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.

Global NRI position of Qatar
Qatar ranks 46th 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.
Performance at sub-pillar level
When it comes to sub-pillars, the strongest showings of Qatar relate to Individuals, Access and Future Technologies, among others (Table 1). More could be done, though, to improve the economy’s performances in the Content, Businesses and SDG Contribution sub-pillars.

Table 1: Qatar rankings by sub-pillar

<table>
<thead>
<tr>
<th>Sub-pillar</th>
<th>Rank</th>
<th>Sub-pillar</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals</td>
<td>12</td>
<td>Economy</td>
<td>58</td>
</tr>
<tr>
<td>Access</td>
<td>20</td>
<td>Inclusion</td>
<td>61</td>
</tr>
<tr>
<td>Future Technologies</td>
<td>20</td>
<td>Governments</td>
<td>65</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>23</td>
<td>Content</td>
<td>91</td>
</tr>
<tr>
<td>Trust</td>
<td>28</td>
<td>Businesses</td>
<td>107</td>
</tr>
<tr>
<td>Regulation</td>
<td>43</td>
<td>SDG Contribution</td>
<td>108</td>
</tr>
</tbody>
</table>

NRI score and income
Figure 3 shows the position of Qatar 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, Qatar 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 (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Qatar belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).
Performance against its income group and region

**High-income countries**
Qatar is ranked 40th 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 four of the twelve sub-pillars: Access, Future Technologies, Individuals and Quality of Life.

**Arab States**
Qatar is ranked 3rd within Arab States (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Arab States in nine of the twelve sub-pillars: Access, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

![Figure 4: Performance of Qatar against its income group and region, overall and by pillar](image)

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

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Qatar</th>
<th>High-income countries</th>
<th>Arab States</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRI</td>
<td>54.15</td>
<td>64.07</td>
<td>46.59</td>
</tr>
<tr>
<td>Technology</td>
<td>49.59</td>
<td>55.76</td>
<td>41.17</td>
</tr>
<tr>
<td>People</td>
<td>43.51</td>
<td>56.99</td>
<td>42.66</td>
</tr>
<tr>
<td>Governance</td>
<td>69.18</td>
<td>76.81</td>
<td>53.45</td>
</tr>
<tr>
<td>Impact</td>
<td>54.31</td>
<td>66.73</td>
<td>49.08</td>
</tr>
</tbody>
</table>
Strongest and weakest indicators

The indicators where Qatar performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy’s weakest indicators include 4.3.3 SDG 5: Women’s economic opportunity, 4.3.4 SDG 7: Affordable and Clean Energy, and 1.2.4 AI scientific publications.

Table 3: Highlight of Strengths and Opportunities for Qatar

<table>
<thead>
<tr>
<th>Strongest indicators</th>
<th>Rank</th>
<th>Weakest indicators</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.4 Population covered by at least a 3G mobile network</td>
<td>1</td>
<td>4.1.2 High-tech exports</td>
<td>101</td>
</tr>
<tr>
<td>1.1.6 Internet access in schools</td>
<td>1</td>
<td>1.1.3 FTTH/building Internet subscriptions</td>
<td>102</td>
</tr>
<tr>
<td>3.2.4 E-commerce legislation</td>
<td>1</td>
<td>1.2.4 AI scientific publications</td>
<td>106</td>
</tr>
<tr>
<td>2.1.3 Use of virtual social networks</td>
<td>3</td>
<td>4.3.4 SDG 7: Affordable and Clean Energy</td>
<td>117</td>
</tr>
<tr>
<td>1.1.2 Handset prices</td>
<td>4</td>
<td>4.3.3 SDG 5: Women’s economic opportunity</td>
<td>134</td>
</tr>
<tr>
<td>2.1.2 ICT skills in the education system</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3.5 SDG 11: Sustainable Cities and Communities</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1.5 Prevalence of gig economy</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.2 Freedom to make life choices</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3.2 Investment in emerging technologies</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3.3 Government promotion of investment in emerging technologies</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.1 Mobile tariffs</td>
<td>27</td>
<td></td>
<td></td>
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</tbody>
</table>

