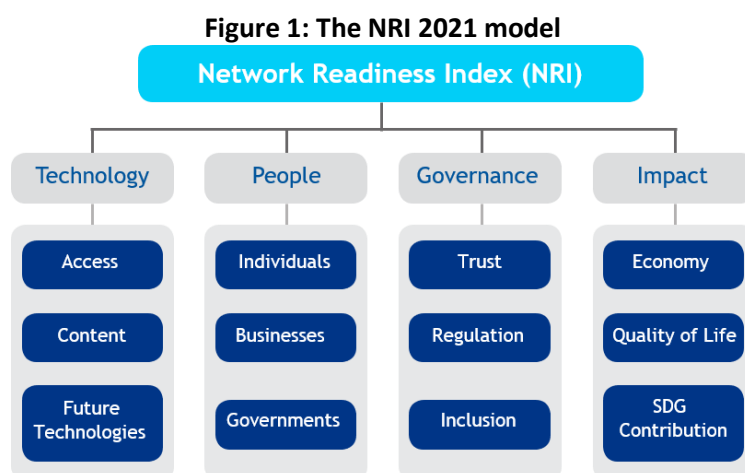


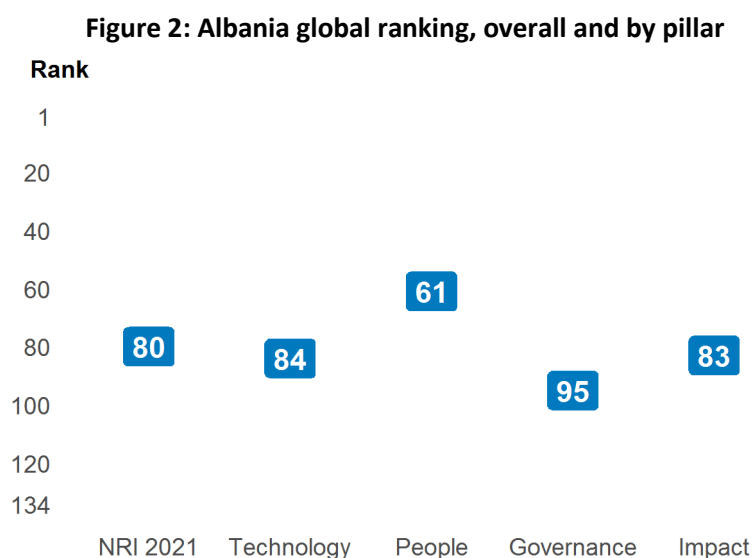
Network Readiness Index 2021 Albania

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 2021 the NRI Report maps the network-based readiness landscape of 130 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 60 variables.



Global NRI position of Albania

Albania ranks 80th out of the 130 economies included in the NRI 2021 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Albania relate to Governments, Businesses and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Inclusion and Future Technologies sub-pillars.

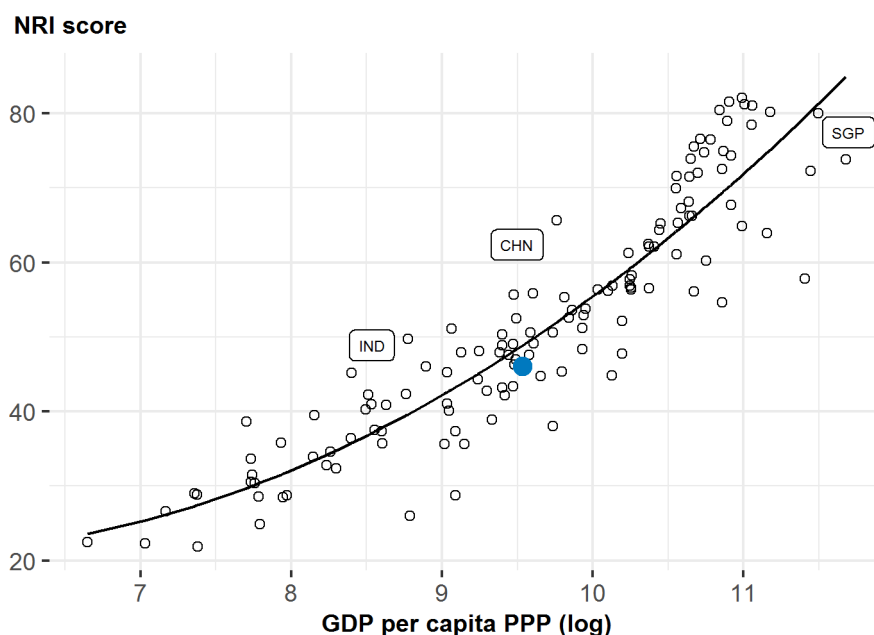
Table 1: Albania rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	44	Content	82
Businesses	55	Individuals	84
Quality of Life	61	Trust	86
Access	62	Economy	108
Regulation	73	Inclusion	110
SDG Contribution	76	Future Technologies	121

