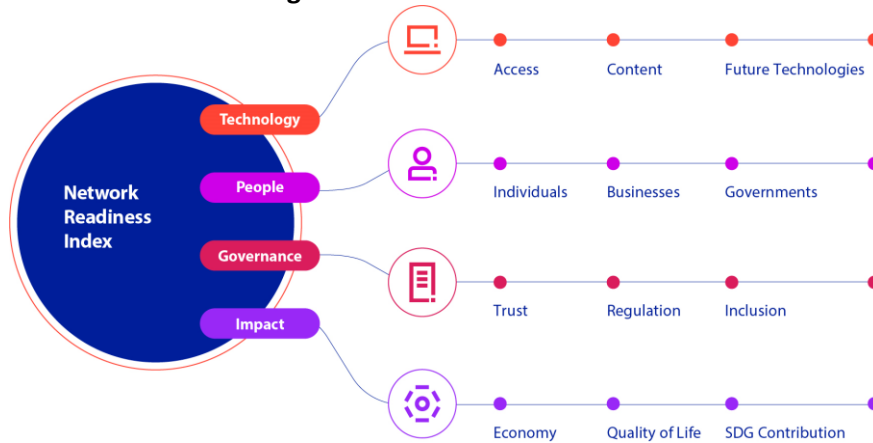




## Kazakhstan

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.

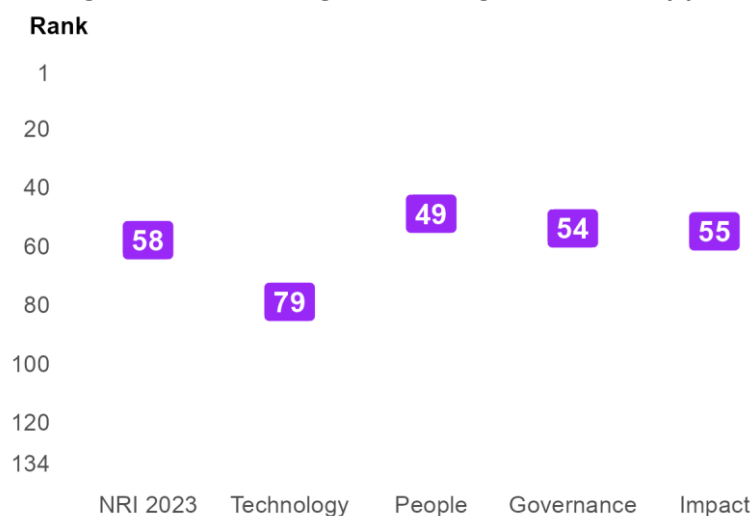
Figure 1: The NRI 2023 model



### Global NRI position of Kazakhstan

Kazakhstan ranks 58th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Kazakhstan global ranking, overall and by pillar



# Network Readiness Index 2023



## Performance at sub-pillar level

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

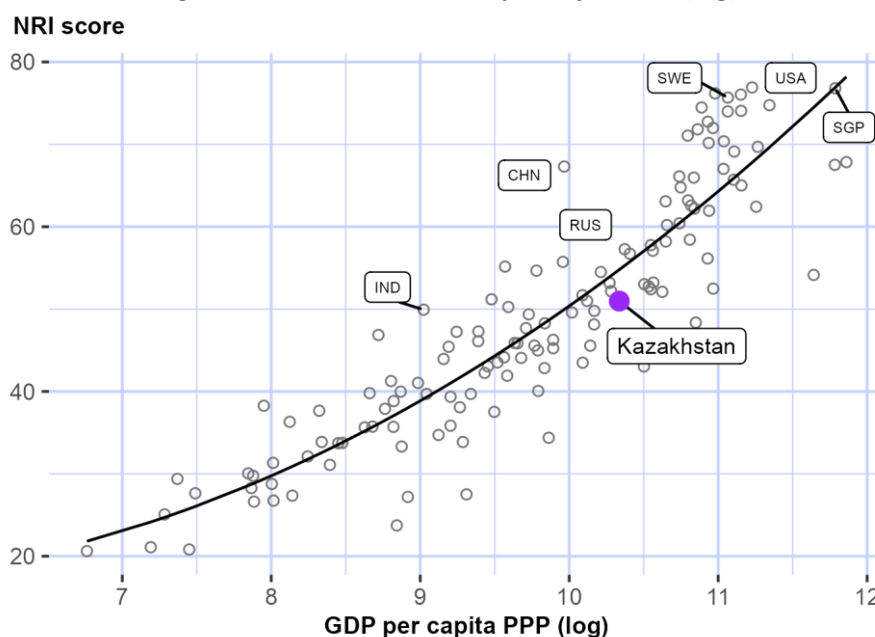
**Table 1: Kazakhstan rankings by sub-pillar**

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	35	Businesses	56
Quality of Life	35	Economy	63
Governments	48	Content	82
Trust	48	SDG Contribution	88
Access	52	Future Technologies	98
Individuals	54	Regulation	104

## NRI score and income

Figure 3 shows the position of Kazakhstan 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, Kazakhstan 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). Kazakhstan belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-CIS-is Russian Federation (RUS).

