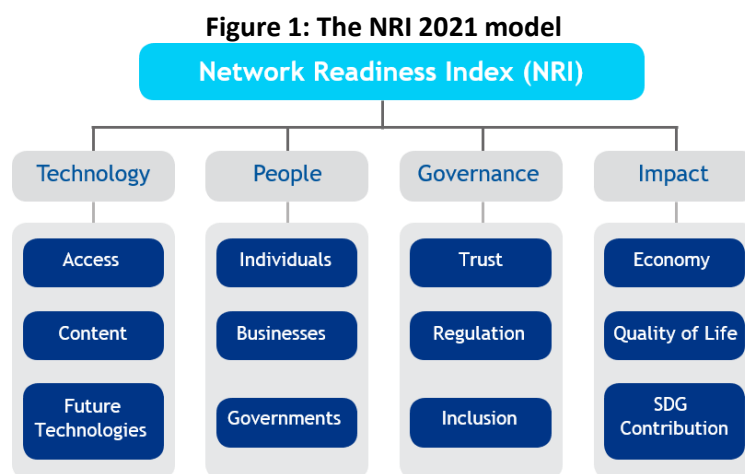


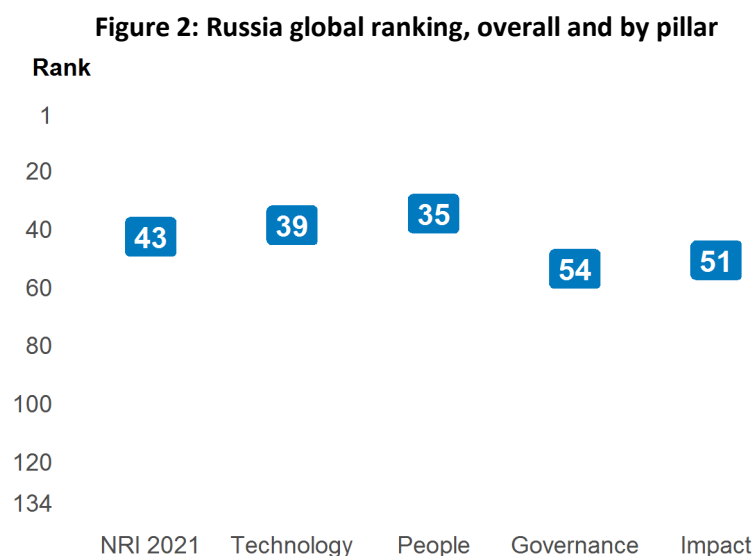
# Network Readiness Index 2021 Russian Federation

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 Russia

Russia ranks 43rd 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 Russia relate to Inclusion, Access and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Quality of Life and Regulation sub-pillars.

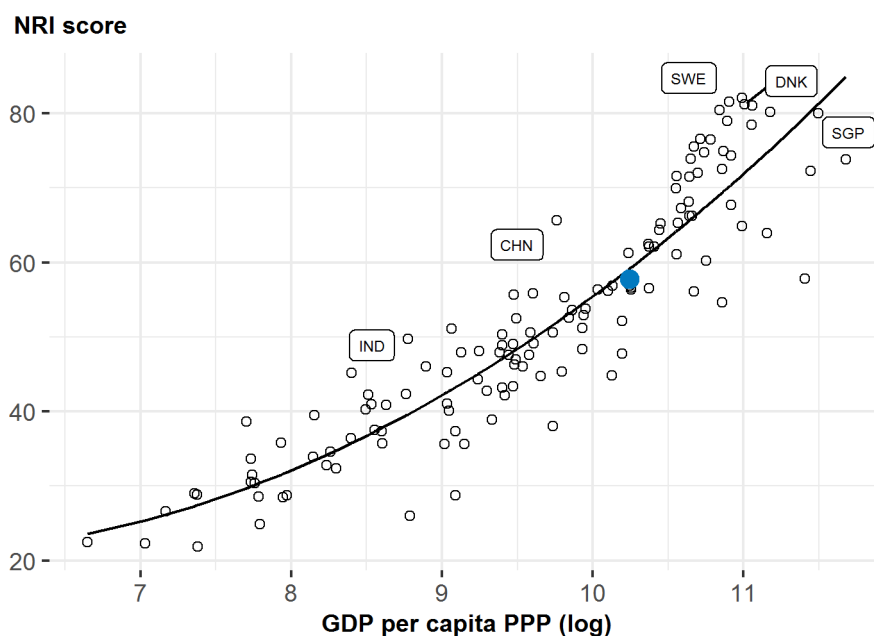
**Table 1: Russia rankings by sub-pillar**

