UNITED NATIONS

ECLAC

A DIGITAL path for SUSTAINABLE DEVELOPMENT in Latin America and the Caribbean

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Main messages

Digitalization at the centre of sustainable development

The growing relevance of the digital transformation for achieving greater productivity, well-being and sustainability

Effective connectivity and skills development

Determine who uses and owns digital technologies and solutions

A dynamic digital ecosystem

Technology-based companies, digitalization of traditional sectors and digital applications to create social and economic value

Governance in the digital transformation

Prioritizing digital policies, enhancing institutional frameworks and establishing appropriate regulatory frameworks

The digital revolution in a changing world

A complex global scenario

Economic crisis

- Recession and inflation
- Slumping global goods trade
- Higher external debt
- Liquidity constraints and less fiscal space

Environmental emergency

- Planetary limits exceeded
- Degradation and loss of biodiversity and ecosystems
- Increasing pollution

Migration processes

- In 2020, 281 million people lived outside their country of origin (4%)
- Major economic, social, cultural and political impacts on countries of origin, transit and destination

Technology revolution

- Connectivity everywhere, all the time
- Rise of global platforms
- Faster pace of technical progress in all areas of the economy and society
- Emergence of 5G, Internet of things (IoT), AI, robotics and others

Towards new consumption, business and production models

- Autonomous robots
- Simulation
- Integrated systems
- Internet of things
- Cybersecurity
- Cloud computing
- 3D printing
- Big data
- Augmented reality

The digital age

Value creation based on data, knowledge and smart systems

- Productivity
- Well-being
- Sustainability

Digitalization at breakneck speed

How much has the world changed in a decade?

2011–2021

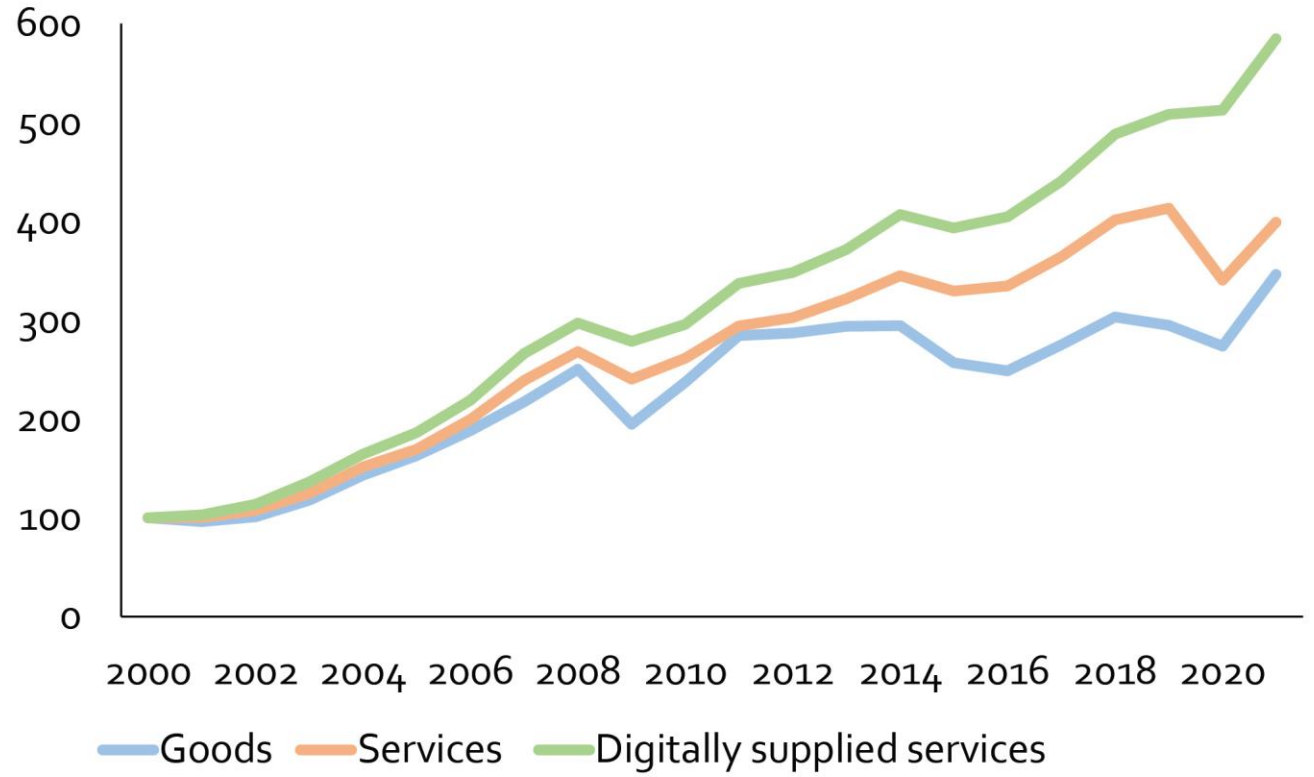
x2 Internet users — 63% of the population

x11 IoT — 12 billion connected devices

x16 Volume of data — 80 zettabytes

Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of data from IDC-Statista June 2021 [online] https://www.statista.com/statistics/871513/worldwide-data-created/; Statista, November 2020 [online] https://www.statista.com/ statistics/1101442/iot-number-of-connected-devices-worldwide/] and International Telecommunication Union (ITU), World Telecommunications/ICT Indicators Database, December 2021.

World: value of exports of goods, services and digitally supplied services (Index: 2000=100)

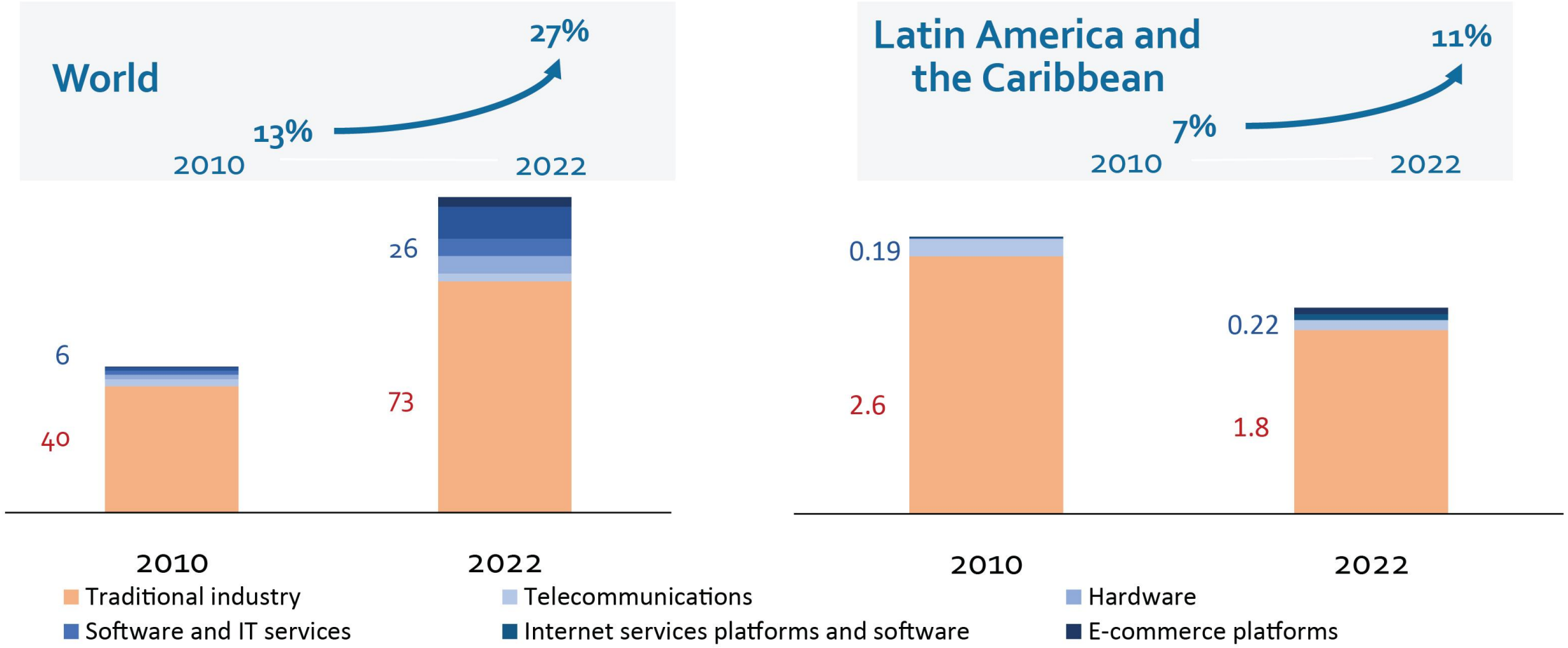


Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of United Nations Conference on Trade and Development (UNCTAD), UNCTADstat [online] https://unctadstat.unctad.org.

