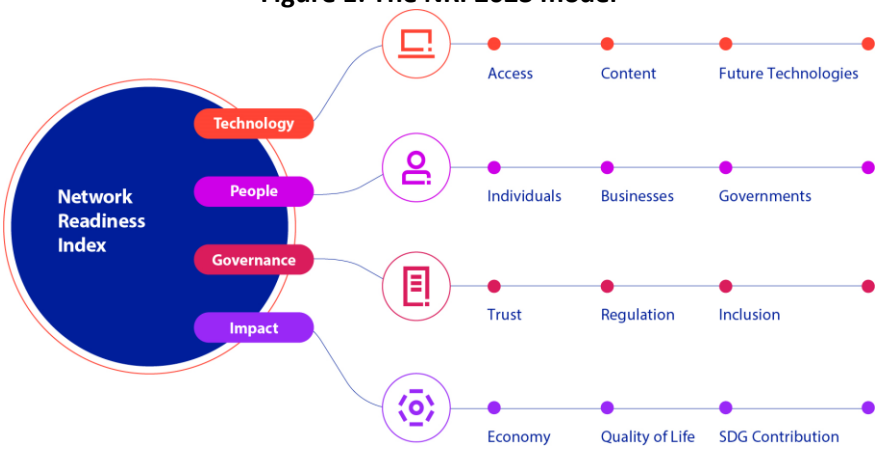
Madagascar

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.

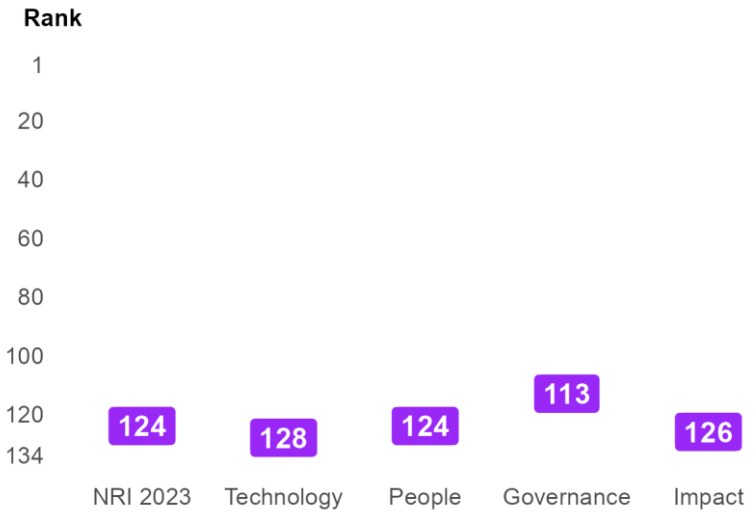
Figure 1: The NRI 2023 model



Global NRI position of Madagascar

Madagascar ranks 124th 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: Madagascar global ranking, overall and by pillar



Performance at sub-pillar level

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

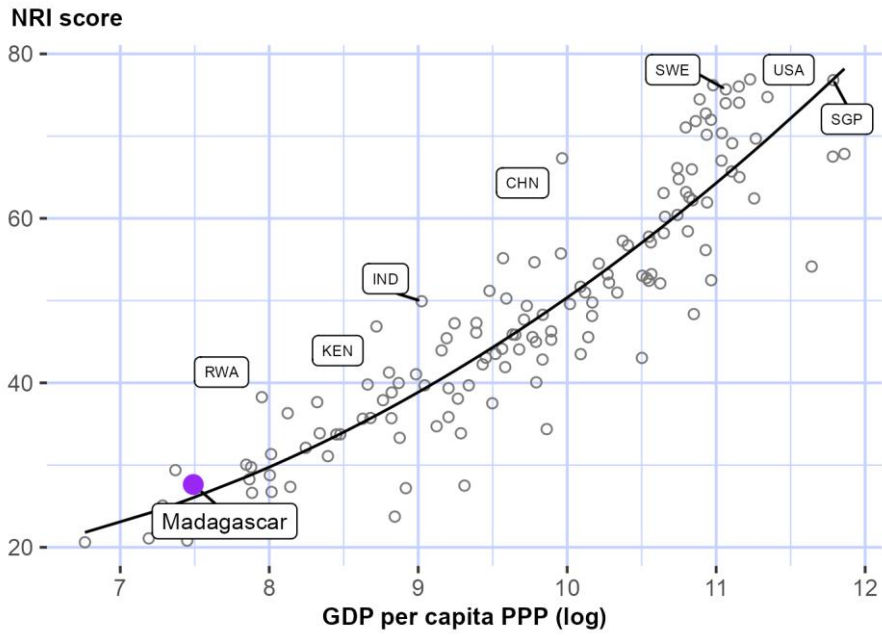
Table 1: Madagascar rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	61	Inclusion	124
Economy	86	Trust	125
Businesses	106	Quality of Life	125
Future Technologies	113	Access	128
Individuals	122	Content	130
Governments	122	SDG Contribution	132

