

PANAMA

Recent trends

Panama aims to shape an inclusive digital economy and stronger, more transparent administration with the use of digital tools. The country has made efforts to enhance digital access and use for all. Internet users, active mobile broadband and fixed broadband subscriptions increased in the last decade although regional, gender and age disparities remain a challenge. Panama rose in the E-Government Development Index from 0.47 in 2008 to 0.61 in 2018, which is below the Latin America and the Caribbean (LAC) average (0.65). The index measures national administrations' willingness and capacity to use information and communications technology (ICT) to deliver public services. The UNCTAD B2C E-commerce Index shows that the economy, despite being a regional hub, is slightly below the LAC average for online shopping.

In terms of enabling digital innovation, Panama performs below the LAC and OECD averages in several indicators including R&D expenditures (as a percentage of GDP), patents' applications and the share of ICT service imports. In terms of promoting an inclusive digital society, relative to the LAC average, the country has a similar number of computers available to students.

National strategies and international co-operation for digital transformation

Plan Estratégico del Gobierno 2019-2024 (Strategic Plan of the Government 2019-2024) and *El Camino a un Ciudadano Digital* (Digital Agenda 2020: The Journey towards a Digital Citizen) are the main reference documents for the development and digital transformation of Panama. These strategies highlight the need to move from e-government towards a fully digital government, following the Organisation for Economic Co-operation and Development (OECD) *Digital Government Review of Panama* (OECD, 2019c).

Digital policies primarily focus on establishing online processes for government entities. The modification of Law No. 83 of 2012 by Decree No. 275 of 2018 laid the groundwork for the implementation of electronic procedures and institutional interoperability. It focuses on promoting e-signature, data protection and updating information and services on *Panamá Tramita* (Panama processes) and *Portal Nacional de Pagos* (National payments portal). Panama processes catalogues the 2 700 central government procedures with citizens or businesses and the 1 463 with local government. In 2019, Panama also adopted a personal data protection law, which establishes the legal framework for interoperability and development of data centres for cloud applications for public and private enterprises. Other initiatives include the modernisation of public procurement, aiming to achieve more transparent and efficient resource management through *Panamá Compra* (Panama buys), an e-procurement platform. Last, as part of Digital Agenda 2020, the country launched the Panama Digital Hub to turn the country into an international centre for digital innovation. To mitigate the social impact of the coronavirus (Covid-19), the Ministry of Education made education material available through the *Educa Panamá* (Educate Panama) portal and launched the Ester e-learning platform. The National Directorate of Informatics is responsible for surveying how many students have access to mobile devices and the Internet (CAF, 2020). However, despite these efforts, due to the lack of Internet access and electricity there are concerns that inequalities can be exacerbated with the Covid-19 crisis.

In terms of international co-operation, Panama collaborates with other LAC countries through the eLAC group. The eLAC's 2020 Digital Agenda addresses the development of digital communication, encouraging the implementation of plans in remote areas and promoting digital technologies that respond to natural disasters. The agenda endorses use of technologies for sustainable development by promoting convergent use of various types of emerging technologies in public policies and digital service design. Panama is also part of the Commission for Scientific and Technological Development in Central America and Panama, which encourages links among countries' national science and technology bodies to generate scientific policy and develop a regional science, technology and innovation strategic plan.

Panama also collaborates with the European Union on the Information Systems Programme for Food and Nutrition Security Resilience in the *Sistema de la Integración Centroamericana* (Central American Integration System) region. It contributes to the process of Central American integration and aims to achieve the United Nations Sustainable Development Goals related to hunger and food security. In 2019, Panama City hosted a TAIEX workshop to foster co-operation on Copernicus satellite applications, which aimed to contribute to establishing Copernicus as a global practice and promote the uptake of Copernicus data globally in order to maximise its societal value in solving global challenges.

