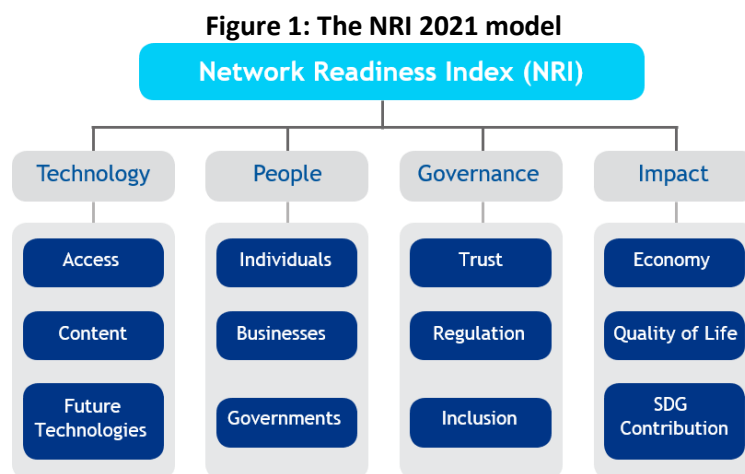


# Network Readiness Index 2021 China

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 China

China ranks 29th out of the 130 economies included in the NRI 2021 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.



### Performance at sub-pillar level

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

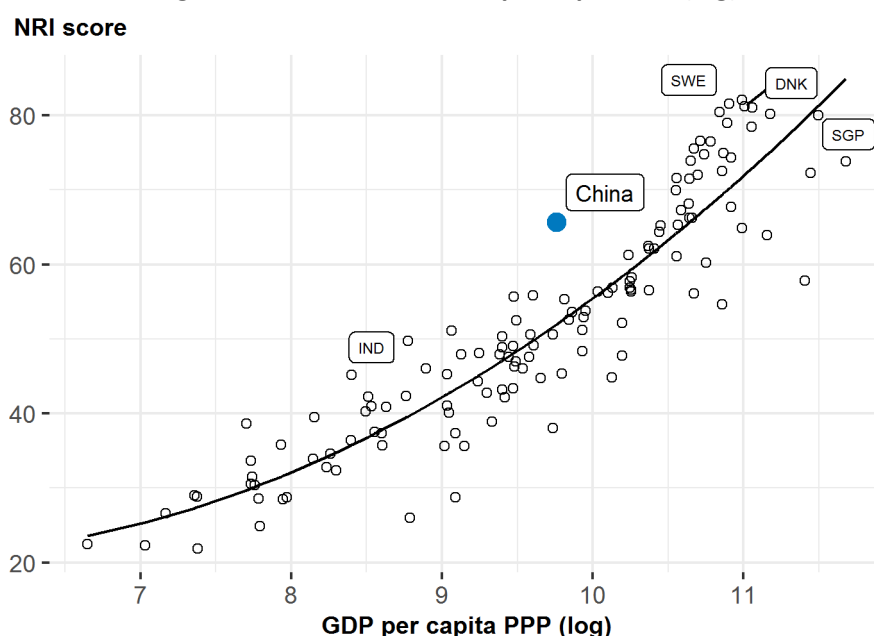
**Table 1: China rankings by sub-pillar**

Sub-pillar	Rank	Sub-pillar	Rank
Economy	3	Trust	36
Businesses	6	Content	43
SDG Contribution	17	Governments	43
Individuals	19	Inclusion	48
Access	31	Quality of Life	54
Future Technologies	32	Regulation	87

### NRI score and income

Figure 3 shows the position of China 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, China is well above the trend line, which suggests that it has a greater network readiness than 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. China belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Asia & Pacific-is Singapore (SGP).

## Performance against its income group and region

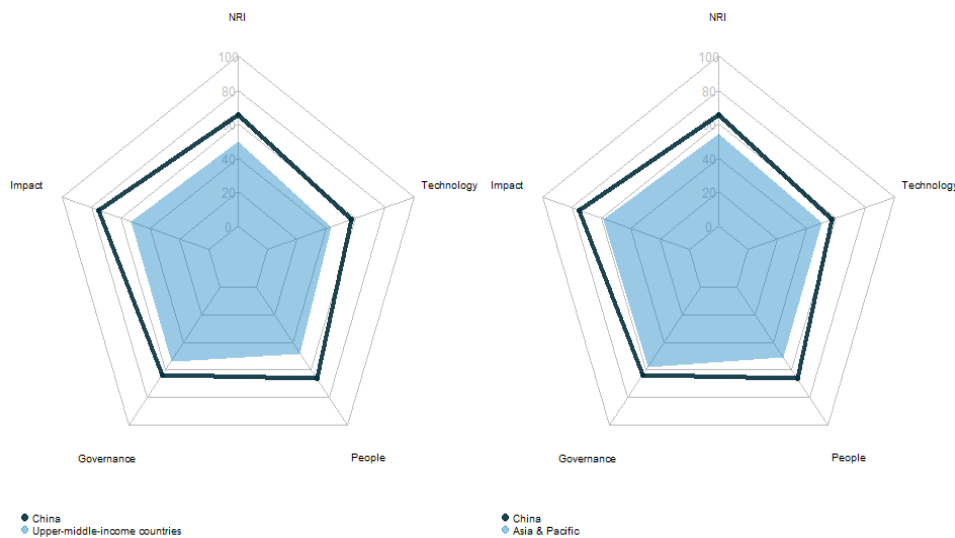
### Upper-middle-income countries

China is ranked 1st 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 eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion, Economy, Quality of Life and SDG Contribution.

