



## Brazil

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.

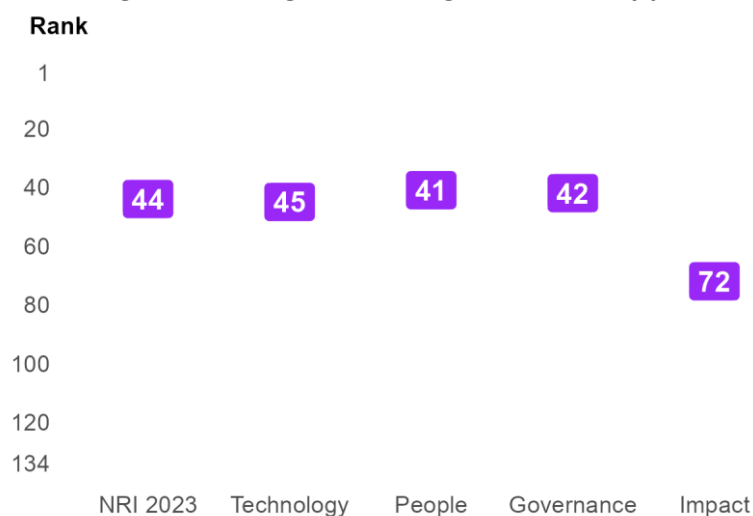
Figure 1: The NRI 2023 model



### Global NRI position of Brazil

Brazil ranks 44th 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 Impact.

Figure 2: Brazil 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 Brazil relate to Inclusion, Access and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Individuals and Quality of Life sub-pillars.

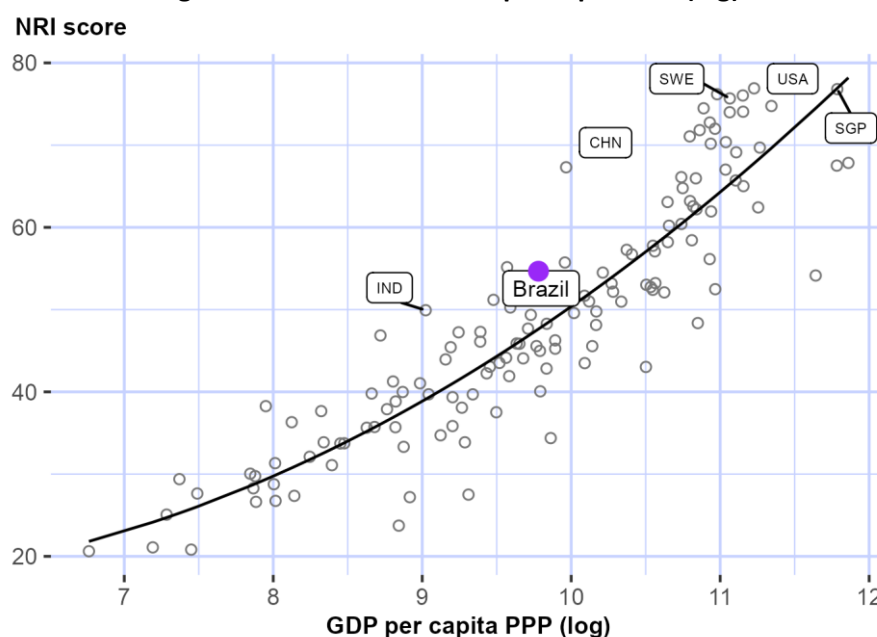
**Table 1: Brazil rankings by sub-pillar**

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	24	Trust	52
Access	28	SDG Contribution	59
Governments	34	Economy	61
Businesses	36	Future Technologies	72
Content	40	Individuals	85
Regulation	47	Quality of Life	91

## NRI score and income

Figure 3 shows the position of Brazil 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, Brazil is well above the trend line, which suggests that it has a greater network readiness than 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). Brazil belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

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## Performance against its income group and region