Note: For the full list of strengths and weaknesses, see At-A-Glance table.
## NRI 2023 At-A-Glance: Qatar

**Network Readiness Index**

**Rank:** 46 (out of 134)  
**Score:** 54.15

### Pillar/sub-pillar

<table>
<thead>
<tr>
<th>A. Technology pillar</th>
<th>34</th>
<th>49.59</th>
<th>C. Governance pillar</th>
<th>40</th>
<th>69.18</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st sub-pillar: Access</td>
<td>20</td>
<td>76.32</td>
<td>1st sub-pillar: Trust</td>
<td>28</td>
<td>71.59</td>
</tr>
<tr>
<td>2nd sub-pillar: Content</td>
<td>91</td>
<td>17.83</td>
<td>2nd sub-pillar: Regulation</td>
<td>43</td>
<td>73.14</td>
</tr>
<tr>
<td>3rd sub-pillar: Future Technologies</td>
<td>20</td>
<td>54.63</td>
<td>3rd sub-pillar: Inclusion</td>
<td>61</td>
<td>62.80</td>
</tr>
<tr>
<td>B. People pillar</td>
<td>68</td>
<td>43.51</td>
<td>D. Impact pillar</td>
<td>63</td>
<td>54.31</td>
</tr>
<tr>
<td>1st sub-pillar: Individuals</td>
<td>12</td>
<td>60.44</td>
<td>1st sub-pillar: Economy</td>
<td>58</td>
<td>31.47</td>
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<tr>
<td>2nd sub-pillar: Businesses</td>
<td>107</td>
<td>30.56</td>
<td>2nd sub-pillar: Quality of Life</td>
<td>23</td>
<td>80.92</td>
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<tr>
<td>3rd sub-pillar: Governments</td>
<td>65</td>
<td>39.52</td>
<td>3rd sub-pillar: SDG Contribution</td>
<td>108</td>
<td>50.55</td>
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### The Network Readiness Index in detail

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Rank</th>
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</thead>
<tbody>
<tr>
<td>A. Technology pillar</td>
<td>34</td>
<td>49.59</td>
</tr>
<tr>
<td>1st sub-pillar: Access</td>
<td>20</td>
<td>76.32</td>
</tr>
<tr>
<td>1.1 Mobile tariffs</td>
<td>27</td>
<td>80.73</td>
</tr>
<tr>
<td>1.1.2 Handset prices</td>
<td>4</td>
<td>93.39</td>
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<td>1.1.3 FTTH/building Internet subscriptions</td>
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<td>12.94</td>
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<td>1.1.4 Population covered by at least a 3G mobile network</td>
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<tr>
<td>1.1.5 Internet bandwidth</td>
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<td>70.88</td>
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<tr>
<td>1.1.6 Internet access in schools</td>
<td>1</td>
<td>100.00</td>
</tr>
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<td>2nd sub-pillar: Content</td>
<td>91</td>
<td>17.83</td>
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<tr>
<td>1.2.1 GitHub commits</td>
<td>81</td>
<td>3.97</td>
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<tr>
<td>1.2.2 Internet domain registrations</td>
<td>69</td>
<td>3.51</td>
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<td>1.2.3 Mobile apps development</td>
<td>77</td>
<td>62.91</td>
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<td>1.2.4 AI scientific publications</td>
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<td>0.91</td>
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<td>3rd sub-pillar: Future Technologies</td>
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<td>54.63</td>
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<td>1.3.1 Adoption of emerging technologies</td>
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<td>62.68</td>
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<td>1.3.2 Investment in emerging technologies</td>
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<table>
<thead>
<tr>
<th>Indicator</th>
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<tr>
<td>C. Governance pillar</td>
<td>40</td>
<td>69.18</td>
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<tr>
<td>1st sub-pillar: Trust</td>
<td>28</td>
<td>71.59</td>
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<tr>
<td>2nd sub-pillar: Regulation</td>
<td>43</td>
<td>73.14</td>
</tr>
<tr>
<td>3rd sub-pillar: Inclusion</td>
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<td>62.80</td>
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<td>D. Impact pillar</td>
<td>63</td>
<td>54.31</td>
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<td>1st sub-pillar: Economy</td>
<td>58</td>
<td>31.47</td>
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<td>2nd sub-pillar: Quality of Life</td>
<td>23</td>
<td>80.92</td>
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<td>3rd sub-pillar: SDG Contribution</td>
<td>108</td>
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<tr>
<th>Indicator</th>
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<tr>
<td>3.1.1 Secure Internet servers</td>
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<td>3.1.2 Cybersecurity</td>
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<td>94.40</td>
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<td>3.1.3 Online access to financial account</td>
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<td>NA</td>
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<td>3.1.4 Internet shopping</td>
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<td>NA</td>
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<td>2nd sub-pillar: Regulation</td>
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<td>73.14</td>
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<td>3.2.1 Regulatory quality</td>
<td>33</td>
<td>69.11</td>
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<td>3.2.2 ICT regulatory environment</td>
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<td>69.06</td>
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<td>3.2.3 Regulation of emerging technologies</td>
<td>25</td>
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<td>3.2.4 E-commerce legislation</td>
<td>1</td>
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<td>3.2.5 Privacy protection by law content</td>
<td>89</td>
<td>54.05</td>
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<td>3.3.1 E-Participation</td>
<td>90</td>
<td>36.05</td>
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<td>3.3.2 Socioeconomic gap in use of digital payments</td>
<td>NA</td>
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<td>3.3.3 Availability of local online content</td>
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### Network Readiness Index 2023

