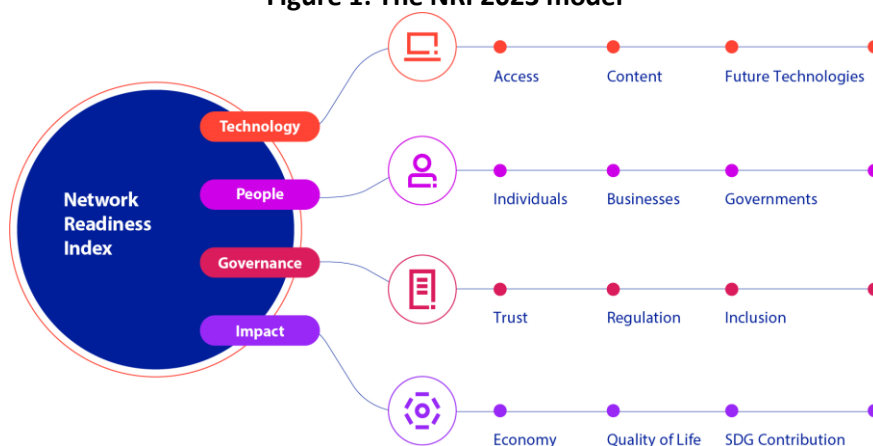# Network Readiness Index 2023

Bosnia and Herzegovina

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.
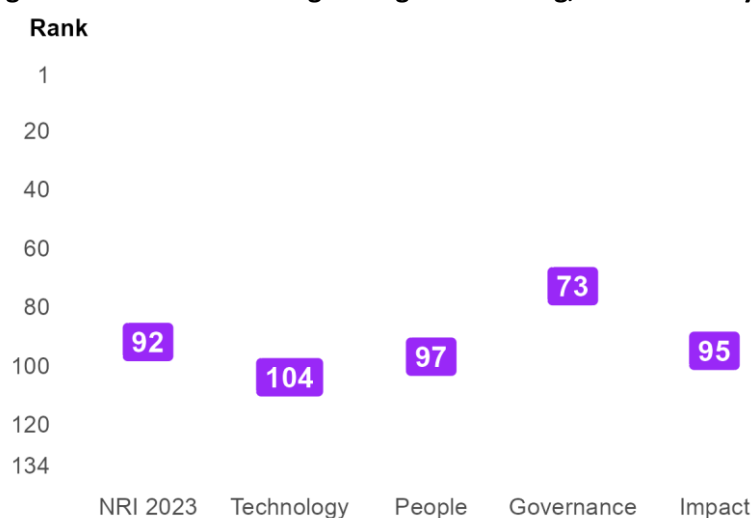
Figure 1: The NRI 2023 model

Global NRI position of Bosnia and Herzegovina

Bosnia and Herzegovina ranks 92nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Bosnia and Herzegovina global ranking, overall and by pillar

Performance at sub-pillar level

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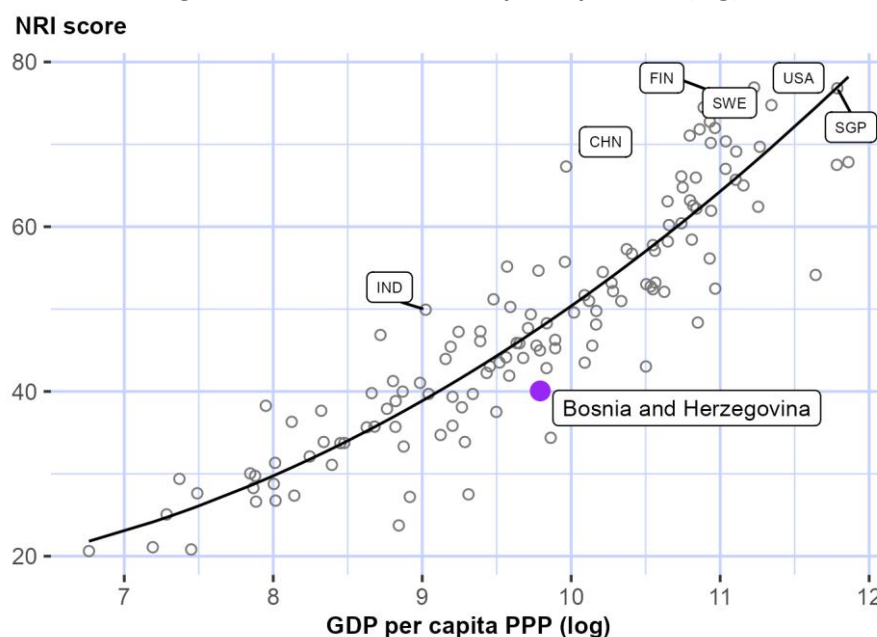
Table 1: Bosnia and Herzegovina rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	64	Access	95
Quality of Life	68	Economy	100
Regulation	69	Content	102
Businesses	71	SDG Contribution	112
Trust	84	Governments	123
Individuals	91	Future Technologies	128

