

# Network Readiness Index 2020 El Salvador

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 2020 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 60 variables.

Figure 1: The NRI 2020 model **Network Readiness Index (NRI) Technology** People Governance **Impact** Individuals Trust Access **Economy** Quality of Life Content **Businesses** Regulation **SDG Future Inclusion** Governments Contribution Technologies

# **Global NRI position of El Salvador**

El Salvador ranks 95th out of the 134 economies included in the NRI 2020 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology and Governance.

Rank 1 20 40 60 63 80 95 100 105 106 106 120 134 NRI 2020 Technology People Governance Impact

Figure 2: El Salvador global ranking, overall and by pillar



# Performance at sub-pillar level

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

Table 1: El Salvador rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	45	Access	104
Quality of Life	47	Businesses	105
Content	82	Economy	112
Regulation	97	Governments	117
Individuals	98	Trust	121
Inclusion	101	Future Technologies	122

## NRI score and income

Figure 3 shows the position of El Salvador 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, El Salvador 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.

NRI score

80 - SWE DNK SGP

60 - SWE DNK SGP

VNM CHN SGP

VNM CHN SGP

VNM CHN SGP

10 11

GDP per capita PPP (log)

Figure 3: NRI score and GDP per capita PPP (log)

Note: SWE = Sweden (rank: 1), DNK = Denmark (2), SGP = Singapore (3), CHN = China (40), IND = India (88). USA is ranked 8th. El Salvador belongs to the group of lower-middle-income countries, where the best performer is Vietnam (VNM). The top performer of its region-The Americas-is United States (USA).



# Performance against its income group and region

#### Lower-middle-income countries

El Salvador is ranked 14th in the group of lower-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: nri.score and impact. At the sub-pillar level, it outperforms lower-middle-income countries in six of the twelve sub-pillars: Content, Individuals, Regulation, Inclusion, Quality of Life and SDG Contribution.

## The Americas

El Salvador is ranked 17th 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 two of the twelve sub-pillars: Quality of Life and SDG Contribution.

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



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

Dimension	El Salvador	Lower-middle-income countries	The Americas
NRI	37.33	36.72	47.67
Technology	25.81	27.72	38.26
People	30.62	33.88	45.24
Governance	40.55	43.15	54.59
Impact	52.35	42.15	52.61



# **Strongest and weakest indicators**

The indicators where El Salvador performs particularly well include International Internet bandwidth, Happiness, and SDG 3: Good Health and Well-Being (Table 3). By contrast, the economy's weakest indicators include ICT skills, Government promotion of investment in emerging technologies, and Cybersecurity.

Table 3: Top-ranked and bottom-ranked indicators of El Salvador

Strongest indicators	Rank	Weakest indicators	Rank
International Internet bandwidth	23	Internet users	106
Happiness	29	Availability of local online content	107
SDG 3: Good Health and Well-Being	39	Socioeconomic gap in use of digital payments	108
Freedom to make life choices	43	Prevalence of gig economy	110
Internet access in schools	53	Internet access	115
SDG 7: Affordable and Clean Energy	54	Fixed-broadband subscriptions	115
Use of virtual social networks	55	Investment in emerging technologies	121
ICT PCT patent applications	61	ICT skills	124
SDG 5: Gender Equality	64	Government promotion of investment in emerging technologies	124
Adult literacy rate	65	Cybersecurity	124



# NRI 2020 At-A-Glance: El Salvador

Network Readiness Index

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	106	25.81	C. Governance pillar	106	40.55
1st sub-pillar: Access	104	38.13	1st sub-pillar: Trust	121	17.26
2nd sub-pillar: Content	82	23.81	2nd sub-pillar: Regulation	97	54.54
3rd sub-pillar: Future Technologies	122	15.48	3rd sub-pillar: Inclusion	101	49.84
B. People pillar	105	30.62	D. Impact pillar	63	52.35
1st sub-pillar: Individuals	98	39.98	1st sub-pillar: Economy	112	13.56
2nd sub-pillar: Businesses	105	30.44	2nd sub-pillar: Quality of Life	47	71.55
3rd sub-pillar: Governments	117	21.43	3rd sub-pillar: SDG Contribution	45	71.93

Rank: 95 (out of 134)

Score: 37.33

The Network	Readiness	Index in	detail
-------------	-----------	----------	--------

