

COSTA RICA

Recent trends

In the last decade, Costa Rica has made advances in digital inclusion. Internet users represented more than 74% of the population in 2018, with further increases in the previous year. In 2018, active mobile broadband subscriptions stood at 100.9 per 100 people and fixed broadband subscriptions at 16.6 per 100 inhabitants. These figures were above the Latin America and the Caribbean (LAC) averages (73.5 and 13.9, respectively). Performance in the E-Government Index, a measure of national administrations' willingness and capacity to use information and communications technology (ICT), also improved. The country remains behind in open government data policies, performing below the region and Organisation for Economic Co-operation and Development (OECD) averages in the OECD OURdata Index.

In terms of performance in enabling digital innovation, Costa Rica's above-average high-technology exports as a percentage of total manufactured exports, relative to the LAC average (9.6%), decreased from 39.6% in 2008 to 18.5% in 2017, which is in line with the OECD average (15.1%). In terms of promoting an inclusive digital society, the number of students per computer fell from 2.8 in 2015 to 1.3 in 2018, which is still above the OECD average but below the LAC average.

National strategies and international co-operation for digital transformation

The National Telecommunications Development Plan 2015-2021 and *Estrategia de Transformación Digital hacia la Costa Rica del Bicentenario 4.0 2018-2022* (Digital Transformation Strategy towards the Costa Rica of Bicentennial 4.0 2018-2022) are the main references for the digital transformation of the country. The plan relies on inter-institutional and inter-sectoral co-ordination in three pillars: digital inclusion, digital economy, and transparent and electronic government. The strategy aims to advance towards a digitally inclusive, better connected, productive and more innovative country. Its guiding principles are: the adoption of industry 4.0 technologies; development of a digitally intelligent government; inclusive, integrated and secure digital services; and development of human talent. The Ministry of Science, Technology and Telecommunications (MICITT) is responsible for the implementation, co-ordination and follow-up of these plans.

The strategy's Business Transformation 4.0 axis looks at the role of digital technologies in the development of the bioeconomy, to minimise environmental impact and maximise efficiency. It establishes that the bioeconomy, biotechnology and bioinformatics will be vehicles for decarbonisation and productivity. The MICITT is leading the creation of a National Bioeconomy Strategy, with the support of private and public national institutions, the United Nations Economic Commission for Latin America and the Caribbean and the German Agency for International Cooperation. The strategy is in line with the National Decarbonisation Plan 2018-2022, which aims to achieve a modern, green, emission-free, resilient and inclusive economy by 2050. To respond to the coronavirus (Covid-19) crisis on aspects related to telecommunications, the Ministry of Science, Technology and Telecommunications and the Council of the Superintendency of Telecommunications made agreements with mobile operators in the country to provide continuity and maintenance of services. This agreement enables the Ministry of Health to establish a systematic method of sending text messages with sanitary recommendations. It also provides free browsing on Ministry of Education, Social Security Fund, Ministry of Health, Presidency of the Republic and Pura Vida Digital websites (CAF, 2020).

Costa Rica recently developed *Bola de Cristal* (Crystal ball), a smart digital platform matching jobs and skills supply and demand. It also informs users on skills needed in the knowledge economy and careers in high demand; promotes training and certification customised to user profiles; supports financial products for access to training and certification; and creates job opportunities with firms in the knowledge economy.

In terms of international co-operation, Costa Rica signed an ICT co-operation accord with Estonia focused on digital government, cybersecurity and interoperability in September 2019. Projects include developing digital identity and promoting co-operation between the countries' technology firms.

Costa Rica also collaborates with the European Union (EU) on the Connect 2020 programme, which focuses on stimulating co-operation in ICT between Europe and LAC countries. The project is funded by the Seventh Framework Programme and is part of the Latin American Technology Platforms in Innovation project under the EU Horizon 2020 programme.

