

VII Ministerial Conference on the Information Society in Latin America and the Caribbean

Digital technologies for a new future

Alicia Bárcena

Executive Secretary

Economic Commission for Latin America and the Caribbean

23 November 2020



eLAC·2022
Digital Agenda for Latin America and the Caribbean

MINISTERIO DE TELECOMUNICACIONES
Y DE LA SOCIEDAD DE LA INFORMACIÓN



Lenin



Fifteen years of change



A new digital world

- Ubiquitous and continuous connectivity (smartphones)
- Boom in global platforms
- Acceleration of technical progress (cloud computing, artificial intelligence, blockchain, augmented and virtual reality)
- Emergence of 5G technology



Digital technology in a new world

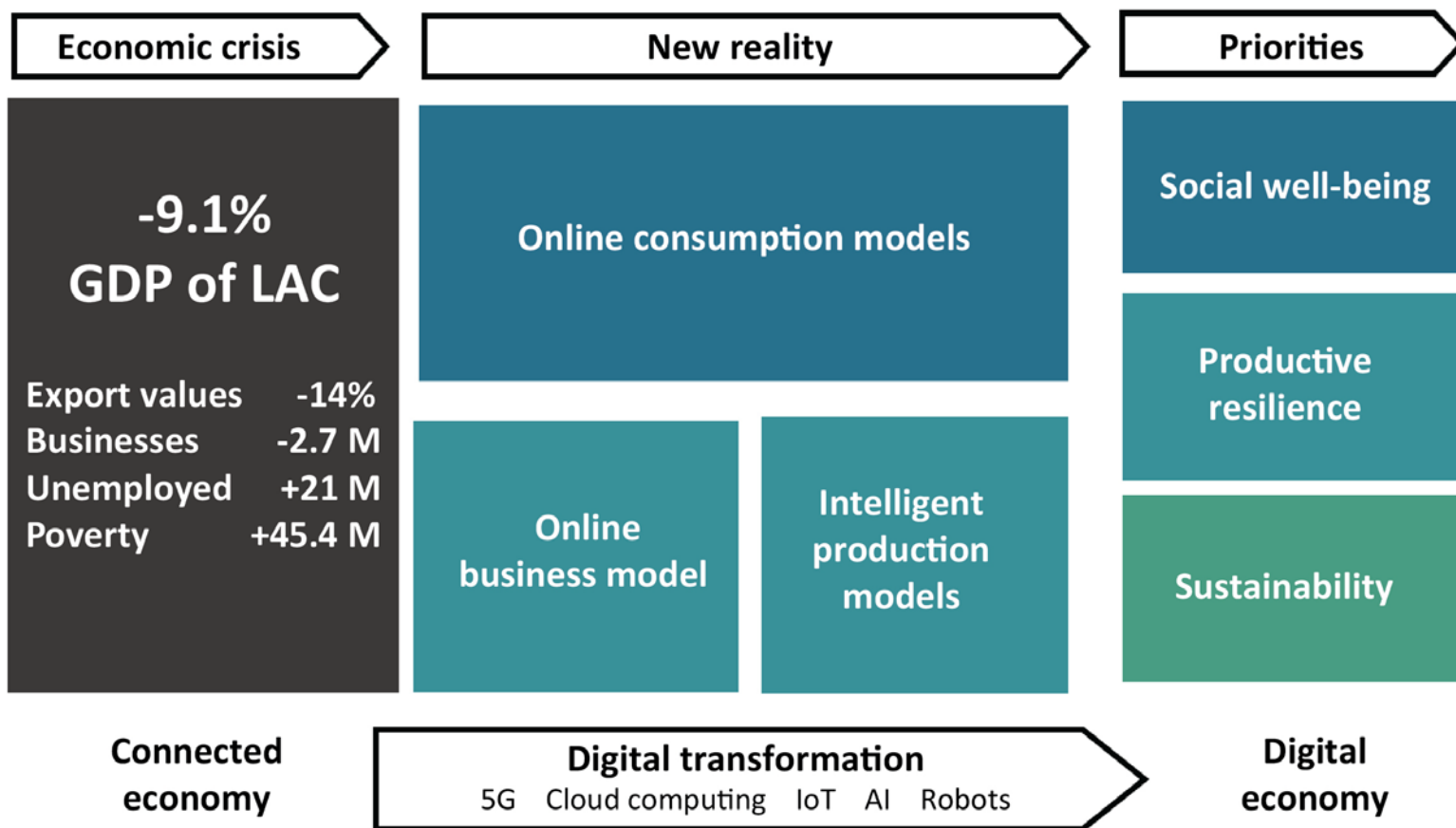
- Geopolitical tensions
- Environmental crisis
- Inequality and exclusion



A region ill-prepared

- Slow growth and little investment
- Slowdown in the fight against poverty and inequality
- A new challenge: the coronavirus (COVID-19) pandemic

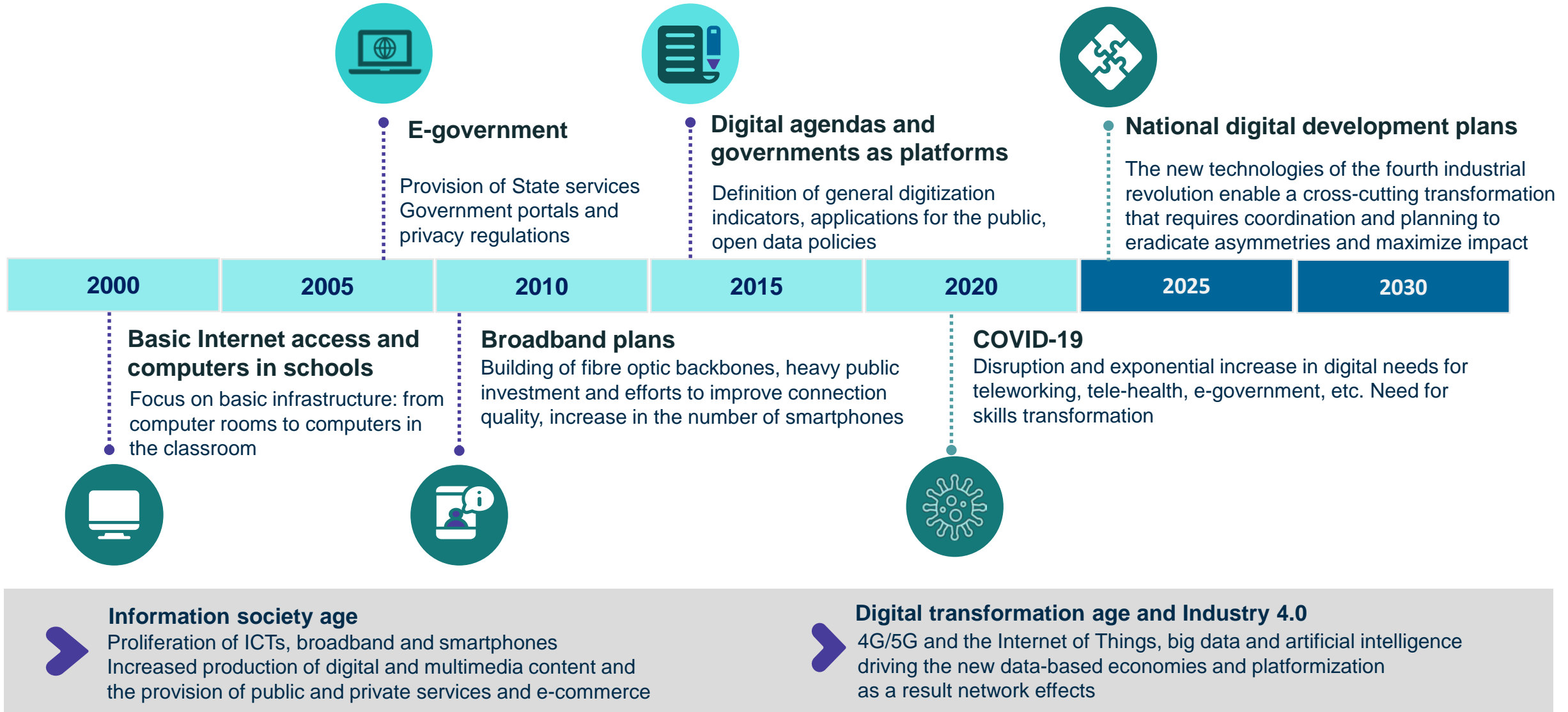
Digital technologies helping to tackle the pandemic



Post-crisis restructuring:

- Investment patterns, including the development of 5G networks
- Supply chain: proximity of suppliers (regionalization).
- Plants: automation of processes and adoption of advanced technologies
- Remote manufacturing, diagnostics and maintenance.
- Hybrid model with on-site and off-site workers.
- Data: greater use, big data and artificial intelligence.

Towards a new generation of digital agendas



Digitization for equality and sustainability

Only 67% of the region's inhabitants and 60% of households use the Internet



70% penetration rate for mobile broadband and 14% for fixed broadband



1/3 of the population has limited or no access because of their economic situation



33% of urban households not connected



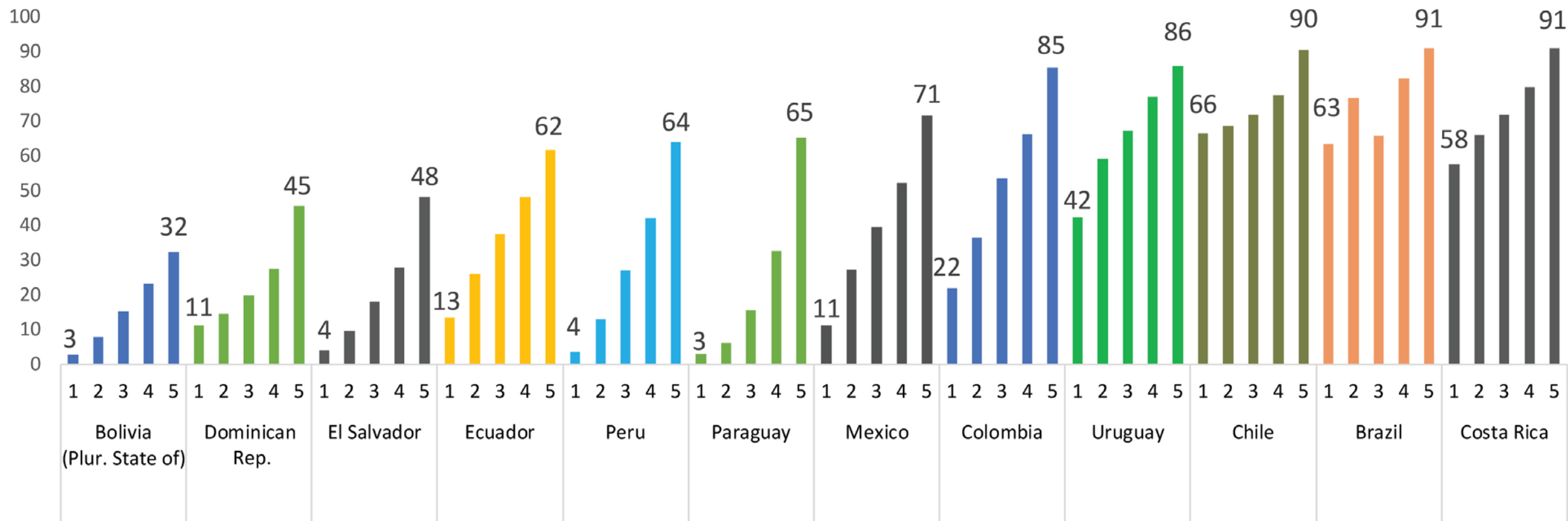
77% of rural households not connected



42% of those aged under 25 and 54% of those aged over 66 are not connected

More than 40 million households with no Internet connection: half of those in the two lowest income quintiles

LATIN AMERICA (12 COUNTRIES): HOUSEHOLDS WITH AN INTERNET CONNECTION,
BY INCOME QUINTILE, 2018



Source: ECLAC Regional Broadband Observatory (ORBA), on the basis of information from the Household Survey Data Bank (BADEHOG).

