

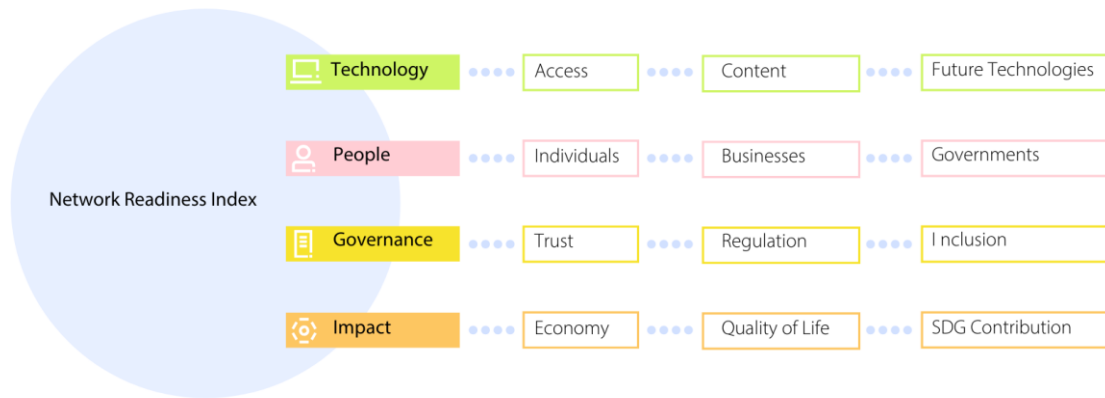
# Network Readiness Index 2024



## Spain

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 2024 the NRI Report maps the network-based readiness landscape of 133 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 54 variables.

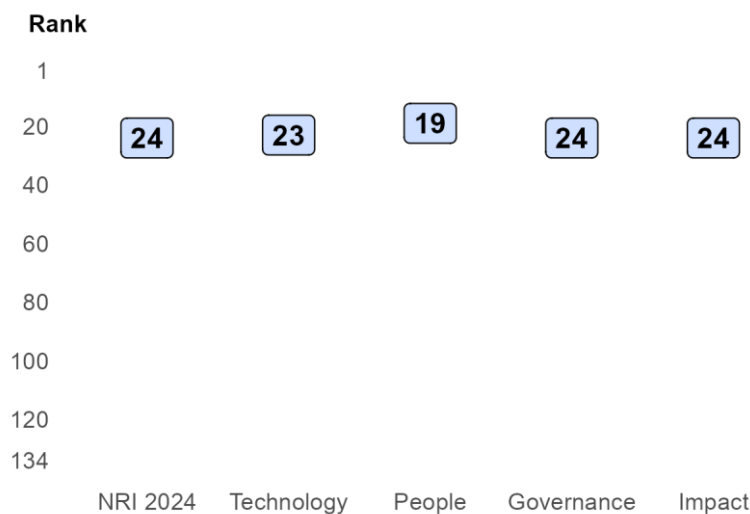
Figure 1: The NRI 2024 model



### Global NRI position of Spain

Spain ranks 24th out of the 133 economies included in the NRI 2024 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance and Impact.

Figure 2: Spain global ranking, overall and by pillar



# Network Readiness Index 2024



## Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Spain relate to Access, SDG Contribution and Inclusion, 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.

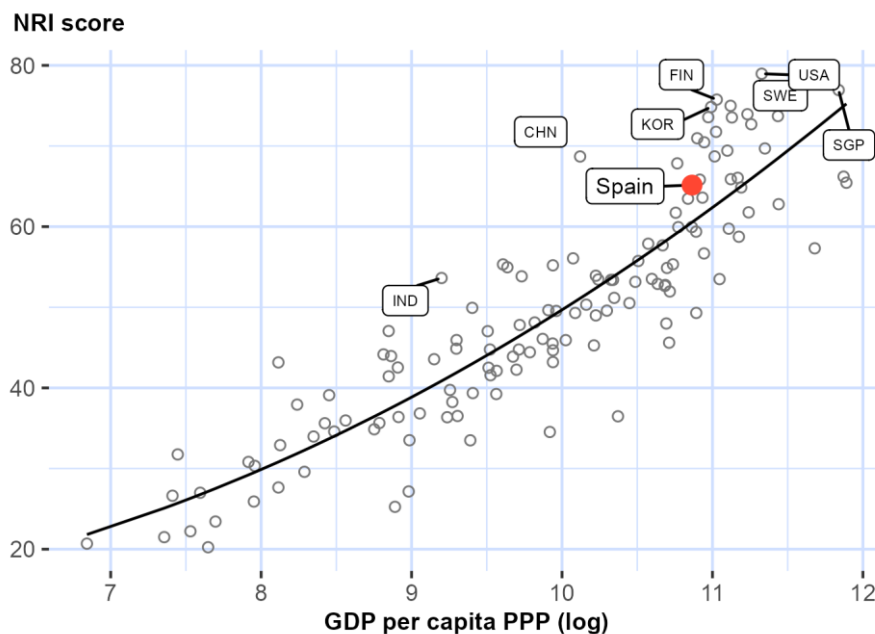
Table 1: Spain rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	11	Governments	27
SDG Contribution	11	Individuals	28
Inclusion	15	Content	29
Businesses	21	Future Technologies	29
Trust	26	Economy	38
Regulation	26	Quality of Life	38