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<td>1.3.3 Robot density</td>
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<td>NA</td>
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<td>1.3.4 Computer software spending</td>
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<td>30.20</td>
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<td>1st sub-pillar: Individuals</td>
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<td>2.1.1 Mobile broadband internet traffic within the country</td>
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<td>2.1.4 Tertiary enrollment</td>
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<td>15.06</td>
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<td>2.1.5 Adult literacy rate</td>
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<td>96.92</td>
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<td>2.1.6 AI talent concentration</td>
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<td>NA</td>
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<tr>
<td><strong>2nd sub-pillar: Businesses</strong></td>
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<tr>
<td>2.2.1 Firms with website</td>
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<td>NA</td>
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<tr>
<td>2.2.2 GERD financed by business enterprise</td>
<td>75</td>
<td>11.45</td>
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<td>2.2.3 Knowledge intensive employment</td>
<td>66</td>
<td>31.17</td>
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<tr>
<td>2.2.4 Annual investment in telecommunication services</td>
<td>65</td>
<td>78.07</td>
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<td>2.2.5 GERD performed by business enterprise</td>
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<td>1.56</td>
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<td><strong>3rd sub-pillar: Governments</strong></td>
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<td>2.3.1 Government online services</td>
<td>83</td>
<td>56.83</td>
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<tr>
<td>2.3.2 Publication and use of open data</td>
<td>73</td>
<td>19.12</td>
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<td>2.3.3 Government promotion in emerging tech</td>
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<td>2.3.4 R&amp;D expenditure by governments and higher education</td>
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<td>4.1.1 High-tech and medium-high-tech manufacturing</td>
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<td>4.1.5 Prevalence of gig economy</td>
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<td>71.22</td>
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<td>4.1.6 ICT services exports</td>
<td>83</td>
<td>8.84</td>
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<td>2nd sub-pillar: Quality of Life</td>
<td>23</td>
<td>80.92</td>
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<td>4.2.1 Happiness</td>
<td>35</td>
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<td>4.2.2 Freedom to make life choices</td>
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<td>91.50</td>
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<td>4.2.3 Income inequality</td>
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<td>4.2.4 Healthy life expectancy at birth</td>
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<td><strong>3rd sub-pillar: SDG Contribution</strong></td>
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<td>4.3.1 SDG 3: Good Health and Well-Being</td>
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<td>4.3.2 SDG 4: Quality Education</td>
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<td>50.07</td>
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<tr>
<td>4.3.5 SDG 11: Sustainable Cities and Communities</td>
<td>12</td>
<td>94.70</td>
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</table>

**NOTE:** ● a strength and ○ a weakness.
Sources


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