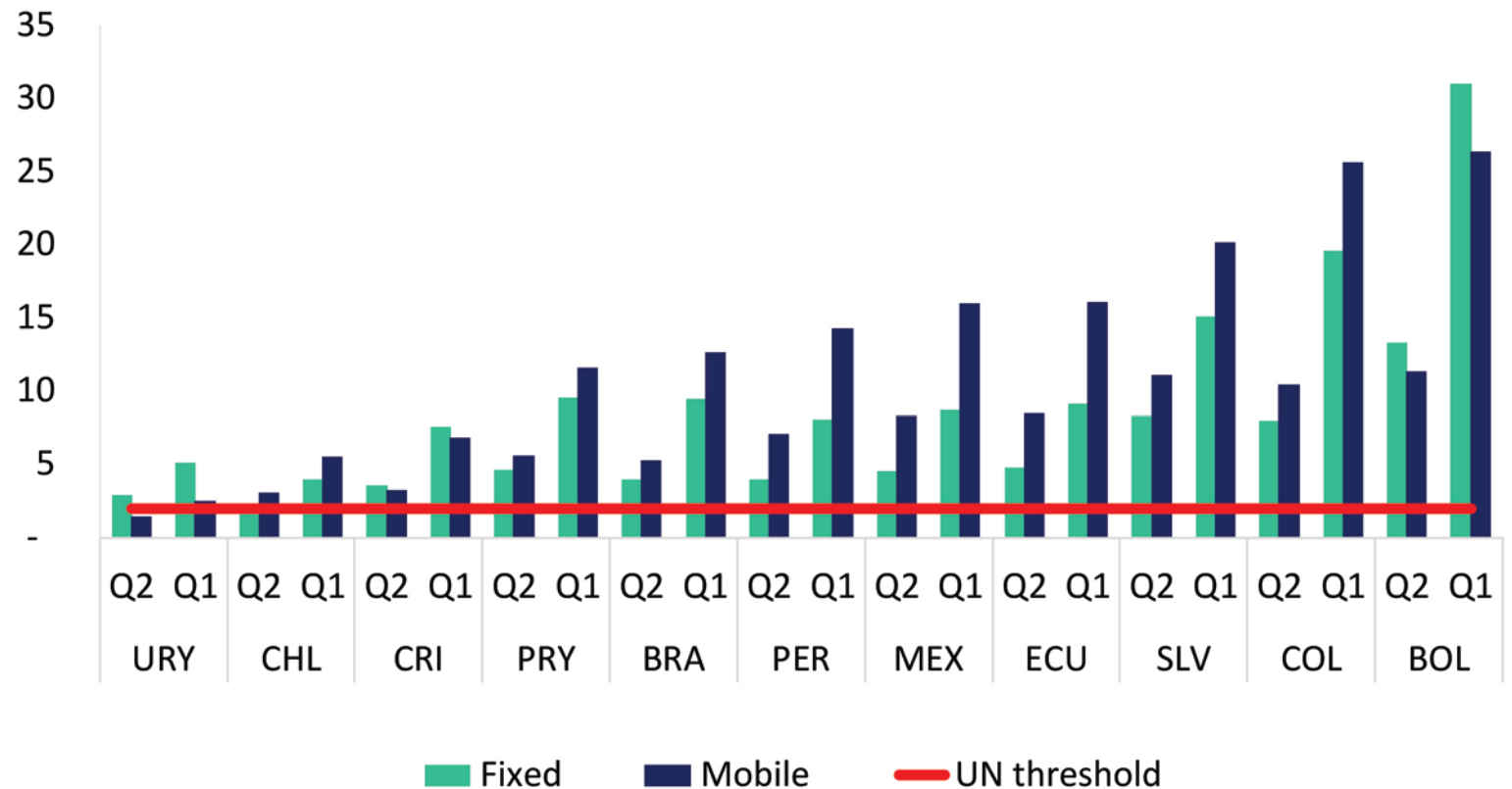
Note: Statistics for Brazil, Chile, Costa Rica, Ecuador, El Salvador, Paraguay and Uruguay include mobile Internet. Data are for 2018 for all countries, except Chile and Ecuador, for which data are for 2017.

Lack of affordability excludes lower-income households

- For populations in quintile I and II, mobile and fixed broadband services cost 14% and 12% respectively of their income
- Approximately six times the reference threshold of 2% of income recommended by the United Nations Broadband Commission

LATIN AMERICA (11 COUNTRIES): AFFORDABILITY OF FIXED AND MOBILE BROADBAND BY INCOME QUINTILE, 2019

(Percentage of household income)



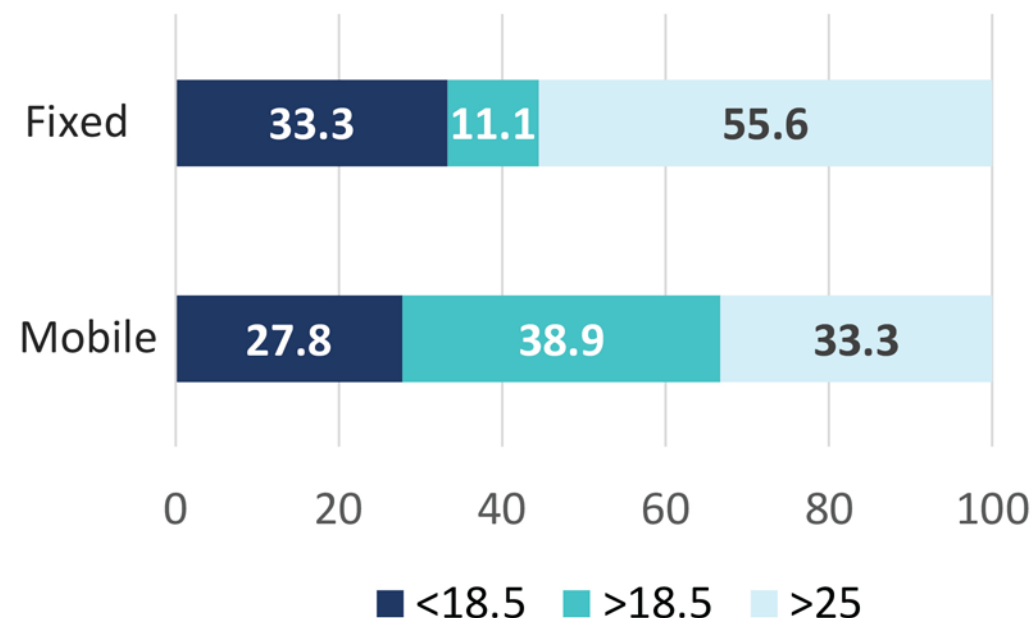
Source: ECLAC Regional Broadband Observatory (ORBA), on the basis of information from the Household Survey Data Bank (BADEHOG).

1/3 of the region's countries unable to provide the download speeds required for digital solutions

FUNCTIONALITY BASED ON BROADBAND DOWNLOAD SPEED

Low 5.5 Mbps	Medium 18.5 Mbps	High More than 25 Mbps
Email, basic video and audio streaming	Two basic functions and one high-demand application can run simultaneously	Basic functions and more than one high-demand application can run simultaneously
No teleworking or distance learning	Teleworking or distance learning	Teleworking and distance learning

LATIN AMERICA AND THE CARIBBEAN (18 COUNTRIES):
MOBILE AND FIXED BROADBAND DOWNLOAD SPEEDS, JUNE 2020
(Percentages)

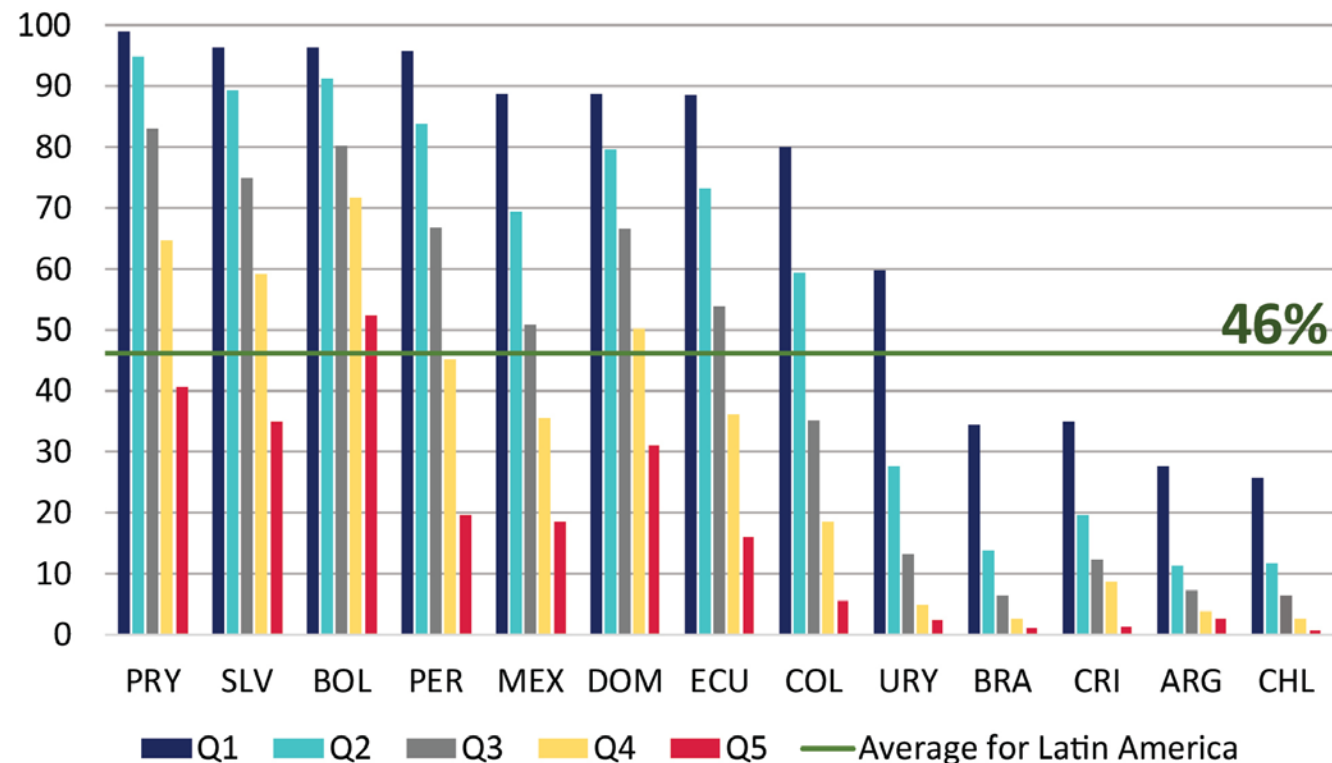


Source: ECLAC Regional Broadband Observatory (ORBA), on the basis of Ookla, "Speedtest Global Index" [online] <http://www.speedtest.net/global-index>

More than 32 million children have no access to online education

- 46% of children aged between 5 and 12 live in households that are not connected
- In El Salvador, Paraguay, Peru and the Plurinational State of Bolivia, more than 90% of children from the poorest households live in unconnected homes
- **Differences between economic strata affect the exercise of the right to education and exacerbate socioeconomic inequalities**

LATIN AMERICA (13 COUNTRIES): CHILDREN IN HOUSEHOLDS WITHOUT INTERNET ACCESS, BY INCOME QUINTILE, 2018
(Percentages)

