

PERU

Recent trends

Peru 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. Peru rose in the E-Government Development Index from 0.53 in 2008 to 0.65 in 2018, which is in line with the Latin America and the Caribbean (LAC) average (0.65) and below the Organisation for Economic Co-operation and Development (OECD) average (0.82).

Peru's performance in high-technology exports as a share of total manufactured exports (4.6%) improved but remained below averages in LAC (8.6%) and the OECD (15.1%) in 2018. Similarly, research and development expenditures of 0.1% of gross domestic product (GDP) were below the LAC average (0.4% of GDP) in 2016. Peru had slightly higher foreign direct investment restrictions than LAC and the OECD in the 2018 OECD FDI Regulatory Restrictiveness Index. Finally, Peru continues to improve in terms of shaping an inclusive digital society. In particular, the number of students per computer fell from 2.2 in 2015 to 1.4 in 2018, which is in line with the LAC average and above the OECD average.

National strategies and international co-operation for digital transformation

Plan Nacional de Competitividad y Productividad 2019-2030 (National Plan for Competitiveness and Productivity 2019-2030) and the Law of Digital Government of 2018 are the main reference documents for the development and digital transformation of Peru. The national plan focuses on eight main objectives to increase international competitiveness and put Peru on a stable growth path to raise well-being. Almost half the measures relate to digital transformation, indicating the importance of digital innovation for competitiveness and productivity. The law, approved by legislative Decree No. 1 412 of 2018, regulates the digital transformation, with a focus on government entities. It establishes the framework for the management of digital identity, digital services, interoperable systems, digital and data security, and the transversal implementation of information and communications technology (ICT) across the public administration.

The government's digital transformation strategy is threefold. First, increase competitiveness and productivity through regulation. Alongside policies, the government created a High-Level Commission for multi-sectoral co-ordination and the Digital Government Secretariat of Peru, which is responsible for formulating policies and supervising and evaluating progress towards the digital transformation of government. Second, simplify administrative procedures through progressive implementation of interoperability. Public administration entities are obliged to exchange technical and legal documents in digital format. As part of this strategy, public administrations must provide user information on marital status, criminal records, registered assets and degrees for free. They must also connect their documentation processing systems through the State Interoperability Platform. Third, digitalise public services. The GOB.PE digital platform provides a single point of contact for clear, simple and safe citizen interactions with government. Peru is focused on advances in national fibre-optic networks to narrow the digital divide. To mitigate the impact of the coronavirus (Covid-19), the government announced that public and private sector employers must adapt to remote working as long as the state of emergency is in effect. Additionally, the Ministry of Transport and Communications donated 2 000 Internet-connected tablets to the Ministry of Health to collect and analyse data (CAF, 2020).

In terms of international co-operation, Peru established the Better than Cash Alliance through multilateral co-operation with Colombia, Mexico, Paraguay and other countries around the world. The partnership aims to accelerate the transition from cash to digital payment to reduce poverty and drive inclusive growth. Brazil and Germany assisted in the creation of an Environmental Technology Centre, giving Peru the opportunity to host international environmental technology experts to comply with new legislation and criteria imposed on exporters by international markets.

Peru also co-ordinated with the European Union on the Building Europe Link to Latin America project to establish ultra high-speed cable connectivity, both submarine and terrestrial, between the regions by 2021. It includes 11 European and Latin American research and education networks and is led by RedCLARA, an international organisation aiming to connect Latin America's computer networks, and GEANT, a pan-European research education network.