The market value of the digital industry is surging

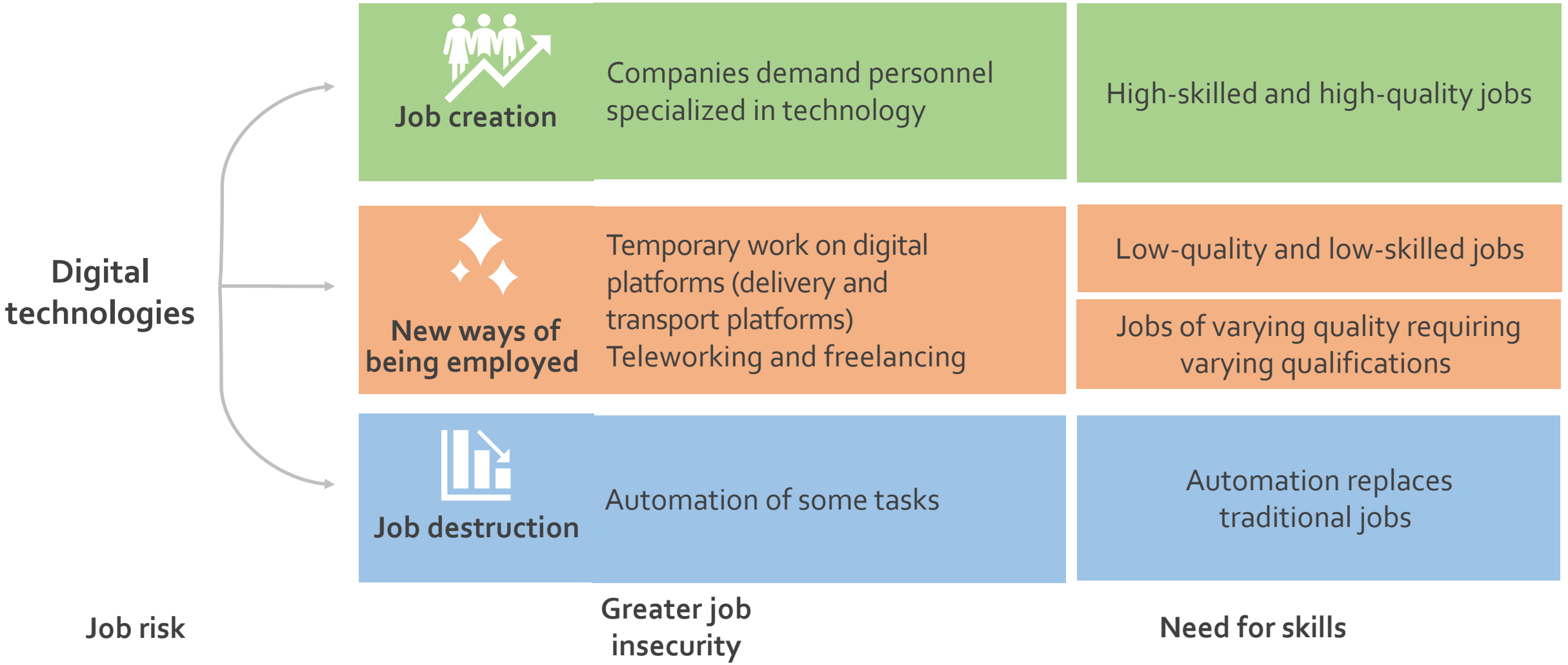
Market value of the most valuable companies

(Trillions of dollars)



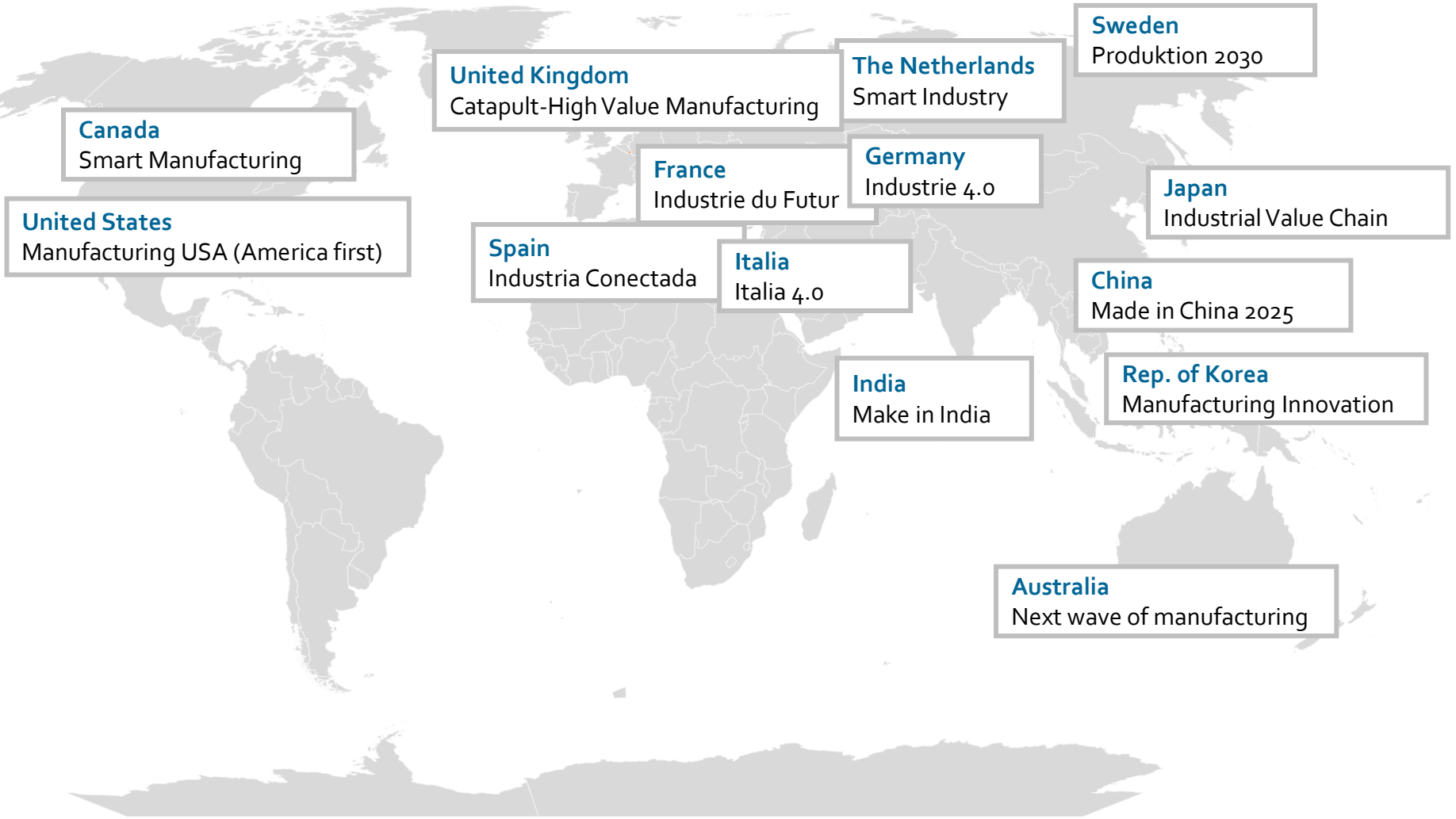
Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of data from Bloomberg on the 5,000 companies with the highest market values worldwide and the 500 companies with the highest market values in Latin America.

Digitalization is creating labour market tension



Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development.

Industrialized countries are placing digitalization at the centre of productive sector development policies



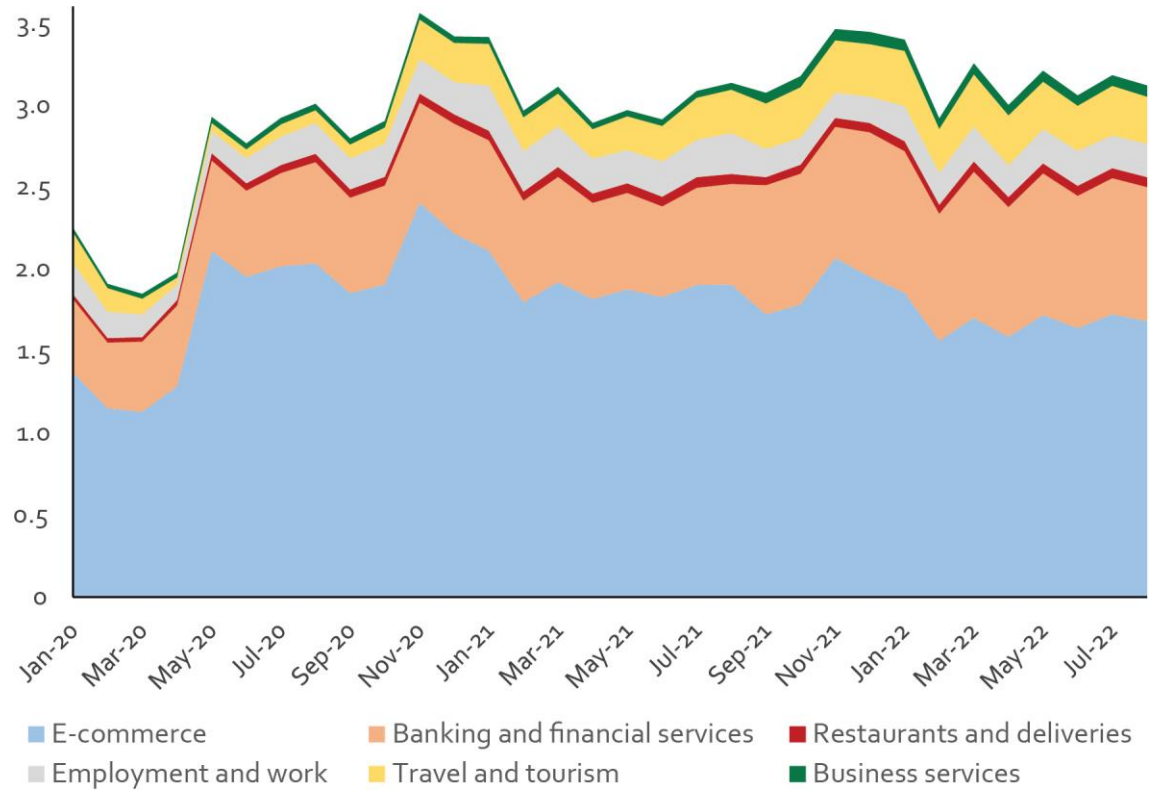
Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development.

