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 2025 the NRI Report maps the network-based readiness landscape of 127 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 53 variables.
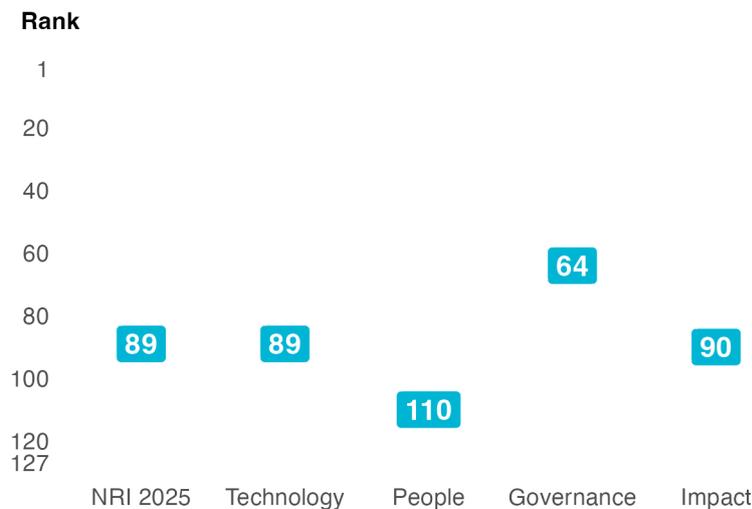
Figure 1: The NRI 2025 model

Global NRI position of North Macedonia
North Macedonia ranks 89 out of the 127 economies included in the NRI 2025 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

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 Regulation, Inclusion and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Individuals and Businesses sub-pillars.

Table 1: North Macedonia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	49	Governments	79
Inclusion	63	Quality of Life	88
Trust	68	Economy	98
Content	75	Future Technologies	111
Access	76	Individuals	114
SDG Contribution	76	Businesses	119

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)
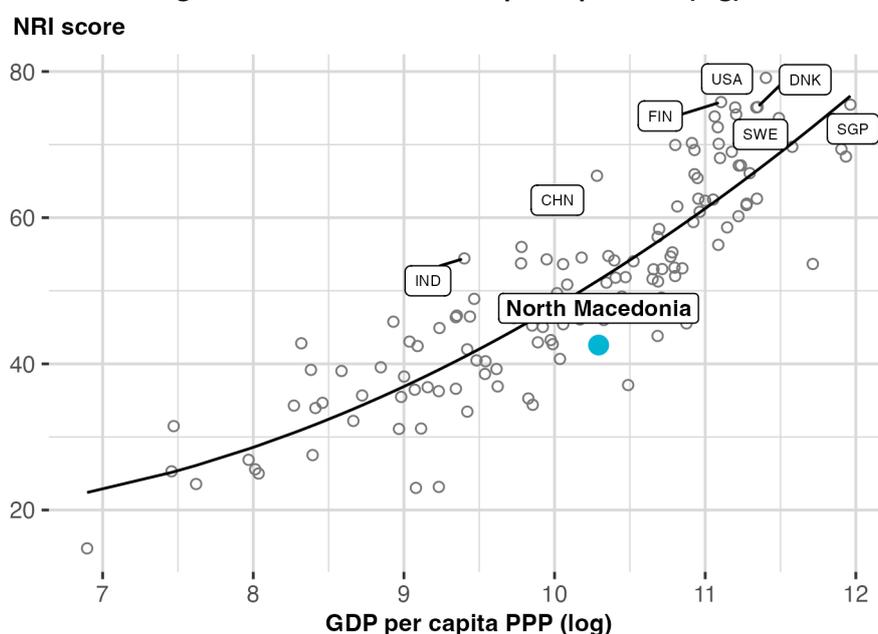
Note: USA = United States of America (rank: 1), FIN =Finland (rank: 2), SGP = Singapore (3), DNK =Denmark (4), SWE = Sweden (5), CHN =China (24), and IND = India (45).

Performance against its income group and region

Upper-middle-income countries
North Macedonia 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: Governance. At the sub-pillar level, it outperforms upper-middle-income countries in two of the twelve sub-pillars: Regulation and Inclusion.