# Network Readiness Index 2023



## Performance against its income group and region

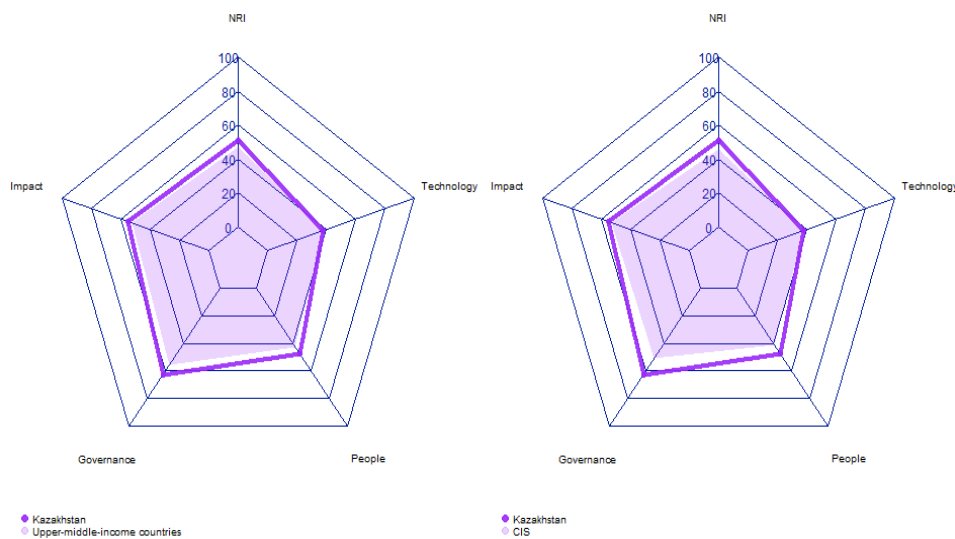
### Upper-middle-income countries

Kazakhstan is ranked 10th 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 three of the four pillars: NRI, People, Governance and Impact. At the sub-pillar level, it outperforms upper-middle-income countries in eight of the twelve sub-pillars: Access, Individuals, Businesses, Governments, Trust, Inclusion, Economy and Quality of Life.

### CIS

Kazakhstan is ranked 2nd within CIS (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, People, Governance and Impact. With regard to sub-pillars, it outperforms the average in CIS in nine of the twelve sub-pillars: Access, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

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



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

Dimension	Kazakhstan	Upper-middle-income countries	CIS
NRI	50.97	47.35	45.81
Technology	37.92	38.48	38.11
People	47.86	42.59	41.35
Governance	62.72	55.90	51.08
Impact	55.38	52.43	52.69

# Network Readiness Index 2023



## Strongest and weakest indicators

The indicators where Kazakhstan performs particularly well include 3.2.4 E-commerce legislation, 2.1.5 Adult literacy rate, and 2.3.1 Government online services (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 1.3.4 Computer software spending, and 3.2.5 Privacy protection by law content.

**Table 3: Highlight of Strengths and Opportunities for Kazakhstan**

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.3.4 R&D expenditure by governments and higher education	101
2.1.5 Adult literacy rate	6	2.1.2 ICT skills in the education system	103
2.3.1 Government online services	8	3.2.5 Privacy protection by law content	121
3.3.2 Socioeconomic gap in use of digital payments	9	1.3.4 Computer software spending	122
4.1.2 High-tech exports	9	3.2.2 ICT regulatory environment	129
1.1.1 Mobile tariffs	10		
4.2.3 Income inequality	13		
3.3.1 E-Participation	15		
2.1.1 Mobile broadband internet traffic within the country	23		
2.3.3 Government promotion of investment in emerging technologies	26		
4.2.2 Freedom to make life choices	32		

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

# Network Readiness Index 2023



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## NRI 2023 At-A-Glance: Kazakhstan

Network Readiness Index

Rank: 58 (out of 134)

Score: 50.97

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	79	37.92	C. Governance pillar	54	62.72
1st sub-pillar: Access	52	69.11	1st sub-pillar: Trust	48	59.13
2nd sub-pillar: Content	82	19.10	2nd sub-pillar: Regulation	104	54.01
3rd sub-pillar: Future Technologies	98	25.55	3rd sub-pillar: Inclusion	35	75.02
B. People pillar	49	47.86	D. Impact pillar	55	55.38
1st sub-pillar: Individuals	54	50.16	1st sub-pillar: Economy	63	29.77
2nd sub-pillar: Businesses	56	48.15	2nd sub-pillar: Quality of Life	35	77.63
3rd sub-pillar: Governments	48	45.27	3rd sub-pillar: SDG Contribution	88	58.75