Latin America and the Caribbean in the digital age

Faster digitalization, new uses of technology and greater innovation as a result of COVID-19

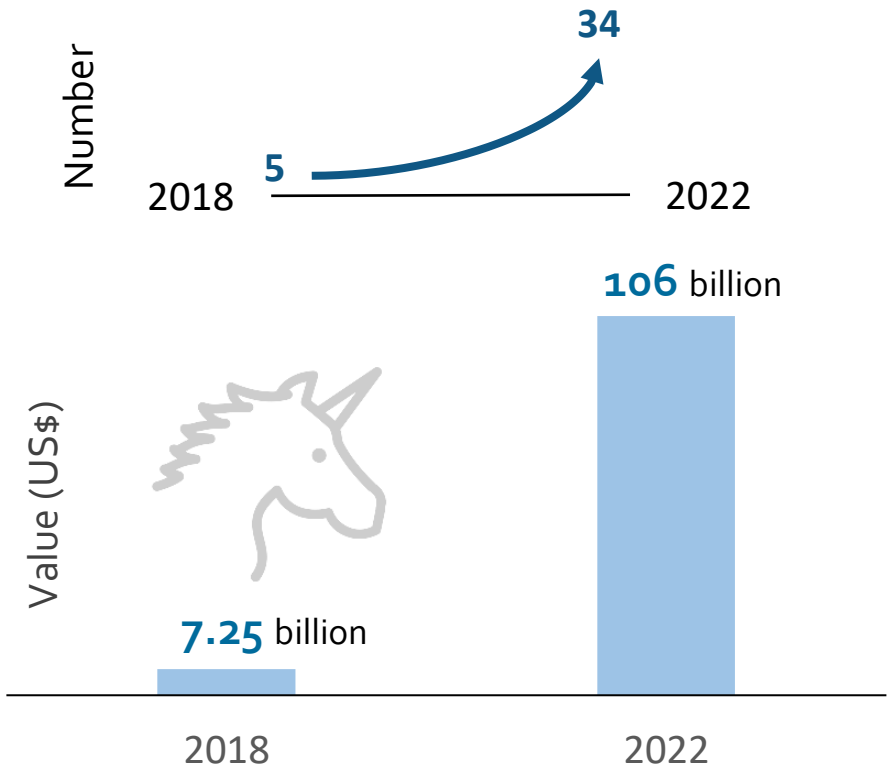
Latin America and the Caribbean: visits to websites, by category, January 2020–August 2022

(*Billions of visits*)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of information from SimilarWeb.com [online] https://www.similarweb.com/

Unicorns (2018–2022)



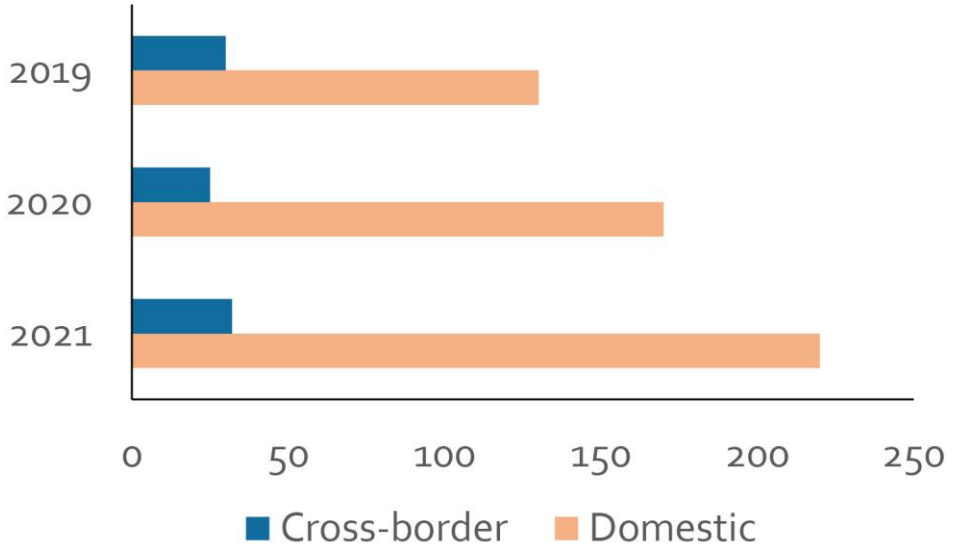
In 2022, **57%** of unicorns were concentrated in fintech and **24%** in e-commerce.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of information from CBInsights, "Research Briefs" [online] https://www.cbinsights.com/research/unicorn-startup-market-map/.

Surge in e-commerce, mainly in the domestic market

Latin America: e-commerce, 2019–2021

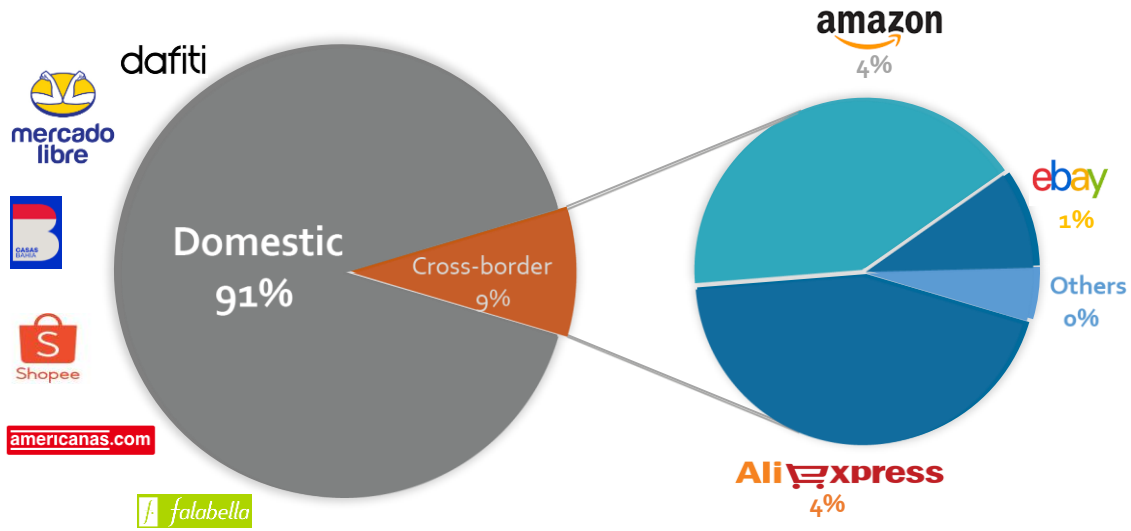
(Billions of dollars)



- 2021: US$ 230 billion in value
- 2019–2021: 30% increase, driven by domestic e-commerce (33%)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of EBANX, *Beyond Borders 2020/2021: A study on the state of cross-border e-commerce in Latin America. Focus on Brazil, Chile, Colombia and Mexico, 2020* [online] https://imgcdn.larepublica.co/cms/2020/12/16091007/EBANXBeyond-Borders-2020.pdf.

Share of domestic transactions in e-commerce, 2021

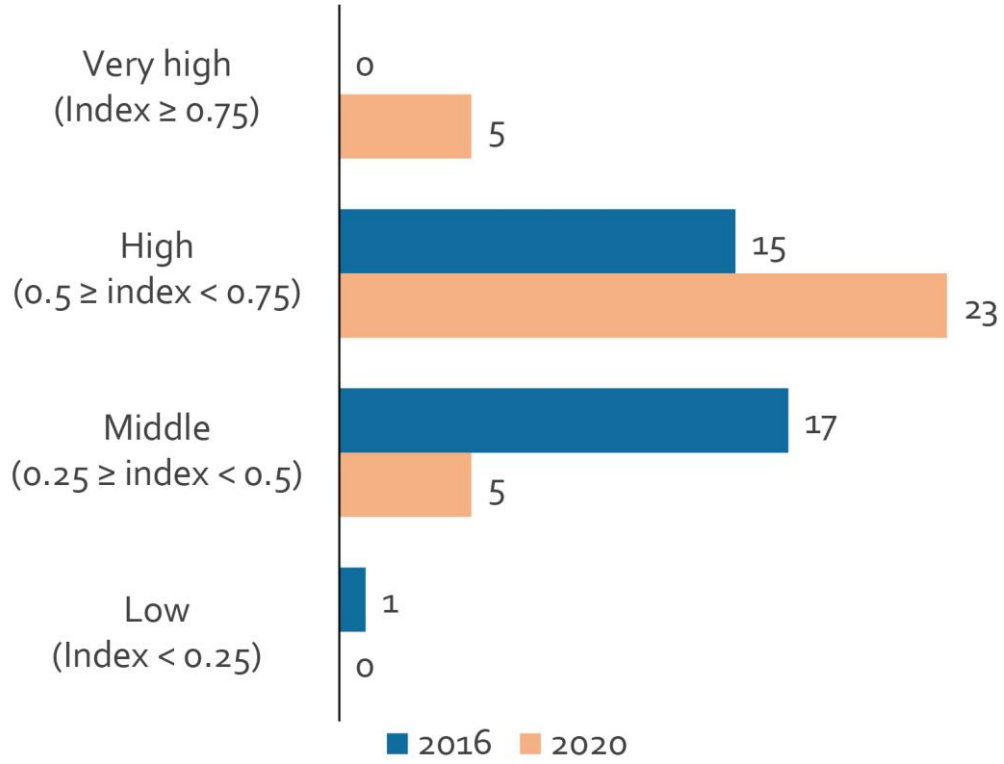


- 2021: e-commerce website traffic is concentrated in domestic markets (91%)
- Domestic e-commerce through regional platforms and local retail platforms and cross-border e-commerce through international platforms

