

Israel

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 Future Technologies Access Content Network Individuals Businesses Governments Readiness Index 囯 Trust Regulation Inclusion Impact (<u>o</u>) Quality of Life Economy **SDG** Contribution

Global NRI position of Israel

Israel ranks 12th 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 Governance.

Rank 1 7 12 19 20 27 40 60 80 100 120 134 NRI 2023 Technology People Impact Governance

Figure 2: Israel global ranking, overall and by pillar





Performance at sub-pillar level

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

Table 1: Israel rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	2	Regulation	20
Economy	2	Inclusion	26
Individuals	4	Quality of Life	26
Businesses	11	SDG Contribution	28
Content	18	Trust	29
Future Technologies	18	Access	39

NRI score and income

Figure 3 shows the position of Israel 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, Israel is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

NRI score 80 -SGP CHN 60 -0 IND 0 40 -0 0 0 0 11 12 GDP per capita PPP (log)

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). Israel 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).



Performance against its income group and region

High-income countries

Israel is ranked 12th 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 ten of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Governments, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Israel is ranked 8th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Impact

Governance

People

Governance

NRI

100

80

80

40

Technology Impact

Governance

People

Governance

People

People

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

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

	TOT WITCH WAS COUNTY	В. сър шла годист, с	
Dimension	Israel	High-income countries	Europe
NRI	71.82	64.07	61.25
Technology	59.03	55.76	51.90
People	74.78	56.99	54.16
Governance	77.37	76.81	74.33
Impact	76.12	66.73	64.61



Strongest and weakest indicators

The indicators where Israel performs particularly well include 2.1.6 Al talent concentration, 2.2.5 GERD performed by business enterprise, and 2.3.4 R&D expenditure by governments and higher education (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 1.1.5 International Internet bandwidth, 1.1.3 FTTH/building Internet subscriptions, and 4.2.2 Freedom to make life choices.

Table 3: Highlight of Strengths and Opportunities for Israel

Strongest indicators	Rank	Weakest indicators	Rank
2.1.6 Al talent concentration	1	1.1.3 FTTH/building Internet subscriptions	83
2.2.5 GERD performed by business enterprise	1	4.2.2 Freedom to make life choices	83
2.3.4 R&D expenditure by governments and higher education	1	1.1.5 International Internet bandwidth	89
3.2.4 E-commerce legislation	1	3.2.2 ICT regulatory environment	92
4.1.6 ICT services exports	1		
1.2.3 Mobile apps development	2		
1.3.2 Investment in emerging technologies	2		
4.2.1 Happiness	2		
1.3.1 Adoption of emerging technologies	4		
3.2.3 Regulation of emerging technologies	4		
3.3.3 Availability of local online content	5		
4.2.4 Healthy life expectancy at birth	6		

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



NRI 2023 At-A-Glance: Israel

Network Readiness Index Rank: 12 (out of 134) Score: 71.82

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	19	59.03	C. Governance pillar	27	77.37
1st sub-pillar: Access	39	72.14	1st sub-pillar: Trust	29	70.68
2nd sub-pillar: Content	18	48.80	2nd sub-pillar: Regulation	20	83.76
3rd sub-pillar: Future Technologies	18	56.15	3rd sub-pillar: Inclusion	26	77.67
B. People pillar	2	74.78	D. Impact pillar	7	76.12
1st sub-pillar: Individuals	4	70.83	1st sub-pillar: Economy	2	69.36
2nd sub-pillar: Businesses	11	74.40	2nd sub-pillar: Quality of Life	26	80.24
3rd sub-pillar: Governments	2	79.11	3rd sub-pillar: SDG Contribution	28	78.75

