Network Readiness Index 2023

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 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.
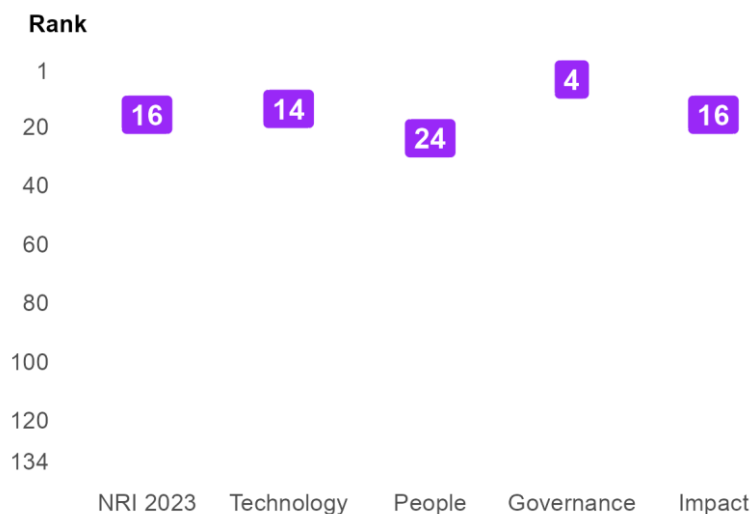
Figure 1: The NRI 2023 model

Global NRI position of Norway

Norway ranks 16th 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: 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 Trust, Regulation 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: Norway rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	2	Governments	19
Regulation	3	Businesses	21
Quality of Life	5	Inclusion	21
Content	8	Future Technologies	29
SDG Contribution	10	Economy	43
Access	14	Individuals	82

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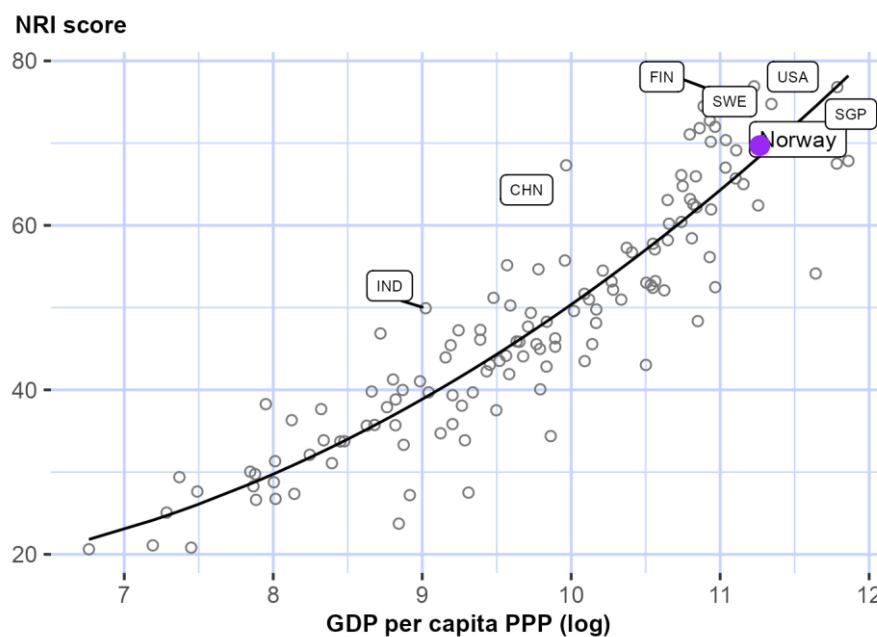
Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Norway belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is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

Performance against its income group and region

High-income countries
Norway 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 nine of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

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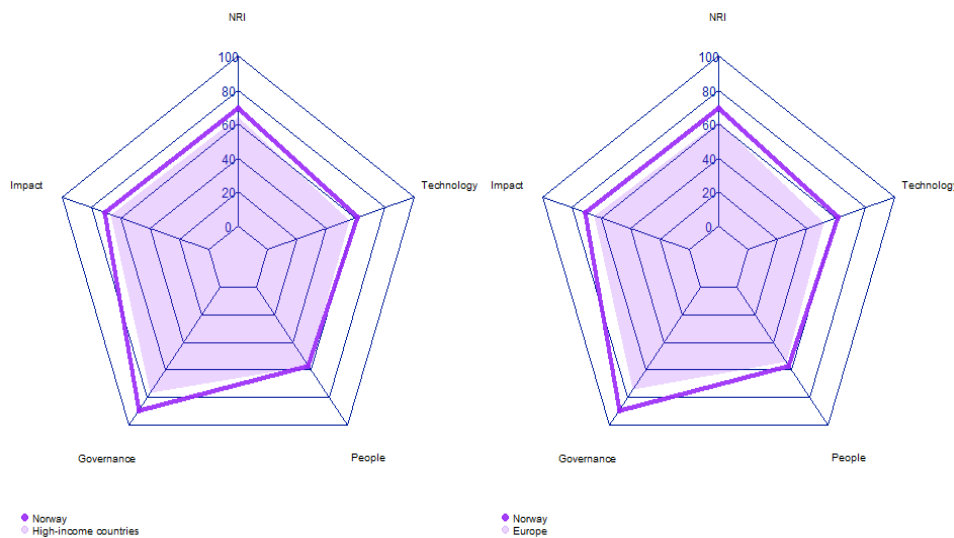
Table 2: Norway scores vs. averages of its income group and region, overall and by pillar

Dimension	Norway	High-income countries	Europe
NRI	69.70	64.07	61.25
Technology	61.29	55.76	51.90
People	57.23	56.99	54.16
Governance	89.44	76.81	74.33
Impact	70.83	66.73	64.61