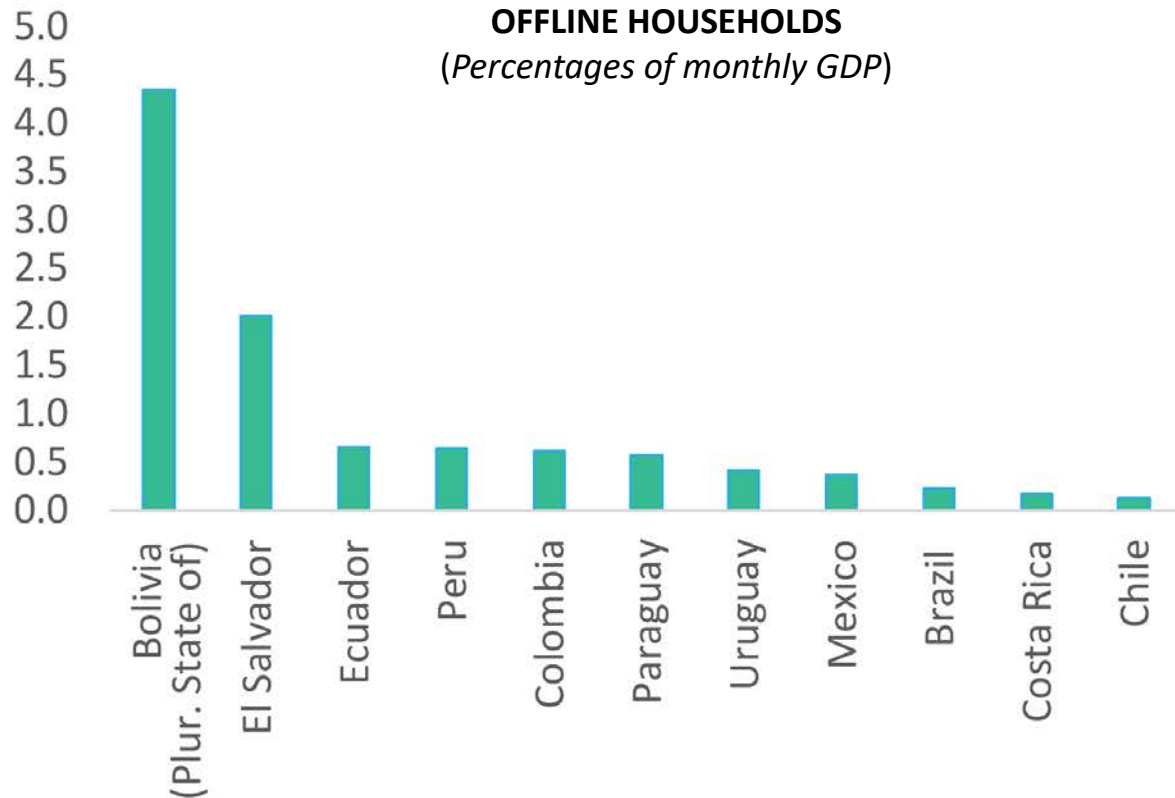


Source: ECLAC, on the basis of Household Survey Data Bank (BADEHOG). Percentage of total number of children in each income quintile of each country.

Challenge 1: universalize access and affordability

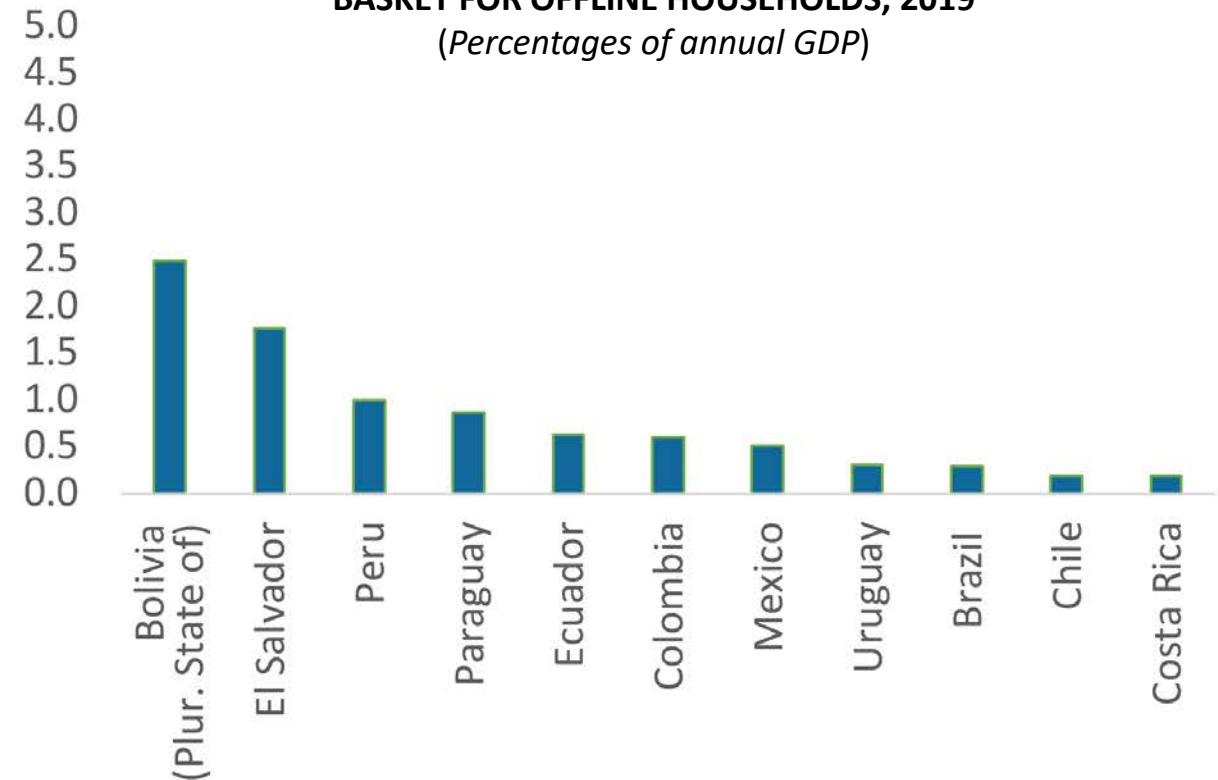
LATIN AMERICA (11 COUNTRIES): MONTHLY COST OF CONNECTING OFFLINE HOUSEHOLDS

(Percentages of monthly GDP)



LATIN AMERICA (11 COUNTRIES): ANNUAL COST OF A BASIC ICT BASKET FOR OFFLINE HOUSEHOLDS, 2019

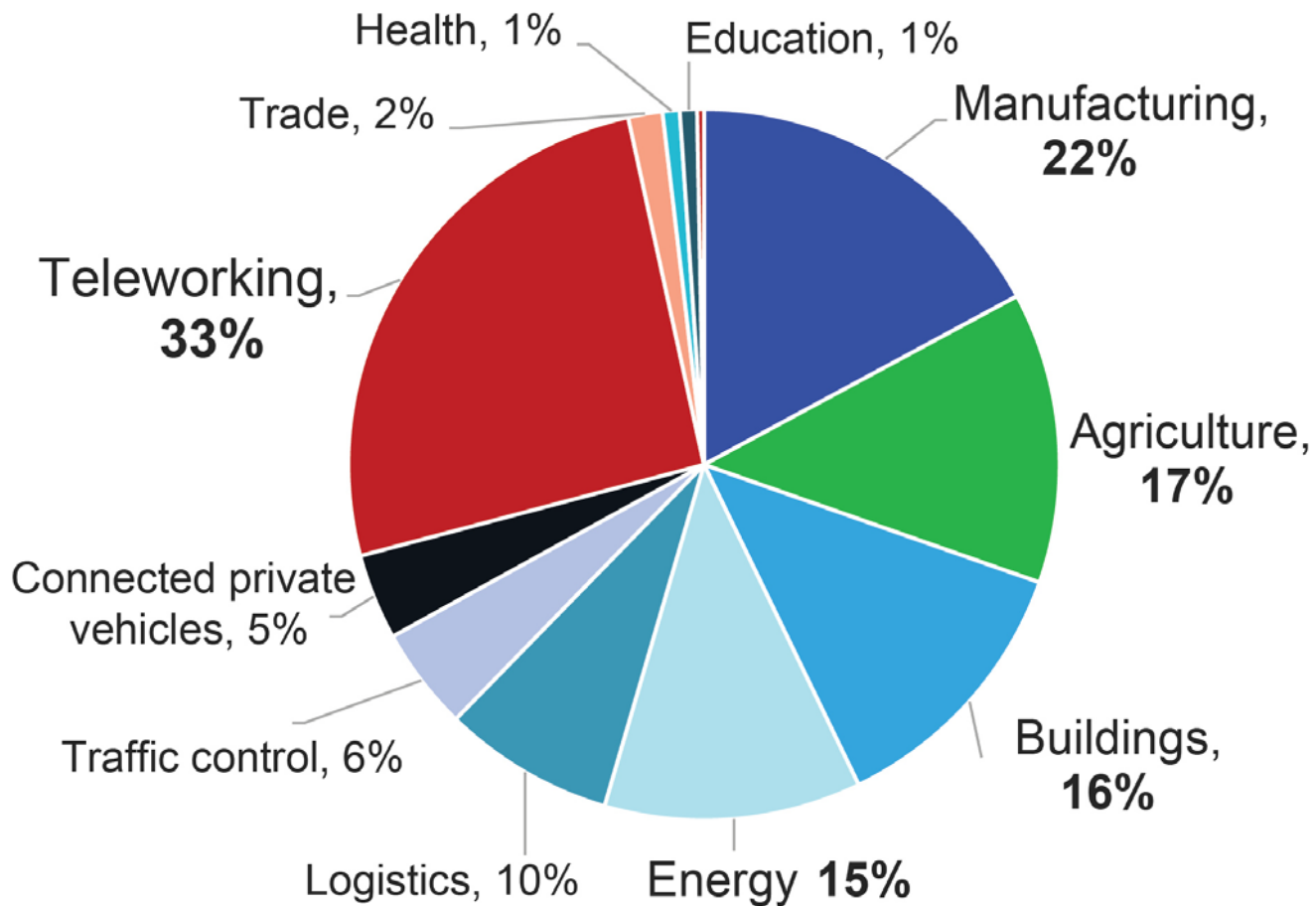
(Percentages of annual GDP)



A basic digital basket for offline households would cost around 1% of GDP annually