## NRI score and income

Figure 3 shows the position of Spain 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, Spain 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), SWE = Sweden (4), KOR = Republic of Korea (5), CHN = China (17), and IND = India (49). Spain belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

# Network Readiness Index 2024



## Performance against its income group and region

### High-income countries

Spain is ranked 23rd in the group of high-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 high-income countries in eight of the twelve sub-pillars: Access, Content, Individuals, Businesses, Trust, Regulation, Inclusion and SDG Contribution.

### Europe

Spain is ranked 16th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion and SDG Contribution.

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

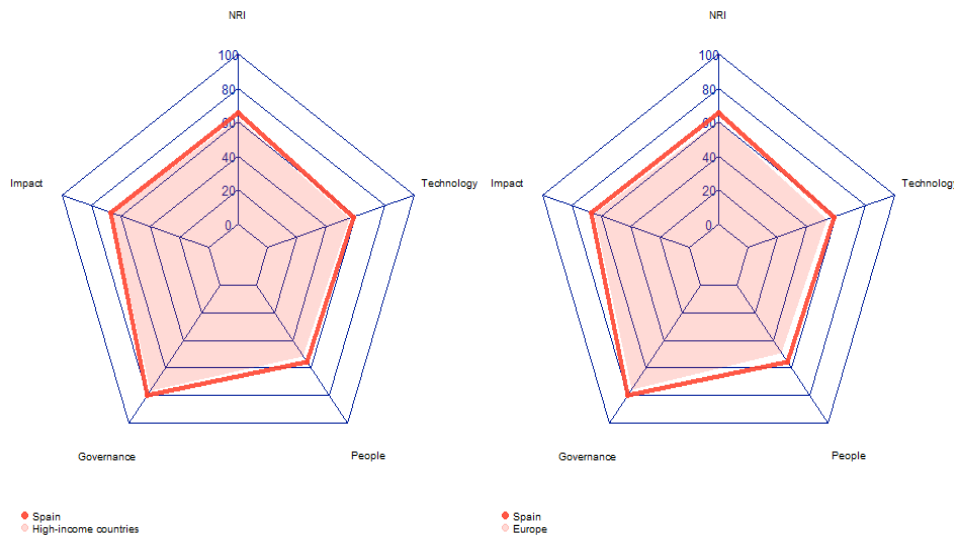


Table 2: Spain scores vs. averages of its income group and region, overall and by pillar

Dimension	Spain	High-income countries	Europe
NRI	65.15	62.50	60.84
Technology	58.39	55.84	53.51
People	55.33	51.81	49.45
Governance	80.25	76.61	75.76
Impact	66.64	65.73	64.63

# Network

## Readiness Index

### 2024



#### Strongest and weakest indicators

The indicators where Spain performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 2.3.3 Government promotion of emerging technologies, 4.2.2 Freedom to make life choices, and 3.2.2 ICT regulatory environment.