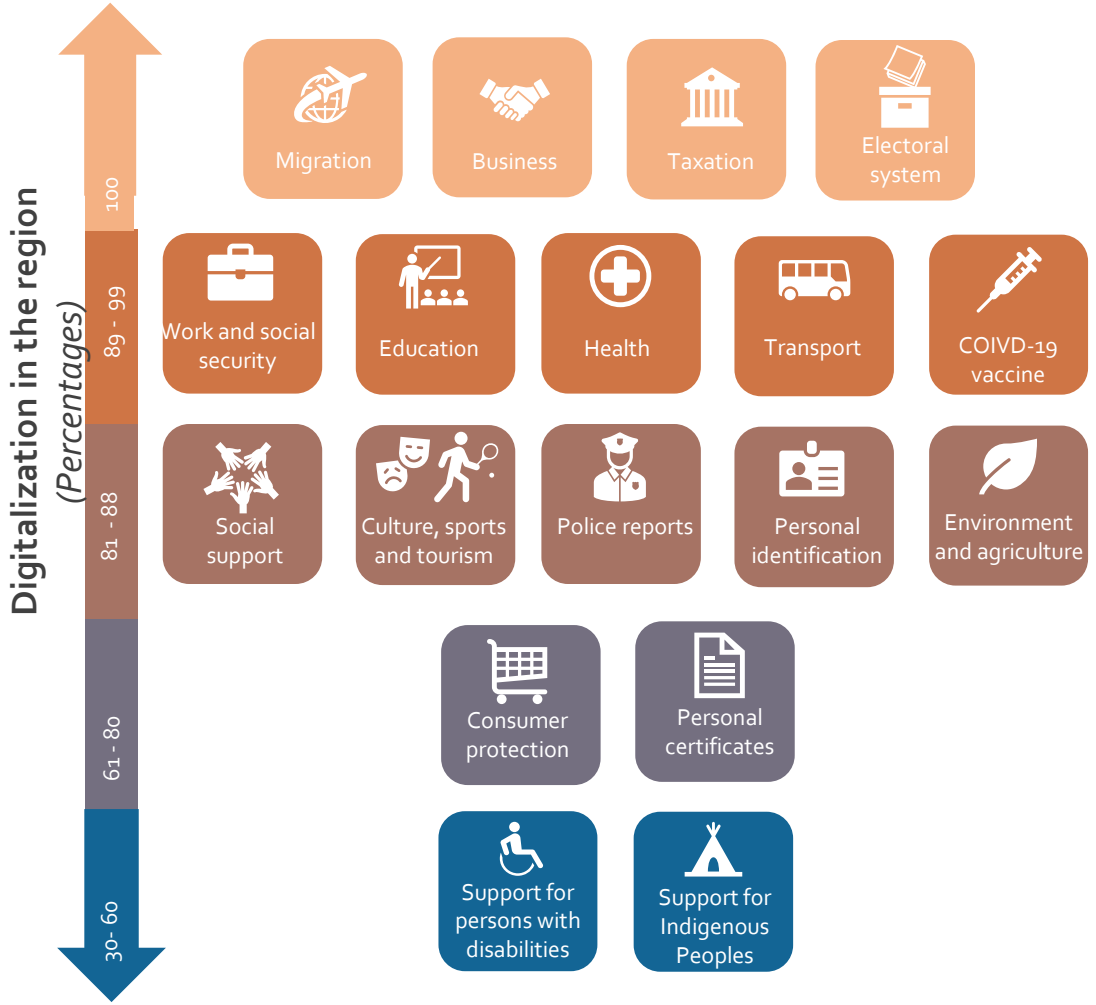
Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of information from SimilarWeb.com [online] https://www.similarweb.com/.

The State has been a major digital transformation catalyst

Number of countries by rating on the e-Government Development Index (EGDI)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of United Nations, *E-Government Survey 2020: Digital Government in the Decade of Action for Sustainable Development*, New York, 2020.



Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of research on 19 countries of the region as of December 2021.

Challenges for the region in the digital age

Connectivity gaps condition social inclusion

✓ Significant progress in…

80%	Internet users
79%	Mobile broadband subscriptions
62%	Households connected to the Internet

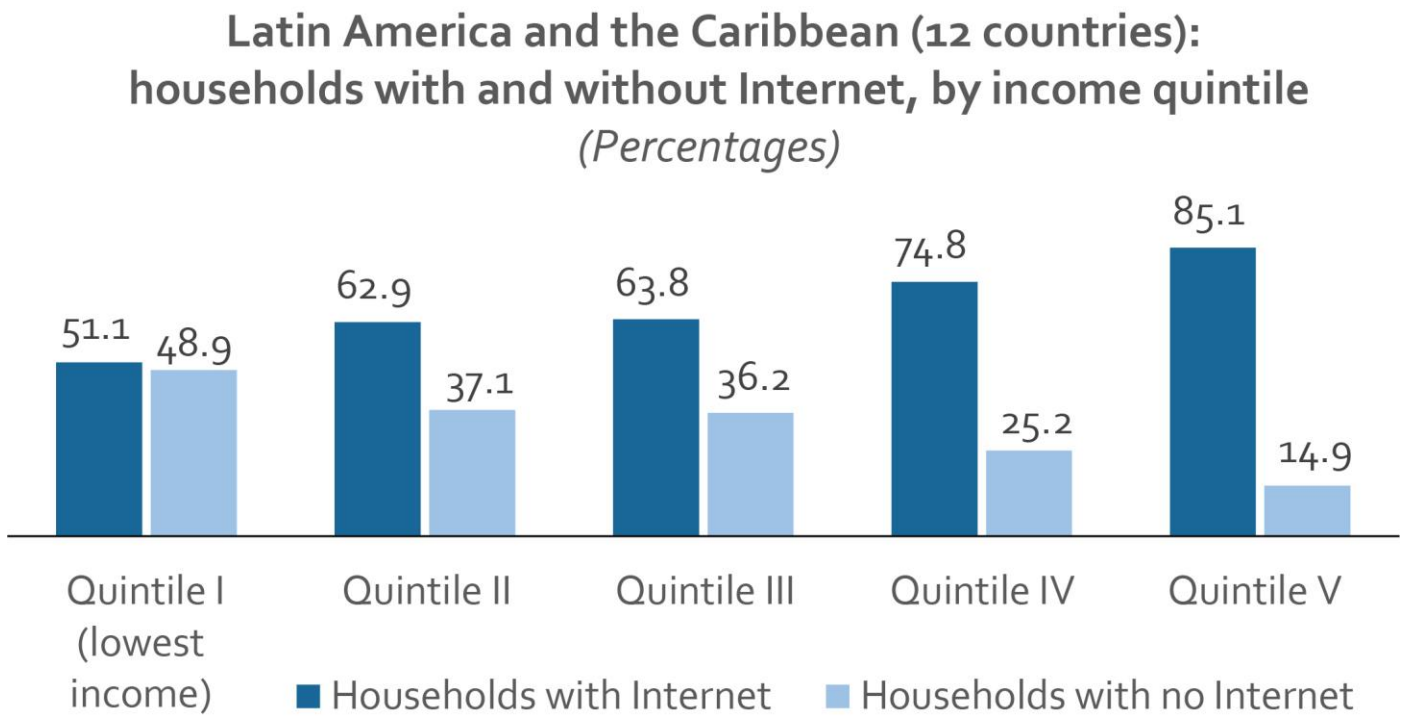
✕ Connectivity lacking in:

1/4	of urban households
2/3	of rural households
43%	of the poorest households (quintiles I and II)

→ No connectivity for

1/3	of children aged 5–12 years
1/4	of adults aged 66 and over
1/2	of young people aged 13–25 years

The number of households with no Internet connection in the lowest income quintile (quintile I) is three times the corresponding figure in the highest income quintile (quintile V)