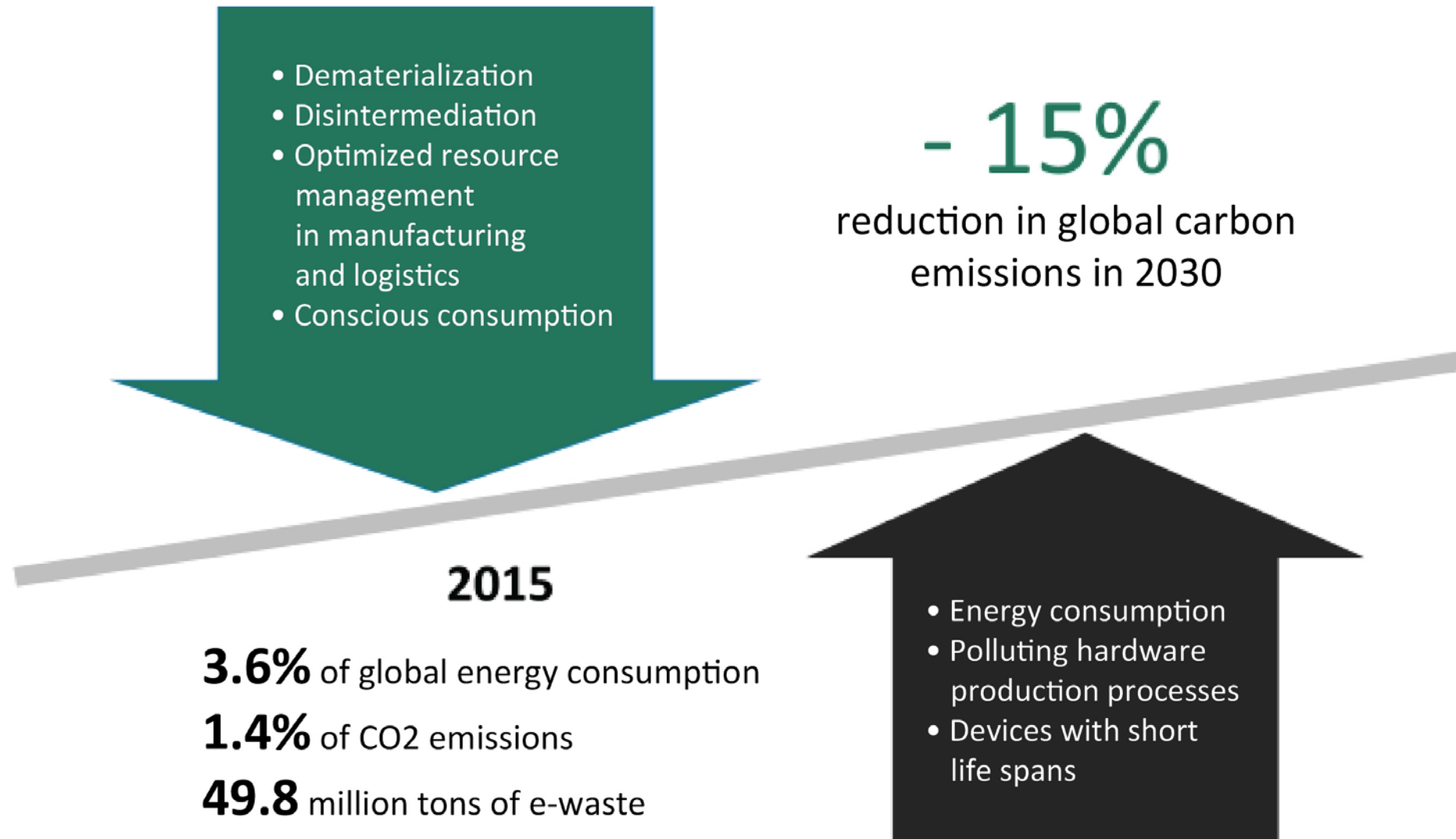
Digitization for sustainability

POTENTIAL CO₂ REDUCTION BY 2030, BY SOLUTION



The implementation of sectoral digital solutions would reduce global emissions by 12 gigatons of CO₂ equivalent by 2030, paving the way for sustainable growth

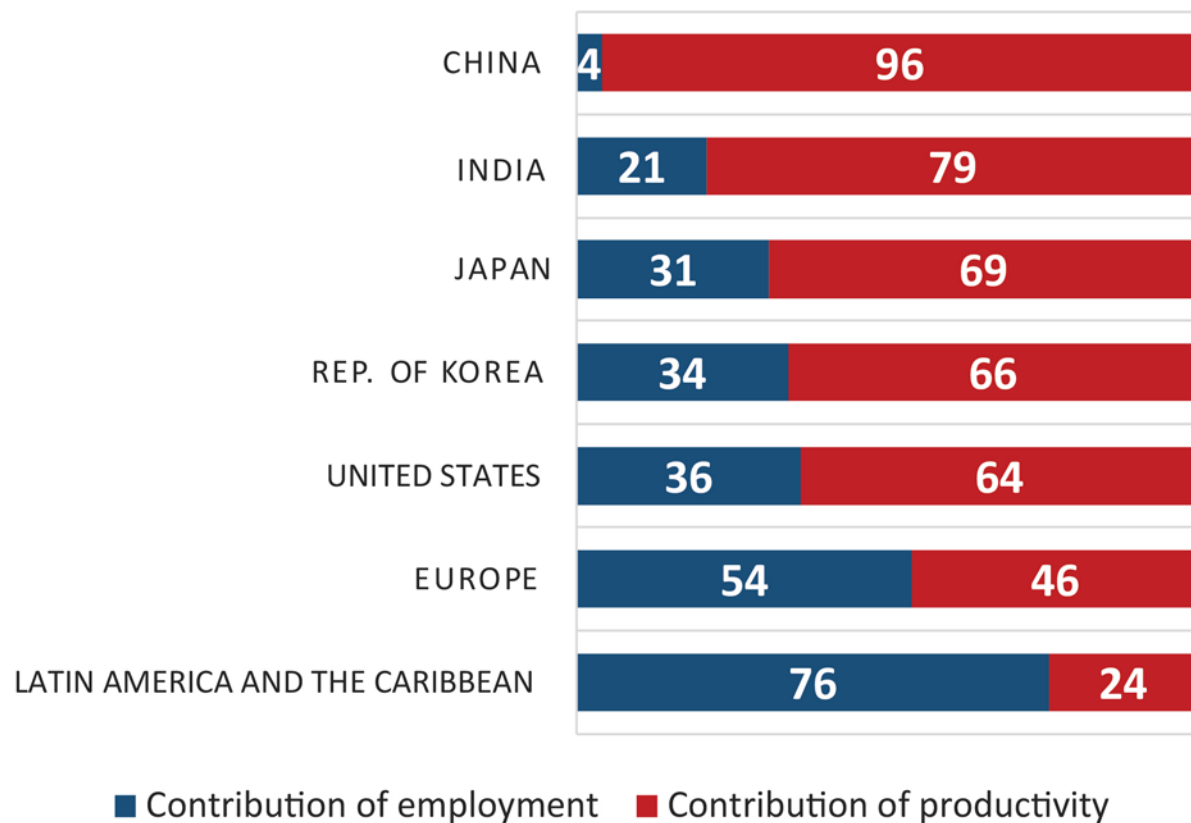
Challenge 2: digitization for sustainability



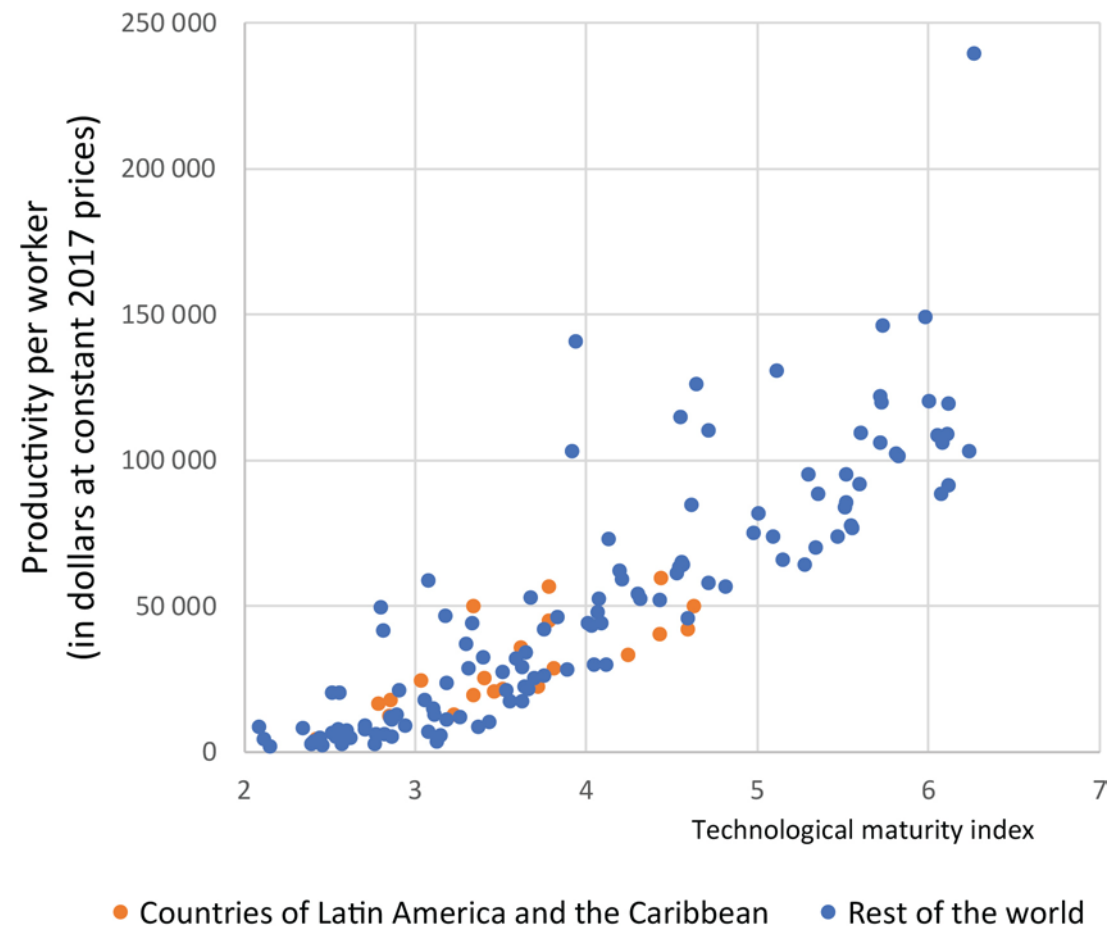
Digitization for productive development

A region that suffers from problems with productivity and technological maturity

CONTRIBUTION OF PRODUCTIVITY AND EMPLOYMENT TO GDP GROWTH, BY COUNTRY OR REGION, 2000–2019 (PERCENTAGES)



PRODUCTIVITY AND TECHNOLOGICAL MATURITY, 2010–2018

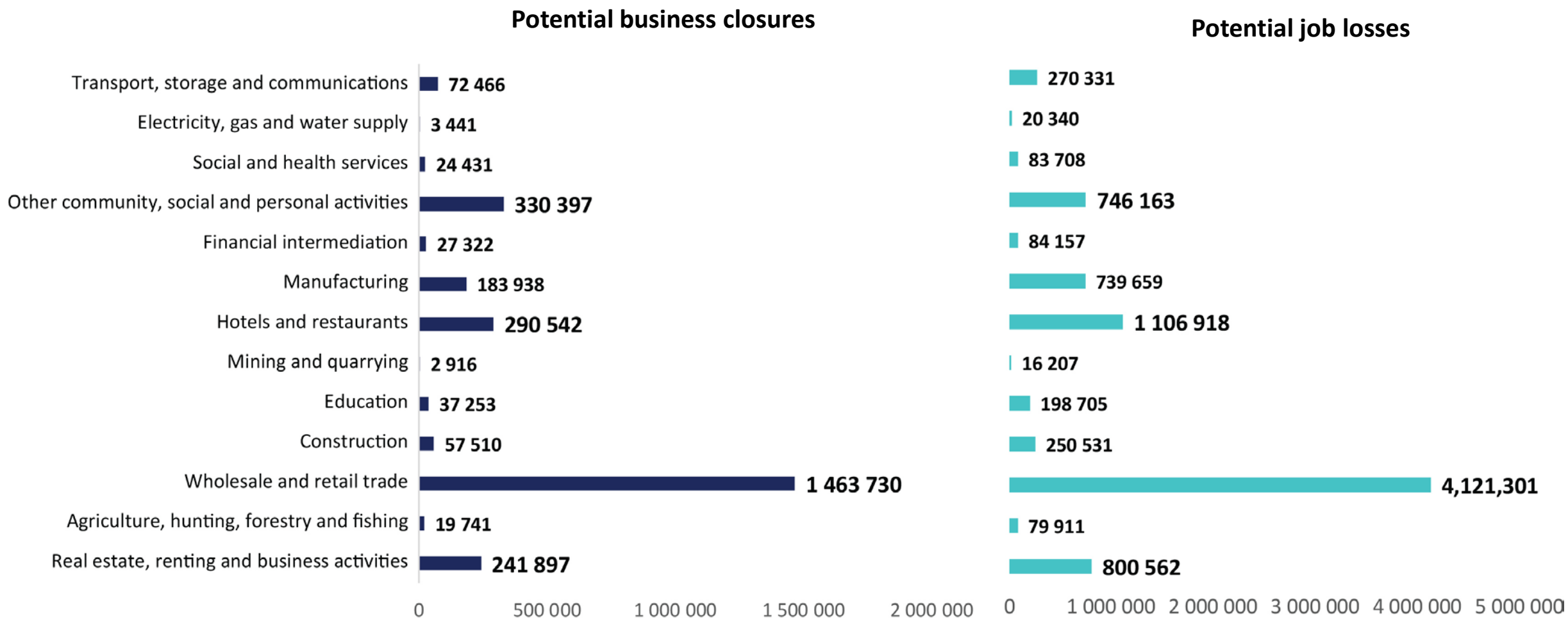


The pandemic will result in massive destruction of the production fabric

- Closure of **2.7 million** formal businesses, of which 2.6 million are microenterprises
- Loss of **8.5 million** formal jobs (through closures of businesses alone)
- Sectors:
 - Retail and wholesale will lose **1.4 million businesses and 4 million formal jobs**
 - Tourism will lose at least **290,000 businesses and 1 million jobs**

High risk of job destruction and erosion of capacities

LATIN AMERICA AND THE CARIBBEAN (27 COUNTRIES): POTENTIAL BUSINESS CLOSURES AND JOB LOSSES BY SECTOR OF ACTIVITY



Source: ECLAC, on the basis of official data.