NRI score and income

Figure 3 shows the position of Madagascar 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, Madagascar is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given 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). Madagascar belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Madagascar is ranked 6th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: NRI, People and Governance. At the sub-pillar level, it outperforms low-income countries in five of the twelve sub-pillars: Future Technologies, Individuals, Businesses, Regulation and Economy.

Africa

Madagascar is ranked 22nd 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: Regulation and Economy.

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

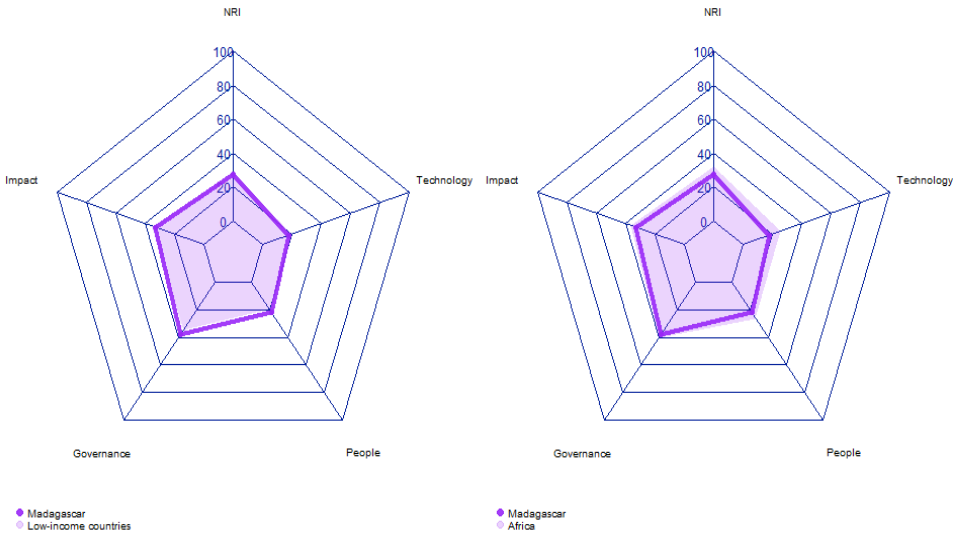


Table 2: Madagascar scores vs. averages of its income group and region, overall and by pillar

Dimension	Madagascar	Low-income countries	Africa
NRI	27.64	27.19	32.14
Technology	17.62	19.75	25.14
People	22.00	19.57	26.19
Governance	38.19	34.61	40.44
Impact	32.75	34.82	36.77

Strongest and weakest indicators

The indicators where Madagascar performs particularly well include 3.2.4 E-commerce legislation, 4.1.6 ICT services exports, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 4.3.1 SDG 3: Good Health and Well-Being, 1.1.1 Mobile tariffs, 3.1.1 Secure Internet servers, and 3.3.2 Socioeconomic gap in use of digital payments.

Table 3: Highlight of Strengths and Opportunities for Madagascar

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.3.4 R&D expenditure by governments and higher education	114
4.1.6 ICT services exports	35	1.2.3 Mobile apps development	122
3.2.5 Privacy protection by law content	40	4.2.2 Freedom to make life choices	126
4.1.5 Prevalence of gig economy	59	3.1.1 Secure Internet servers	128
1.1.3 FTTH/building Internet subscriptions	75	3.3.2 Socioeconomic gap in use of digital payments	128
3.1.3 Online access to financial account	82	1.1.1 Mobile tariffs	129
4.1.3 PCT patent applications	87	4.3.1 SDG 3: Good Health and Well-Being	132
1.3.2 Investment in emerging technologies	88		
4.2.3 Income inequality	91		
1.2.4 AI scientific publications	95		