The No	etwork Readiness Index in detail			
Indicat	or	Rank	Score	In
A. Tec	hnology pillar	106	25.81	C
1st sub	o-pillar: Access	104	38.13	1
1.1.1	Mobile tariffs	104	39.95	3
1.1.2	Handset prices	69	43.74	3
1.1.3	Internet access	115	16.84	3
1.1.4	4G mobile network coverage	93	68.00	3
1.1.5	Fixed-broadband subscriptions	115	1.06	2
1.1.6	International Internet bandwidth	23	74.10	3
1.1.7	Internet access in schools	53	23.24	3
2nd su	b-pillar: Content	82	23.81	3
1.2.1	GitHub commits	81	2.17	3
1.2.2	Wikipedia edits	79	35.57	3
1.2.3	Internet domain registrations	*	*	3
1.2.4	Mobile apps development	81	55.93	3
3rd sul	p-pillar: Future Technologies	122	15.48	3
1.3.1	Adoption of emerging technologies	91	36.60	3
1.3.2	Investment in emerging technologies	121	18.90	3
1.3.3	ICT PCT patent applications	61	2.90	3
1.3.4	Computer software spending	104	3.50	
1.3.5	Robot density	NA	NA	1
B. Peo	ple pillar	105	30.62	4
1st sub	p-pillar: Individuals	98	39.98	4
2.1.1	Internet users	106	32.13	4
2.1.2	Active mobile-broadband subscriptions	93	21.07	4
2.1.3	Use of virtual social networks	55	58.76	4
2.1.4	Tertiary enrollment	82	21.03	2
2.1.5	Adult literacy rate	65	85.88	4
2.1.6	ICT skills	124	21.02	4
2nd su	b-pillar: Businesses	105	30.44	4
2.2.1	Firms with website	81	38.31	4
2.2.2	Ease of doing business	85	61.94	3
2.2.3	Professionals	92	15.78	4
2.2.4	Technicians and associate professionals	100	17.07	4
2.2.5	Business use of digital tools	94	48.13	4
2.2.6	R&D expenditure by businesses	70	1.43	4
3rd sul	p-pillar: Governments	117	21.43	
2.3.1	Government online services	91	56.37	
2.3.2	Publication and use of open data	84	13.88	
2.3.3	Government promotion of investment in emerging tech	124	5.95	
2.3.4	R&D expenditure by governments and higher education	92	9.51	
* Confiden	tial data			

Indicator	Rank	Score
C. Governance pillar	106	40.55
1st sub-pillar: Trust	121	17.26
3.1.1 Secure Internet servers	101	36.30
3.1.2 Cybersecurity	124	12.57
3.1.3 Online access to financial account	91	16.25
3.1.4 Internet shopping	100	3.91
2nd sub-pillar: Regulation	97	54.54
3.2.1 Regulatory quality	71	50.56
3.2.2 ICT regulatory environment	94	72.40
3.2.3 Legal framework's adaptability to emerging technologies	103	20.21
3.2.4 e-commerce legislation	77	75.00
3.2.5 Privacy protection by law content	NA	NA
3rd sub-pillar: Inclusion	101	49.84
3.3.1 E-Participation	74	66.67
3.3.2 Socioeconomic gap in use of digital payments	108	41.00
3.3.3 Availability of local online content	107	35.79
3.3.4 Gender gap in Internet use	67	54.81
3.3.5 Rural gap in use of digital payments	102	50.94
D. Impact pillar	63	52.35
1st sub-pillar: Economy	112	13.56
4.1.1 Medium and high-tech industry	80	24.23
4.1.2 High-tech exports	79	9.71
4.1.3 PCT patent applications	80	0.04
4.1.4 Labor productivity per employee	NA	NA
4.1.5 Prevalence of gig economy	110	20.27
2nd sub-pillar: Quality of Life	47	71.55
4.2.1 Happiness	29	73.94
4.2.2 Freedom to make life choices	43	85.41
4.2.3 Income inequality	70	62.89
4.2.4 Healthy life expectancy at birth	76	63.98
3rd sub-pillar: SDG Contribution	45	71.93
4.3.1 SDG 3: Good Health and Well-Being	39	78.69
4.3.2 SDG 4: Quality Education	NA	NA
4.3.3 SDG 5: Gender Equality	64	75.02
4.3.4 SDG 7: Affordable and Clean Energy	54	81.86
		÷



#### **Sources**

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.

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