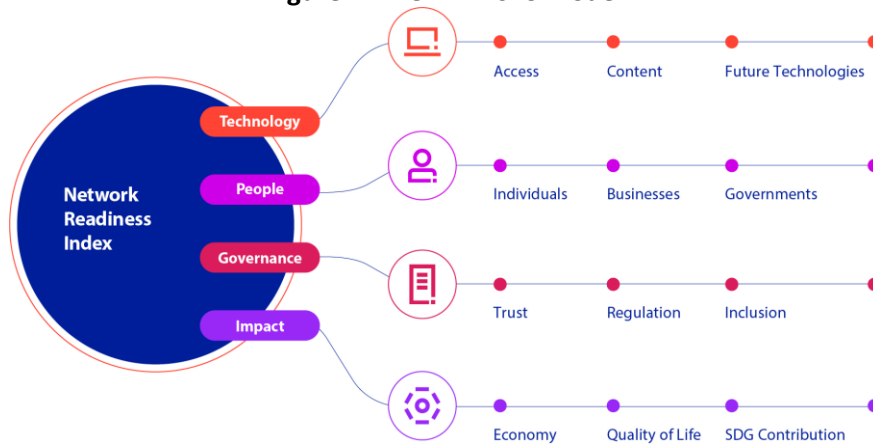




## Paraguay

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.

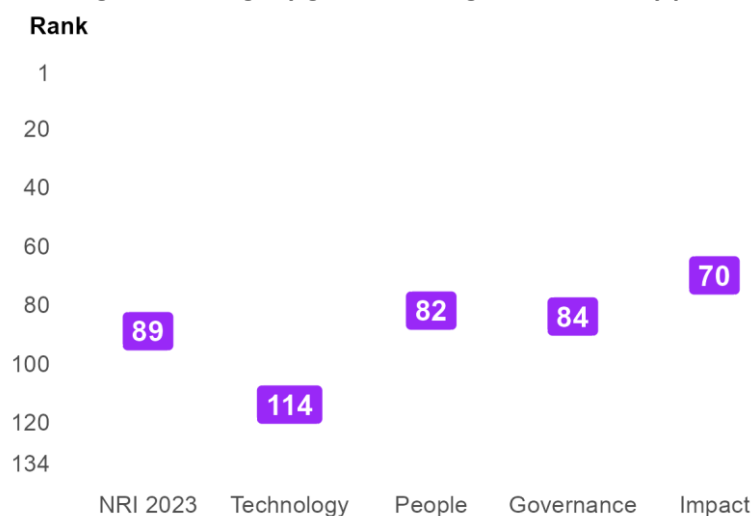
Figure 1: The NRI 2023 model



### Global NRI position of Paraguay

Paraguay ranks 89th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Paraguay global ranking, overall and by pillar



# Network Readiness Index 2023



## Performance at sub-pillar level

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

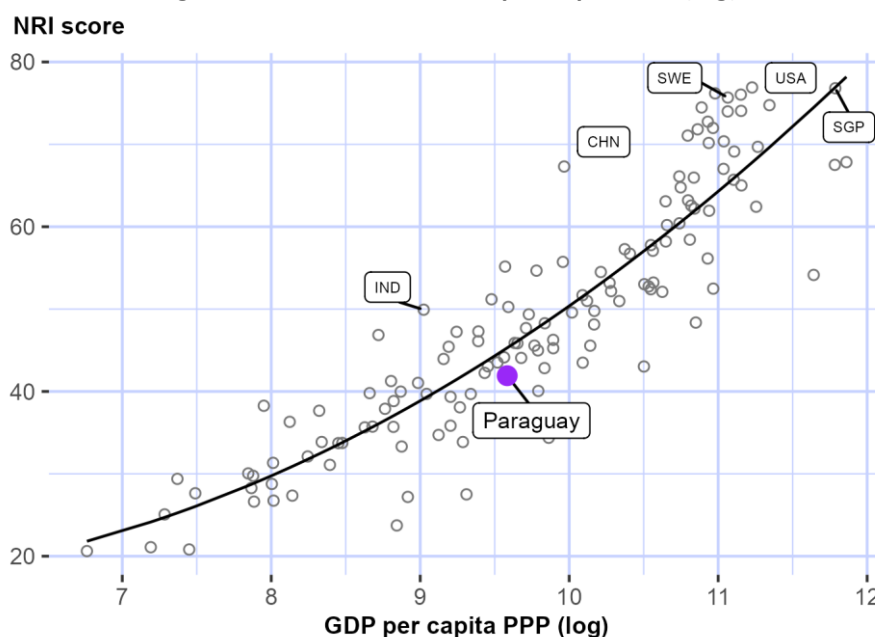
**Table 1: Paraguay rankings by sub-pillar**

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	47	Trust	98
Quality of Life	58	Governments	101
Individuals	66	Content	103
Businesses	69	Access	106
Inclusion	75	Economy	110
Regulation	90	Future Technologies	124

## NRI score and income

Figure 3 shows the position of Paraguay 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, Paraguay 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). Paraguay 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).

