



## Angola

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.

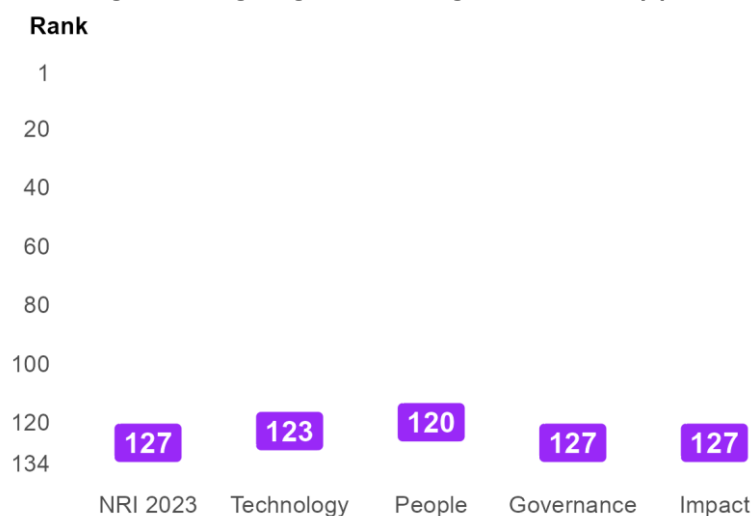
**Figure 1: The NRI 2023 model**



### Global NRI position of Angola

Angola ranks 127th 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 Governance and Impact.

**Figure 2: Angola global ranking, overall and by pillar**



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## Performance at sub-pillar level

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

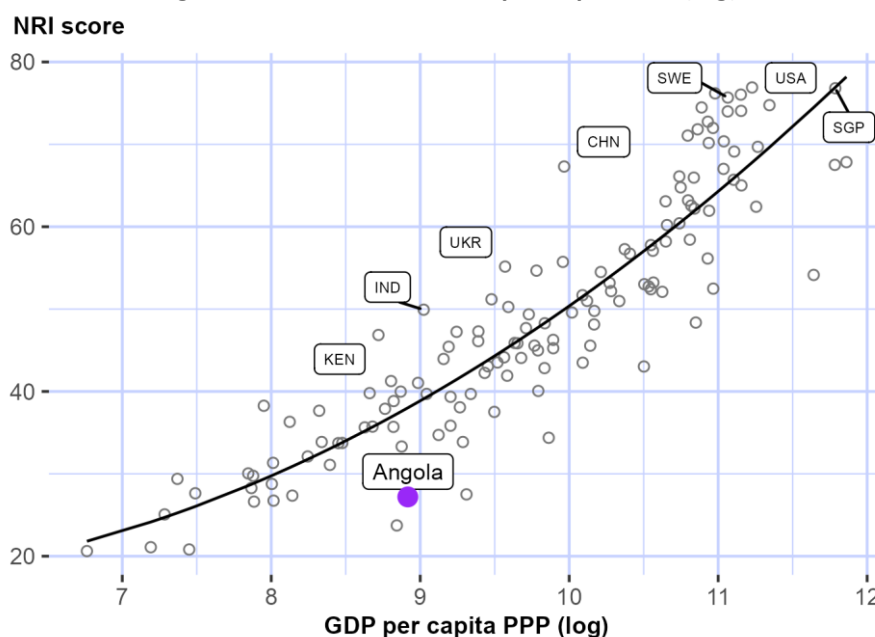
**Table 1: Angola rankings by sub-pillar**

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	76	Governments	118
SDG Contribution	98	Trust	120
Economy	102	Individuals	128
Access	110	Inclusion	130
Regulation	114	Future Technologies	133
Content	115	Quality of Life	133

## NRI score and income

Figure 3 shows the position of Angola 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, Angola 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). Angola belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

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## Performance against its income group and region

