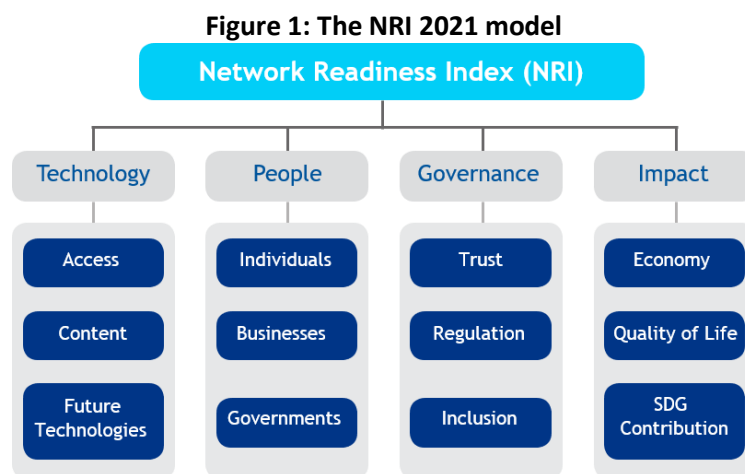


Network Readiness Index 2021 Angola

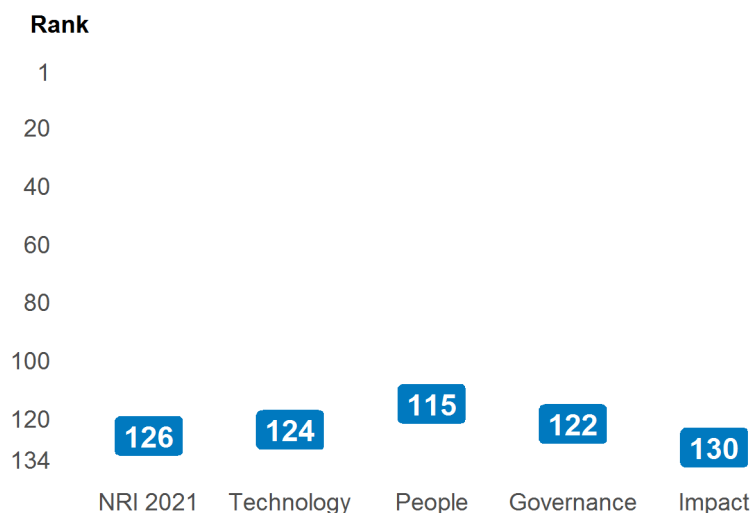
The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2021 the NRI Report maps the network-based readiness landscape of 130 economies based on their 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 Angola

Angola ranks 126th out of the 130 economies included in the NRI 2021 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Angola global ranking, overall and by pillar



Performance at sub-pillar level

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

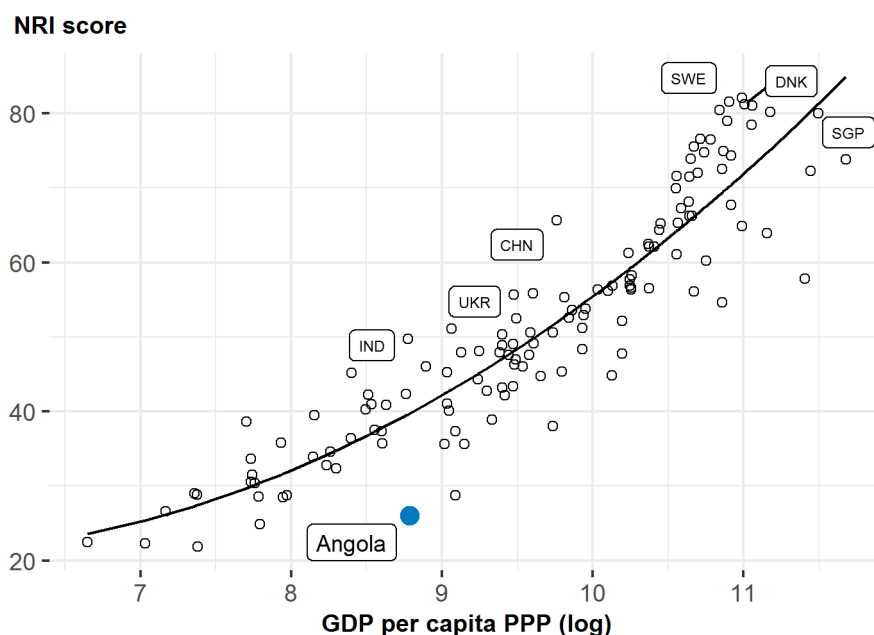
Table 1: Angola rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	93	Inclusion	119
Regulation	112	Content	122
Access	113	Governments	122
SDG Contribution	113	Future Technologies	129
Individuals	118	Economy	130
Trust	119	Quality of Life	130

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: NLD = Netherlands (rank: 1), SWE = Sweden (2), DNK = Denmark (3), CHN = China (29), IND = India (67). USA is ranked 4th. 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 South Africa (ZAF).