# Network Readiness Index 2023

## Performance against its income group and region

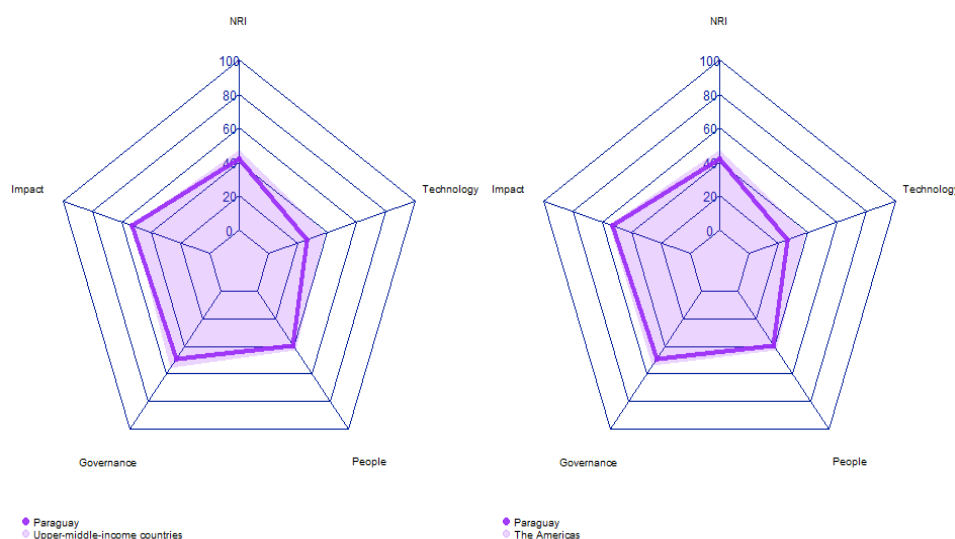
### Upper-middle-income countries

Paraguay is ranked 28th 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 one of the four pillars: Impact. At the sub-pillar level, it outperforms upper-middle-income countries in three of the twelve sub-pillars: Businesses, Quality of Life and SDG Contribution.

### The Americas

Paraguay is ranked 15th within The Americas (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 The Americas in three of the twelve sub-pillars: Businesses, Quality of Life and SDG Contribution.

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



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

Dimension	Paraguay	Upper-middle-income countries	The Americas
NRI	41.91	47.35	47.41
Technology	26.23	38.48	38.24
People	39.17	42.59	42.35
Governance	49.36	55.90	54.12
Impact	52.89	52.43	54.93

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## Strongest and weakest indicators

The indicators where Paraguay performs particularly well include 3.2.4 E-commerce legislation, 3.3.4 Gender gap in Internet use, and 4.2.2 Freedom to make life choices (Table 3). By contrast, the economy's weakest indicators include 4.1.6 ICT services exports, 4.1.5 Prevalence of gig economy, and 2.3.3 Government promotion of investment in emerging technologies.

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

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.2 GERD financed by business enterprise	97
3.3.4 Gender gap in Internet use	6	2.1.2 ICT skills in the education system	104
4.2.2 Freedom to make life choices	15	2.3.3 Government promotion of investment in emerging technologies	121
4.3.3 SDG 5: Women's economic opportunity	27	4.1.5 Prevalence of gig economy	123
2.2.1 Firms with website	29	4.1.6 ICT services exports	129
3.2.5 Privacy protection by law content	36		
2.3.2 Publication and use of open data	41		
4.2.1 Happiness	47		
4.3.4 SDG 7: Affordable and Clean Energy	50		
1.1.3 FTTH/building Internet subscriptions	54		
4.1.2 High-tech exports	60		

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

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## NRI 2023 At-A-Glance: Paraguay

Network Readiness Index

Rank: 89 (out of 134)

Score: 41.91

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	114	26.23	C. Governance pillar	84	49.36
1st sub-pillar: Access	106	47.02	1st sub-pillar: Trust	98	30.83
2nd sub-pillar: Content	103	14.62	2nd sub-pillar: Regulation	90	59.88
3rd sub-pillar: Future Technologies	124	17.05	3rd sub-pillar: Inclusion	75	57.37
B. People pillar	82	39.17	D. Impact pillar	70	52.89
1st sub-pillar: Individuals	66	47.16	1st sub-pillar: Economy	110	16.25
2nd sub-pillar: Businesses	69	44.35	2nd sub-pillar: Quality of Life	58	71.05
3rd sub-pillar: Governments	101	26.02	3rd sub-pillar: SDG Contribution	47	71.37