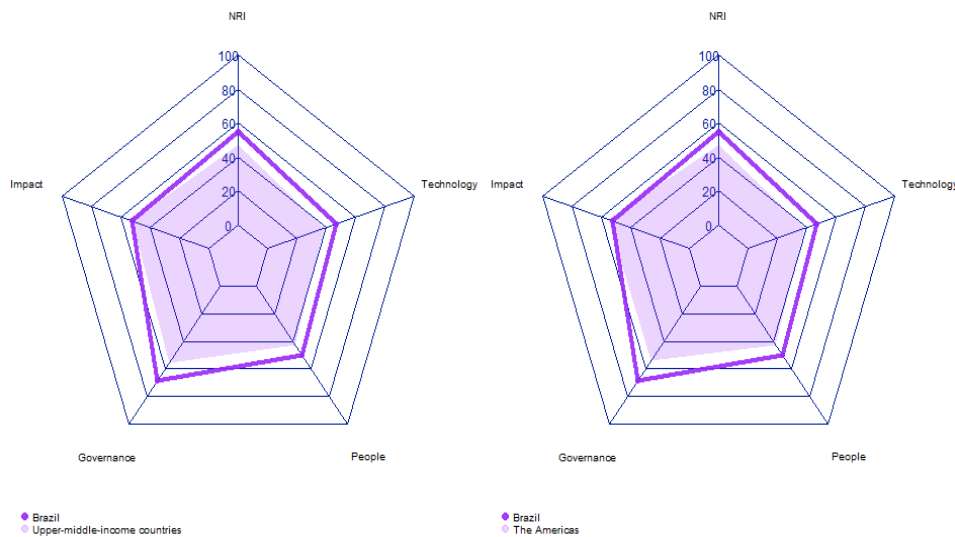
### Upper-middle-income countries

Brazil is ranked 5th 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 each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

### The Americas

Brazil is ranked 3rd within The Americas (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, People and Governance. With regard to sub-pillars, it outperforms the average in The Americas in eight of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust, Regulation, Inclusion and Economy.

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



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

Dimension	Brazil	Upper-middle-income countries	The Americas
NRI	54.67	47.35	47.41
Technology	47.01	38.48	38.24
People	50.31	42.59	42.35
Governance	68.72	55.90	54.12
Impact	52.64	52.43	54.93

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## Strongest and weakest indicators

The indicators where Brazil performs particularly well include 3.2.4 E-commerce legislation, 1.1.3 FTTH/building Internet subscriptions, and 1.2.4 AI scientific publications (Table 3). By contrast, the economy's weakest indicators include 4.2.3 Income inequality, 2.1.2 ICT skills in the education system, and 4.3.2 SDG 4: Quality Education.

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

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	44
1.1.3 FTTH/building Internet subscriptions	3	2.1.6 AI talent concentration	46
1.2.4 AI scientific publications	8	4.3.2 SDG 4: Quality Education	65
4.1.4 Domestic market size	8	2.1.2 ICT skills in the education system	95
2.2.4 Annual investment in telecommunication services	9	4.2.3 Income inequality	110
3.3.1 E-Participation	11		
2.3.1 Government online services	14		
3.2.2 ICT regulatory environment	14		
3.3.4 Gender gap in Internet use	16		
2.1.1 Mobile broadband internet traffic within the country	17		
1.1.2 Handset prices	25		

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

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## NRI 2023 At-A-Glance: Brazil

Network Readiness Index

Rank: 44 (out of 134)

Score: 54.67

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	45	47.01	C. Governance pillar	42	68.72
1st sub-pillar: Access	28	75.17	1st sub-pillar: Trust	52	55.06
2nd sub-pillar: Content	40	34.60	2nd sub-pillar: Regulation	47	72.20
3rd sub-pillar: Future Technologies	72	31.25	3rd sub-pillar: Inclusion	24	78.91
B. People pillar	41	50.31	D. Impact pillar	72	52.64
1st sub-pillar: Individuals	85	42.87	1st sub-pillar: Economy	61	30.62
2nd sub-pillar: Businesses	36	58.16	2nd sub-pillar: Quality of Life	91	61.16
3rd sub-pillar: Governments	34	49.90	3rd sub-pillar: SDG Contribution	59	66.13

