

GUATEMALA

Recent trends

Guatemala continues to progress in enhancing digital access and use for all. The share of Internet users increased from 8.3% in 2008 to 65.0% in 2018, which is above the current Latin America and the Caribbean (LAC) average (62.9%). Active mobile broadband subscriptions also increased but are below the LAC and Organisation for Economic Co-operation and Development (OECD) averages. The country has made progress in enhancing trust in the digital ecosystem, as seen by improvement in perceived trust in online privacy and in the Global Cybersecurity Index. In particular, the Global Cybersecurity Index increased from 0.21 in 2016 to 0.25 in 2018, but remains below LAC (0.43) and OECD (0.79) averages.

Guatemala's digital innovation metrics leave room for improvement. In particular, high-technology exports represented 5.3% of total manufactured exports in 2017, compared with averages of 9.6% in LAC and 15.3% in the OECD.

National strategies and international co-operation for digital transformation

The national development plan (NDP) *K'atun, Nuestra Guatemala 2032* (K'atun, Our Guatemala 2032) and the digital agenda (DA) *Agenda Nación Digital 2016-2032* (Digital Nation 2016-2032) are the main planning instruments for the digital transformation of Guatemala (ECLAC, 2018). The NDP includes an axis on well-being, with actions for the promotion of science and technology. It establishes two main objectives. The first is to close the digital gap within public institutions to improve and speed up processes and transactions and, within society, generate knowledge. The second is to design, approve and implement policies for digital inclusion. The DA aims to take advantage of information and communications technology (ICT) to contribute to the country's technological, social and economic development. It prioritises education and security but also focuses on health, transparency and development.

Related policies include the National Policy of Scientific and Technological Development 2015-2032, which aims to generate skills and encourage multidisciplinary research in science, technology and innovation. The 2018 National Policy of Cybersecurity aims to create conditions for participation in and development of cyberspace. It recognises, among others, international government co-operation as a pillar of cybersecurity. Guatemala created *Viceministerio de Asuntos Registrales* (Vice Ministry for Registry Affairs) in 2019 to digitalise Ministry of Economy services. In 2020, the renamed *Comisión Presidencial de Gobierno Abierto y Electrónico* (GAE; Commission for Open and Electronic Governance) was tasked with co-ordinating the application of measures, commitments and strategies derived from international instruments and national policies and action plans regarding open government and electronic signature. The goal is to contribute to the transformation of public management, ICT innovation, citizen participation, accountability and transparency. To mitigate the economic impact of the coronavirus (Covid-19), the government announced that telecommunications companies would operate as an essential service and continue during lockdown. Claro and Tigo, large telecommunications and media operators, offered a *Plan Básico de Navegación* (Basic navigation plan) to ensure connection to users unable to pay their Internet plans (CAF, 2020).

In terms of international co-operation, Guatemala was involved in a triangular co-operation project with Germany and Mexico in 2016-18 that aimed to create a space of dialogue for identifying best practices in the management of technical development co-operation among countries facing similar challenges. It included the creation of a digital platform to record and organise the country's existing technical development co-operation. With the help of the European Union, Guatemala also implemented a Platform of National Information on Nutrition to help monitor chronic malnutrition. It aims to strengthen management of information, evidence-based policy making, and co-ordination and technical planning.

Enhancing accessFixed broadband subscriptions (per 100 inhabitants)⁴Active mobile-broadband subscriptions (per 100 inhabitants)⁴Proportion of population covered by at least 3G network⁵Fixed broadband speed (in Mbit/s)⁴**Strengthening their effective use**E-Government Development Index (EGDI)⁶Share of Internet users (% of population)⁴UNCTAD B2C E-Commerce Index⁷Share of individuals engaging in online shopping⁸**Enabling digital innovation**High-technology exports (% of manufactured exports)⁹Share of ICT service imports, as % of total trade in services⁷ICT patent applications filed under the Patent Cooperation Treaty (per million people)¹⁰R&D expenditures, as % of GDP¹¹OECD OURdata Index¹²**Ensuring quality jobs for all**Contributions to changes in total employment, by digital intensity of sectors, 2006-16¹³Share of informal employment to total employment¹⁴Tertiary gross enrolment rate (%)⁹Tertiary graduates by field (%) - Education¹¹Tertiary graduates by field (%) - Health¹¹Tertiary graduates by field (%) - Engineering¹¹**Promoting an inclusive digital society**E-waste generated, kilograms per inhabitant¹⁵Number of students per computer¹⁶Percentage of women scoring at Level 2 or 3 in problem solving in technology-rich environments¹⁷**Strengthening trust**CAF GovTech Index¹⁸Global Cybersecurity Index (ITU)¹⁹E-commerce safety (%)²⁰Trust in online privacy (%)²⁰**Fostering market openness**OECD Digital Services Trade Restrictiveness Index¹³OECD FDI RRI¹³**Digital indicators - Guatemala¹**

| Guatemala | | LAC ² | | OECD ³ | |
|-----------|------|------------------|------|-------------------|------|
| 2008 | 2017 | 2008 | 2017 | 2008 | 2017 |
| 0.67 | 3.1 | 4.1 | 12.0 | 22.7 | 32.2 |
| 2009 | 2017 | 2009 | 2017 | 2009 | 2017 |
| 2.0 | 16.5 | 1.8 | 66.8 | 29.8 | 97.3 |
| 2015 | 2018 | 2015 | 2018 | 2015 | 2018 |
| 92.0 | 95.0 | 86.1 | 94.6 | 98.2 | 98.8 |
| 2008 | 2017 | 2008 | 2017 | 2008 | 2007 |
| 0.26 | 2.0 | 0.58 | 5.1 | 2.2 | 27.7 |