Europe
North Macedonia 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 North Macedonia against its income group and region, overall and by pillar
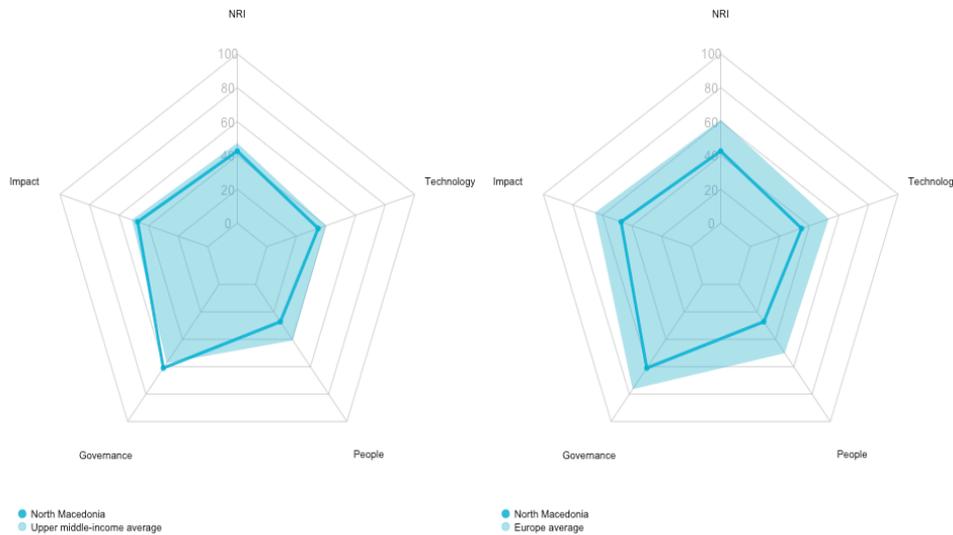

Table 2: North Macedonia scores vs. averages of its income group and region, overall and by pillar

Dimension	North Macedonia	Upper-middle-income countries	Europe
NRI	42.58	47.32	61.14
Technology	34.76	39.95	53.04
People	27.15	40.75	50.07
Governance	60.97	57.29	76.41
Impact	47.42	51.31	65.05

NRI 2025 At-A-Glance: North Macedonia

Network Readiness Index — Rank: 89 (out of 127) — Score: 42.58

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	89	34.76	C. Governance pillar	64	60.97
1st sub-pillar: Access	76	64.37	1st sub-pillar: Trust	68	51.59
2nd sub-pillar: Content	75	21.26	2nd sub-pillar: Regulation	49	67.10
3rd sub-pillar: Future Technologies	111	18.66	3rd sub-pillar: Inclusion	63	64.20
B. People pillar	110	27.15	D. Impact pillar	90	47.42
1st sub-pillar: Individuals	114	29.78	1st sub-pillar: Economy	98	24.32
2nd sub-pillar: Businesses	119	16.28	2nd sub-pillar: Quality of Life	88	57.26
3rd sub-pillar: Governments	79	35.40	3rd sub-pillar: SDG Contribution	76	60.68

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	89	34.76		C. Governance pillar	64	60.97	
1st sub-pillar: Access	76	64.37		1st sub-pillar: Trust	68	51.59	
1.1.1 Mobile tariffs	92	52.07		3.1.1 Secure Internet servers	65	61.60	
1.1.2 Handset prices	14	96.21	●	3.1.2 Cybersecurity	98	59.01	
1.1.3 FTTH/building Internet subscriptions	93	19.72		3.1.3 Online access to financial account	23	53.96	●
1.1.4 Population covered by at least a 3G mobile network	39	99.32	●	3.1.4 Internet shopping	57	31.80	
1.1.5 International Internet bandwidth	122	54.52	○	2nd sub-pillar: Regulation	49	67.10	
1.1.6 Internet access in schools	n/a	n/a		3.2.1 Regulatory quality	50	52.92	●
2nd sub-pillar: Content	75	21.26		3.2.2 ICT regulatory environment	61	74.69	
1.2.1 GitHub commits	54	12.17		3.2.3 Regulation of emerging technologies	89	29.83	
1.2.2 Internet domain registrations	49	8.64	●	3.2.4 E-commerce legislation	1	100.00	●
1.2.3 Mobile apps development	70	62.58		3.2.5 Privacy protection by law content	32	78.08	●
1.2.4 AI scientific publications	88	1.66		3rd sub-pillar: Inclusion	63	64.20	
3rd sub-pillar: Future Technologies	111	18.66		3.3.1 E-Participation	75	55.07	
1.3.1 Adoption of emerging technologies	101	28.95	○	3.3.2 Socioeconomic gap in use of digital payments	60	74.49	
1.3.2 Investment in emerging technologies	120	17.50	○	3.3.3 Gender gap in Internet use	80	58.31	
1.3.3 Robot density	n/a	n/a		3.3.4 Rural gap in use of digital payments	32	68.92	●
1.3.4 Computer software spending	82	9.54		D. Impact pillar	90	47.42	
B. People pillar	110	27.15		1st sub-pillar: Economy	98	24.32	
1st sub-pillar: Individuals	114	29.78		4.1.1 ICT patent applications	81	0.00	○
2.1.1 Mobile broadband internet traffic within the country	102	3.87		4.1.2 Domestic market scale	115	36.07	
2.1.2 ICT skills in the education system	103	26.48		4.1.3 Technology-Enabled Work Flexibility	88	23.78	
2.1.3 Use of virtual social networks	78	58.99		4.1.4 ICT services exports	22	37.43	●
2.1.4 Adult literacy rate	n/a	n/a		2nd sub-pillar: Quality of Life	88	57.26	
2.1.5 AI talent concentration	n/a	n/a		4.2.1 Happiness	82	50.11	
2nd sub-pillar: Businesses	119	16.28		4.2.2 Freedom to make life choices	106	51.17	