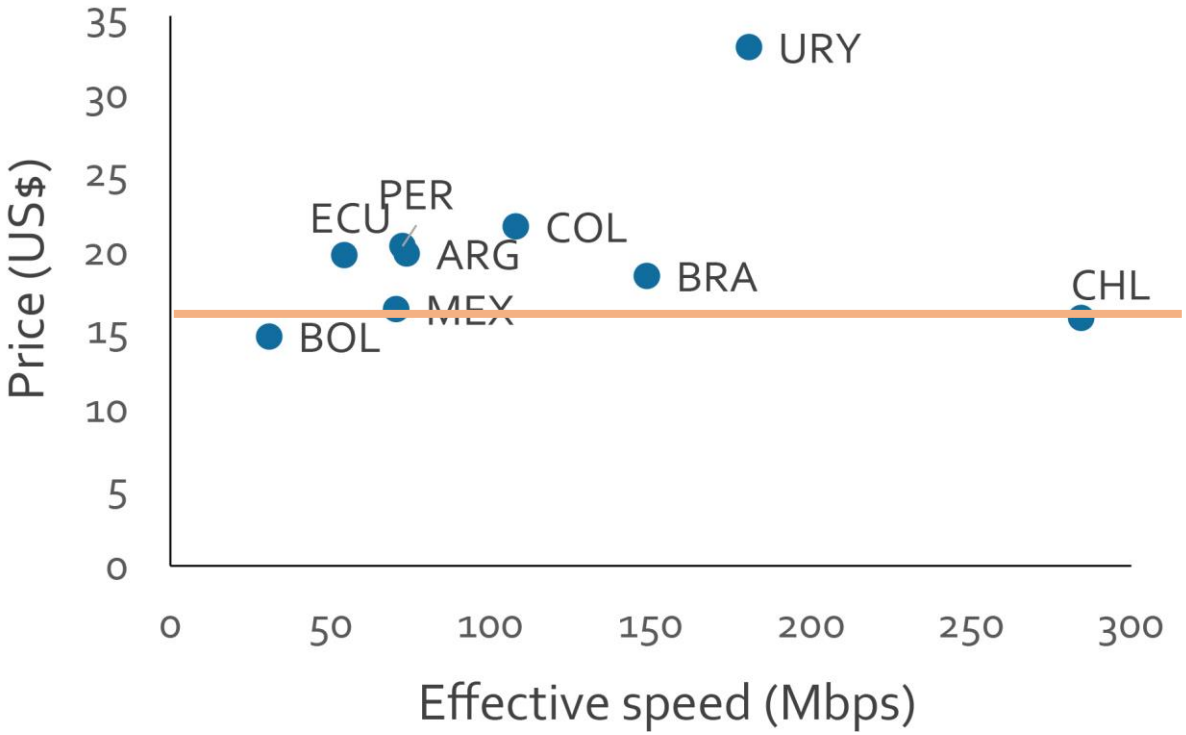


Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of International Telecommunication Union (ITU), World Telecommunications/ICT Indicators Database, July 2022.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of the Household Survey Data Bank (BADEHOG); for Colombia, National Administrative Department of Statistics (DANE), "Encuesta Nacional de Calidad de Vida -ECV- 2021".

Affordability is an obstacle to effective connectivity

Price-quality ratio for fixed broadband subscriptions, December 2021



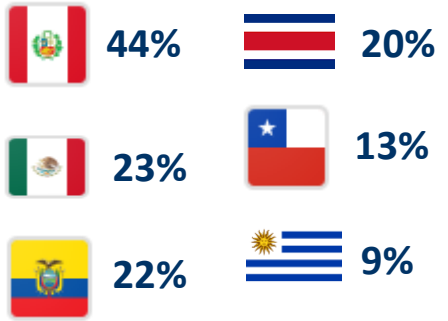
Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of Speedtest, "Speedtest Global Index", June 2022 [online] http://www.speedtest.net/global-index for data on speed, and operators' websites for data on prices.

Basic digital basket

Modular tool with four components

Technological devices	Monthly cost mobile broadband	Monthly cost fixed broadband	Digital skills

Monthly cost of the basket for the lowest income quintile



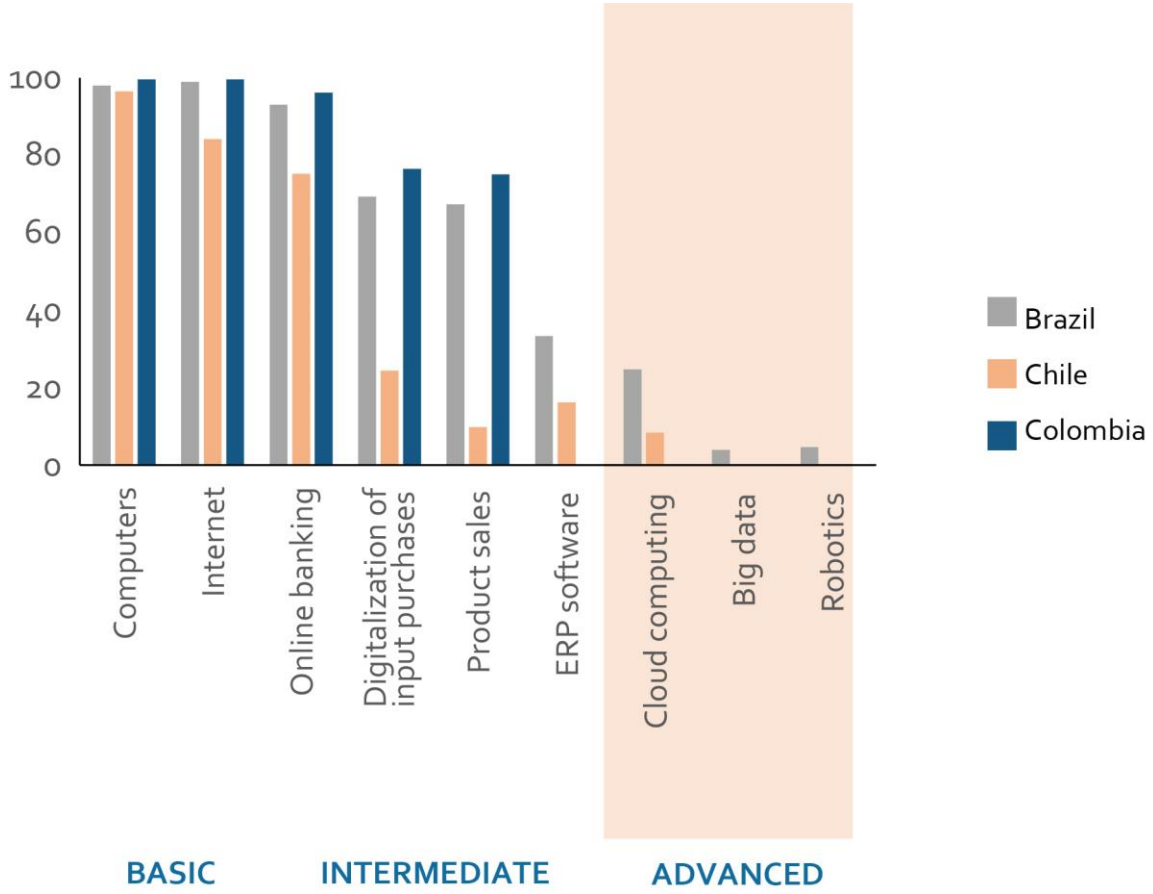
Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of the Household Survey Data Bank (BADEHOG) for data on income, and operators' websites for data on prices.

Traditional sectors slow to adopt advanced technologies

Manufacturing industry

Adoption of digital technologies

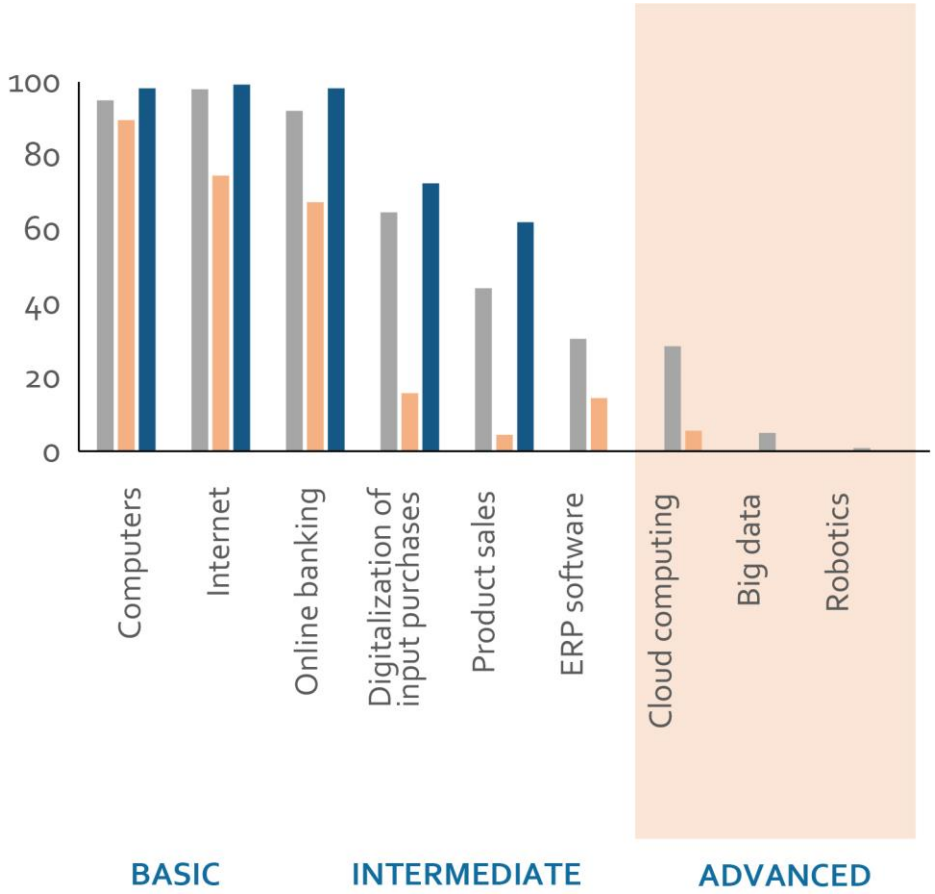
(As a percentage of total companies)



