.1.6 ICT services exports	60	16.41	
2nd sub-pillar: Quality of Life	49	73.13	
4.2.1 Happiness	69	65.26	
4.2.2 Freedom to make life choices	82	66.73	
4.2.3 Income inequality	23	83.67	●
4.2.4 Healthy life expectancy at birth	47	76.88	
3rd sub-pillar: SDG Contribution	38	73.81	
4.3.1 SDG 3: Good Health and Well-Being	59	72.65	
4.3.2 SDG 4: Quality Education	33	59.29	
4.3.3 SDG 5: Women's economic opportunity	20	95.58	●
4.3.4 SDG 7: Affordable and Clean Energy	63	73.34	
4.3.5 SDG 11: Sustainable Cities and Communities	62	68.19	

NOTE: ● a strength and ○ a weakness.

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