NRI score and income

Figure 3 shows the position of Albania 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, Albania 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: NLD = Netherlands (rank: 1), SWE = Sweden (2), DNK = Denmark (3), CHN = China (29), IND = India (67). USA is ranked 4th. Albania belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Netherlands (NLD).

Performance against its income group and region

Upper-middle-income countries

Albania is ranked 25th 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: people. At the sub-pillar level, it outperforms upper-middle-income countries in five of the twelve sub-pillars: Access, Businesses, Governments, Regulation and Quality of Life.

Europe

Albania 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 Albania against its income group and region, overall and by pillar



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

Dimension	Albania	Upper-middle-income countries	Europe
NRI	46.07	49.71	65.45
Technology	38.40	43.52	59.78
People	50.17	48.48	60.83
Governance	45.68	53.94	73.31
Impact	50.04	52.89	67.86

Strongest and weakest indicators

The indicators where Albania performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 2.1.5 Adult literacy rate, and 2.3.1 Government online services (Table 3). By contrast, the economy's weakest indicators include 4.1.2 High-tech exports, 3.3.2 Socioeconomic gap in use of digital payments, 1.3.1 Adoption of emerging technologies, and 3.3.5 Rural gap in use of digital payments.

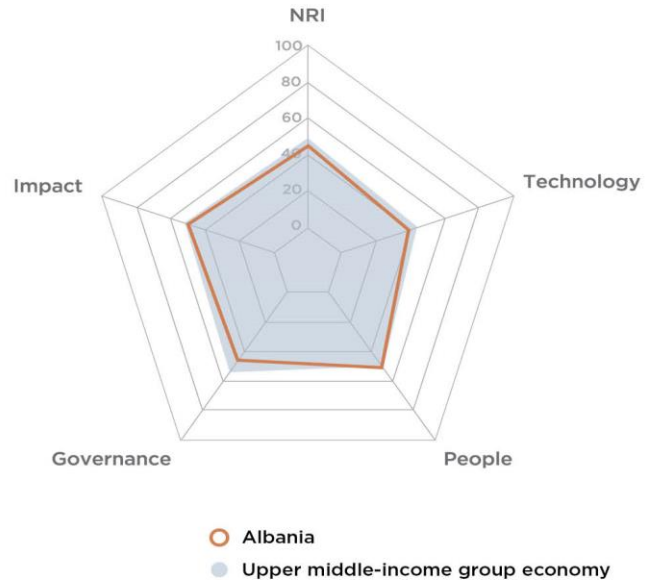
Table 3: Strongest and weakest indicators of Albania

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	17	4.1.1 High-tech and medium-high-tech manufacturing	99
2.1.5 Adult literacy rate	29	1.3.1 Adoption of emerging technologies	115
2.3.1 Government online services	31	3.3.5 Rural gap in use of digital payments	115
3.2.5 Privacy protection by law content	31	3.3.2 Socioeconomic gap in use of digital payments	118
4.2.4 Healthy life expectancy at birth	34	4.1.2 High-tech exports	126
3.3.1 E-Participation	36		
4.2.3 Income inequality	41		
3.2.2 ICT regulatory environment	45		
2.1.4 Tertiary enrollment	50		
1.1.3 Households with internet access	51		

Albania

Network Readiness Index Rank (out of 130) **80** Score **46.07**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	84	38.40
1st sub-pillar: Access	62	66.76
2nd sub-pillar: Content	82	31.77
3rd sub-pillar: Future Technologies	121	16.68
B. People pillar	61	50.17
1st sub-pillar: Individuals	84	56.70
2nd sub-pillar: Businesses	55	44.35
3rd sub-pillar: Governments	44	49.46
C. Governance pillar	95	45.68
1st sub-pillar: Trust	86	33.74
2nd sub-pillar: Regulation	73	62.69
3rd sub-pillar: Inclusion	110	40.61
D. Impact pillar	83	50.04
1st sub-pillar: Economy	108	22.00
2nd sub-pillar: Quality of Life	61	67.92
3rd sub-pillar: SDG Contribution	76	60.19