### The Network Readiness Index in detail

Indicator	Rank	Score	Indicator	Rank	Score
<b>A. Technology pillar</b>	79	37.92	<b>C. Governance pillar</b>	54	62.72
1st sub-pillar: Access	52	69.11	1st sub-pillar: Trust	48	59.13
1.1.1 Mobile tariffs	10	91.02	3.1.1 Secure Internet servers	51	64.66
1.1.2 Handset prices	81	40.38	3.1.2 Cybersecurity	38	93.03
1.1.3 FTTH/building Internet subscriptions	40	38.43	3.1.3 Online access to financial account	52	35.30
1.1.4 Population covered by at least a 3G mobile network	76	99.34	3.1.4 Internet shopping	48	43.53
1.1.5 International Internet bandwidth	37	76.36	2nd sub-pillar: Regulation	104	54.01
1.1.6 Internet access in schools	NA	NA	3.2.1 Regulatory quality	65	51.63
2nd sub-pillar: Content	82	19.10	3.2.2 ICT regulatory environment	129	45.88
1.2.1 GitHub commits	70	5.70	3.2.3 Regulation of emerging technologies	72	42.08
1.2.2 Internet domain registrations	76	2.46	3.2.4 E-commerce legislation	1	100.00
1.2.3 Mobile apps development	64	65.62	3.2.5 Privacy protection by law content	121	30.44
1.2.4 AI scientific publications	80	2.60	3rd sub-pillar: Inclusion	35	75.02
3rd sub-pillar: Future Technologies	98	25.55	3.3.1 E-Participation	15	80.23
1.3.1 Adoption of emerging technologies	85	38.60	3.3.2 Socioeconomic gap in use of digital payments	9	98.66
1.3.2 Investment in emerging technologies	75	37.00	3.3.3 Availability of local online content	70	59.86



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Indicator	Rank	Score	Indicator	Rank	Score
1.3.3 Robot density	NA	NA	3.3.4 Gender gap in Internet use	39	70.12
1.3.4 Computer software spending	122	1.06	3.3.5 Rural gap in use of digital payments	59	66.23
<b>B. People pillar</b>			<b>D. Impact pillar</b>		
<i>1st sub-pillar: Individuals</i>	49	47.86	<i>1st sub-pillar: Economy</i>	55	55.38
2.1.1 Mobile broadband internet traffic within the country	54	50.16	4.1.1 High-tech and medium-high-tech manufacturing	63	29.77
2.1.2 ICT skills in the education system	23	34.87	4.1.2 High-tech exports	74	17.56
2.1.3 Use of virtual social networks	103	13.53	4.1.3 PCT patent applications	9	59.19
2.1.4 Tertiary enrollment	78	56.79	4.1.4 Domestic market size	76	1.71
2.1.5 Adult literacy rate	34	45.87	4.1.5 Prevalence of gig economy	42	61.92
2.1.6 AI talent concentration	6	99.73	4.1.6 ICT services exports	78	35.76
<i>2nd sub-pillar: Businesses</i>			<i>2nd sub-pillar: Quality of Life</i>		
2.2.1 Firms with website	56	48.15	4.2.1 Happiness	111	2.47
2.2.2 GERD financed by business enterprise	35	47.25	4.2.2 Freedom to make life choices	35	77.63
2.2.3 Knowledge intensive employment	64	47.25	4.2.3 Income inequality	54	67.96
2.2.4 Annual investment in telecommunication services	34	58.66	4.2.4 Healthy life expectancy at birth	32	84.61
2.2.5 GERD performed by business enterprise	36	55.66	<i>3rd sub-pillar: SDG Contribution</i>		
<i>3rd sub-pillar: Governments</i>			4.3.1 SDG 3: Good Health and Well-Being	88	58.75
2.3.1 Government online services	48	45.27	4.3.2 SDG 4: Quality Education	45	78.00
2.3.2 Publication and use of open data	8	92.75	4.3.3 SDG 5: Women's economic opportunity	61	27.87
2.3.3 Government promotion of investment in emerging tech	61	26.47	4.3.4 SDG 7: Affordable and Clean Energy	99	65.49
2.3.4 R&D expenditure by governments and higher education	26	59.71	4.3.5 SDG 11: Sustainable Cities and Communities	114	50.94
	101	2.16		54	71.43

NOTE: ● a strength and ○ a weakness.

# Network Readiness Index 2023



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