	Digital indicators - Peru ¹					
	Peru		LAC ²		OECD ³	
Enhancing access	2008	2017	2008	2017	2008	2017
Fixed broadband subscriptions (per 100 inhabitants) ⁴	2.5	7.3	4.1	12.0	22.7	32.2
	2009	2017	2009	2017	2009	2017
Active mobile-broadband subscriptions (per 100 inhabitants) ⁴	0.29	65.7	1.8	66.8	29.8	97.3
	2015	2017	2015	2017	2015	2017
Proportion of population covered by at least 3G network ⁵	70.8	73.9	86.1	93.2	98.2	99.0
	2008	2017	2008	2017	2008	2007
Fixed broadband speed (in Mbit/s) ⁴	0.40	2.0	0.58	5.1	2.2	27.7
Strengthening their effective use	Peru		LAC		OECD	
	2008	2018	2008	2018	2008	2018
E-Government Development Index (EGDI) ⁶	0.53	0.65	0.52	0.65	0.72	0.82
Share of Internet users (% of population) ⁴	30.6	52.5	25.3	67.7	65.0	84.3
	2015	2019	2015	2019	2015	2019
UNCTAD B2C E-Commerce Index ⁷	43.1	47.8	46.4	51.5	73.9	85.0
	2017	2017	2017	2017	2017	2017
Share of individuals engaging in online shopping ⁸	13.2		14.8		N/A	
Enabling digital innovation	Peru		LAC		OECD	
	2008	2018	2008	2018	2008	2018
High-technology exports (% of manufactured exports) ⁹	2.9	4.6	9.3	8.6	15.6	15.1
	2008	2017	2008	2017	2008	2017
Share of ICT service imports, as % of total trade in services ⁷	2.3	3.7	3.1	3.8	4.6	6.6
	2012	2016	2012	2016	2012	2016
ICT patent applications filed under the Patent Cooperation Treaty (per million people) ¹⁰	0.00	0.09	0.14	0.34	30.9	38.2
	2011	2016	2011	2016	2011	2016
R&D expenditures, as % of GDP ¹¹	0.08	0.12	0.33	0.42	1.9	1.9
	2019	2019	2019	2019	2019	2019
OECD OURdata Index ¹²	N/A		0.43		0.61	
Ensuring quality jobs for all	Peru		LAC		OECD	
	2006-15	2006-15	2006-15	2006-15	2006-15	2006-15
Contributions to changes in total employment, by digital intensity of sectors, 2006-16 ¹³	N/A		6.9		4.8	
	2017	2018	2017	2018	2017	2018
Share of informal employment to total employment ¹⁴	68.9		54.9		N/A	
	2006	2017	2006	2017	2006	2017
Tertiary gross enrolment rate (%) ⁹	34.2	70.7	39.9	60.5	64.3	74.3
	2016	2016	2016	2016	2016	2016
Tertiary graduates by field (%) - Education ¹¹	9.1		16.0		9.8	
Tertiary graduates by field (%) - Health ¹¹	16.3		13.8		14.5	
Tertiary graduates by field (%) - Engineering ¹¹	16.0		12.5		14.6	
Promoting an inclusive digital society	Peru		LAC		OECD	
	2015	2016	2015	2016	2015	2016
E-waste generated, kilograms per inhabitant ¹⁵	5.6	5.8	6.9	7.2	17.7	17.7
	2015	2018	2015	2018	2015	2018
Number of students per computer ¹⁶	2.2	1.4	2.4	1.6	1.8	1.1
	2018	2018	2018	2018	2018	2018
Percentage of women scoring at Level 2 or 3 in problem solving in technology-rich environments ¹⁷	6.3		7.7		27.7	
Strengthening trust	Peru		LAC		OECD	
	2020	2020	2020	2020	2020	2020
CAF GovTech Index ¹⁸	4.0		4.4		N/A	
	2016	2018	2016	2018	2016	2018
Global Cybersecurity Index (ITU) ¹⁹	0.32	0.40	0.36	0.43	0.56	0.79
	2018	2019	2018	2019	2018	2019
E-commerce safety (%) ²⁰	64.6	72.5	72.0	63.1	61.7	58.3
Trust in online privacy (%) ²⁰	52.0	75.5	52.8	54.9	41.7	45.6
Fostering market openness	Peru		LAC		OECD	
	2015	2019	2015	2019	2015	2019
OECD Digital Services Trade Restrictiveness Index ¹³	N/A	N/A	0.24	0.24	0.13	0.15
	2018	2018	2018	2018	2018	2018
OECD FDI RRI ¹³	0.08		0.07		0.06	

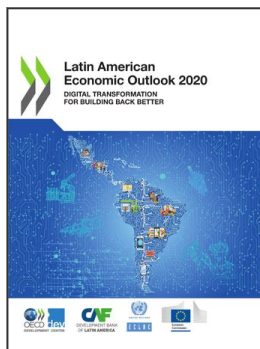
Sources, footnotes and technical details can be found at the end of the country notes.

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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