The pursuit of greater productivity and efficiency must lead to a sustainable and inclusive transformation of production

Crisis



Higher variable costs



Higher fixed costs



Lower output

Dynamic response



Improve efficiency

- Energy efficiency
- Collective efficiency
- Big data
- The Internet of Things



Productivity

- Products with greater value added
- Increased automation

**A model for
transformation of
production with
digitization**

Insufficient sector digitization

Level of digitization¹

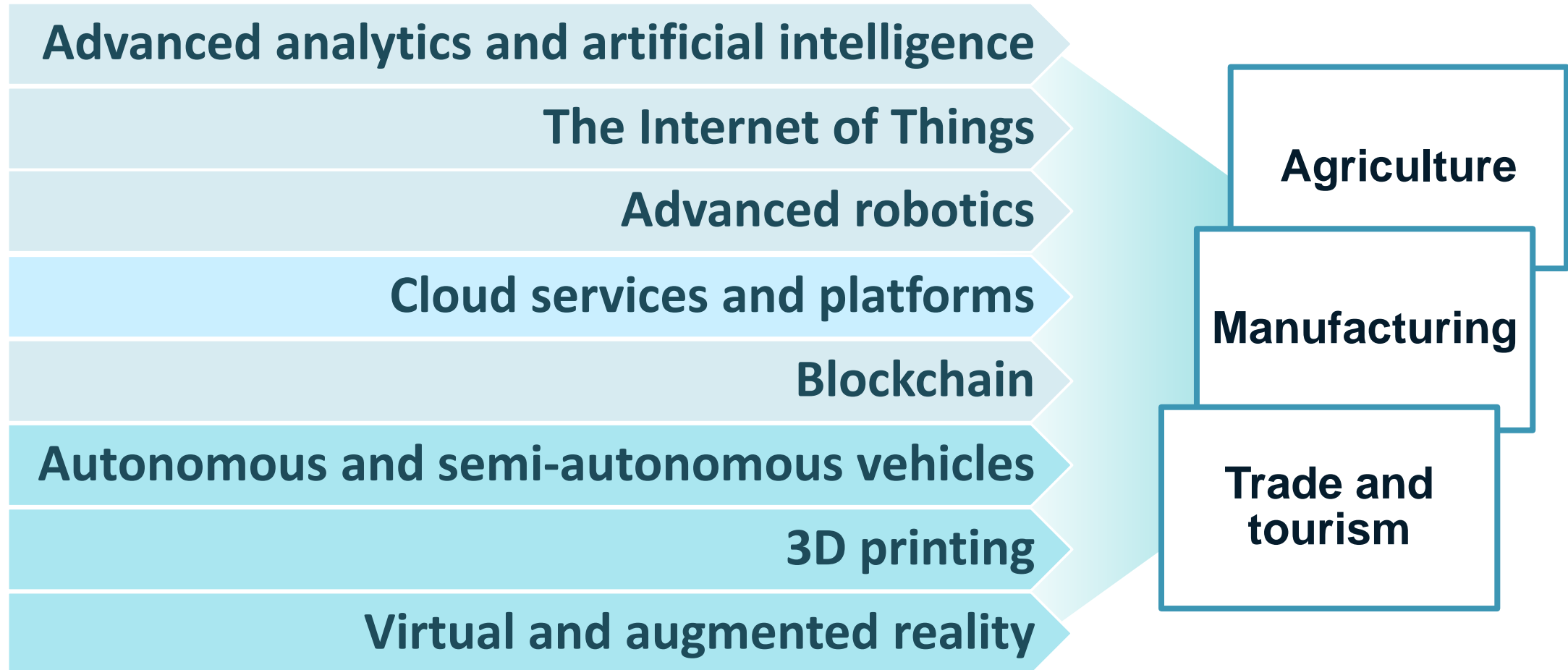


Sector	Digitization by sector ¹						
	Colombia	Brazil	Argentina	United States	Israel	Poland	Czech Republic
Financial services	High	High	High	Very high	High	High	High
ICT services	High	High	High	Very high	High	High	High
Logistics services	Moderate	Moderate	Moderate	High	Moderate	Low	Moderate
Agro-industry	Low	Low	Moderate	High	Moderate	Moderate	Moderate
Manufacturing	Moderate	Low	Moderate	Moderate	Moderate	Moderate	Low
Mining	Low	Low	Low	Moderate	High	Low	Moderate
Trade	Moderate	Moderate	Low	Moderate	Low	Low	Low
Health	Moderate	Low	Low	Low	Low	Low	Moderate
Education	Low	Low	Low	Moderate	Low	Low	Moderate
Other services	Low	Low	Low	Moderate	Low	Low	Low

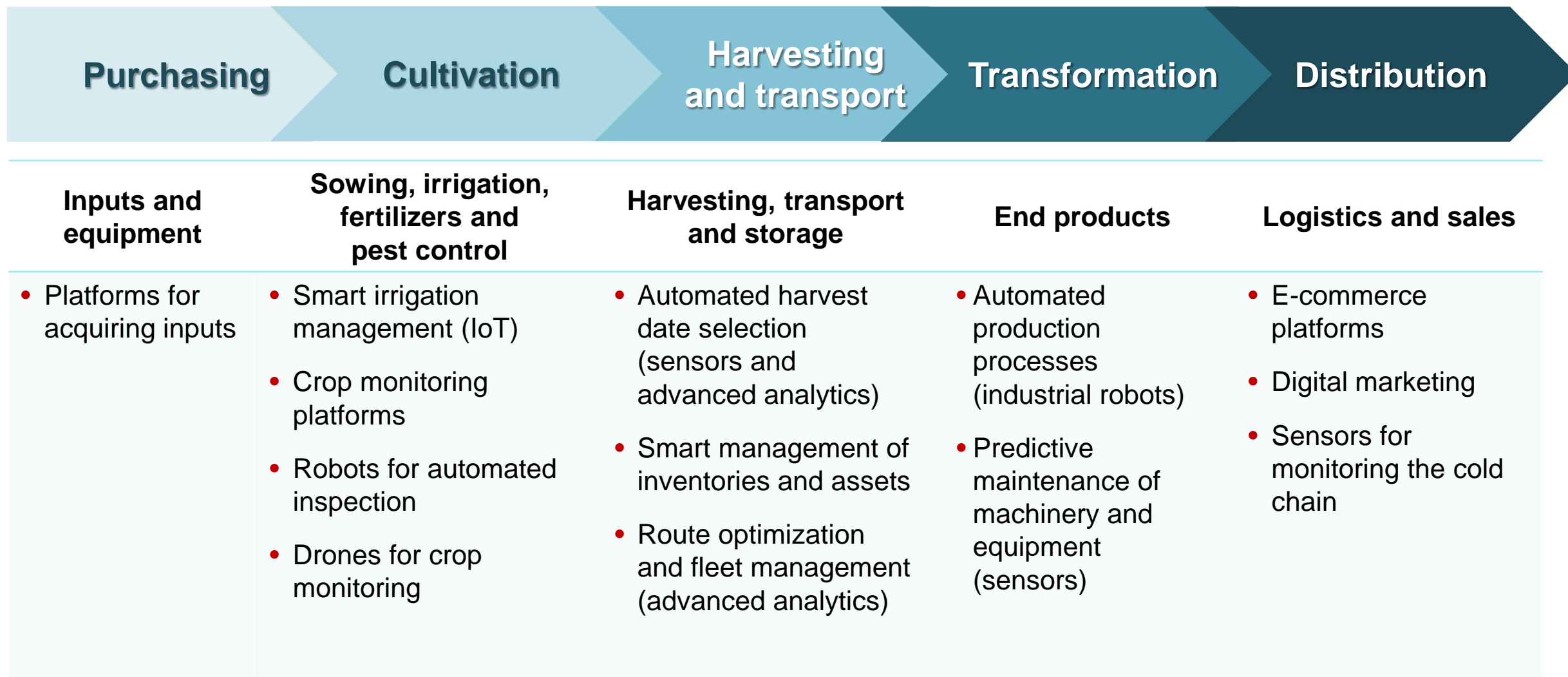
Source: ECLAC, on the basis of data from McKinsey Global Institute

¹ Colours according to digitization quartiles with respect to the global frontier (the ICT sector in the United States)

Digitization of production chains



One example: digital technology in agricultural chains



Smart agriculture



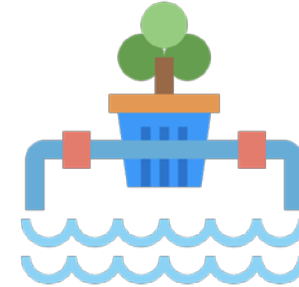
**Real-time
weather
forecasts,
including rainfall**



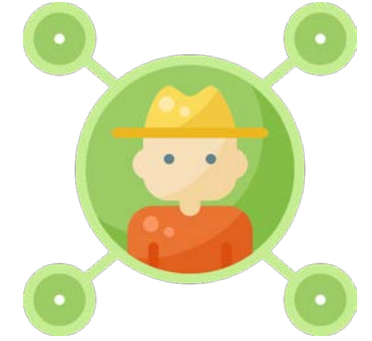
**Detailed
information on
fertility of soil and
crop yields**