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, 4.1.1 High-tech and medium-high-tech manufacturing, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Highlight of Strengths and Opportunities for Norway

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.1 Mobile broadband internet traffic within the country	61
3.1.3 Online access to financial account	1	1.1.3 FTTH/building Internet subscriptions	63
3.1.4 Internet shopping	1	4.1.1 High-tech and medium-high-tech manufacturing	68
3.2.4 E-commerce legislation	1	1.1.5 International Internet bandwidth	79
4.3.5 SDG 11: Sustainable Cities and Communities	2		
2.2.3 Knowledge intensive employment	5		
1.2.1 GitHub commits	6		
3.2.5 Privacy protection by law content	7		
4.2.1 Happiness	7		
4.2.2 Freedom to make life choices	8		
1.1.1 Mobile tariffs	9		
3.2.1 Regulatory quality	10		

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

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NRI 2023 At-A-Glance: Norway

Network Readiness Index   Rank: 16 (out of 134)   Score: 69.70

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	14	61.29	C. Governance pillar	4	89.44
1st sub-pillar: Access	14	78.25	1st sub-pillar: Trust	2	95.30
2nd sub-pillar: Content	8	58.13	2nd sub-pillar: Regulation	3	93.35
3rd sub-pillar: Future Technologies	29	47.50	3rd sub-pillar: Inclusion	21	79.67
B. People pillar	24	57.23	D. Impact pillar	16	70.83
1st sub-pillar: Individuals	82	43.16	1st sub-pillar: Economy	43	35.22
2nd sub-pillar: Businesses	21	66.45	2nd sub-pillar: Quality of Life	5	91.35
3rd sub-pillar: Governments	19	62.09	3rd sub-pillar: SDG Contribution	10	85.92

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	14	61.29		**C. Governance pillar**	4	89.44	
1st sub-pillar: Access	14	78.25		*1st sub-pillar: Trust*	2	95.30	
1.1.1 Mobile tariffs	9	91.25	●	3.1.1 Secure Internet servers	19	84.36	
1.1.2 Handset prices	14	80.01		3.1.2 Cybersecurity	23	96.84	
1.1.3 FTTH/building Internet subscriptions	63	29.20	○	3.1.3 Online access to financial account	1	100.00	●
1.1.4 Population covered by at least a 3G mobile network	28	99.97		3.1.4 Internet shopping	1	100.00	●
1.1.5 International Internet bandwidth	79	69.06	○	*2nd sub-pillar: Regulation*	3	93.35	
1.1.6 Internet access in schools	1	100.00	●	3.2.1 Regulatory quality	10	86.54	●
2nd sub-pillar: Content	8	58.13		3.2.2 ICT regulatory environment	11	94.71	
1.2.1 GitHub commits	6	87.47	●	3.2.3 Regulation of emerging technologies	NA	NA	
1.2.2 Internet domain registrations	12	63.54		3.2.4 E-commerce legislation	1	100.00	●
1.2.3 Mobile apps development	35	73.56		3.2.5 Privacy protection by law content	7	92.16	●
1.2.4 AI scientific publications	56	7.95		*3rd sub-pillar: Inclusion*	21	79.67	
3rd sub-pillar: Future Technologies	29	47.50		3.3.1 E-Participation	43	68.61	
1.3.1 Adoption of emerging technologies	NA	NA		3.3.2 Socioeconomic gap in use of digital payments	12	97.56	
1.3.2 Investment in emerging technologies	16	73.50		3.3.3 Availability of local online content	27	84.13	
1.3.3 Robot density	23	14.06		3.3.4 Gender gap in Internet use	26	71.55	

Indicator	Rank	Score	
1.3.4 Computer software spending	18	54.95	
B. People pillar	24	57.23	
1st sub-pillar: Individuals	82	43.16	
2.1.1 Mobile broadband internet traffic within the country	61	10.28	○
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	14	80.16	
2.1.4 Tertiary enrollment	18	55.16	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	16	27.04	
2nd sub-pillar: Businesses	21	66.45	
2.2.1 Firms with website	9	85.44	
2.2.2 GERD financed by business enterprise	35	55.03	
2.2.3 Knowledge intensive employment	5	80.67	●
2.2.4 Annual investment in telecommunication services	34	84.35	
2.2.5 GERD performed by business enterprise	21	26.74	
3rd sub-pillar: Governments	19	62.09	
2.3.1 Government online services	39	77.97	
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	20	34.76	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	16	76.50	
D. Impact pillar	16	70.83	
1st sub-pillar: Economy	43	35.22	
4.1.1 High-tech and medium-high-tech manufacturing	68	20.65	○
4.1.2 High-tech exports	21	37.20	
4.1.3 PCT patent applications	16	46.27	
4.1.4 Domestic market size	50	58.62	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	66	13.34	
2nd sub-pillar: Quality of Life	5	91.35	
4.2.1 Happiness	7	91.92	●
4.2.2 Freedom to make life choices	8	93.94	●
4.2.3 Income inequality	12	88.69	
4.2.4 Healthy life expectancy at birth	15	90.85	
3rd sub-pillar: SDG Contribution	10	85.92	
4.3.1 SDG 3: Good Health and Well-Being	12	93.86	
4.3.2 SDG 4: Quality Education	22	66.48	
4.3.3 SDG 5: Women's economic opportunity	20	95.58	
4.3.4 SDG 7: Affordable and Clean Energy	55	74.49	
4.3.5 SDG 11: Sustainable Cities and Communities	2	99.19	●

NOTE: ● a strength and ○ a weakness.

Sources

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