Transport and storage sector

Adoption of digital technologies

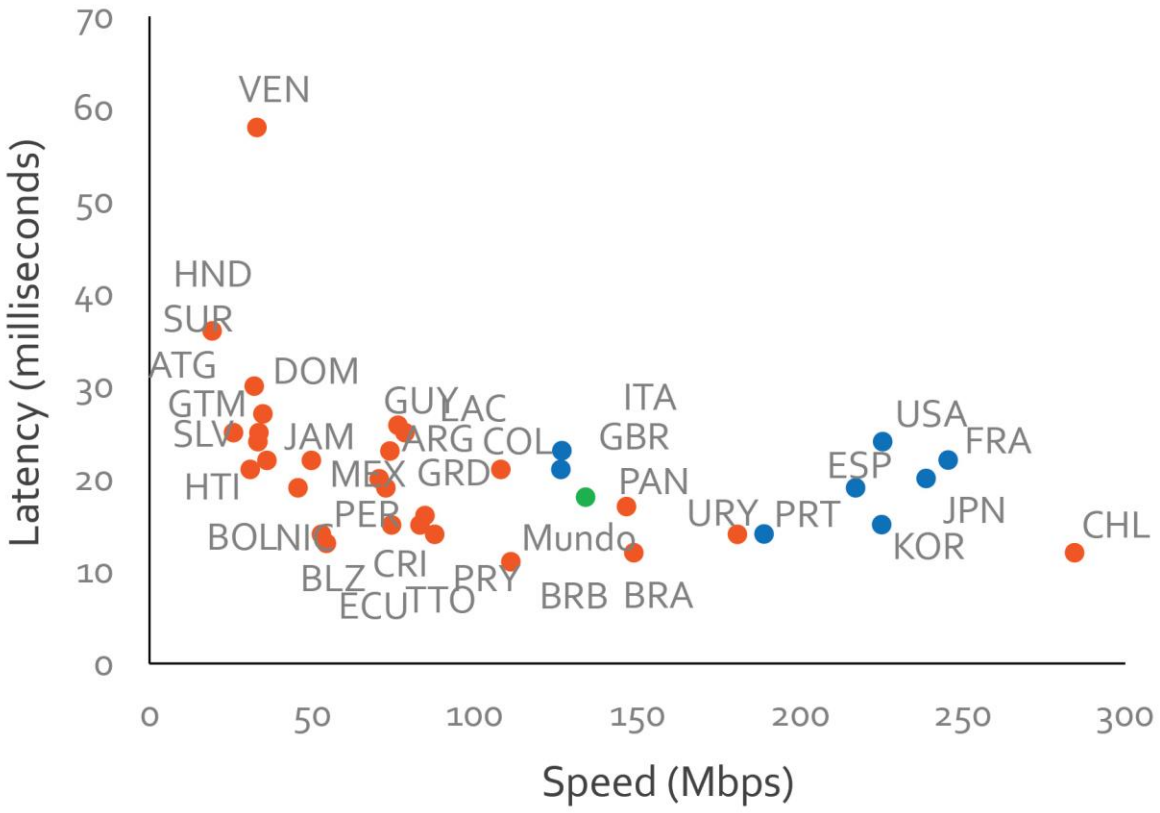
(As a percentage of total companies)



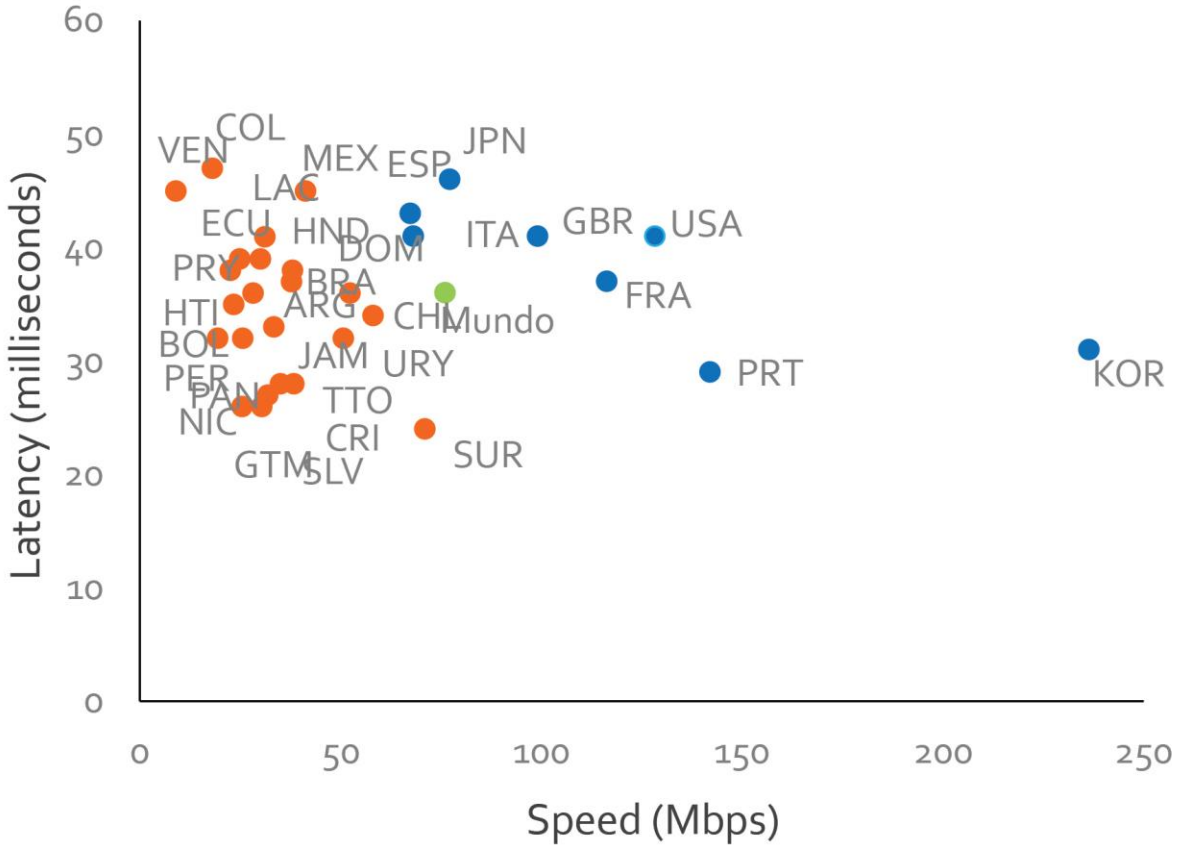
Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of industrial surveys; for Brazil, "TIC Empresas" survey; for Chile, "Encuesta Longitudinal de Empresas (ELE)"; and for Colombia, "Indicadores Básicos de TIC en Empresas".

Connection quality limits the use of advanced services

Fixed broadband download speed, monthly average, June 2022



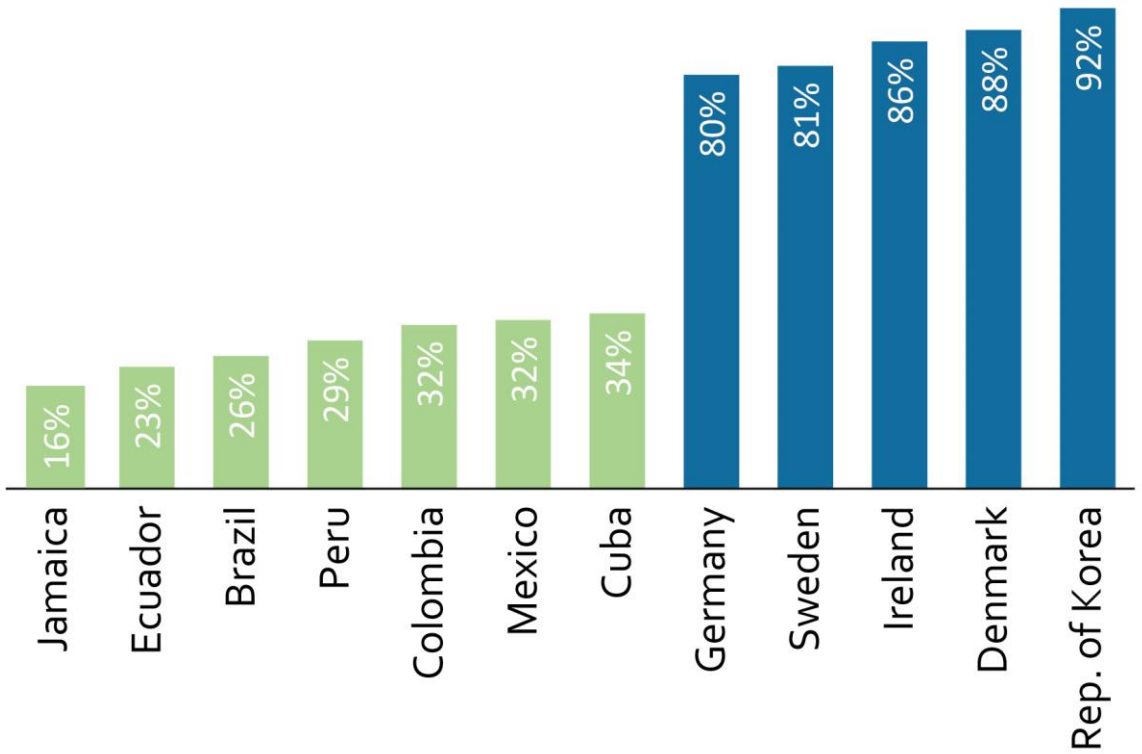
Mobile broadband download speed, monthly average, June 2022