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	31	SDG Contribution	43
Access	33	Economy	45
Governments	34	Individuals	47
Businesses	36	Future Technologies	62
Trust	38	Quality of Life	89
Content	40	Regulation	118

### NRI score and income

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

## Performance against its income group and region

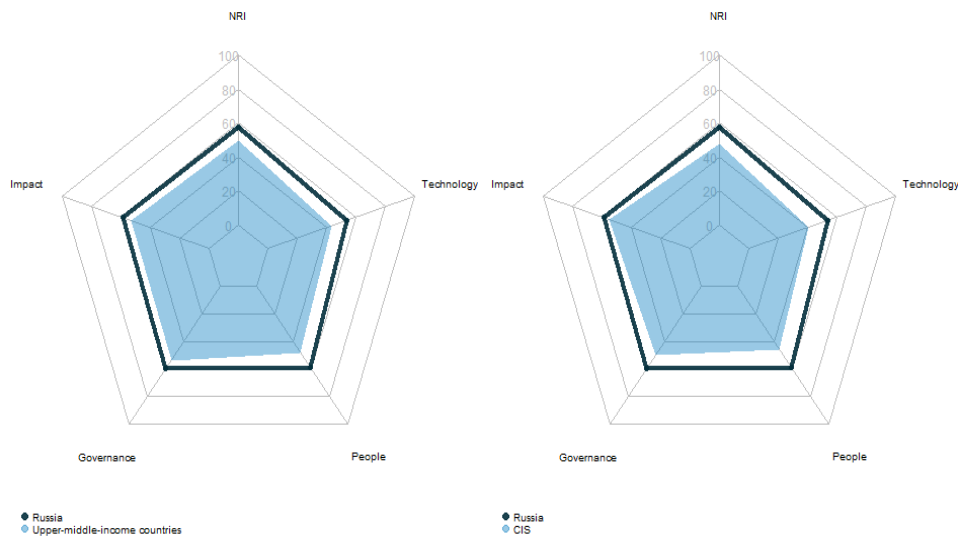
### Upper-middle-income countries

Russia is ranked 3rd 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 each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion, Economy and SDG Contribution.

### CIS

Russia is ranked 1st within CIS (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in CIS in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion, Economy and SDG Contribution.

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



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

Dimension	Russia	Upper-middle-income countries	CIS
NRI	57.74	49.71	47.79
Technology	53.71	43.52	40.33
People	58.80	48.48	46.01
Governance	59.97	53.94	49.65
Impact	58.49	52.89	55.19

### Strongest and weakest indicators

The indicators where Russia performs particularly well include 2.1.1 Active mobile broadband subscriptions, 3.1.2 Cybersecurity, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 3.2.4 E-commerce legislation, and 4.3.4 SDG 7: Affordable and Clean Energy.