**Optimization
of fertilizer
use and of
growing and
harvesting
times**



**Constant
monitoring of
crops and
smart
irrigation**

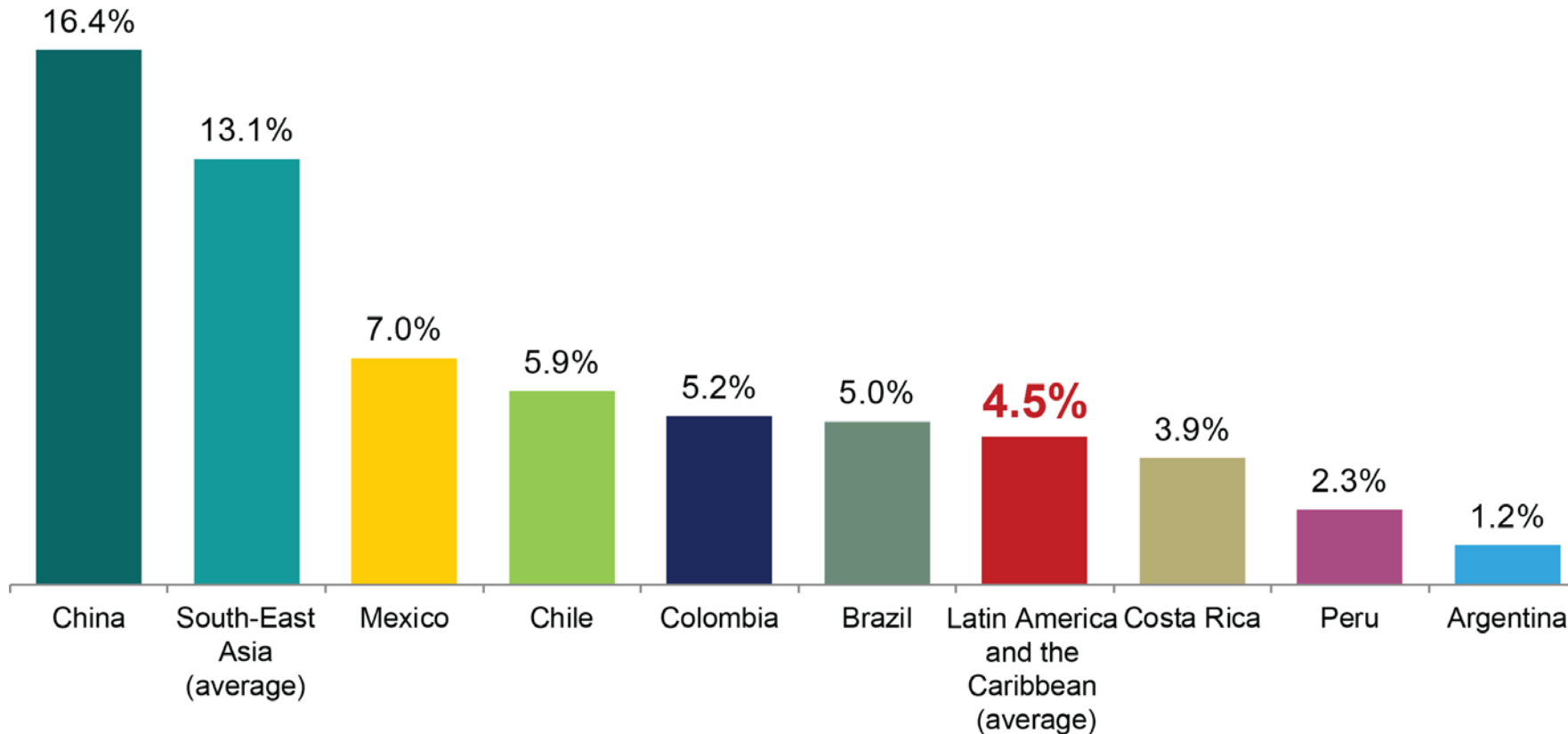


**Consumers
can monitor
the entire
production
chain**

Digitization in companies

Insufficient digitization of companies

GROWTH IN ADOPTION OF DIGITAL TECHNOLOGIES IN COMPANIES, 2014–2016
(PERCENTAGES)

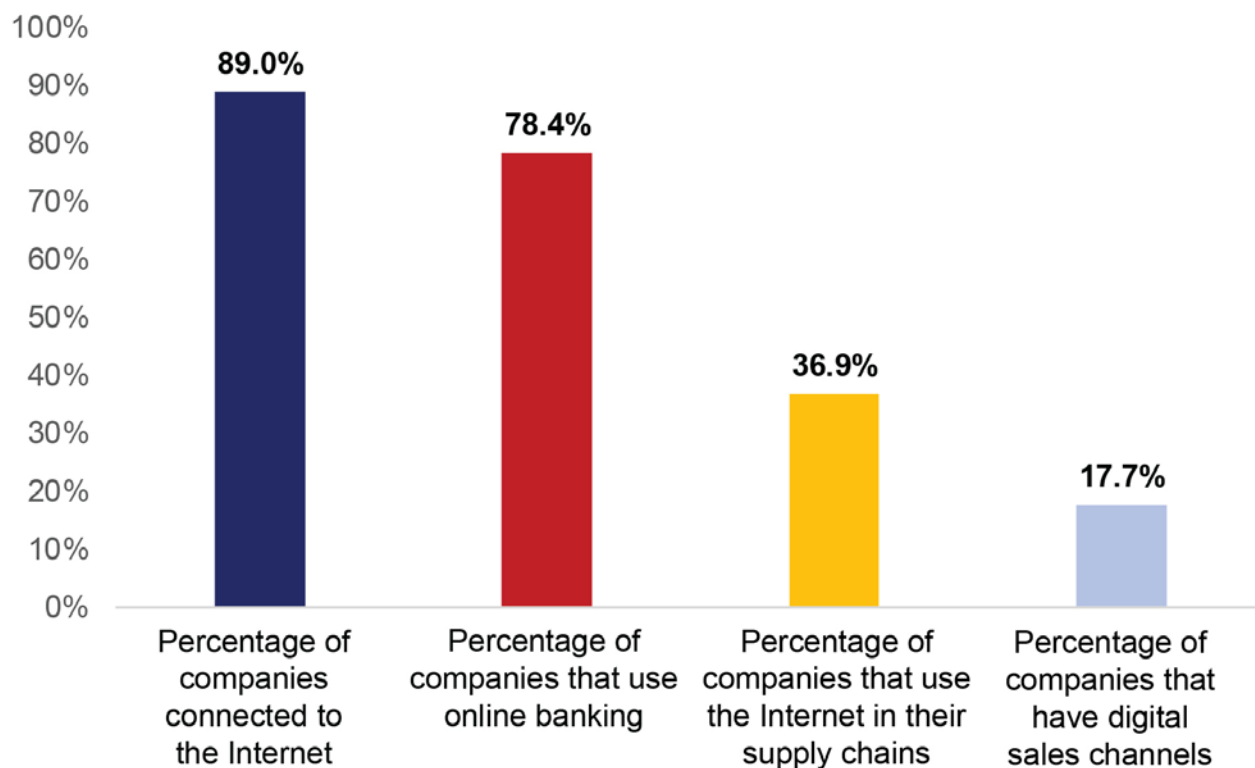


Adoption of digital technologies in the region has been slower than in emerging countries

Source: ECLAC, on the basis of the World Bank Digital Adoption Index

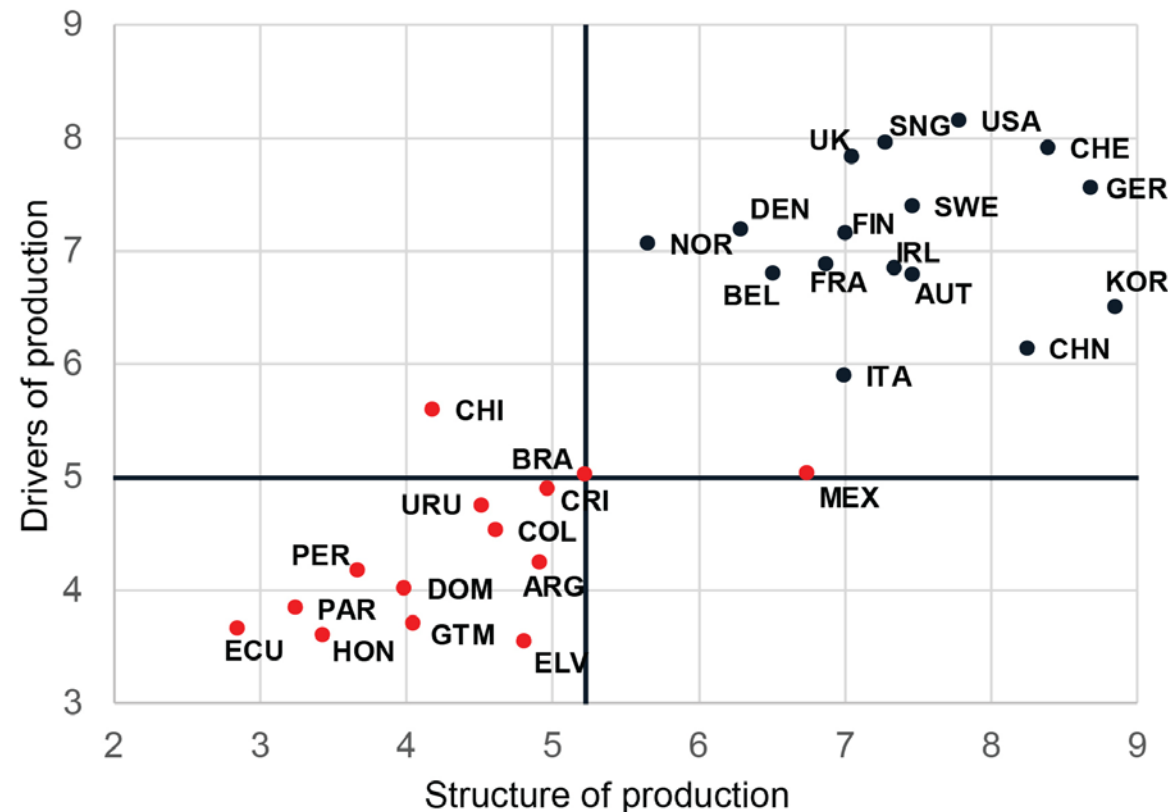
Unsophisticated use of digital technology

BRAZIL, CHILE, COLOMBIA: DIGITIZATION OF PRODUCTION PROCESSES, 2018



Source: ECLAC, on the basis of data from company ICT surveys

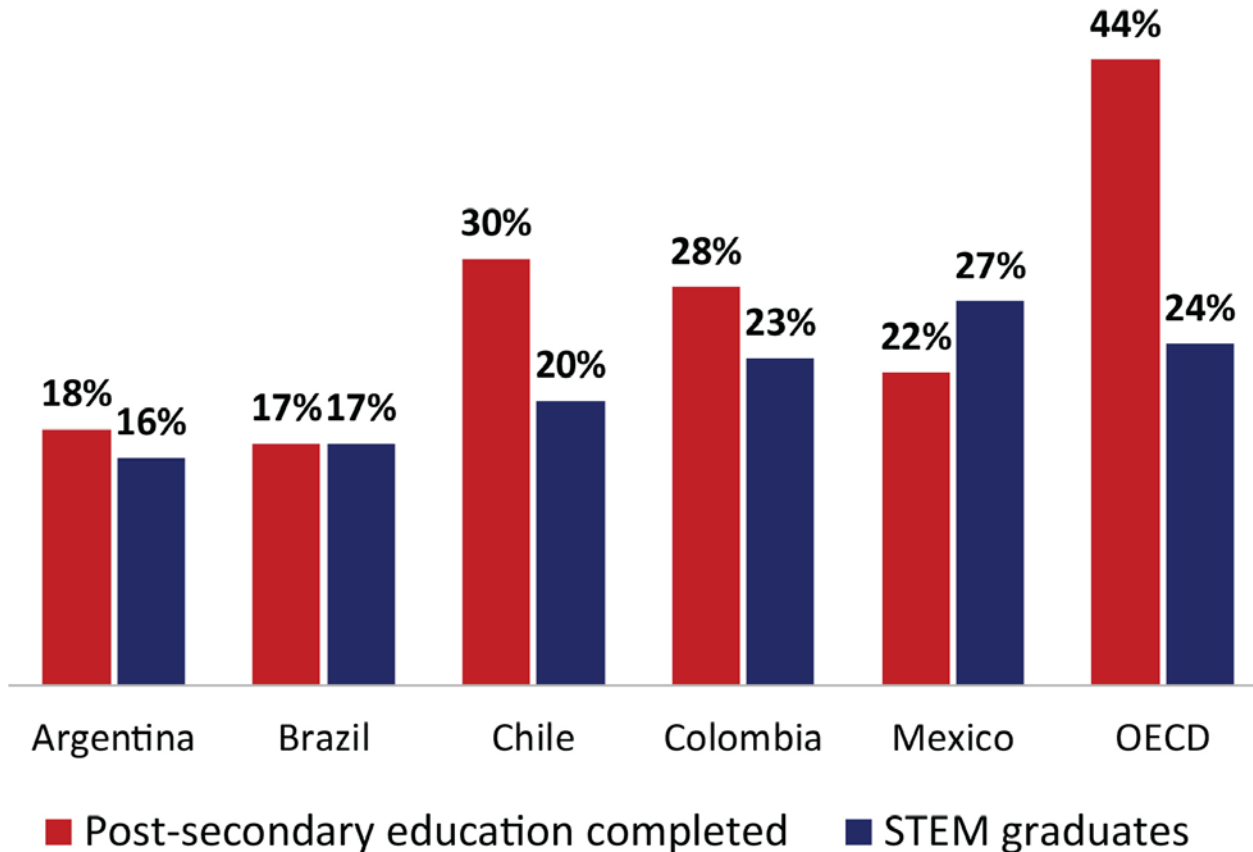
READINESS FOR THE PRODUCTION OF THE FUTURE