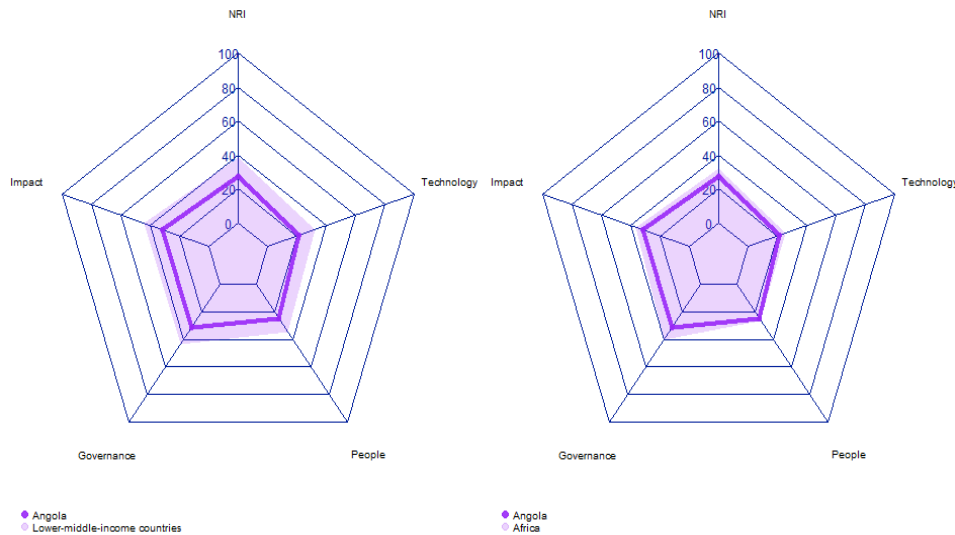
### Lower-middle-income countries

Angola is ranked 38th in the group of lower-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 lower-middle-income countries in one of the twelve sub-pillars: Businesses.

### Africa

Angola is ranked 25th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in five of the twelve sub-pillars: Access, Content, Businesses, Economy and SDG Contribution.

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



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

Dimension	Angola	Lower-middle-income countries	Africa
NRI	27.20	38.41	32.14
Technology	21.12	32.12	25.14
People	24.88	34.38	26.19
Governance	31.00	43.27	40.44
Impact	31.78	43.89	36.77

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## Strongest and weakest indicators

The indicators where Angola performs particularly well include 4.1.2 High-tech exports, 4.3.4 SDG 7: Affordable and Clean Energy, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 3.3.2 Socioeconomic gap in use of digital payments, and 4.2.2 Freedom to make life choices.

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

Strongest indicators	Rank	Weakest indicators	Rank
4.1.2 High-tech exports	13	4.1.3 PCT patent applications	99
4.3.4 SDG 7: Affordable and Clean Energy	36	2.1.2 ICT skills in the education system	106
3.2.5 Privacy protection by law content	58	3.3.1 E-Participation	128
4.1.4 Domestic market size	64	4.1.6 ICT services exports	128
1.1.3 FTTH/building Internet subscriptions	71	1.2.2 Internet domain registrations	129
2.2.4 Annual investment in telecommunication services	74	3.3.2 Socioeconomic gap in use of digital payments	130
1.1.2 Handset prices	75	4.2.2 Freedom to make life choices	130
4.3.3 SDG 5: Women's economic opportunity	85	1.3.2 Investment in emerging technologies	132
3.2.2 ICT regulatory environment	88		
4.3.5 SDG 11: Sustainable Cities and Communities	89		

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

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## NRI 2023 At-A-Glance: Angola

Network Readiness Index

Rank: 127 (out of 134)

Score: 27.20

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	123	21.12	C. Governance pillar	127	31.00
1st sub-pillar: Access	110	44.38	1st sub-pillar: Trust	120	17.58
2nd sub-pillar: Content	115	10.78	2nd sub-pillar: Regulation	114	48.93
3rd sub-pillar: Future Technologies	133	8.21	3rd sub-pillar: Inclusion	130	26.50
B. People pillar	120	24.88	D. Impact pillar	127	31.78
1st sub-pillar: Individuals	128	15.54	1st sub-pillar: Economy	102	18.26
2nd sub-pillar: Businesses	76	42.33	2nd sub-pillar: Quality of Life	133	22.93
3rd sub-pillar: Governments	118	16.77	3rd sub-pillar: SDG Contribution	98	54.15