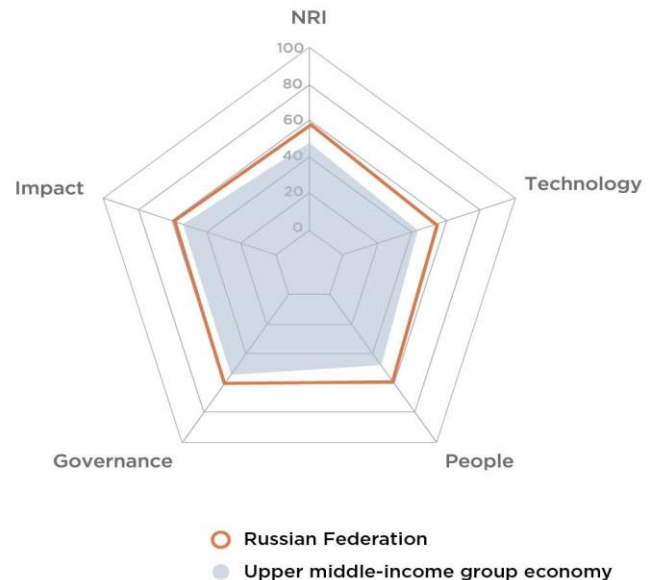
**Table 3: Strongest and weakest indicators of Russia**

<b>Strongest indicators</b>	<b>Rank</b>	<b>Weakest indicators</b>	<b>Rank</b>
2.1.1 Active mobile broadband subscriptions	7	1.3.3 Robot density	47
3.1.2 Cybersecurity	8	3.2.5 Privacy protection by law content	115
2.1.5 Adult literacy rate	9	4.3.4 SDG 7: Affordable and Clean Energy	119
4.3.3 Females employed with advanced degrees	9	3.2.4 E-commerce legislation	123
1.1.6 International Internet bandwidth	10	3.2.2 ICT regulatory environment	125
2.2.5 Annual investment in telecommunication services	11		
2.2.3 Professionals	12		
1.2.5 AI scientific publications	14		
2.1.4 Tertiary enrollment	14		
1.1.4 SMS sent by population 15-69	16		

# Russian Federation

**Network Readiness Index** Rank (out of 130) **43** Score **57.74**

Pillar/sub-pillar	Rank	Score
<b>A. Technology pillar</b>	<b>39</b>	<b>53.71</b>
1st sub-pillar: Access	33	80.01
2nd sub-pillar: Content	40	47.77
3rd sub-pillar: Future Technologies	62	33.36
<b>B. People pillar</b>	<b>35</b>	<b>58.80</b>
1st sub-pillar: Individuals	47	68.11
2nd sub-pillar: Businesses	36	52.99
3rd sub-pillar: Governments	34	55.32
<b>C. Governance pillar</b>	<b>54</b>	<b>59.97</b>
1st sub-pillar: Trust	38	64.72
2nd sub-pillar: Regulation	118	39.01
3rd sub-pillar: Inclusion	31	76.19
<b>D. Impact pillar</b>	<b>51</b>	<b>58.49</b>
1st sub-pillar: Economy	45	45.17
2nd sub-pillar: Quality of Life	89	60.08
3rd sub-pillar: SDG Contribution	43	70.21