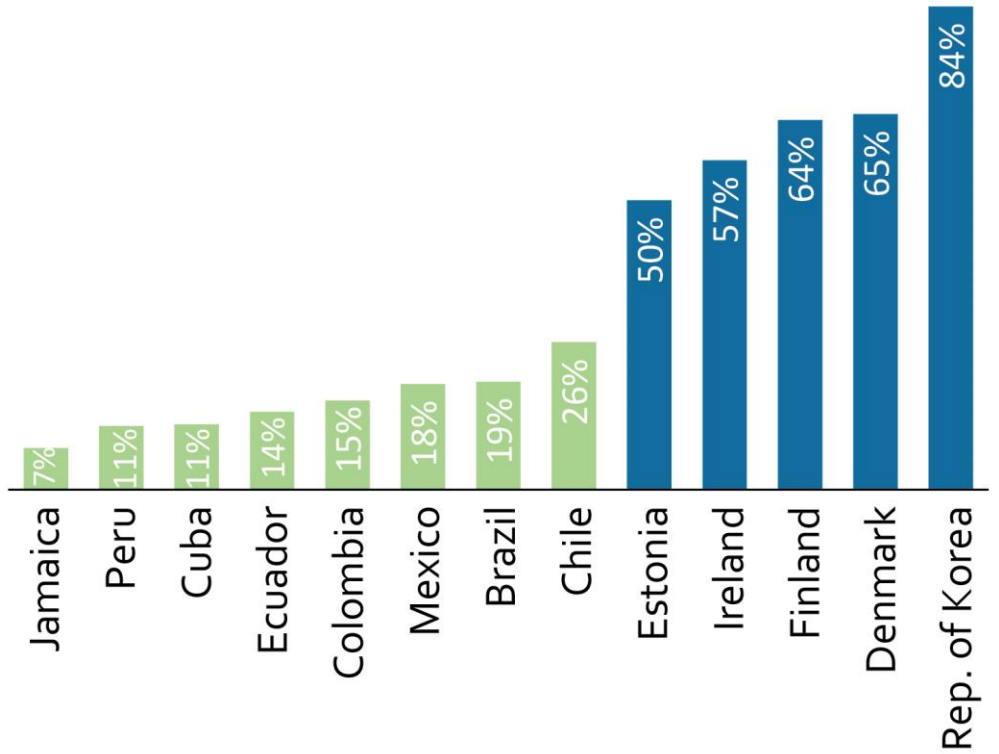
Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of Speedtest, "Speedtest Global Index", June 2022 [online] http://www.speedtest.net/global-index.

Lack of digital skills for a digital world

Basic digital skills
(As a percentage of the population)
Sending and receiving emails with attachments



Average digital skills
(As a percentage of the population)
Finding, downloading and configuring applications and software

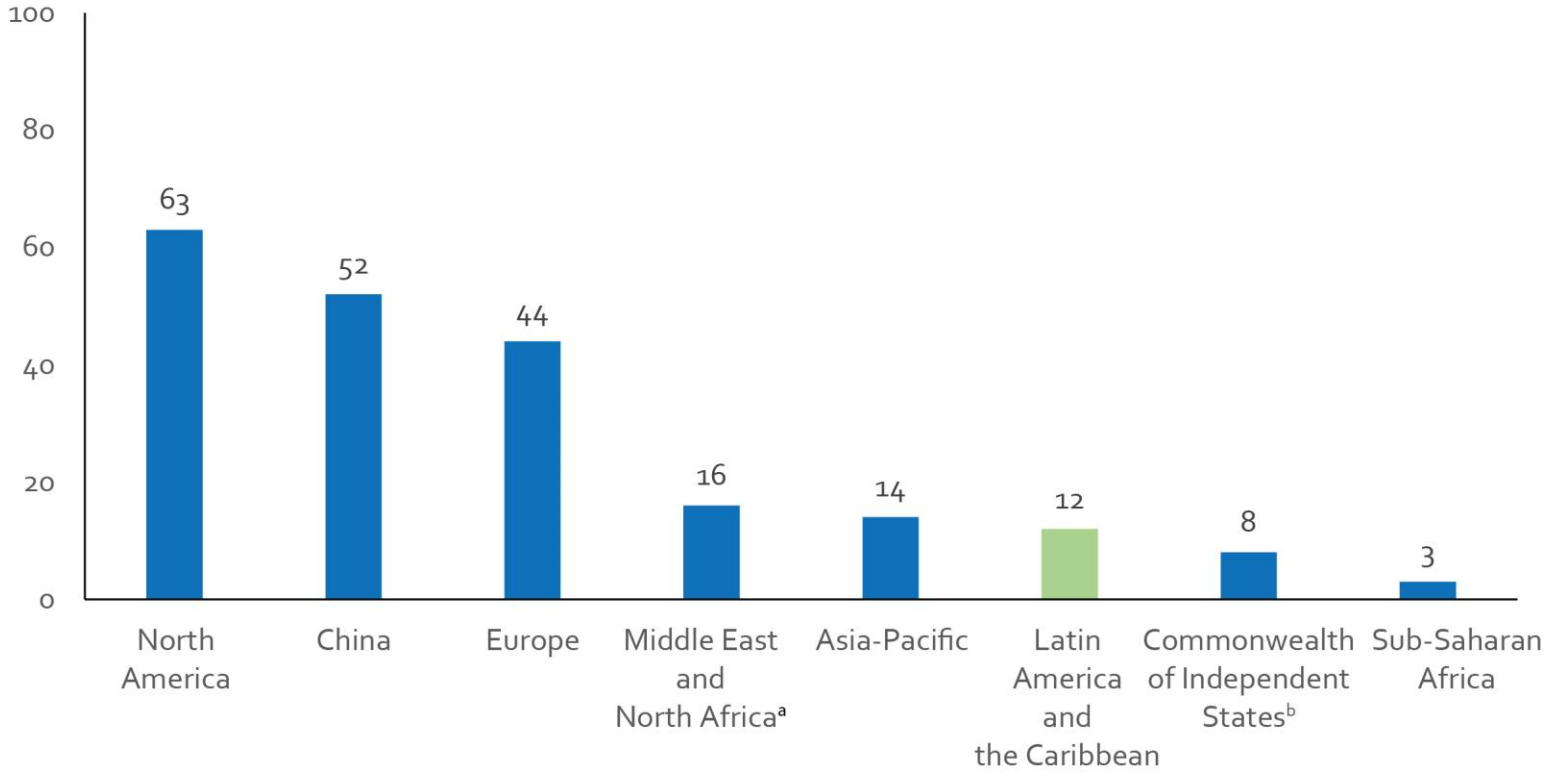


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the International Telecommunication Union (ITU).

Significant lag in 5G adoption

Projected penetration of 5G by 2025, by region

(Percentages of total connections)



5G networks should higher quality connection with faster deployment and lower costs

Source: GSMA Intelligence.

[a] Middle East and North Africa includes: Algeria, Bahrain, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, State of Palestine, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates and Yemen.

[b] Commonwealth of Independent States includes: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Russian Federation, Tajikistan and Uzbekistan.

How to advance 5G deployment in the region?

Regulatory frameworks that boost investment

How much to invest?

US$ 51 billion investment — Urban areas

US$ 120 billion investment — Total coverage

Projections for the next seven years for Argentina, Brazil, Chile, Colombia, Mexico and Peru.

Source: GSMA Intelligence.

