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Director, Telecommunication Development Bureau

Digital trends in the Americas region 2021

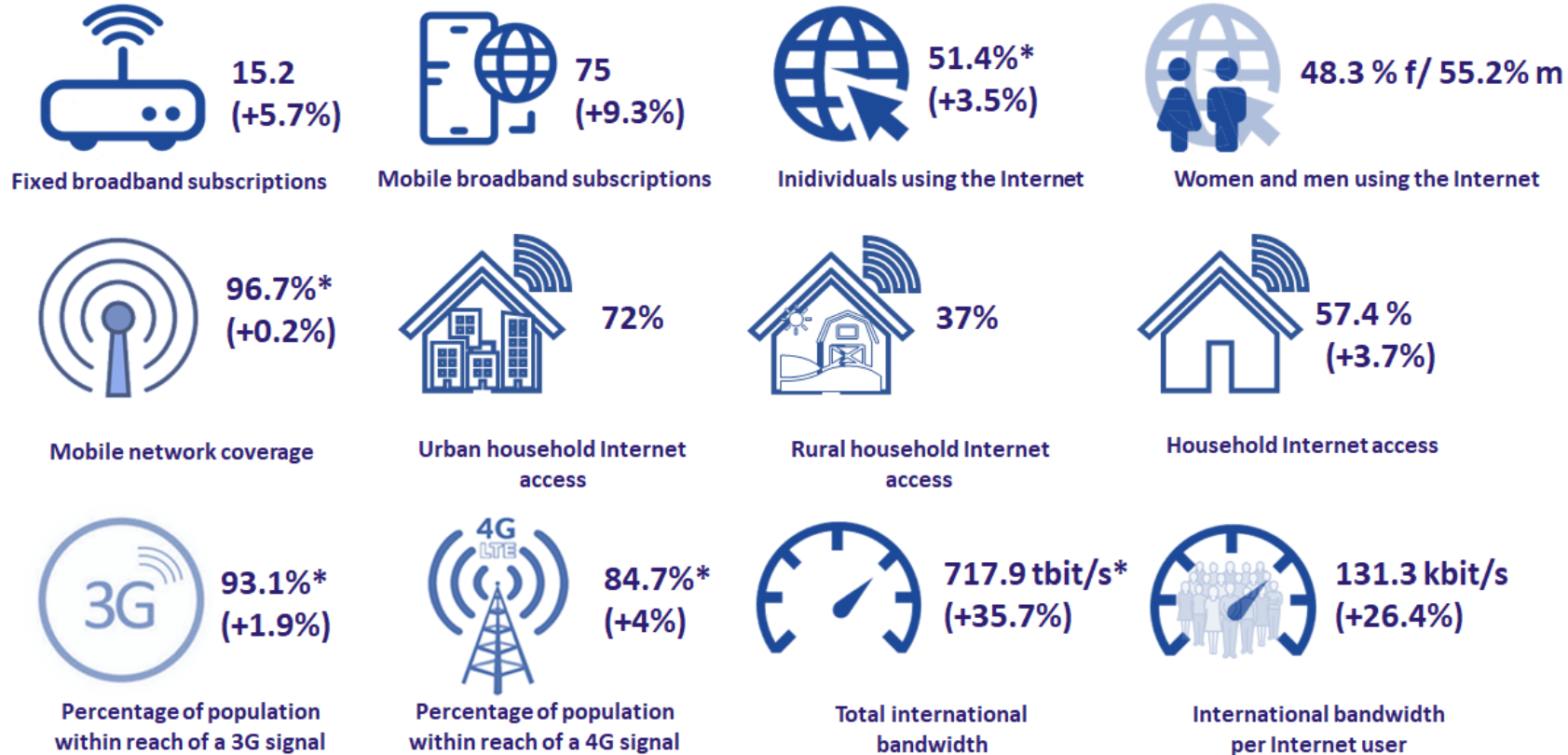|		
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Digital trends in the Americas region 2021

RPM-AMS-21

26 April 2021

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General Considerations

15.2 (+5.7%)
Fixed broadband subscriptions

75 (+9.3%)
Mobile broadband subscriptions

51.4%* (+3.5%)
Inidividuals using the Internet

48.3 % f/ 55.2% m
Women and men using the Internet

96.7%* (+0.2%)
Mobile network coverage

72%
Urban household Internet access

37%
Rural household Internet access

57.4 % (+3.7%)
Household Internet access

93.1%* (+1.9%)
Percentage of population within reach of a 3G signal

84.7%* (+4%)
Percentage of population within reach of a 4G signal

717.9 tbit/s* (+35.7%)
Total international bandwidth

131.3 kbit/s (+26.4%)
International bandwidth per Internet user

*2020 estimate

Global ICT indicators per 100 inhabitants/per cent, 2019 – 2020, and compound annual average growth rate (CAGR), 2017-2019, 2017-2020