## Network Readiness Index in detail

Indicator	Rank	Score
<b>A. Technology pillar</b>	<b>39</b>	<b>53.71</b>
<b>1st sub-pillar: Access</b>	<b>33</b>	<b>80.01</b>
1.1.1 Mobile tariffs	24	79.12
1.1.2 Handset prices	27	73.48
1.1.3 Households with internet access	57	80.15
1.1.4 SMS sent by population 15-69	16	85.31 ●
1.1.5 Population covered by at least a 3G mobile network	79	98.80
1.1.6 International Internet bandwidth	10	63.18 ●
1.1.7 Internet access in schools	NA	NA
<b>2nd sub-pillar: Content</b>	<b>40</b>	<b>47.77</b>
1.2.1 GitHub commits	43	13.05
1.2.2 Wikipedia edits	53	60.02
1.2.3 Internet domain registrations	*	*
1.2.4 Mobile apps development	42	84.09
1.2.5 AI scientific publications	14	72.07 ●
<b>3rd sub-pillar: Future Technologies</b>	<b>62</b>	<b>33.36</b>
1.3.1 Adoption of emerging technologies	42	58.81
1.3.2 Investment in emerging technologies	47	48.90
1.3.3 Robot density	47	1.43 ○
1.3.4 Computer software spending	43	24.31
<b>B. People pillar</b>	<b>35</b>	<b>58.80</b>
<b>1st sub-pillar: Individuals</b>	<b>47</b>	<b>68.11</b>
2.1.1 Active mobile broadband subscriptions	7	89.31 ●
2.1.2 ICT skills	55	24.99
2.1.3 Use of virtual social networks	65	67.57
2.1.4 Tertiary enrollment	14	58.97 ●
2.1.5 Adult literacy rate	9	99.69 ●
<b>2nd sub-pillar: Businesses</b>	<b>36</b>	<b>52.99</b>
2.2.1 Firms with website	57	56.70
2.2.2 GERD financed by business enterprise	58	37.32
2.2.3 Professionals	12	60.64 ●
2.2.4 Technicians and associate professionals	27	59.91
2.2.5 Annual investment in telecommunication services	11	89.20 ●
2.2.6 GERD performed by business enterprise	34	14.14
<b>3rd sub-pillar: Governments</b>	<b>34</b>	<b>55.32</b>
2.3.1 Government online services	39	81.21
2.3.2 Publication and use of open data	25	48.39
2.3.3 Government promotion of investment in emerging tech	33	52.52
2.3.4 R&D expenditure by governments and higher education	47	39.15

Indicator	Rank	Score
<b>C. Governance pillar</b>	<b>54</b>	<b>59.97</b>
<b>1st sub-pillar: Trust</b>	<b>38</b>	<b>64.72</b>
3.1.1 Secure Internet servers	39	75.80
3.1.2 Cybersecurity	8	98.03 ●
3.1.3 Online access to financial account	34	50.60
3.1.4 Internet shopping	39	34.47
<b>2nd sub-pillar: Regulation</b>	<b>118</b>	<b>39.01</b>
3.2.1 Regulatory quality	98	29.37
3.2.2 ICT regulatory environment	125	48.82 ○
3.2.3 Legal framework's adaptability to emerging technologies	38	53.08
3.2.4 E-commerce legislation	123	25.00 ○
3.2.5 Privacy protection by law content	115	38.77 ○
<b>3rd sub-pillar: Inclusion</b>	<b>31</b>	<b>76.19</b>
3.3.1 E-Participation	27	86.42
3.3.2 Socioeconomic gap in use of digital payments	32	79.54
3.3.3 Availability of local online content	39	76.58
3.3.4 Gender gap in Internet use	36	65.73
3.3.5 Rural gap in use of digital payments	46	72.70
<b>D. Impact pillar</b>	<b>51</b>	<b>58.49</b>
<b>1st sub-pillar: Economy</b>	<b>45</b>	<b>45.17</b>
4.1.1 High-tech and medium-high-tech manufacturing	47	31.57
4.1.2 High-tech exports	51	34.43
4.1.3 PCT patent applications	45	48.31
4.1.4 Growth rate of GDP per person engaged	41	65.29
4.1.5 Prevalence of gig economy	25	66.77
4.1.6 ICT services exports	70	24.66
<b>2nd sub-pillar: Quality of Life</b>	<b>89</b>	<b>60.08</b>
4.2.1 Happiness	72	49.38
4.2.2 Freedom to make life choices	103	57.61
4.2.3 Income inequality	65	66.41
4.2.4 Healthy life expectancy at birth	83	66.90
<b>3rd sub-pillar: SDG Contribution</b>	<b>43</b>	<b>70.21</b>
4.3.1 SDG 3: Good Health and Well-Being	53	75.41
4.3.2 SDG 4: Quality Education	31	60.11
4.3.3 Females employed with advanced degrees	9	86.66 ●
4.3.4 SDG 7: Affordable and Clean Energy	119	44.81 ○
4.3.5 SDG 11: Sustainable Cities and Communities	54	84.09

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>