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

<b>Strongest indicators</b>	<b>Rank</b>	<b>Weakest indicators</b>	<b>Rank</b>
1.1.6 Internet access in schools	1	2.1.5 AI talent concentration	22
3.2.4 E-commerce legislation	1	4.1.3 Prevalence of gig economy	47
4.3.3 SDG 5: Women's economic opportunity	1	4.2.3 Income inequality	48
2.3.2 Data Capabilities	3	1.3.2 Investment in emerging technologies	56
3.3.2 Socioeconomic gap in use of digital payments	3	1.1.5 International Internet bandwidth	60
3.1.2 Cybersecurity	5	2.1.2 ICT skills in the education system	63
4.2.4 Healthy life expectancy at birth	8	3.2.2 ICT regulatory environment	71
2.1.3 Use of virtual social networks	11	4.2.2 Freedom to make life choices	80
3.3.5 Rural gap in use of digital payments	11	2.3.3 Government promotion of emerging technologies	86
1.3.4 Computer software spending	12		
2.2.3 Annual investment in telecommunication services	13		
4.3.5 SDG 11: Sustainable Cities and Communities	13		

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

# Network

## Readiness Index

### 2024



## NRI 2024 At-A-Glance: Spain

Network Readiness Index

Rank: 24 (out of 133)

Score: 65.15

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	23	58.39	C. Governance pillar	24	80.25
1st sub-pillar: Access	11	80.75	1st sub-pillar: Trust	26	77.67
2nd sub-pillar: Content	29	45.29	2nd sub-pillar: Regulation	26	81.53
3rd sub-pillar: Future Technologies	29	49.12	3rd sub-pillar: Inclusion	15	81.54
B. People pillar	19	55.33	D. Impact pillar	24	66.64
1st sub-pillar: Individuals	28	57.61	1st sub-pillar: Economy	38	40.12
2nd sub-pillar: Businesses	21	54.86	2nd sub-pillar: Quality of Life	38	75.20
3rd sub-pillar: Governments	27	53.53	3rd sub-pillar: SDG Contribution	11	84.61

### The Network Readiness Index in detail

Indicator	Rank	Score	Indicator	Rank	Score
<b>A. Technology pillar</b>	23	58.39	<b>C. Governance pillar</b>	24	80.25
<i>1st sub-pillar: Access</i>	11	80.75	<i>1st sub-pillar: Trust</i>	26	77.67
1.1.1 Mobile tariffs	45	73.85	3.1.1 Secure Internet servers	33	79.63
1.1.2 Handset prices	34	85.99	3.1.2 Cybersecurity	5	98.50 ●
1.1.3 FTTH/building Internet subscriptions	16	55.98	3.1.3 Online access to financial account	31	66.09
1.1.4 Population covered by at least a 3G mobile network	45	96.54	3.1.4 Internet shopping	26	66.48
1.1.5 International Internet bandwidth	60	72.14 ○	<i>2nd sub-pillar: Regulation</i>	26	81.53
1.1.6 Internet access in schools	1	100.00 ●	3.2.1 Regulatory quality	35	66.73
<i>2nd sub-pillar: Content</i>	29	45.29	3.2.2 ICT regulatory environment	71	83.33 ○
1.2.1 GitHub commits	30	38.43	3.2.3 Regulation of emerging technologies	30	67.87
1.2.2 Internet domain registrations	31	22.13	3.2.4 E-commerce legislation	1	100.00 ●
1.2.3 Mobile apps development	35	71.74	3.2.5 Privacy protection by law content	15	89.72
1.2.4 AI scientific publications	22	48.84	<i>3rd sub-pillar: Inclusion</i>	15	81.54
<i>3rd sub-pillar: Future Technologies</i>	29	49.12	3.3.1 E-Participation	25	74.42
1.3.1 Adoption of emerging technologies	37	71.91	3.3.2 Socioeconomic gap in use of digital payments	3	99.47 ●
1.3.2 Investment in emerging technologies	56	43.00 ○	3.3.3 Availability of local online content	22	85.58
1.3.3 Robot density	20	22.52	3.3.4 Gender gap in Internet use	27	70.86