Performance against its income group and region

Lower-middle-income countries

Angola is ranked 33rd 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 trails lower-middle-income countries in all of them.

Africa

Angola is ranked 26th 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 two of the twelve sub-pillars: Businesses and SDG Contribution.

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

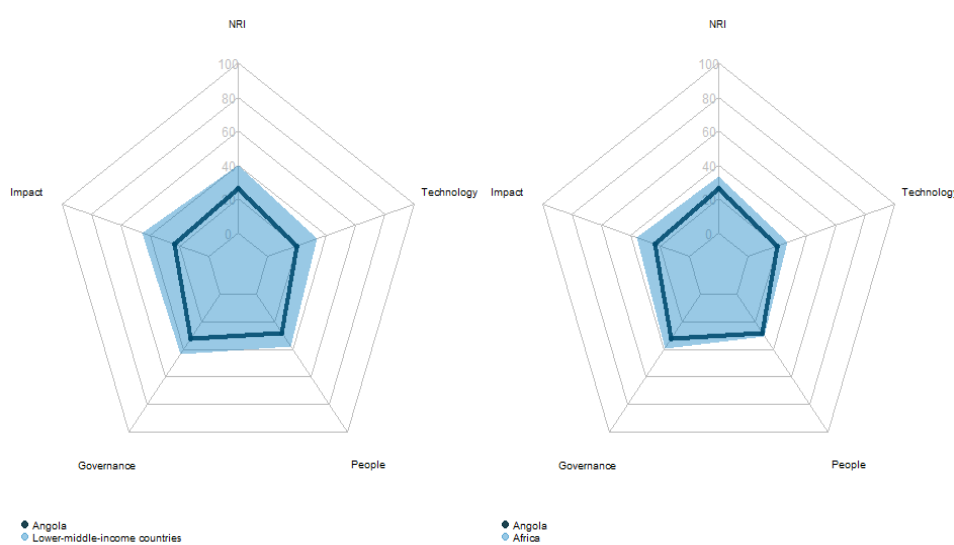


Table 2: Angola scores vs. averages of its income group and region, overall and by pillar

Dimension	Angola	Lower-middle-income countries	Africa
NRI	25.99	40.00	33.19
Technology	19.81	33.64	26.99
People	28.46	37.84	30.56
Governance	32.20	43.38	39.23
Impact	23.48	45.13	35.99

Strongest and weakest indicators

The indicators where Angola performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 1.1.4 SMS sent by population 15-69, and 1.1.6 International Internet bandwidth (Table 3). By contrast, the economy's weakest indicators include 1.2.3 Internet domain registrations, 1.3.2 Investment in emerging technologies, and 4.2.2 Freedom to make life choices.

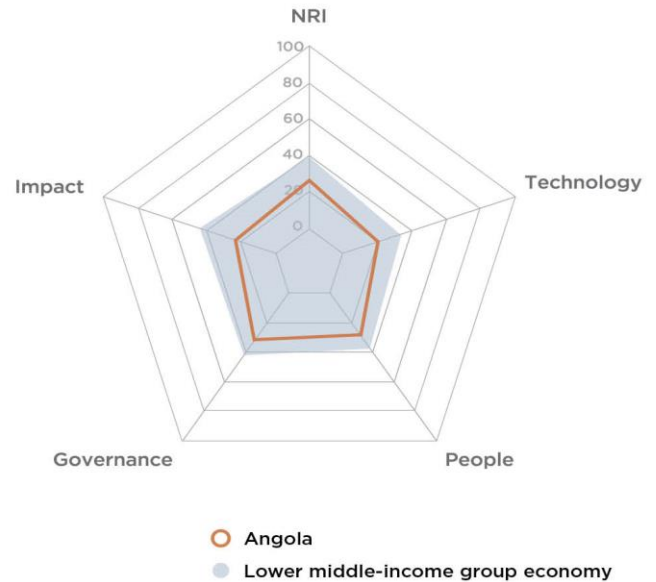
Table 3: Strongest and weakest indicators of Angola

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	34	4.1.3 PCT patent applications	96
1.1.4 SMS sent by population 15-69	39	2.3.4 R&D expenditure by governments and higher education	109
1.1.6 International Internet bandwidth	69	1.3.2 Investment in emerging technologies	128
2.1.1 Active mobile broadband subscriptions	74	4.2.2 Freedom to make life choices	128
2.2.5 Annual investment in telecommunication services	87	1.2.3 Internet domain registrations	129
3.2.2 ICT regulatory environment	89		
1.1.1 Mobile tariffs	94		
3.2.5 Privacy protection by law content	94		
4.1.2 High-tech exports	104		
4.3.5 SDG 11: Sustainable Cities and Communities	104		