	Digital indicators - Panama ¹					
	Panama		LAC ²		OECD ³	
Enhancing access	2008	2018	2008	2018	2008	2018
Fixed broadband subscriptions (per 100 inhabitants) ⁴	5.6	10.8	4.1	13.9	22.7	32.9
Active mobile-broadband subscriptions (per 100 inhabitants) ⁴	2010	2018	2010	2018	2010	2018
	3.2	79.1	5.4	73.5	37.7	103.6
Proportion of population covered by at least 3G network ⁵	2015	2018	2015	2018	2015	2018
	79.0	95.0	86.1	94.6	98.2	98.8
Fixed broadband speed (in Mbit/s) ⁴	2008	2017	2008	2017	2008	2007
	0.26	4.0	0.58	5.1	2.2	27.7
Strengthening their effective use	Panama		LAC		OECD	
E-Government Development Index (EGDI) ⁶	2008	2018	2008	2018	2008	2018
	0.47	0.61	0.52	0.65	0.72	0.82
Share of Internet users (% of population) ⁴	2008	2017	2008	2017	2008	2007
	33.8	57.9	25.3	62.9	65.0	83.4
UNCTAD B2C E-Commerce Index ⁷	2015	2019	2015	2019	2015	2019
	47.2	50.4	46.4	51.5	73.9	85.0
Share of individuals engaging in online shopping ⁸	2017		2017		2017	
	14.6		14.8		N/A	
Enabling digital innovation	Panama		LAC		OECD	
High-technology exports (% of manufactured exports) ⁹	2008	2016	2008	2016	2008	2016
	1.2	9.2	9.3	9.8	15.6	16.6
Share of ICT service imports, as % of total trade in services ⁷	2008	2018	2008	2018	2008	2018
	2.9	1.6	3.1	3.9	4.6	6.7
ICT patent applications filed under the Patent Cooperation Treaty (per million people) ¹⁰	2012	2016	2012	2016	2012	2016
	0.14	1.3	0.14	0.34	30.9	38.2
R&D expenditures, as % of GDP ¹¹	2006	2013	2006	2013	2006	2013
	0.24	0.06	0.35	0.32	1.7	1.9
OECD OURdata Index ¹²	2019		2019		2019	
	0.46		0.43		0.61	
Ensuring quality jobs for all	Panama		LAC		OECD	
Contributions to changes in total employment, by digital intensity of sectors, 2006-16 ¹³	2006-15		2006-15		2006-15	
	N/A		6.9		4.8	
Share of informal employment to total employment ¹⁴	2017		2018		2018	
	49.4		54.9		N/A	
Tertiary gross enrolment rate (%) ⁹	2007	2016	2007	2016	2007	2016
	43.3	47.8	37.5	57.8	66.6	73.3
Tertiary graduates by field (%) - Education ¹¹	2016		2016		2016	
	22.8		16.0		9.8	
Tertiary graduates by field (%) - Health ¹¹						
	7.9		13.8		14.5	
Tertiary graduates by field (%) - Engineering ¹¹						
	9.0		12.5		14.6	
Promoting an inclusive digital society	Panama		LAC		OECD	
E-waste generated, kilograms per inhabitant ¹⁵	2015	2016	2015	2016	2015	2016
	7.8	8.0	6.9	7.2	17.7	17.7
Number of students per computer ¹⁶	2015	2018	2015	2018	2015	2018
	N/A	1.6	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	2018		2018		2018	
	N/A		7.7		27.7	
Strengthening trust	Panama		LAC		OECD	
CAF GovTech Index ¹⁸	2020		2020		2020	
	4.0		4.4		N/A	
Global Cybersecurity Index (ITU) ¹⁹	2016	2018	2016	2018	2016	2018
	0.29	0.37	0.36	0.43	0.56	0.79
E-commerce safety (%) ²⁰	2018	2019	2018	2019	2018	2019
	N/A	64.4	72.0	63.1	61.7	58.3
Trust in online privacy (%) ²⁰						
	N/A	69.2	52.8	54.9	41.7	45.6
Fostering market openness	Panama		LAC		OECD	
OECD Digital Services Trade Restrictiveness Index ¹³	2015	2019	2015	2019	2015	2019
	N/A	N/A	0.24	0.24	0.13	0.15
OECD FDI RRI ¹³	2018		2018		2018	
	N/A		0.07		0.06	

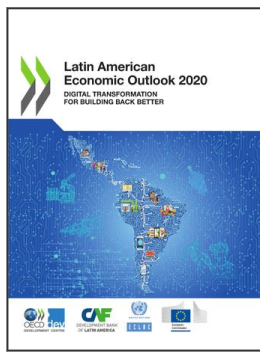
Sources, footnotes and technical details can be found at the end of the country notes.

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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