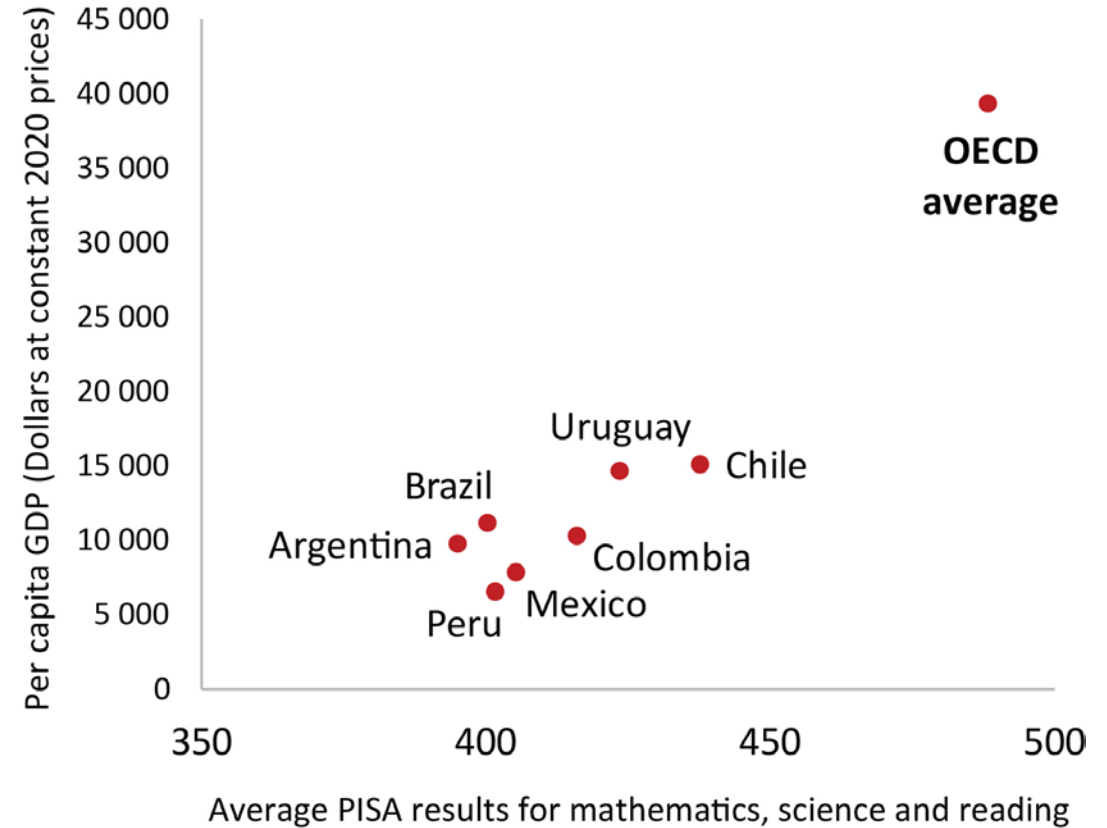
Source: ECLAC, on the basis of data from the World Economic Forum, 2018