Angola

Network Readiness Index Rank (out of 130) **126** Score **25.99**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	124	19.81
1st sub-pillar: Access	113	37.39
2nd sub-pillar: Content	122	13.83
3rd sub-pillar: Future Technologies	129	8.21
B. People pillar	115	28.46
1st sub-pillar: Individuals	118	35.76
2nd sub-pillar: Businesses	93	30.85
3rd sub-pillar: Governments	122	18.76
C. Governance pillar	122	32.20
1st sub-pillar: Trust	119	17.64
2nd sub-pillar: Regulation	112	45.75
3rd sub-pillar: Inclusion	119	33.20
D. Impact pillar	130	23.48
1st sub-pillar: Economy	130	8.06
2nd sub-pillar: Quality of Life	130	19.85
3rd sub-pillar: SDG Contribution	113	42.54



Network Readiness Index in detail

Indicator	Rank	Score
A. Technology pillar	124	19.81
1st sub-pillar: Access	113	37.39
1.1.1 Mobile tariffs	94	43.72 ●
1.1.2 Handset prices	109	31.64
1.1.3 Households with internet access	122	6.47
1.1.4 SMS sent by population 15-69	39	80.34 ●
1.1.5 Population covered by at least a 3G mobile network	100	96.32
1.1.6 International Internet bandwidth	69	0.56 ●
1.1.7 Internet access in schools	67	2.70
2nd sub-pillar: Content	122	13.83
1.2.1 GitHub commits	120	0.09
1.2.2 Wikipedia edits	123	15.25
1.2.3 Internet domain registrations	*	* ○
1.2.4 Mobile apps development	121	41.20
1.2.5 AI scientific publications	108	12.60
3rd sub-pillar: Future Technologies	129	8.21
1.3.1 Adoption of emerging technologies	119	16.41
1.3.2 Investment in emerging technologies	128	0.00 ○
1.3.3 Robot density	NA	NA
1.3.4 Computer software spending	NA	NA
B. People pillar	115	28.46
1st sub-pillar: Individuals	118	35.76
2.1.1 Active mobile broadband subscriptions	74	74.31 ●
2.1.2 ICT skills	NA	NA
2.1.3 Use of virtual social networks	121	6.44
2.1.4 Tertiary enrollment	110	5.99
2.1.5 Adult literacy rate	93	56.29
2nd sub-pillar: Businesses	93	30.85
2.2.1 Firms with website	101	22.45
2.2.2 GERD financed by business enterprise	NA	NA
2.2.3 Professionals	105	12.64
2.2.4 Technicians and associate professionals	104	15.03
2.2.5 Annual investment in telecommunication services	87	73.29 ●
2.2.6 GERD performed by business enterprise	NA	NA
3rd sub-pillar: Governments	122	18.76
2.3.1 Government online services	104	47.27
2.3.2 Publication and use of open data	NA	NA
2.3.3 Government promotion of investment in emerging tech	118	8.32
2.3.4 R&D expenditure by governments and higher education	109	0.68 ○

Indicator	Rank	Score
C. Governance pillar	122	32.20
1st sub-pillar: Trust	119	17.64
3.1.1 Secure Internet servers	120	23.83
3.1.2 Cybersecurity	123	11.46
3.1.3 Online access to financial account	NA	NA
3.1.4 Internet shopping	NA	NA
2nd sub-pillar: Regulation	112	45.75
3.2.1 Regulatory quality	121	16.77
3.2.2 ICT regulatory environment	89	71.37 ●
3.2.3 Legal framework's adaptability to emerging technologies	115	11.18
3.2.4 E-commerce legislation	76	75.00
3.2.5 Privacy protection by law content	94	54.40 ●
3rd sub-pillar: Inclusion	119	33.20
3.3.1 E-Participation	103	43.21
3.3.2 Socioeconomic gap in use of digital payments	NA	NA
3.3.3 Availability of local online content	122	23.19
3.3.4 Gender gap in Internet use	NA	NA
3.3.5 Rural gap in use of digital payments	NA	NA
D. Impact pillar	130	23.48
1st sub-pillar: Economy	130	8.06
4.1.1 High-tech and medium-high-tech manufacturing	102	1.31
4.1.2 High-tech exports	104	4.91 ●
4.1.3 PCT patent applications	96	0.00 ○
4.1.4 Growth rate of GDP per person engaged	113	34.66
4.1.5 Prevalence of gig economy	120	5.46
4.1.6 ICT services exports	125	2.02
2nd sub-pillar: Quality of Life	130	19.85
4.2.1 Happiness	122	13.43
4.2.2 Freedom to make life choices	128	0.00 ○
4.2.3 Income inequality	109	30.47
4.2.4 Healthy life expectancy at birth	116	35.51
3rd sub-pillar: SDG Contribution	113	42.54
4.3.1 SDG 3: Good Health and Well-Being	123	19.67
4.3.2 SDG 4: Quality Education	NA	NA
4.3.3 Females employed with advanced degrees	108	4.89
4.3.4 SDG 7: Affordable and Clean Energy	34	84.11 ●
4.3.5 SDG 11: Sustainable Cities and Communities	104	61.50 ●

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

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