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Digital trends in the Americas Region 2021

Pandemic - accelerated Digital transformation
Businesses -> Digital delivery services/ products

Broadband infrastructure in rural/remote areas
Barriers: affordability, lack access electricity, ICT skills, fit-for-purpose policies, regulations

Less travelling – Online socialization – e-health
Digital entertainment and communication
e-commerce – online schools - digital government

Policy development focused on:
inclusion, access, security, skills and sustainability in terms of emerging technologies.

Key priority: Disaster risk reduction management and management communications to increase resilience of networks and mitigate the impact

ITU regional initiatives for the Americas Region and the associated thematic priorities
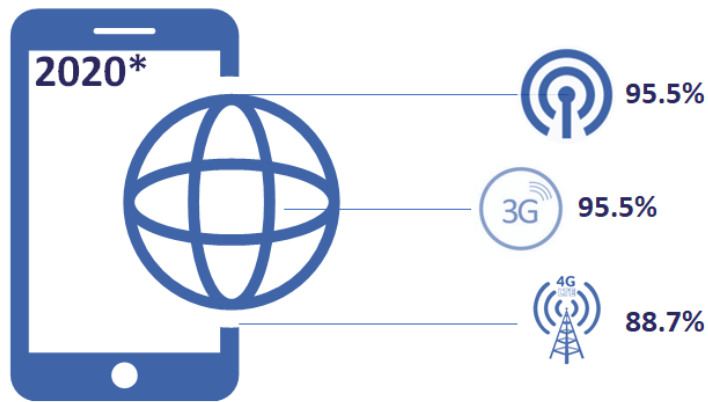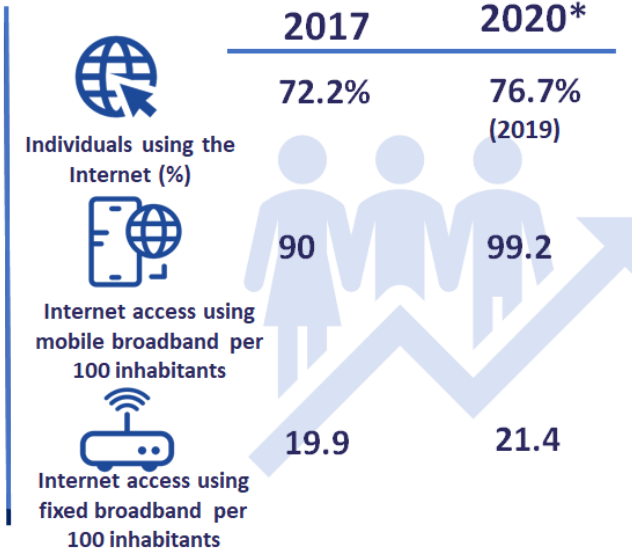
Artificial intelligence (AI), Internet of Things (IoT), Cloud Computing, Distributed ledger technology (DLT), 5G Networks, Precision medicine, Digital trade, Autonomous mobility, etc. will shape Americas Region

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Digital trends in the Americas Region 2021

Mobile network coverage

2020*

95.5%

3G   95.5%

4G   88.7%

*Estimate

Internet access and use

	2017	2020*
Individuals using the Internet (%)	72.2%	76.7% (2019)
Internet access using mobile broadband per 100 inhabitants	90	99.2
Internet access using fixed broadband per 100 inhabitants	19.9	21.4

Digital divide

76.3%   77%

Digital divide 2019

74.4%   49.9%
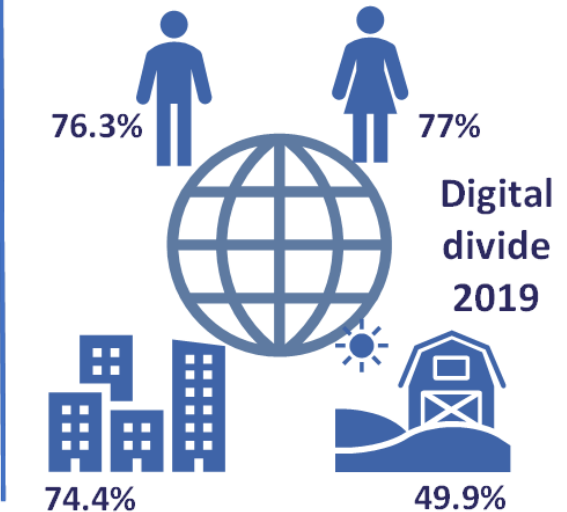
Household Internet and computer access at home, Internet use by youth (15-24 years old), 2019