Network Readiness Index in detail

Indicator	Rank	Score
A. Technology pillar	84	38.40
1st sub-pillar: Access	62	66.76
1.1.1 Mobile tariffs	80	51.79
1.1.2 Handset prices	79	45.36
1.1.3 Households with internet access	51	83.40 ●
1.1.4 SMS sent by population 15-69	87	73.45
1.1.5 Population covered by at least a 3G mobile network	47	99.79
1.1.6 International Internet bandwidth	NA	NA
1.1.7 Internet access in schools	43	46.77
2nd sub-pillar: Content	82	31.77
1.2.1 GitHub commits	75	2.41
1.2.2 Wikipedia edits	55	57.44
1.2.3 Internet domain registrations	*	*
1.2.4 Mobile apps development	64	77.50
1.2.5 AI scientific publications	102	16.23
3rd sub-pillar: Future Technologies	121	16.68
1.3.1 Adoption of emerging technologies	115	19.18 ○
1.3.2 Investment in emerging technologies	115	21.88
1.3.3 Robot density	NA	NA
1.3.4 Computer software spending	86	8.96
B. People pillar	61	50.17
1st sub-pillar: Individuals	84	56.70
2.1.1 Active mobile broadband subscriptions	105	67.80
2.1.2 ICT skills	59	21.66
2.1.3 Use of virtual social networks	84	54.89
2.1.4 Tertiary enrollment	50	41.51 ●
2.1.5 Adult literacy rate	29	97.64 ●
2nd sub-pillar: Businesses	55	44.35
2.2.1 Firms with website	55	58.20
2.2.2 GERD financed by business enterprise	NA	NA
2.2.3 Professionals	55	29.44
2.2.4 Technicians and associate professionals	89	19.83
2.2.5 Annual investment in telecommunication services	107	69.94
2.2.6 GERD performed by business enterprise	NA	NA
3rd sub-pillar: Governments	44	49.46
2.3.1 Government online services	31	83.64 ●
2.3.2 Publication and use of open data	50	32.24
2.3.3 Government promotion of investment in emerging tech	80	32.49
2.3.4 R&D expenditure by governments and higher education	NA	NA

Indicator	Rank	Score
C. Governance pillar	95	45.68
1st sub-pillar: Trust	86	33.74
3.1.1 Secure Internet servers	66	54.14
3.1.2 Cybersecurity	85	63.69
3.1.3 Online access to financial account	109	8.62
3.1.4 Internet shopping	78	8.51
2nd sub-pillar: Regulation	73	62.69
3.2.1 Regulatory quality	57	48.60
3.2.2 ICT regulatory environment	45	87.06 ●
3.2.3 Legal framework's adaptability to emerging technologies	101	20.74
3.2.4 E-commerce legislation	76	75.00
3.2.5 Privacy protection by law content	31	82.05 ●
3rd sub-pillar: Inclusion	110	40.61
3.3.1 E-Participation	36	83.95 ●
3.3.2 Socioeconomic gap in use of digital payments	118	6.11 ○
3.3.3 Availability of local online content	118	26.14
3.3.4 Gender gap in Internet use	51	62.82
3.3.5 Rural gap in use of digital payments	115	24.03 ○
D. Impact pillar	83	50.04
1st sub-pillar: Economy	108	22.00
4.1.1 High-tech and medium-high-tech manufacturing	99	2.26 ○
4.1.2 High-tech exports	126	0.27 ○
4.1.3 PCT patent applications	85	18.45
4.1.4 Growth rate of GDP per person engaged	87	51.84
4.1.5 Prevalence of gig economy	98	28.16
4.1.6 ICT services exports	59	31.03
2nd sub-pillar: Quality of Life	61	67.92
4.2.1 Happiness	80	46.62
4.2.2 Freedom to make life choices	97	64.26
4.2.3 Income inequality	41	77.60 ●
4.2.4 Healthy life expectancy at birth	34	83.19 ●
3rd sub-pillar: SDG Contribution	76	60.19
4.3.1 SDG 3: Good Health and Well-Being	98	50.82
4.3.2 SDG 4: Quality Education	54	34.98
4.3.3 Females employed with advanced degrees	54	42.46
4.3.4 SDG 7: Affordable and Clean Energy	17	88.10 ●
4.3.5 SDG 11: Sustainable Cities and Communities	53	84.57

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

Sources

- 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 help 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>