	Digital indicators - Costa Rica ¹					
	Costa Rica		LAC ²		OECD ³	
	2008	2018	2008	2018	2008	2018
Enhancing access						
Fixed broadband subscriptions (per 100 inhabitants) ⁴	2.5	16.6	4.1	13.9	22.7	32.9
Active mobile-broadband subscriptions (per 100 inhabitants) ⁴	7.4	100.9	5.4	73.5	37.7	103.6
Proportion of population covered by at least 3G network ⁵	93.4	97.3	86.1	94.6	98.2	98.8
Fixed broadband speed (in Mbit/s) ⁴	0.26	1.0	0.58	5.1	2.2	27.7
Strengthening their effective use						
E-Government Development Index (EGDI) ⁶	0.51	0.70	0.52	0.65	0.72	0.82
Share of Internet users (% of population) ⁴	32.3	74.1	25.3	67.7	65.0	84.3
UNCTAD B2C E-Commerce Index ⁷	52.4	64.1	46.4	51.5	73.9	85.0
Share of individuals engaging in online shopping ⁸	18.5		14.8		N/A	
Enabling digital innovation						
High-technology exports (% of manufactured exports) ⁹	39.6	18.5	9.3	9.6	15.6	15.1
Share of ICT service imports, as % of total trade in services ⁷	7.69	7.70	3.1	3.9	4.6	6.7
ICT patent applications filed under the Patent Cooperation Treaty (per million people) ¹⁰	0.19	0.50	0.14	0.34	30.9	38.2
R&D expenditures, as % of GDP ¹¹	0.36	0.46	0.34	0.42	1.7	1.9
OECD OURdata Index ¹²	0.37		0.43		0.61	
Ensuring quality jobs for all						
Contributions to changes in total employment, by digital intensity of sectors, 2006-16 ¹³	6.8		6.9		4.8	
Share of informal employment to total employment ¹⁴	37.4		54.9		N/A	
Tertiary gross enrolment rate (%) ⁹	26.7	55.7	34.5	60.5	63.0	74.3
Tertiary graduates by field (%) - Education ¹¹	21.3		16.0		9.8	
Tertiary graduates by field (%) - Health ¹¹	15.1		13.8		14.5	
Tertiary graduates by field (%) - Engineering ¹¹	6.9		12.5		14.6	
Promoting an inclusive digital society						
E-waste generated, kilograms per inhabitant ¹⁵	9.4	9.7	6.9	7.2	17.7	17.7
Number of students per computer ¹⁶	2.8	1.3	2.4	1.6	1.8	1.1
Percentage of women scoring at Level 2 or 3 in problem solving in technology-rich environments ¹⁷	N/A		7.7		27.7	
Strengthening trust						
CAF GovTech Index ¹⁸	4.0		4.4		N/A	
Global Cybersecurity Index (ITU) ¹⁹	0.35	0.22	0.36	0.43	0.56	0.79
E-commerce safety (%) ²⁰	N/A	67.4	72.0	63.1	61.7	58.3
Trust in online privacy (%) ²⁰	N/A	58.0	52.8	54.9	41.7	45.6
Fostering market openness						
OECD Digital Services Trade Restrictiveness Index ¹³	0.04	0.04	0.24	0.24	0.13	0.15
OECD FDI RRI ¹³	0.03		0.07		0.06	

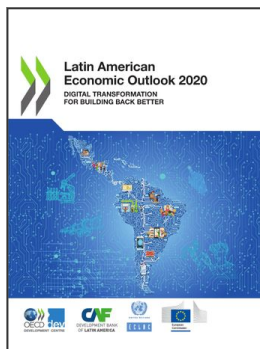
Sources, footnotes and technical details can be found at the end of the country notes.