### The Network Readiness Index in detail

Indicator	Rank	Score	Indicator	Rank	Score
<b>A. Technology pillar</b>	114	26.23	<b>C. Governance pillar</b>	84	49.36
1st sub-pillar: Access	106	47.02	1st sub-pillar: Trust	98	30.83
1.1.1 Mobile tariffs	90	47.87	3.1.1 Secure Internet servers	69	49.78
1.1.2 Handset prices	88	38.28	3.1.2 Cybersecurity	90	56.33
1.1.3 FTTH/building Internet subscriptions	54	31.66	3.1.3 Online access to financial account	107	10.29
1.1.4 Population covered by at least a 3G mobile network	73	99.49	3.1.4 Internet shopping	103	6.91
1.1.5 International Internet bandwidth	118	59.38	2nd sub-pillar: Regulation	90	59.88
1.1.6 Internet access in schools	78	5.41	3.2.1 Regulatory quality	81	44.91
2nd sub-pillar: Content	103	14.62	3.2.2 ICT regulatory environment	119	59.06
1.2.1 GitHub commits	91	2.91	3.2.3 Regulation of emerging technologies	107	17.14
1.2.2 Internet domain registrations	84	1.86	3.2.4 E-commerce legislation	1	100.00
1.2.3 Mobile apps development	100	53.19	3.2.5 Privacy protection by law content	36	78.30
1.2.4 AI scientific publications	114	0.50	3rd sub-pillar: Inclusion	75	57.37
3rd sub-pillar: Future Technologies	124	17.05	3.3.1 E-Participation	75	50.01
1.3.1 Adoption of emerging technologies	105	28.79	3.3.2 Socioeconomic gap in use of digital payments	65	76.27
1.3.2 Investment in emerging technologies	121	19.00	3.3.3 Availability of local online content	105	37.26

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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	6	77.50 ●
1.3.4 Computer software spending	109	3.37	3.3.5 Rural gap in use of digital payments	96	45.81
<b>B. People pillar</b>			<b>D. Impact pillar</b>		
<i>1st sub-pillar: Individuals</i>	82	39.17	<i>1st sub-pillar: Economy</i>	70	52.89
2.1.1 Mobile broadband internet traffic within the country	66	47.16	4.1.1 High-tech and medium-high-tech manufacturing	110	16.25
2.1.2 ICT skills in the education system	NA	NA	4.1.2 High-tech exports	75	17.18
2.1.3 Use of virtual social networks	104	13.05 ○	4.1.3 PCT patent applications	60	13.21 ●
2.1.4 Tertiary enrollment	71	61.49	4.1.4 Domestic market size	NA	NA
2.1.5 Adult literacy rate	83	21.54	4.1.5 Prevalence of gig economy	87	45.09
2.1.6 AI talent concentration	53	92.55	4.1.6 ICT services exports	123	4.94 ○
<i>2nd sub-pillar: Businesses</i>			<i>2nd sub-pillar: Quality of Life</i>		
2.2.1 Firms with website	69	44.35	4.2.1 Happiness	129	0.83 ○
2.2.2 GERD financed by business enterprise	58	71.05	4.2.2 Freedom to make life choices	47	70.40 ●
2.2.3 Knowledge intensive employment	29	71.74 ●	4.2.3 Income inequality	15	91.08 ●
2.2.4 Annual investment in telecommunication services	97	0.30 ○	4.2.4 Healthy life expectancy at birth	93	50.50
2.2.5 GERD performed by business enterprise	71	29.07	<i>3rd sub-pillar: SDG Contribution</i>		
<i>3rd sub-pillar: Governments</i>			4.3.1 SDG 3: Good Health and Well-Being	68	72.22
2.3.1 Government online services	78	76.29	4.3.2 SDG 4: Quality Education	47	71.37
2.3.2 Publication and use of open data	NA	NA	4.3.3 SDG 5: Women's economic opportunity	95	54.31
2.3.3 Government promotion of investment in emerging tech	84	56.44	4.3.4 SDG 7: Affordable and Clean Energy	NA	NA
2.3.4 R&D expenditure by governments and higher education	41	38.24 ●	4.3.5 SDG 11: Sustainable Cities and Communities	27	92.04 ●
	121	6.74 ○		50	75.43 ●
	97	2.65		71	63.70

NOTE: ● a strength and ○ a weakness.

# Network Readiness Index 2023



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