# Network

## Readiness Index

### 2024



Indicator	Rank	Score	Indicator	Rank	Score	
1.3.4 Computer software spending	12	59.05	• 3.3.5 Rural gap in use of digital payments	11	77.36	•
<b>B. People pillar</b>	19	55.33	<b>D. Impact pillar</b>	24	66.64	
<i>1st sub-pillar: Individuals</i>	28	57.61	<i>1st sub-pillar: Economy</i>	38	40.12	
2.1.1 Mobile broadband internet traffic within the country	24	38.62	4.1.1 ICT patent applications	28	10.66	
2.1.2 ICT skills in the education system	63	55.93	○ 4.1.2 Domestic market scale	15	74.87	
2.1.3 Use of virtual social networks	11	73.41	• 4.1.3 Prevalence of gig economy	47	51.16	○
2.1.4 Adult literacy rate	24	97.97	4.1.4 ICT services exports	44	23.78	
2.1.5 AI talent concentration	22	22.10	○ <i>2nd sub-pillar: Quality of Life</i>	38	75.20	
<i>2nd sub-pillar: Businesses</i>	21	54.86	4.2.1 Happiness	36	72.46	
2.2.1 Firms with website	30	74.69	4.2.2 Freedom to make life choices	80	68.46	○
2.2.2 Number of venture capital deals invested in AI	21	22.50	4.2.3 Income inequality	48	74.81	○
2.2.3 Annual investment in telecommunication services	13	73.08	• 4.2.4 Healthy life expectancy at birth	8	94.54	•
2.2.4 Public cloud computing market scale	15	49.17	<i>3rd sub-pillar: SDG Contribution</i>	11	84.61	
<i>3rd sub-pillar: Governments</i>	27	53.53	4.3.1 SDG 3: Good Health and Well-Being	14	90.32	
2.3.1 Government online services	25	84.07	4.3.2 SDG 4: Quality Education	28	57.90	
2.3.2 Data Capabilities	3	78.40	• 4.3.3 SDG 5: Women's economic opportunity	1	100.00	•
2.3.3 Government promotion of investment in emerging technologies	86	26.06	○ 4.3.4 SDG 7: Affordable and Clean Energy	26	88.52	
2.3.4 R&D expenditure by governments and higher education	30	25.59	4.3.5 SDG 11: Sustainable Cities and Communities	13	93.74	•

NOTE: • a strength and ○ a weakness.



# Network

## Readiness Index

### 2024



#### Sources

Dutta, S., & Lanvin, B. (eds.) (2024). *The Network Readiness Index 2024*. Oxford, UK; Washington DC, USA.

Dutta, S., & Lanvin, B. (eds.) (2023). *The Network Readiness Index 2023: Trust in Network Society: A Crisis of the Digital Age*. Oxford, UK; Washington DC, USA.

Dutta, S., & Lanvin, B. (eds.) (2022). *The Network Readiness Index 2022: Benchmarking the Future of the Network Economy*. Washington DC: Portulans Institute.

Berry, B. (2019). *berryFunctions: Function Collection Related to Plotting and Hydrology*. R package version 1.18.2. URL: <https://CRAN.R-project.org/package=berryFunctions>

Dutta, S., & Lanvin, B. (eds.) (2019). *The Network Readiness Index 2019: Towards a Future-Ready Society*. Washington DC: Portulans Institute.

Dutta, S., & Lanvin, B. (eds.) (2020). *The Network Readiness Index 2020: Fostering Digital Transformation in a post-COVID Global Economy*. Washington DC: Portulans Institute.

Dutta, S., & Lanvin, B. (eds.) (2021). *The Network Readiness Index 2021: Shaping the Global Recovery. How digital technologies can make the post-COVID world more equal*. Washington DC: Portulans Institute.

Gohel, D. (2019). *officer: Manipulation of Microsoft Word and PowerPoint Documents*. R package version 0.3.6. URL: <https://CRAN.R-project.org/package=officer>

Gohel, D. (2019). *flextable: Functions for Tabular Reporting*. R package version 0.5.6. URL: <https://CRAN.R-project.org/package=flextable>

Milton Bache, S. & Wickham, H. (2014). *magrittr: A Forward-Pipe Operator for R*. R package version 1.5. URL: <https://CRAN.R-project.org/package=magrittr>

Nakazawa, M. (2019). *fmsb: Functions for Medical Statistics Book with some Demographic Data*. R package version 0.7.0. URL: <https://CRAN.R-project.org/package=fmsb>

R Core Team (2018). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria. URL: <https://www.R-project.org/>.

Slowikowski, K. (2019). *ggrepel: Automatically Position Non-Overlapping Text Labels with 'ggplot2'*. R package version 0.8.1. URL: <https://CRAN.R-project.org/package=ggrepel>

Wickham, H. (2007). Reshaping Data with the reshape Package. *Journal of Statistical Software*, 21(12), 1-20. URL: <http://www.jstatsoft.org/v21/i12/>.

Wickham, H. (2016). *ggplot2: Elegant Graphics for Data Analysis*. Springer-Verlag. New York.

Wickham et al., (2019). Welcome to the tidyverse. *Journal of Open Source Software*, 4(43), 1686, URL: <https://doi.org/10.21105/joss.01686>