### Asia & Pacific

China is ranked 6th within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion, Economy, Quality of Life and SDG Contribution.

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



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

Dimension	China	Upper-middle-income countries	Asia & Pacific
NRI	65.62	49.71	54.38
Technology	57.27	43.52	50.01
People	66.48	48.48	51.22
Governance	63.98	53.94	58.01
Impact	74.77	52.89	58.28

### Strongest and weakest indicators

The indicators where China performs particularly well include 1.1.6 International Internet bandwidth, 1.2.5 AI scientific publications, and 2.1.1 Active mobile broadband subscriptions (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 1.1.4 SMS sent by population 15-69, and 3.2.5 Privacy protection by law content.

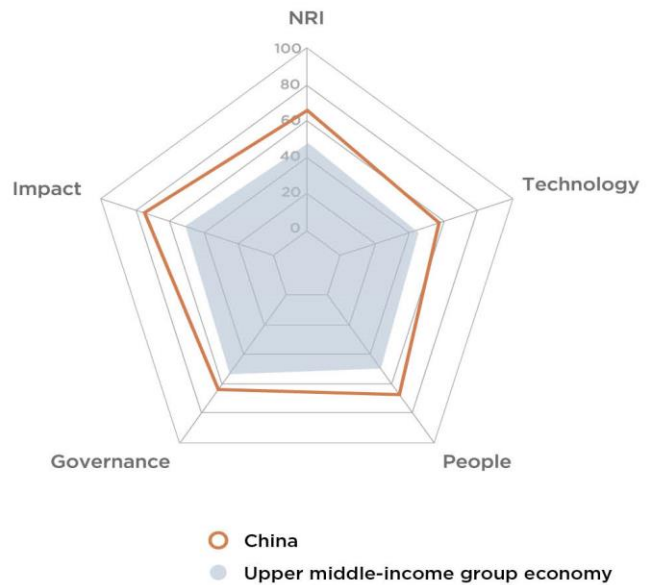
**Table 3: Strongest and weakest indicators of China**

<b>Strongest indicators</b>	<b>Rank</b>	<b>Weakest indicators</b>	<b>Rank</b>
1.1.6 International Internet bandwidth	1	3.2.1 Regulatory quality	90
1.2.5 AI scientific publications	1	4.3.4 SDG 7: Affordable and Clean Energy	101
2.1.1 Active mobile broadband subscriptions	1	3.2.5 Privacy protection by law content	111
3.2.4 E-commerce legislation	1	1.1.4 SMS sent by population 15-69	116
4.3.2 SDG 4: Quality Education	1	3.2.2 ICT regulatory environment	123
2.2.5 Annual investment in telecommunication services	2		
2.2.2 GERD financed by business enterprise	4		
4.1.2 High-tech exports	4		
4.1.4 Growth rate of GDP per person engaged	5		
3.3.1 E-Participation	9		
2.3.1 Government online services	12		

# China

**Network Readiness Index** Rank (out of 130) **29** Score **65.62**

Pillar/sub-pillar	Rank	Score
<b>A. Technology pillar</b>	<b>33</b>	<b>57.27</b>
1st sub-pillar: Access	31	80.65
2nd sub-pillar: Content	43	45.16
3rd sub-pillar: Future Technologies	32	45.99
<b>B. People pillar</b>	<b>20</b>	<b>66.48</b>
1st sub-pillar: Individuals	19	74.37
2nd sub-pillar: Businesses	6	74.05
3rd sub-pillar: Governments	43	51.03
<b>C. Governance pillar</b>	<b>45</b>	<b>63.98</b>
1st sub-pillar: Trust	36	65.68
2nd sub-pillar: Regulation	87	57.66
3rd sub-pillar: Inclusion	48	68.59
<b>D. Impact pillar</b>	<b>13</b>	<b>74.77</b>
1st sub-pillar: Economy	3	71.80
2nd sub-pillar: Quality of Life	54	71.98
3rd sub-pillar: SDG Contribution	17	80.52