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

NRI 2023 At-A-Glance: Madagascar

Network Readiness Index Rank: 124 (out of 134) Score: 27.64

Pillar/sub-pillar	Rank	Score
A. Technology pillar	128	17.62
1st sub-pillar: Access	128	32.81
2nd sub-pillar: Content	130	0.59
3rd sub-pillar: Future Technologies	113	19.46
B. People pillar	124	22.00
1st sub-pillar: Individuals	122	19.98
2nd sub-pillar: Businesses	106	30.90
3rd sub-pillar: Governments	122	15.11

Pillar/sub-pillar	Rank	Score
C. Governance pillar	113	38.19
1st sub-pillar: Trust	125	16.01
2nd sub-pillar: Regulation	61	66.97
3rd sub-pillar: Inclusion	124	31.59
D. Impact pillar	126	32.75
1st sub-pillar: Economy	86	22.44
2nd sub-pillar: Quality of Life	125	37.71
3rd sub-pillar: SDG Contribution	132	38.10

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	128	17.62	
1st sub-pillar: Access	128	32.81	
1.1.1 Mobile tariffs	129	8.03	○
1.1.2 Handset prices	124	18.18	
1.1.3 FTTH/building Internet subscriptions	75	25.50	●
1.1.4 Population covered by at least a 3G mobile network	127	85.34	
1.1.5 International Internet bandwidth	117	59.70	
1.1.6 Internet access in schools	83	0.12	
2nd sub-pillar: Content	130	0.59	
1.2.1 GitHub commits	118	0.69	
1.2.2 Internet domain registrations	127	0.11	
1.2.3 Mobile apps development	122	0.00	○
1.2.4 AI scientific publications	95	1.56	●
3rd sub-pillar: Future Technologies	113	19.46	
1.3.1 Adoption of emerging technologies	116	22.75	
1.3.2 Investment in emerging technologies	88	33.75	●
1.3.3 Robot density	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	113	38.19	
1st sub-pillar: Trust	125	16.01	
3.1.1 Secure Internet servers	128	18.27	○
3.1.2 Cybersecurity	115	21.98	
3.1.3 Online access to financial account	82	18.78	●
3.1.4 Internet shopping	108	5.02	
2nd sub-pillar: Regulation	61	66.97	
3.2.1 Regulatory quality	115	31.08	
3.2.2 ICT regulatory environment	115	61.76	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	40	75.05	●
3rd sub-pillar: Inclusion	124	31.59	
3.3.1 E-Participation	106	26.75	
3.3.2 Socioeconomic gap in use of digital payments	128	26.77	○
3.3.3 Availability of local online content	109	34.13	
3.3.4 Gender gap in Internet use	NA	NA	

Indicator	Rank	Score	
1.3.4 Computer software spending	115	1.87	
B. People pillar	124	22.00	
1st sub-pillar: Individuals	122	19.98	
2.1.1 Mobile broadband internet traffic within the country	100	2.13	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	121	6.94	
2.1.4 Tertiary enrollment	125	1.89	
2.1.5 Adult literacy rate	85	68.94	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	106	30.90	
2.2.1 Firms with website	100	18.25	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	124	1.49	
2.2.4 Annual investment in telecommunication services	98	72.96	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	122	15.11	
2.3.1 Government online services	122	28.33	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	112	16.96	
2.3.4 R&D expenditure by governments and higher education	114	0.05	○

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	104	38.73	
D. Impact pillar	126	32.75	
1st sub-pillar: Economy	86	22.44	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	117	1.17	
4.1.3 PCT patent applications	87	0.80	●
4.1.4 Domestic market size	106	37.55	
4.1.5 Prevalence of gig economy	59	44.19	●
4.1.6 ICT services exports	35	28.52	●
2nd sub-pillar: Quality of Life	125	37.71	
4.2.1 Happiness	116	31.00	
4.2.2 Freedom to make life choices	126	24.79	○
4.2.3 Income inequality	91	51.26	●
4.2.4 Healthy life expectancy at birth	111	43.78	
3rd sub-pillar: SDG Contribution	132	38.10	
4.3.1 SDG 3: Good Health and Well-Being	132	10.58	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	112	56.64	
4.3.4 SDG 7: Affordable and Clean Energy	122	43.50	
4.3.5 SDG 11: Sustainable Cities and Communities	109	41.67	

NOTE: ● a strength and ○ a weakness.

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