Indicator	Rank	Score	
2.2.1 Firms with website	n/a	n/a	
2.2.2 Number of venture capital deals invested in AI	33	17.42	●
2.2.3 Annual investment in telecommunication services	111	28.86	○
2.2.4 Public cloud computing market scale	76	2.56	
3rd sub-pillar: Governments	79	35.40	
2.3.1 Government online services	80	59.60	
2.3.2 Data Capabilities	n/a	n/a	
2.3.3 Government promotion of emerging technologies	52	40.46	
2.3.4 Gross expenditure on R&D	65	6.14	

Indicator	Rank	Score	
4.2.3 Income inequality	44	75.26	●
4.2.4 Healthy life expectancy at birth	68	65.76	
3rd sub-pillar: SDG Contribution	76	60.68	
4.3.1 SDG 3: Good Health and Well-Being	63	86.67	
4.3.2 SDG 4: Quality Education	70	15.82	
4.3.3 SDG 5: Women's economic opportunity	62	78.18	
4.3.4 SDG 7: Affordable and Clean Energy	45	80.41	●
4.3.5 SDG 11: Sustainable Cities and Communities	80	49.93	

NOTE: ● indicates a strength and ○ indicates a weakness.

Sources

Escalona Reynoso, R., & Lanvin, B. (eds.) (2025). The Network Readiness Index 2025: AI Governance in a Global Context: Policy and Regulatory Approaches. Washington DC, USA.

Dutta, S., & Lanvin, B. (eds.) (2024). The Network Readiness Index 2024. Oxford, UK; Washington DC, USA.

Dutta, S., & Lanvin, B. (eds.) (2023). The Network Readiness Index 2023: Trust in Network Society: A Crisis of the Digital Age. Oxford, UK; Washington DC, USA.

Dutta, S., & Lanvin, B. (eds.) (2022). The Network Readiness Index 2022: Benchmarking the Future of the Network Economy. Washington DC: Portulans Institute.

Berry, B. (2019). berryFunctions: Function Collection Related to Plotting and Hydrology. R package version 1.18.2. URL: https://CRAN.R-project.org/package=berryFunctions

Dutta, S., & Lanvin, B. (eds.) (2019). The Network Readiness Index 2019: Towards a Future-Ready Society. Washington DC: Portulans Institute.

Dutta, S., & Lanvin, B. (eds.) (2020). The Network Readiness Index 2020: Fostering Digital Transformation in a post-COVID Global Economy. Washington DC: Portulans Institute.

Dutta, S., & Lanvin, B. (eds.) (2021). The Network Readiness Index 2021: Shaping the Global Recovery. How digital technologies can make the post-COVID world more equal. Washington DC: Portulans Institute.

Gohel, D. (2019). officer: Manipulation of Microsoft Word and PowerPoint Documents. R package version 0.3.6. URL: https://CRAN.R-project.org/package=officer

Gohel, D. (2019). flextable: Functions for Tabular Reporting. R package version 0.5.6. URL: https://CRAN.R-project.org/package=flextable

Milton Bache, S. & Wickham, H. (2014). magrittr: A Forward-Pipe Operator for R. R package version 1.5. URL: https://CRAN.R-project.org/package=magrittr

Nakazawa, M. (2019). fmsb: Functions for Medical Statistics Book with some Demographic Data. R package version 0.7.0. URL: https://CRAN.R-project.org/package=fmsb

R Core Team (2018). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL: https://www.R-project.org/.

Slowikowski, K. (2019). ggrepel: Automatically Position Non-Overlapping Text Labels with 'ggplot2'. R package version 0.8.1. URL: https://CRAN.R-project.org/package=ggrepel

Wickham, H. (2007). Reshaping Data with the reshape Package. Journal of Statistical Software, 21(12), 1–20. URL: http://www.jstatsoft.org/v21/i12/.

Wickham, H. (2016). ggplot2: Elegant Graphics for Data Analysis. Springer-Verlag. New York.

Wickham et al. (2019). Welcome to the tidyverse. Journal of Open Source Software, 4(43), 1686. URL: https://doi.org/10.21105/joss.01686