## Network Readiness Index in detail

Indicator	Rank	Score
<b>A. Technology pillar</b>	<b>33</b>	<b>57.27</b>
<b>1st sub-pillar: Access</b>	<b>31</b>	<b>80.65</b>
1.1.1 Mobile tariffs	29	78.17
1.1.2 Handset prices	48	63.74
1.1.3 Households with internet access	85	59.58
1.1.4 SMS sent by population 15-69	116	66.82 ○
1.1.5 Population covered by at least a 3G mobile network	24	99.97
1.1.6 International Internet bandwidth	1	100.00 ●
1.1.7 Internet access in schools	29	96.25
<b>2nd sub-pillar: Content</b>	<b>43</b>	<b>45.16</b>
1.2.1 GitHub commits	67	3.13
1.2.2 Wikipedia edits	NA	NA
1.2.3 Internet domain registrations	*	*
1.2.4 Mobile apps development	71	72.64
1.2.5 AI scientific publications	1	100.00 ●
<b>3rd sub-pillar: Future Technologies</b>	<b>32</b>	<b>45.99</b>
1.3.1 Adoption of emerging technologies	NA	NA
1.3.2 Investment in emerging technologies	33	59.71
1.3.3 Robot density	14	51.35
1.3.4 Computer software spending	39	26.90
<b>B. People pillar</b>	<b>20</b>	<b>66.48</b>
<b>1st sub-pillar: Individuals</b>	<b>19</b>	<b>74.37</b>
2.1.1 Active mobile broadband subscriptions	1	100.00 ●
2.1.2 ICT skills	NA	NA
2.1.3 Use of virtual social networks	69	64.24
2.1.4 Tertiary enrollment	56	37.28
2.1.5 Adult literacy rate	36	95.97
<b>2nd sub-pillar: Businesses</b>	<b>6</b>	<b>74.05</b>
2.2.1 Firms with website	46	65.49
2.2.2 GERD financed by business enterprise	4	94.33 ●
2.2.3 Professionals	NA	NA
2.2.4 Technicians and associate professionals	NA	NA
2.2.5 Annual investment in telecommunication services	2	97.53 ●
2.2.6 GERD performed by business enterprise	12	38.84
<b>3rd sub-pillar: Governments</b>	<b>43</b>	<b>51.03</b>
2.3.1 Government online services	12	90.30 ●
2.3.2 Publication and use of open data	71	19.41
2.3.3 Government promotion of investment in emerging tech	NA	NA
2.3.4 R&D expenditure by governments and higher education	42	43.37

Indicator	Rank	Score
<b>C. Governance pillar</b>	<b>45</b>	<b>63.98</b>
<b>1st sub-pillar: Trust</b>	<b>36</b>	<b>65.68</b>
3.1.1 Secure Internet servers	64	54.75
3.1.2 Cybersecurity	40	92.40
3.1.3 Online access to financial account	26	57.53
3.1.4 Internet shopping	28	58.06
<b>2nd sub-pillar: Regulation</b>	<b>87</b>	<b>57.66</b>
3.2.1 Regulatory quality	90	34.46 ○
3.2.2 ICT regulatory environment	123	54.12 ○
3.2.3 Legal framework's adaptability to emerging technologies	NA	NA
3.2.4 E-commerce legislation	1	100.00 ●
3.2.5 Privacy protection by law content	111	42.04 ○
<b>3rd sub-pillar: Inclusion</b>	<b>48</b>	<b>68.59</b>
3.3.1 E-Participation	9	96.30 ●
3.3.2 Socioeconomic gap in use of digital payments	77	49.23
3.3.3 Availability of local online content	60	63.41
3.3.4 Gender gap in Internet use	14	69.77
3.3.5 Rural gap in use of digital payments	69	64.25
<b>D. Impact pillar</b>	<b>13</b>	<b>74.77</b>
<b>1st sub-pillar: Economy</b>	<b>3</b>	<b>71.80</b>
4.1.1 High-tech and medium-high-tech manufacturing	14	62.47
4.1.2 High-tech exports	4	91.31 ●
4.1.3 PCT patent applications	13	82.26
4.1.4 Growth rate of GDP per person engaged	5	89.72 ●
4.1.5 Prevalence of gig economy	NA	NA
4.1.6 ICT services exports	52	33.26
<b>2nd sub-pillar: Quality of Life</b>	<b>54</b>	<b>71.98</b>
4.2.1 Happiness	63	55.21
4.2.2 Freedom to make life choices	33	87.55
4.2.3 Income inequality	67	63.80
4.2.4 Healthy life expectancy at birth	41	81.36
<b>3rd sub-pillar: SDG Contribution</b>	<b>17</b>	<b>80.52</b>
4.3.1 SDG 3: Good Health and Well-Being	25	83.61
4.3.2 SDG 4: Quality Education	1	100.00 ●
4.3.3 Females employed with advanced degrees	NA	NA
4.3.4 SDG 7: Affordable and Clean Energy	101	62.94 ○
4.3.5 SDG 11: Sustainable Cities and Communities	83	75.52

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>