| Guatemala | | LAC | | OECD | |
|-----------|------|------|------|------|------|
| 2008 | 2018 | 2008 | 2018 | 2008 | 2018 |
| 0.43 | 0.50 | 0.52 | 0.65 | 0.72 | 0.82 |
| 2008 | 2017 | 2008 | 2017 | 2008 | 2017 |
| 8.3 | 65.0 | 25.3 | 62.9 | 65.0 | 83.4 |
| 2015 | 2019 | 2015 | 2019 | 2015 | 2019 |
| 21.4 | 37.5 | 46.4 | 51.5 | 73.9 | 85.0 |
| 2017 | 2017 | 2017 | 2017 | 2017 | 2017 |
| 10.6 | 14.8 | N/A | N/A | N/A | N/A |

| Guatemala | | LAC | | OECD | |
|-----------|------|------|------|------|------|
| 2008 | 2017 | 2008 | 2017 | 2008 | 2017 |
| 4.3 | 5.3 | 9.3 | 9.6 | 15.6 | 15.3 |
| 1.72 | 4.58 | 3.1 | 3.9 | 4.6 | 6.7 |
| 2012 | 2016 | 2012 | 2016 | 2012 | 2016 |
| 0.04 | 0.00 | 0.14 | 0.34 | 30.9 | 38.2 |
| 2006 | 2015 | 2006 | 2015 | 2006 | 2015 |
| 0.05 | 0.03 | 0.35 | 0.40 | 1.7 | 1.9 |
| 2019 | 2019 | 2019 | 2019 | 2019 | 2019 |
| 0.54 | 0.43 | 0.61 | 0.61 | 0.61 | 0.61 |

| Guatemala | | LAC | | OECD | |
|-----------|---------|---------|---------|---------|---------|
| 2006-15 | 2006-15 | 2006-15 | 2006-15 | 2006-15 | 2006-15 |
| N/A | 6.9 | 4.8 | 4.8 | 4.8 | 4.8 |
| 2017 | 2018 | 2017 | 2018 | 2017 | 2018 |
| 80.9 | 54.9 | N/A | N/A | N/A | N/A |
| 2007 | 2015 | 2007 | 2015 | 2007 | 2015 |
| 17.3 | 21.8 | 37.5 | 51.0 | 66.6 | 70.7 |
| 2016 | 2016 | 2016 | 2016 | 2016 | 2016 |
| N/A | 16.0 | 9.8 | 9.8 | 9.8 | 9.8 |
| 2016 | 2016 | 2016 | 2016 | 2016 | 2016 |
| N/A | 13.8 | 14.5 | 14.5 | 14.5 | 14.5 |
| 2016 | 2016 | 2016 | 2016 | 2016 | 2016 |
| N/A | 12.5 | 14.6 | 14.6 | 14.6 | 14.6 |

| Guatemala | | LAC | | OECD | |
|-----------|------|------|------|------|------|
| 2015 | 2016 | 2015 | 2016 | 2015 | 2016 |
| 3.9 | 4.0 | 6.9 | 7.2 | 17.7 | 17.7 |
| 2015 | 2018 | 2015 | 2018 | 2015 | 2018 |
| N/A | N/A | 2.4 | 1.6 | 1.8 | 1.1 |
| 2018 | 2018 | 2018 | 2018 | 2018 | 2018 |
| N/A | 7.7 | 27.7 | 27.7 | 27.7 | 27.7 |

| Guatemala | | LAC | | OECD | |
|-----------|------|------|------|------|------|
| 2020 | 2020 | 2020 | 2020 | 2020 | 2020 |
| N/A | 4.4 | N/A | N/A | N/A | N/A |
| 2016 | 2018 | 2016 | 2018 | 2016 | 2018 |
| 0.21 | 0.25 | 0.36 | 0.43 | 0.56 | 0.79 |
| 2018 | 2019 | 2018 | 2019 | 2018 | 2019 |
| 66.7 | 46.8 | 72.0 | 63.1 | 61.7 | 58.3 |
| 44.0 | 56.9 | 52.8 | 54.9 | 41.7 | 45.6 |

| Guatemala | | LAC | | OECD | |
|-----------|------|------|------|------|------|
| 2015 | 2019 | 2015 | 2019 | 2015 | 2019 |
| N/A | N/A | 0.24 | 0.24 | 0.13 | 0.15 |
| 2018 | 2018 | 2018 | 2018 | 2018 | 2018 |
| N/A | 0.07 | 0.06 | 0.06 | 0.06 | 0.06 |

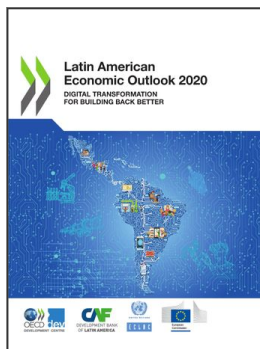
Sources, footnotes and technical details can be found at the end of the country notes.

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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