NRI score and income

Figure 3 shows the position of Bosnia and Herzegovina 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, Bosnia and Herzegovina 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). Bosnia and Herzegovina belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

Upper-middle-income countries
Bosnia and Herzegovina is ranked 29th in the group of upper-middle-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 upper-middle-income countries in four of the twelve sub-pillars: Businesses, Regulation, Inclusion and Quality of Life.

Europe
Bosnia and Herzegovina is ranked 41st 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 Bosnia and Herzegovina against its income group and region, overall and by pillar
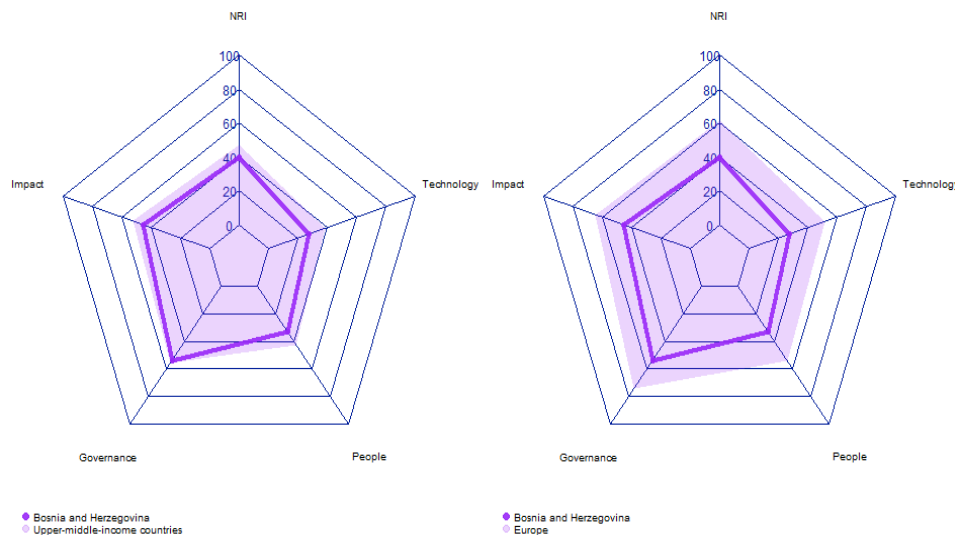

Table 2: Bosnia and Herzegovina scores vs. averages of its income group and region, overall and by pillar

Dimension	Bosnia and Herzegovina	Upper-middle-income countries	Europe
NRI	40.06	47.35	61.25
Technology	27.61	38.48	51.90
People	33.20	42.59	54.16
Governance	53.85	55.90	74.33
Impact	45.59	52.43	64.61

Strongest and weakest indicators

The indicators where Bosnia and Herzegovina performs particularly well include 3.2.4 E-commerce legislation, 3.3.5 Rural gap in use of digital payments, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 2.3.3 Government promotion of investment in emerging technologies, and 4.3.5 SDG 11: Sustainable Cities and Communities.

Table 3: Highlight of Strengths and Opportunities for Bosnia and Herzegovina

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	53
3.3.5 Rural gap in use of digital payments	28	2.3.2 Publication and use of open data	91
2.1.5 Adult literacy rate	30	4.3.5 SDG 11: Sustainable Cities and Communities	121
3.2.2 ICT regulatory environment	34	2.3.3 Government promotion of investment in emerging technologies	124
2.2.1 Firms with website	38	1.3.2 Investment in emerging technologies	125
3.2.5 Privacy protection by law content	48		
4.2.4 Healthy life expectancy at birth	48		
2.2.3 Knowledge intensive employment	52		
3.1.1 Secure Internet servers	52		
4.1.6 ICT services exports	54		
3.1.4 Internet shopping	56		

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

NRI 2023 At-A-Glance: Bosnia and Herzegovina

Network Readiness Index   Rank: 92 (out of 134)   Score: 40.06

Pillar/sub-pillar	Rank	Score		Pillar/sub-pillar	Rank	Score
A. Technology pillar	104	27.61		C. Governance pillar	73	53.85
1st sub-pillar: Access	95	53.64		1st sub-pillar: Trust	84	34.48
2nd sub-pillar: Content	102	15.13		2nd sub-pillar: Regulation	69	64.87
3rd sub-pillar: Future Technologies	128	14.08		3rd sub-pillar: Inclusion	64	62.22
B. People pillar	97	33.20		D. Impact pillar	95	45.59
1st sub-pillar: Individuals	91	41.03		1st sub-pillar: Economy	100	18.47
2nd sub-pillar: Businesses	71	43.51		2nd sub-pillar: Quality of Life	68	68.01
3rd sub-pillar: Governments	123	15.06		3rd sub-pillar: SDG Contribution	112	50.28