### The Network Readiness Index in detail

Indicator	Rank	Score	Indicator	Rank	Score
<b>A. Technology pillar</b>	45	47.01	<b>C. Governance pillar</b>	42	68.72
1st sub-pillar: Access	28	75.17	1st sub-pillar: Trust	52	55.06
1.1.1 Mobile tariffs	57	66.93	3.1.1 Secure Internet servers	54	64.09
1.1.2 Handset prices	25	71.76	3.1.2 Cybersecurity	25	96.54
1.1.3 FTTH/building Internet subscriptions	3	72.61	3.1.3 Online access to financial account	79	19.93
1.1.4 Population covered by at least a 3G mobile network	101	97.36	3.1.4 Internet shopping	51	39.66
1.1.5 International Internet bandwidth	25	80.31	2nd sub-pillar: Regulation	47	72.20
1.1.6 Internet access in schools	50	62.04	3.2.1 Regulatory quality	77	47.10
2nd sub-pillar: Content	40	34.60	3.2.2 ICT regulatory environment	14	94.12
1.2.1 GitHub commits	47	16.95	3.2.3 Regulation of emerging technologies	59	45.97
1.2.2 Internet domain registrations	53	6.16	3.2.4 E-commerce legislation	1	100.00
1.2.3 Mobile apps development	38	72.65	3.2.5 Privacy protection by law content	43	73.81
1.2.4 AI scientific publications	8	42.62	3rd sub-pillar: Inclusion	24	78.91
3rd sub-pillar: Future Technologies	72	31.25	3.3.1 E-Participation	11	89.53
1.3.1 Adoption of emerging technologies	46	55.65	3.3.2 Socioeconomic gap in use of digital payments	41	88.16
1.3.2 Investment in emerging technologies	67	39.00	3.3.3 Availability of local online content	50	67.55

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Indicator	Rank	Score	Indicator	Rank	Score
1.3.3 Robot density	44	2.17	3.3.4 Gender gap in Internet use	16	74.03
1.3.4 Computer software spending	44	28.19	3.3.5 Rural gap in use of digital payments	25	75.26
<b>B. People pillar</b>	41	50.31	<b>D. Impact pillar</b>	72	52.64
<i>1st sub-pillar: Individuals</i>	85	42.87	<i>1st sub-pillar: Economy</i>	61	30.62
2.1.1 Mobile broadband internet traffic within the country	17	38.20	4.1.1 High-tech and medium-high-tech manufacturing	33	44.02
2.1.2 ICT skills in the education system	95	24.98	4.1.2 High-tech exports	55	16.08
2.1.3 Use of virtual social networks	64	66.37	4.1.3 PCT patent applications	51	5.68
2.1.4 Tertiary enrollment	62	35.00	4.1.4 Domestic market size	8	79.89
2.1.5 Adult literacy rate	56	92.22	4.1.5 Prevalence of gig economy	94	29.36
2.1.6 AI talent concentration	46	0.43	4.1.6 ICT services exports	85	8.72
<i>2nd sub-pillar: Businesses</i>	36	58.16	<i>2nd sub-pillar: Quality of Life</i>	91	61.16
2.2.1 Firms with website	58	54.16	4.2.1 Happiness	42	72.62
2.2.2 GERD financed by business enterprise	38	53.48	4.2.2 Freedom to make life choices	62	75.76
2.2.3 Knowledge intensive employment	57	34.40	4.2.3 Income inequality	110	25.38
2.2.4 Annual investment in telecommunication services	9	90.60	4.2.4 Healthy life expectancy at birth	73	70.87
2.2.5 GERD performed by business enterprise	NA	NA	<i>3rd sub-pillar: SDG Contribution</i>	59	66.13
<i>3rd sub-pillar: Governments</i>	34	49.90	4.3.1 SDG 3: Good Health and Well-Being	49	76.58
2.3.1 Government online services	14	88.55	4.3.2 SDG 4: Quality Education	65	26.91
2.3.2 Publication and use of open data	20	61.76	4.3.3 SDG 5: Women's economic opportunity	60	78.76
2.3.3 Government promotion of investment in emerging tech	95	28.44	4.3.4 SDG 7: Affordable and Clean Energy	69	71.60
2.3.4 R&D expenditure by governments and higher education	34	20.86	4.3.5 SDG 11: Sustainable Cities and Communities	46	76.80

NOTE: ● a strength and ○ a weakness.

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