Strengthening digital governance

Most common topics in digital agendas:

1. E-government
2. Digital skills
3. Infrastructure and access
4. Digital education

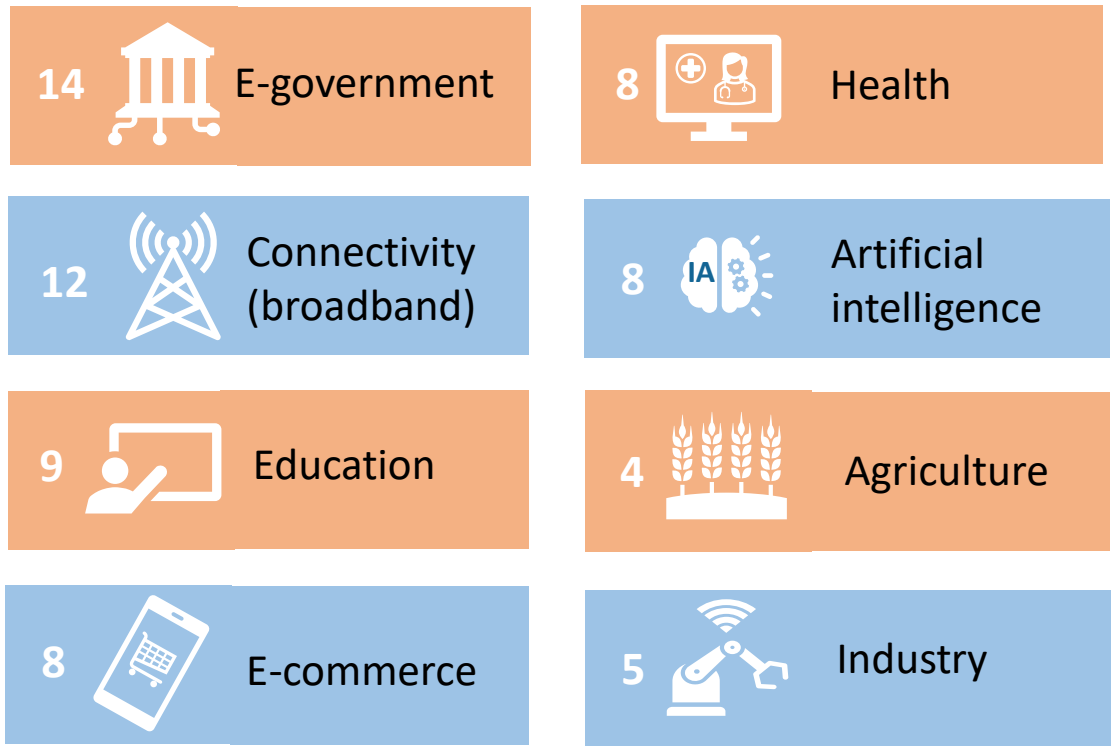
However, more countries need to include emerging topics:

1. Artificial intelligence
2. Cybersecurity
3. Local government and smart cities
4. Gender
5. Environment

Strengthening required in:

1. Hierarchy and budgets for digital agendas
2. Institutional frameworks for multisectoral coordination
3. Multisectoral coordination

Latin America and the Caribbean (14 countries): adoption of sectoral digital agendas, 2022



Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development.

Moving forward on the path to digitalization

5 action areas for sustainable, inclusive digitalization

1. Create enabling conditions

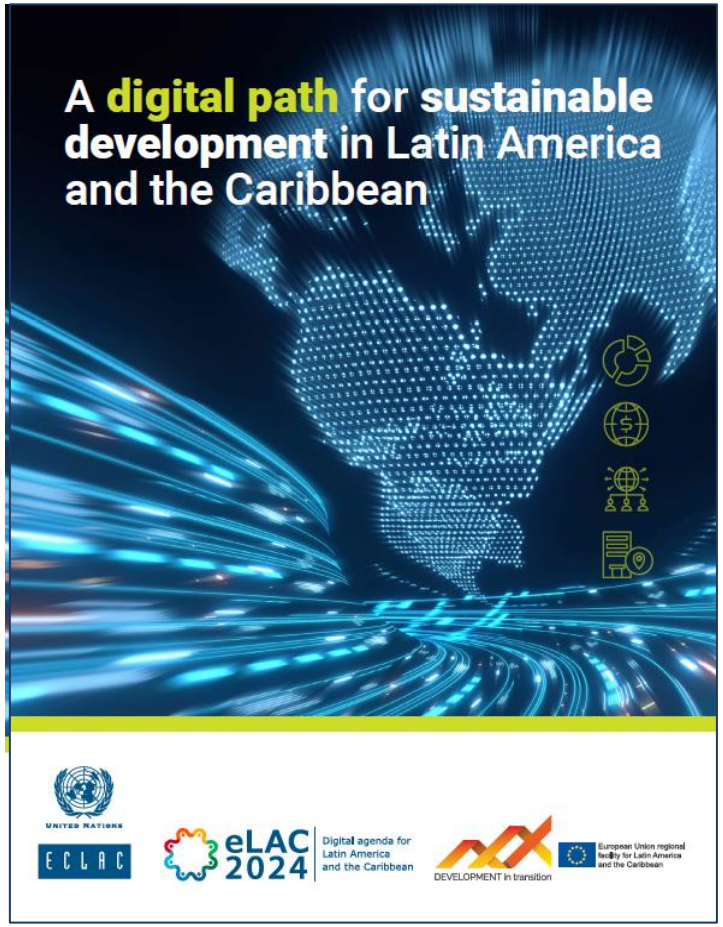
- Broaden service coverage
- Ensure effective universal connectivity
- Speed up deployment of advanced mobile networks (5G)
- Develop digital skills

2. Develop digital solutions

- Provide digital content and solutions
- The State as a driver of the digital transformation
- Promote evidence-based public policy design and implementation

3. Drive the digital transformation

- Promote entrepreneurship and innovation
- Foster digitalization of companies, in particular MSMEs
- Encourage the adoption of advanced technologies and the green transition
- Promote e-commerce policies



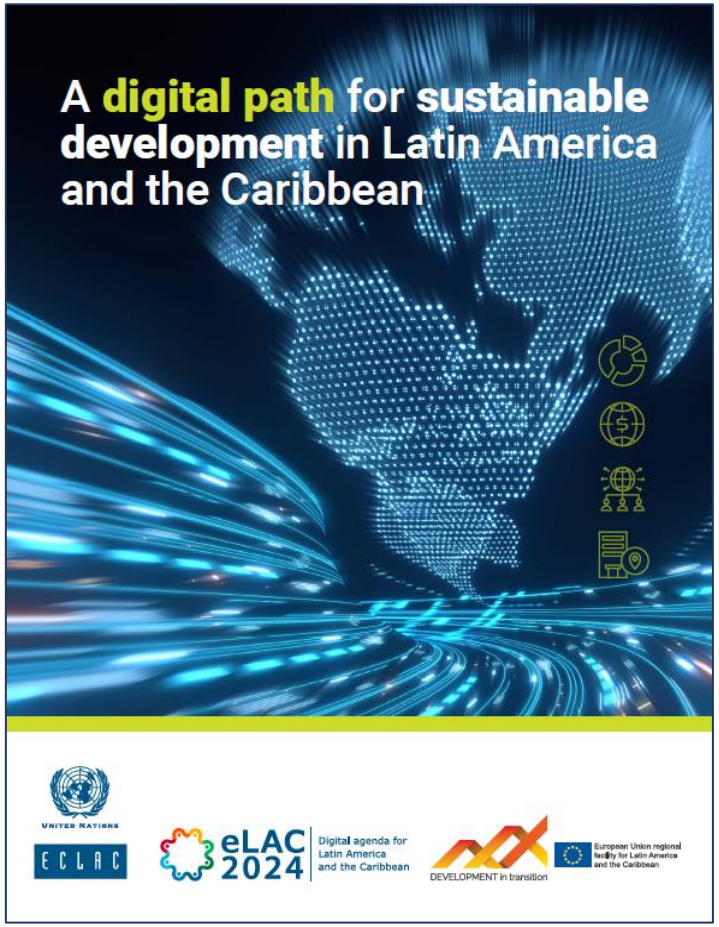
5 action areas for a sustainable and inclusive digitalization

4. Establish digital governance

- Increase the synergy between digital policies and development strategies
- Define comprehensive digital agendas that are coordinated with sectoral policies
- Modernize the regulations related to digital infrastructure
- Adjust anti-trust laws
- Strengthen cybersecurity and the protection of personal data

5. Strengthen cooperation and integration

- Promote regional integration and international cooperation
- Push for a regional digital market



Technological change means new digital agendas and strategies are needed

Telemedicine, distance learning, e-Government
Portals

Government-as-a-platform
Online services through one-stop portals. Open data policies.

National digital development agendas
The new technologies of the fourth industrial revolution enable a cross-cutting transformation that must be coordinated and planned to eliminate asymmetries and maximize impact. Boost digital sectoral agendas within the broader national agenda.

eLAC2007 eLAC2010 eLAC2015 eLAC2018 eLAC2020 eLAC2022 eLAC2024

2000 2005 2007 2010 2015 2018 2020 2022 2024 2025 2030

Internet and PCs Broadband: 512kbps Cloud computing 5G Industry 4.0 IA

Basic Internet access and PCs in schools
Focus on basic infrastructure. Regulation of telecommunications (Funds for Universal Access and Service). From the "computer room" to PCs in classrooms. Connectivity indicators.

Broadband plans
Deployment of fibre-optic backbones. Improving the quality of connectivity (quality indicators). Proliferation of smartphones and apps.

COVID-19
Disruption and exponential growth in the need for digital solutions for teleworking, telehealth, government, citizen services and more. Need to transform skills.

The age of the information society
Proliferation of ICTs, broadband and smartphones. Production of digital content and multimedia surges, along with digital public and private services and e-commerce.

The age of digital transformation and Industry 4.0
4G/5G networks, the Internet of things, big data and artificial intelligence boost new economies based on data and platforming through network effects.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional observatory for digital development, on the basis of ECLAC, *Digital technologies for a new future* (LC/TS.2021/43), Santiago, 2021

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Digital agenda for Latin America and the Caribbean