Technical notes

1. The table as best as possible follows the seven key areas identified in the OECD Going Digital project: 1) enhancing access to digital technologies; 2) strengthening their effective use; 3) enabling digital innovation; 4) ensuring quality jobs for all; 5) promoting an inclusive digital society; 6) strengthening trust; and 7) fostering market openness (OECD, 2019a). Indicators are chosen depending on data availability for LAC countries. Potential bias exists from the way components have been aggregated on index indicators.
2. LAC average is a simple average. Composition of countries depends on availability of country data. Each average includes as many LAC countries as possible.
3. OECD average is a simple average that includes all OECD member countries as of May 2020.
4. Data from ITU (2020), *World Telecommunication/ICT Indicators Database 2020* (database). Fixed broadband speed in Mbit/s refers to the advertised maximum theoretical download speed guaranteed to users associated with a fixed broadband Internet monthly subscription.
5. Data from UN Statistics Division, UN Global SDG Database (database). Data for 2015 and 2018 or latest available year.
6. Data from UN E-government Knowledgebase (2019), *Data Center* (database). The E-Government Development Index is a composite indicator that consists of three indexes (Online Service Index, Telecommunication Infrastructure Index and Human Capital Index), which are equally weighted. It ranges from 0 to 1, with 1 being the most developed.
7. Data from UNCTAD (2020), UNCTADSTAT (database). The UNCTAD B2C E-commerce Index measures an economy's preparedness to support online shopping. It ranges from 0 to 100, with 100 being the highest support.
8. Own calculations based on data from Latinobarómetro (2019), *Libros de Códigos por País/Año* (database). Data for 2017. Data from public opinion surveys using randomly selected, nationally representative samples.
9. Data from World Bank (2020a), *World Bank DataBank* (database).
10. Data from World Bank (2020b), *TCdata360*. Data for 2012 and 2016 or latest available year.
11. Data from UNESCO (2019), *UNESCO Institute for Statistics* (database). R&D Expenditures, as % of GDP data from 2006 and 2016 or latest available year.
12. Data from OECD (2020a), *OECD.Stat* (database); and OECD (2020b). The OECD OURdata Index assesses governments' efforts to implement open data in three critical areas: openness, usefulness and re-usability of government data. It ranges from 0 to 1, with 1 being the highest score.
13. Data from OECD (2020a), *OECD.Stat* (database). The OECD Digital Services Trade Restrictiveness Index identifies, catalogues and quantifies barriers that affect trade in digitally enabled services across 46 countries. It ranges from 0 to 1, with 1 being the most restrictive. The Foreign Direct Investment Regulatory Restrictiveness Index (FDI RRI) measures four types of statutory restrictions on foreign direct investment: 1) foreign equity restrictions; 2) screening and prior approval requirements; 3) rules for key personnel; and 4) other restrictions on the operation of foreign enterprises. The FDI RRI is a composite index, which ranges from 0 to 1, with 1 being the most restrictive.
14. Data from ILOSTAT, data from 2018 or latest available year.
15. Data from the Global E-waste Statistics Partnership.
16. OECD calculations based on OECD (2020c), *Programme for International Student Assessment* (database). Data for 2015 and 2018.
17. Data from the OECD (2019d), *Survey of Adult Skills (2018)*. Percentages for problem solving in technology-rich environments are computed so that the sum of percentages for the following mutually exhaustive categories equals 100%: opted out of the computer-based assessment; no computer experience; failed ICT core test; below Level 1, at Level 1, at Level 2 and at Level 3.
18. Data from CAF (2020), *The GovTech Index 2020: Unlocking the Potential of GovTech Ecosystems in Latin America, Spain and Portugal*. The GovTech Index 2020 measures the maturity of the GovTech ecosystem. It is based on 28 indicators across 7 dimensions, which on aggregate form 3 equally weighted pillars: start-up industry, government policies and procurement systems.
19. The Global Cybersecurity Index measures countries' commitment to cybersecurity at a global level. It has five pillars: 1) legal measures; 2) technical measures; 3) organisational measures; 4) capacity building; and 5) co-operation. It ranges from 0 to 1, with 1 being the highest level of cybersecurity.
20. Data from The Economist Intelligence Unit (2019), *EIU Inclusive Internet Index* (database). Indicators present perceived e-commerce safety and trust in online privacy among randomly sampled individuals in selected countries. It ranges from 0% to 100%, with 100% indicating absolute confidence in e-commerce safety and trust in online privacy.

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