Capacity-building is fundamental

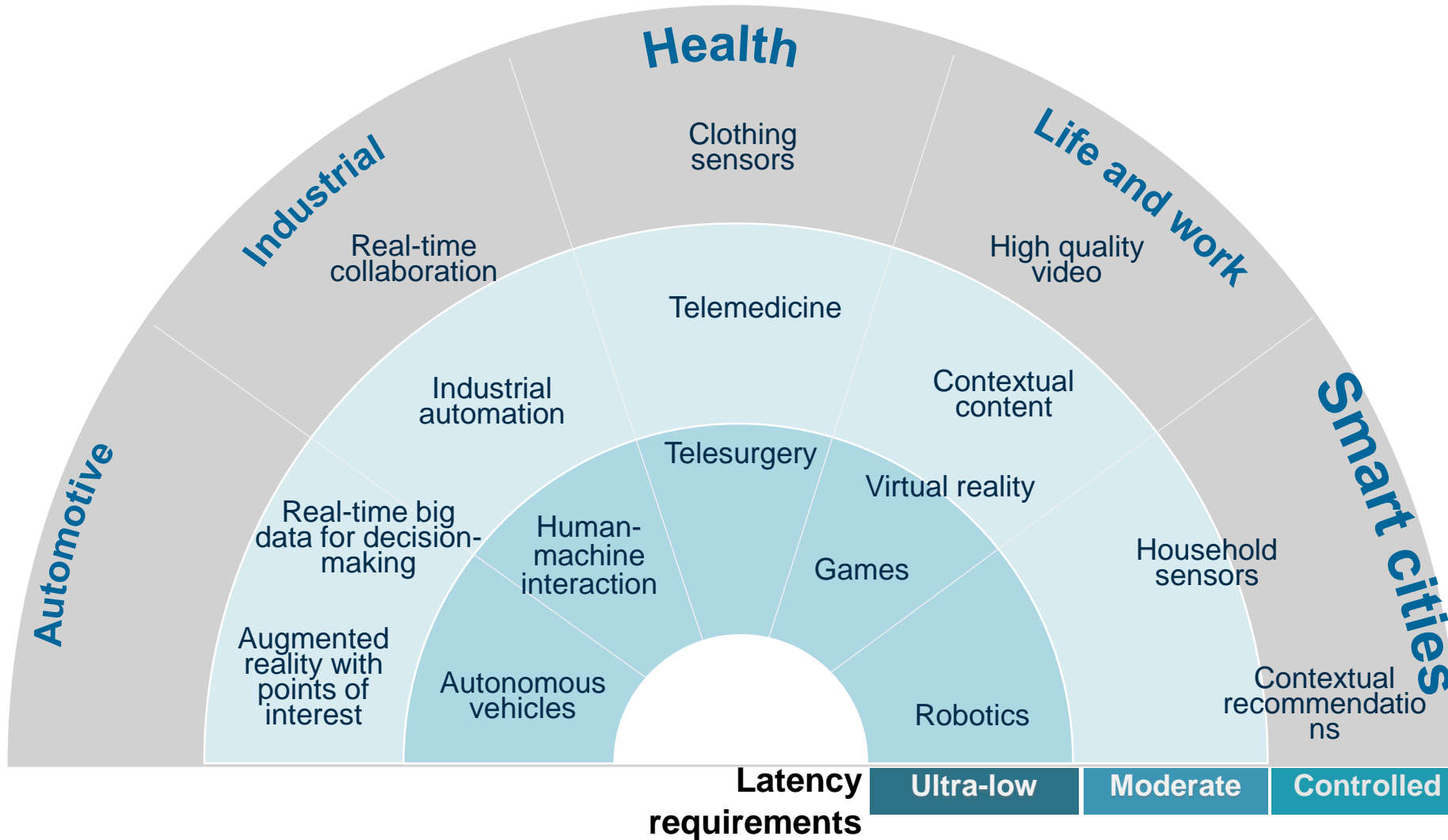
CHARACTERIZATION OF YOUNG PEOPLE AGED 24–35 BY TYPE OF EDUCATION, 2018



PER CAPITA GDP COMPARED TO PISA RESULTS, 2018



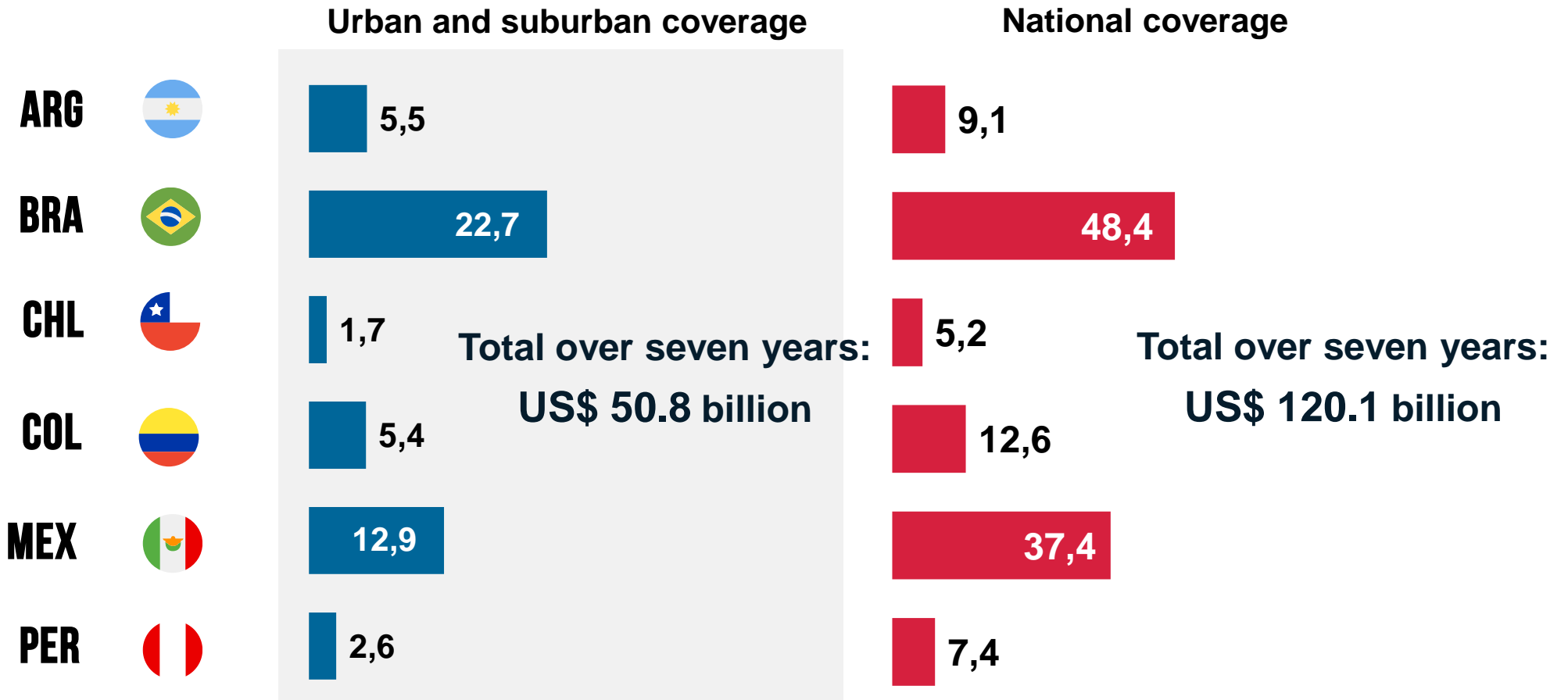
The challenge of 5G infrastructure



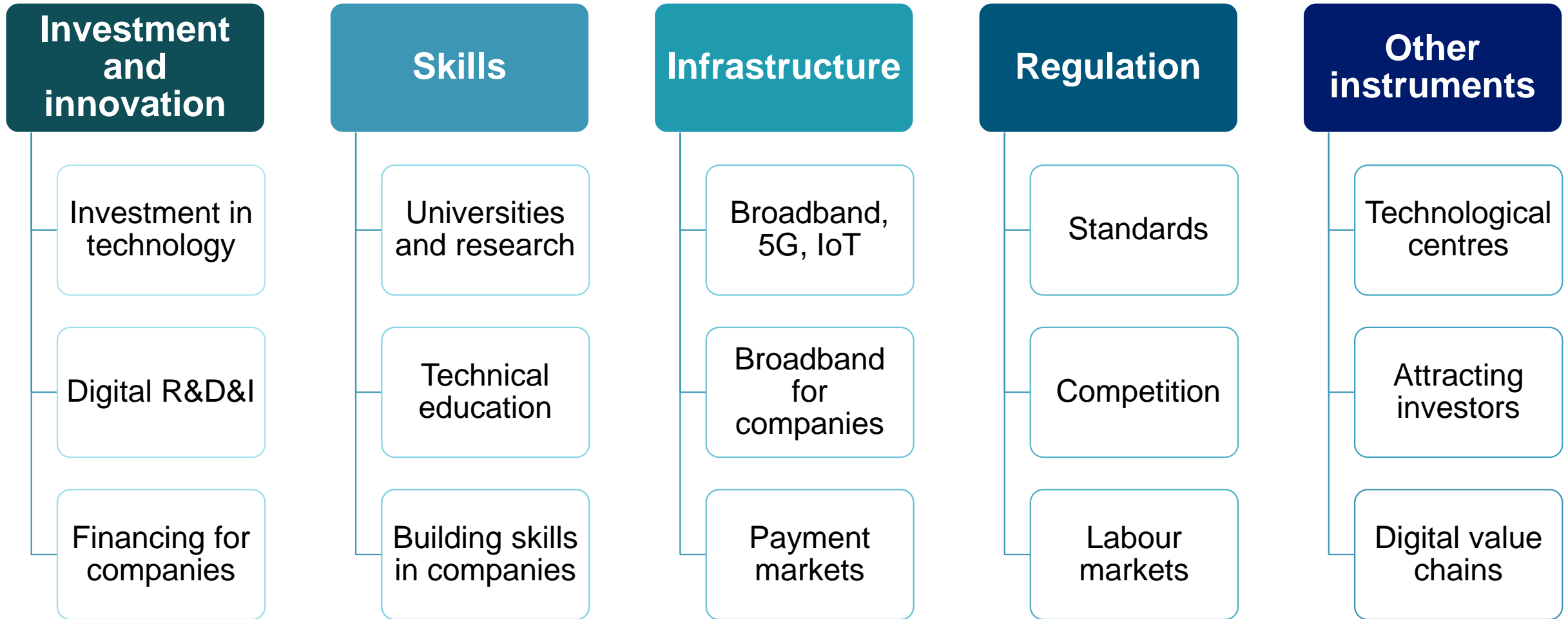
Digitization of production must take into account development of 5G networks

National 5G coverage will require investments totalling US\$ 120 billion

ESTIMATED COST OF 5G ROLL-OUT, TOTAL OVER 7 YEARS
(BILLIONS OF DOLLARS)

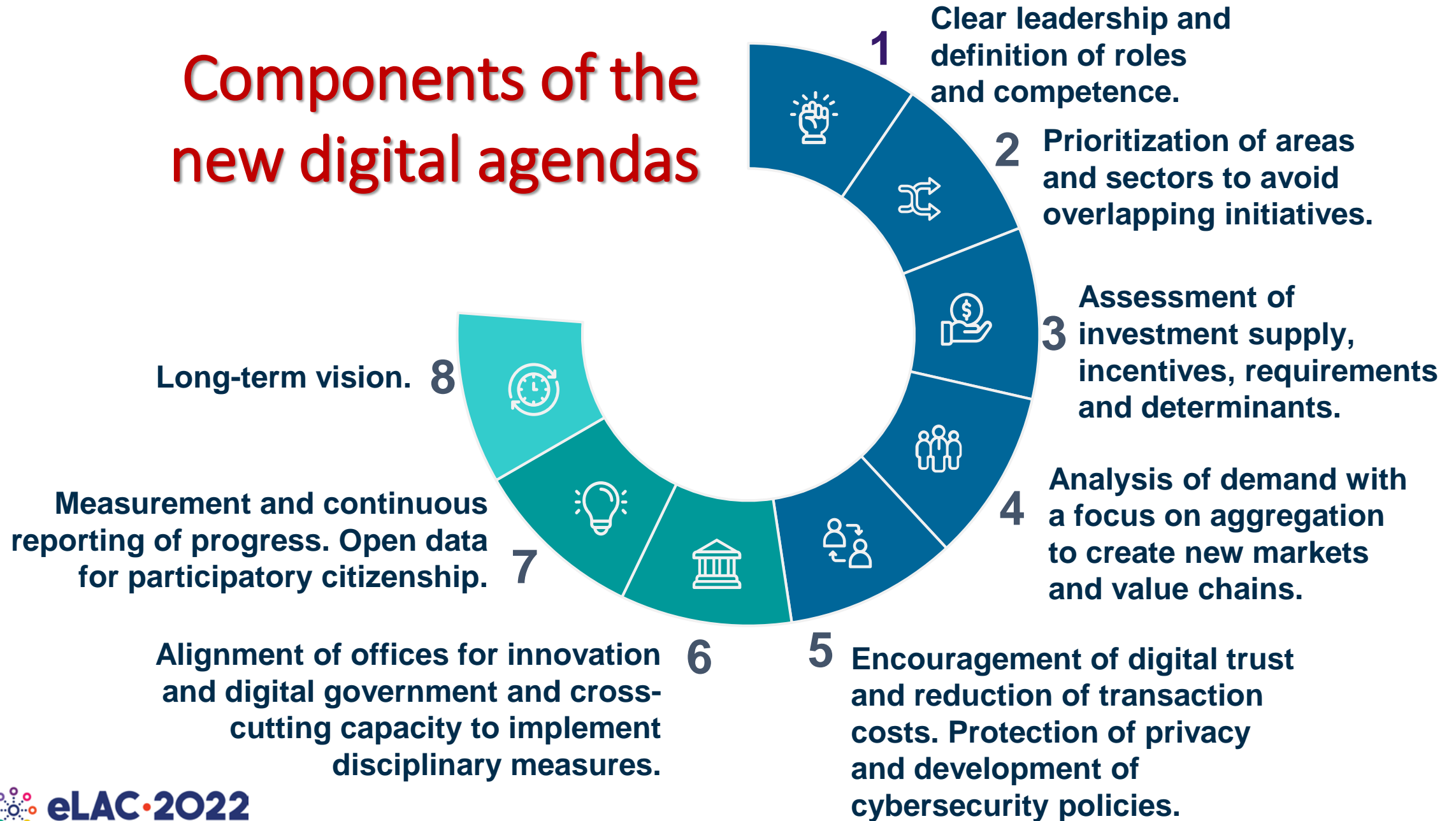


Challenge 3: a digital transformation of production



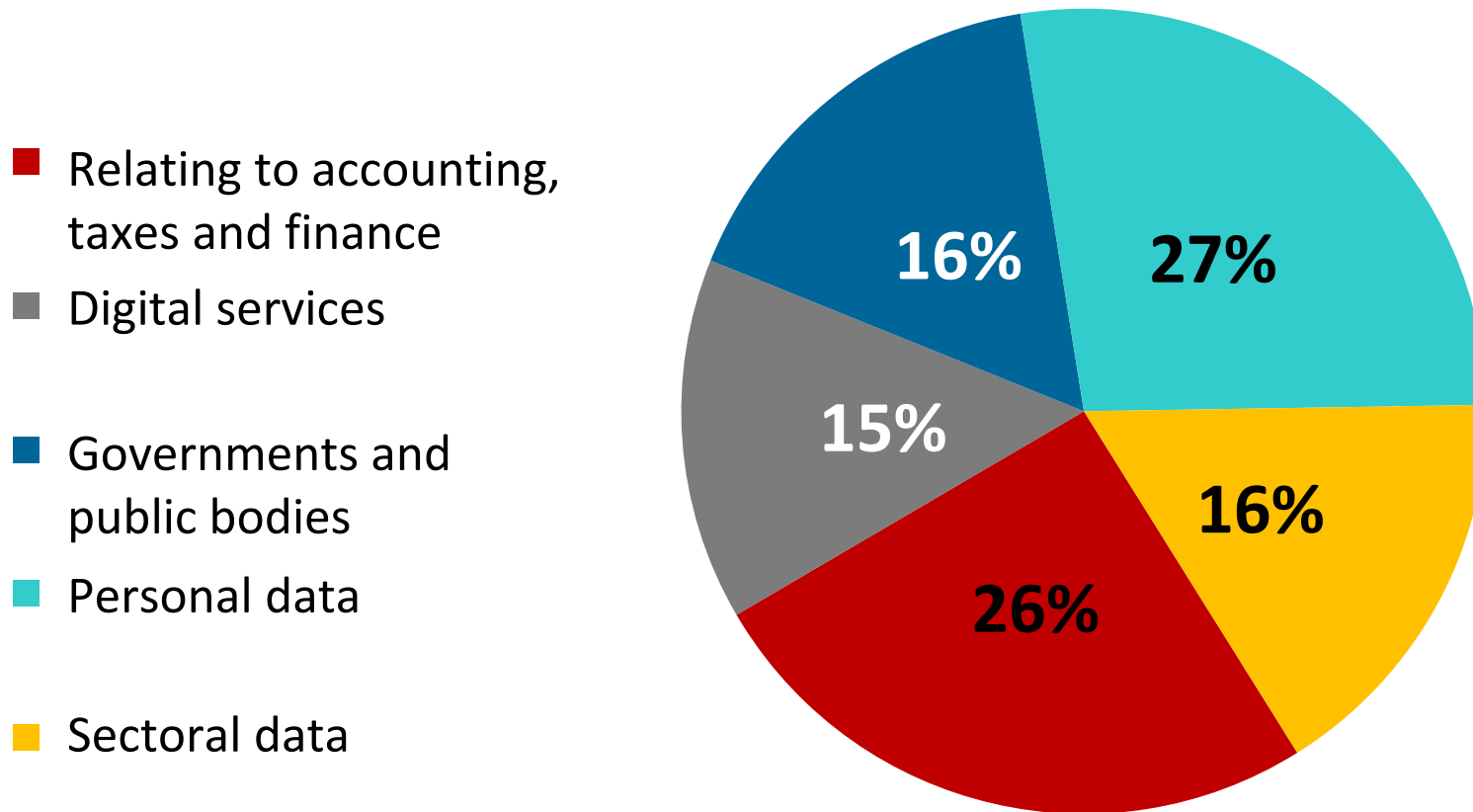
Digitization, governance and digital agendas

Components of the new digital agendas



Towards intelligent data management

WORLD: RESTRICTIONS ON THE FREE TRANSFER OF DATA, BY TYPE OF DATA
(Percentage of total)



1. Regulation
2. Defence of competition
3. Cybersecurity
4. Protection of privacy

Aspects of the regional digital agenda

Dimensions

Areas of cooperation

Building of internal capacities

- Support mechanisms to design the agenda and digital policies.
- **Technical support to design regional digital market strategies and the coordination of these among the different integration blocs (Pacific Alliance, MERCOSUR, Mesoamerica Integration and Development Project).**

Inclusion of all stakeholders

- Agendas for joint work with private actors, civil society and the technical community.
- Involvement in a joint agenda with other public sector bodies in addition to those linked directly to ICT sectors.
- Strengthening of cooperation with other forums.

International cooperation

- Design of instruments (technical assistance programmes, technology transfer, etc.) to strengthen cooperation among countries.
- Continuous dialogue on digital policies and identification of important themes.

Towards a new eLAC agenda: nine pillars

Emerging technologies

Digital infrastructure

Digital trust and security

Digital transformation and the digital economy

Regional digital market

Digital government

Regional digital cooperation

Inclusion, competence and skills

Facing the pandemic and facilitating reactivation