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	104	27.61		**C. Governance pillar**	73	53.85	
1st sub-pillar: Access	95	53.64		*1st sub-pillar: Trust*	84	34.48	
1.1.1 Mobile tariffs	85	51.47		3.1.1 Secure Internet servers	52	64.22	●
1.1.2 Handset prices	85	39.21		3.1.2 Cybersecurity	109	28.20	
1.1.3 FTTH/building Internet subscriptions	96	14.89		3.1.3 Online access to financial account	104	10.71	
1.1.4 Population covered by at least a 3G mobile network	57	99.67		3.1.4 Internet shopping	56	34.79	●
1.1.5 International Internet bandwidth	109	62.95		*2nd sub-pillar: Regulation*	69	64.87	
1.1.6 Internet access in schools	NA	NA		3.2.1 Regulatory quality	79	45.57	
2nd sub-pillar: Content	102	15.13		3.2.2 ICT regulatory environment	34	89.41	●
1.2.1 GitHub commits	63	7.57		3.2.3 Regulation of emerging technologies	107	17.14	
1.2.2 Internet domain registrations	71	3.43		3.2.4 E-commerce legislation	1	100.00	●
1.2.3 Mobile apps development	104	47.10		3.2.5 Privacy protection by law content	48	72.23	●
1.2.4 AI scientific publications	82	2.40		*3rd sub-pillar: Inclusion*	64	62.22	
3rd sub-pillar: Future Technologies	128	14.08		3.3.1 E-Participation	71	52.33	
1.3.1 Adoption of emerging technologies	96	33.05		3.3.2 Socioeconomic gap in use of digital payments	80	65.63	
1.3.2 Investment in emerging technologies	125	17.00	○	3.3.3 Availability of local online content	75	54.33	

Indicator	Rank	Score	
1.3.3 Robot density	53	0.32	○
1.3.4 Computer software spending	97	5.95	
B. People pillar	**97**	**33.20**	
1st sub-pillar: Individuals	91	41.03	
2.1.1 Mobile broadband internet traffic within the country	105	1.52	
2.1.2 ICT skills in the education system	88	29.58	
2.1.3 Use of virtual social networks	85	52.00	
2.1.4 Tertiary enrollment	77	24.64	
2.1.5 Adult literacy rate	30	97.41	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	71	43.51	
2.2.1 Firms with website	38	67.70	●
2.2.2 GERD financed by business enterprise	58	36.37	
2.2.3 Knowledge intensive employment	52	36.62	●
2.2.4 Annual investment in telecommunication services	90	74.82	
2.2.5 GERD performed by business enterprise	63	2.03	
3rd sub-pillar: Governments	123	15.06	
2.3.1 Government online services	100	43.61	
2.3.2 Publication and use of open data	91	8.82	○
2.3.3 Government promotion of investment in emerging tech	124	4.51	○
2.3.4 R&D expenditure by governments and higher education	90	3.29	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	76	63.78	
3.3.5 Rural gap in use of digital payments	28	75.01	●
D. Impact pillar	**95**	**45.59**	
1st sub-pillar: Economy	100	18.47	
4.1.1 High-tech and medium-high-tech manufacturing	72	19.23	
4.1.2 High-tech exports	74	9.40	
4.1.3 PCT patent applications	66	2.61	
4.1.4 Domestic market size	101	39.44	
4.1.5 Prevalence of gig economy	109	21.80	
4.1.6 ICT services exports	54	18.33	●
2nd sub-pillar: Quality of Life	68	68.01	
4.2.1 Happiness	71	63.17	
4.2.2 Freedom to make life choices	89	63.98	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	48	76.87	●
3rd sub-pillar: SDG Contribution	112	50.28	
4.3.1 SDG 3: Good Health and Well-Being	89	59.55	
4.3.2 SDG 4: Quality Education	60	27.97	
4.3.3 SDG 5: Women's economic opportunity	60	78.76	
4.3.4 SDG 7: Affordable and Clean Energy	112	52.89	
4.3.5 SDG 11: Sustainable Cities and Communities	121	32.25	○

NOTE: ● a strength and ○ a weakness.

Network Readiness Index 2023

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