The Network Readiness Index in detail

Indicator	Rank	Score	In	dicator	Rank	Score
A. Technology pillar	19	59.03	C.	Governance pillar	27	77.37
1st sub-pillar: Access	39	72.14	1si	sub-pillar: Trust	29	70.68
1.1.1 Mobile tariffs	16	86.26	3.1	.1 Secure Internet servers	41	75.18
1.1.2 Handset prices	29	70.84	3.1	.2 Cybersecurity	44	90.77
1.1.3 FTTH/building Internet subscriptions	83	23.26	3.1	.3 Online access to financial account	25	58.49
1.1.4 Population covered by at least a 3G mobile network	57	99.67	3.1	.4 Internet shopping	37	58.28
1.1.5 International Internet bandwidth	89	67.80	2n	d sub-pillar: Regulation	20	83.76
1.1.6 Internet access in schools	39	85.00	3.2	.1 Regulatory quality	26	76.91
2nd sub-pillar: Content	18	48.80	3.2	.2 ICT regulatory environment	92	70.00 0
1.2.1 GitHub commits	8	76.70	3.2	.3 Regulation of emerging technologies	4	91.69 •
1.2.2 Internet domain registrations	35	18.76	3.2	.4 E-commerce legislation	1	100.00
1.2.3 Mobile apps development	2	86.90	3.2	.5 Privacy protection by law content	32	80.21
1.2.4 Al scientific publications	40	12.83	3rd	l sub-pillar: Inclusion	26	77.67
3rd sub-pillar: Future Technologies	18	56.15	3.3	.1 E-Participation	37	70.93
1.3.1 Adoption of emerging technologies	4	96.84	3.3	.2 Socioeconomic gap in use of digital payments	37	89.70
1.3.2 Investment in emerging technologies	2	96.25	3.3	.3 Availability of local online content	5	95.91 •







Indicator	Rank	Score	Indicator	Rank	Score
1.3.3 Robot density	26	11.30	3.3.4 Gender gap in Internet use	48	69.19
1.3.4 Computer software spending	68	20.20	3.3.5 Rural gap in use of digital payments	68	62.61
B. People pillar	2	74.78	D. Impact pillar	7	76.12
1st sub-pillar: Individuals	4	70.83	1st sub-pillar: Economy	2	69.36
2.1.1 Mobile broadband internet traffic within the country	NA	NA	4.1.1 High-tech and medium-high-tech manufacturing	29	47.13
2.1.2 ICT skills in the education system	NA	NA	4.1.2 High-tech exports	11	53.44
2.1.3 Use of virtual social networks	40	73.12	4.1.3 PCT patent applications	6	71.17
2.1.4 Tertiary enrollment	51	39.38	4.1.4 Domestic market size	48	60.13
2.1.5 Adult literacy rate	NA	NA	4.1.5 Prevalence of gig economy	8	84.30
2.1.6 Al talent concentration	1	100.00	4.1.6 ICT services exports	1	100.00
2nd sub-pillar: Businesses	11	74.40	2nd sub-pillar: Quality of Life	26	80.24
2.2.1 Firms with website	48	60.94	4.2.1 Happiness	2	98.76
2.2.2 GERD financed by business enterprise	42	49.52	4.2.2 Freedom to make life choices	83	66.64
2.2.3 Knowledge intensive employment	7	80.05	4.2.3 Income inequality	71	61.31
2.2.4 Annual investment in telecommunication services	45	81.48	4.2.4 Healthy life expectancy at birth	6	94.25
2.2.5 GERD performed by business enterprise	1	100.00	3rd sub-pillar: SDG Contribution	28	78.75
3rd sub-pillar: Governments	2	79.11	4.3.1 SDG 3: Good Health and Well-Being	19	91.69
2.3.1 Government online services	21	86.13	4.3.2 SDG 4: Quality Education	38	53.53
2.3.2 Publication and use of open data	31	47.06	4.3.3 SDG 5: Women's economic opportunity	80	72.57
2.3.3 Government promotion of investment in emerging tech	6	83.27	4.3.4 SDG 7: Affordable and Clean Energy	22	80.78
2.3.4 R&D expenditure by governments and higher education	1	100.00	4.3.5 SDG 11: Sustainable Cities and Communities	10	95.18

NOTE: • a strength and o a weakness.



Sources

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