### The Network Readiness Index in detail

Indicator	Rank	Score	Indicator	Rank	Score
<b>A. Technology pillar</b>	123	21.12	<b>C. Governance pillar</b>	127	31.00
1st sub-pillar: Access	110	44.38	1st sub-pillar: Trust	120	17.58
1.1.1 Mobile tariffs	106	34.76	3.1.1 Secure Internet servers	122	23.70
1.1.2 Handset prices	75	42.88	3.1.2 Cybersecurity	126	11.46
1.1.3 FTTH/building Internet subscriptions	71	26.42	3.1.3 Online access to financial account	NA	NA
1.1.4 Population covered by at least a 3G mobile network	110	95.38	3.1.4 Internet shopping	NA	NA
1.1.5 International Internet bandwidth	103	64.17	2nd sub-pillar: Regulation	114	48.93
1.1.6 Internet access in schools	81	2.70	3.2.1 Regulatory quality	109	34.63
2nd sub-pillar: Content	115	10.78	3.2.2 ICT regulatory environment	88	72.59
1.2.1 GitHub commits	126	0.35	3.2.3 Regulation of emerging technologies	117	1.82
1.2.2 Internet domain registrations	129	0.08	3.2.4 E-commerce legislation	87	66.67
1.2.3 Mobile apps development	110	42.61	3.2.5 Privacy protection by law content	58	68.96
1.2.4 AI scientific publications	127	0.10	3rd sub-pillar: Inclusion	130	26.50
3rd sub-pillar: Future Technologies	133	8.21	3.3.1 E-Participation	128	15.12
1.3.1 Adoption of emerging technologies	121	16.41	3.3.2 Socioeconomic gap in use of digital payments	130	12.39
1.3.2 Investment in emerging technologies	132	0.00	3.3.3 Availability of local online content	125	23.08

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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	91	55.39
1.3.4 Computer software spending	NA	NA	3.3.5 Rural gap in use of digital payments	NA	NA
<b>B. People pillar</b>			<b>D. Impact pillar</b>		
<i>1st sub-pillar: Individuals</i>			<i>1st sub-pillar: Economy</i>		
2.1.1 Mobile broadband internet traffic within the country	94	2.89	4.1.1 High-tech and medium-high-tech manufacturing	106	1.48
2.1.2 ICT skills in the education system	106	0.00 ○	4.1.2 High-tech exports	13	48.70 ●
2.1.3 Use of virtual social networks	120	7.33	4.1.3 PCT patent applications	99	0.00 ○
2.1.4 Tertiary enrollment	110	5.34	4.1.4 Domestic market size	64	53.22 ●
2.1.5 Adult literacy rate	91	62.15	4.1.5 Prevalence of gig economy	122	5.23
2.1.6 AI talent concentration	NA	NA	4.1.6 ICT services exports	128	0.90 ○
<i>2nd sub-pillar: Businesses</i>			<i>2nd sub-pillar: Quality of Life</i>		
2.2.1 Firms with website	NA	NA	4.2.1 Happiness	118	26.83
2.2.2 GERD financed by business enterprise	NA	NA	4.2.2 Freedom to make life choices	130	0.00 ○
2.2.3 Knowledge intensive employment	113	7.73	4.2.3 Income inequality	108	29.40
2.2.4 Annual investment in telecommunication services	74	76.93 ●	4.2.4 Healthy life expectancy at birth	120	35.51
2.2.5 GERD performed by business enterprise	NA	NA	<i>3rd sub-pillar: SDG Contribution</i>		
<i>3rd sub-pillar: Governments</i>			4.3.1 SDG 3: Good Health and Well-Being	127	17.18
2.3.1 Government online services	103	41.60	4.3.2 SDG 4: Quality Education	NA	NA
2.3.2 Publication and use of open data	NA	NA	4.3.3 SDG 5: Women's economic opportunity	85	70.80 ●
2.3.3 Government promotion of investment in emerging tech	119	8.32	4.3.4 SDG 7: Affordable and Clean Energy	36	78.25 ●
2.3.4 R&D expenditure by governments and higher education	113	0.40	4.3.5 SDG 11: Sustainable Cities and Communities	89	50.37 ●

NOTE: ● a strength and ○ a weakness.

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