✓ **69.8 per cent of households** in the Americas region had Internet access at home in 2019
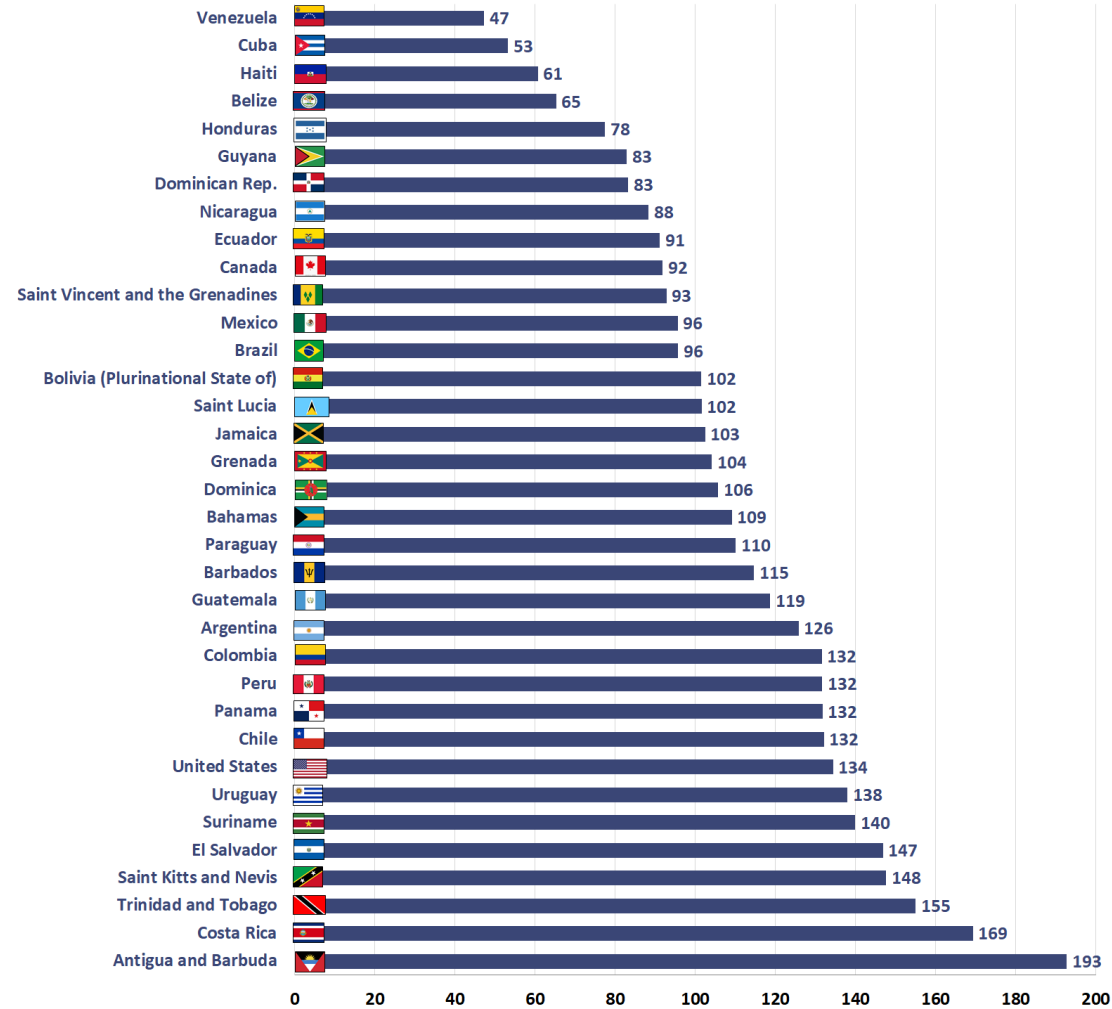
✓ **60.7 per cent of households** in the Americas region had access to a computer at home in 2019
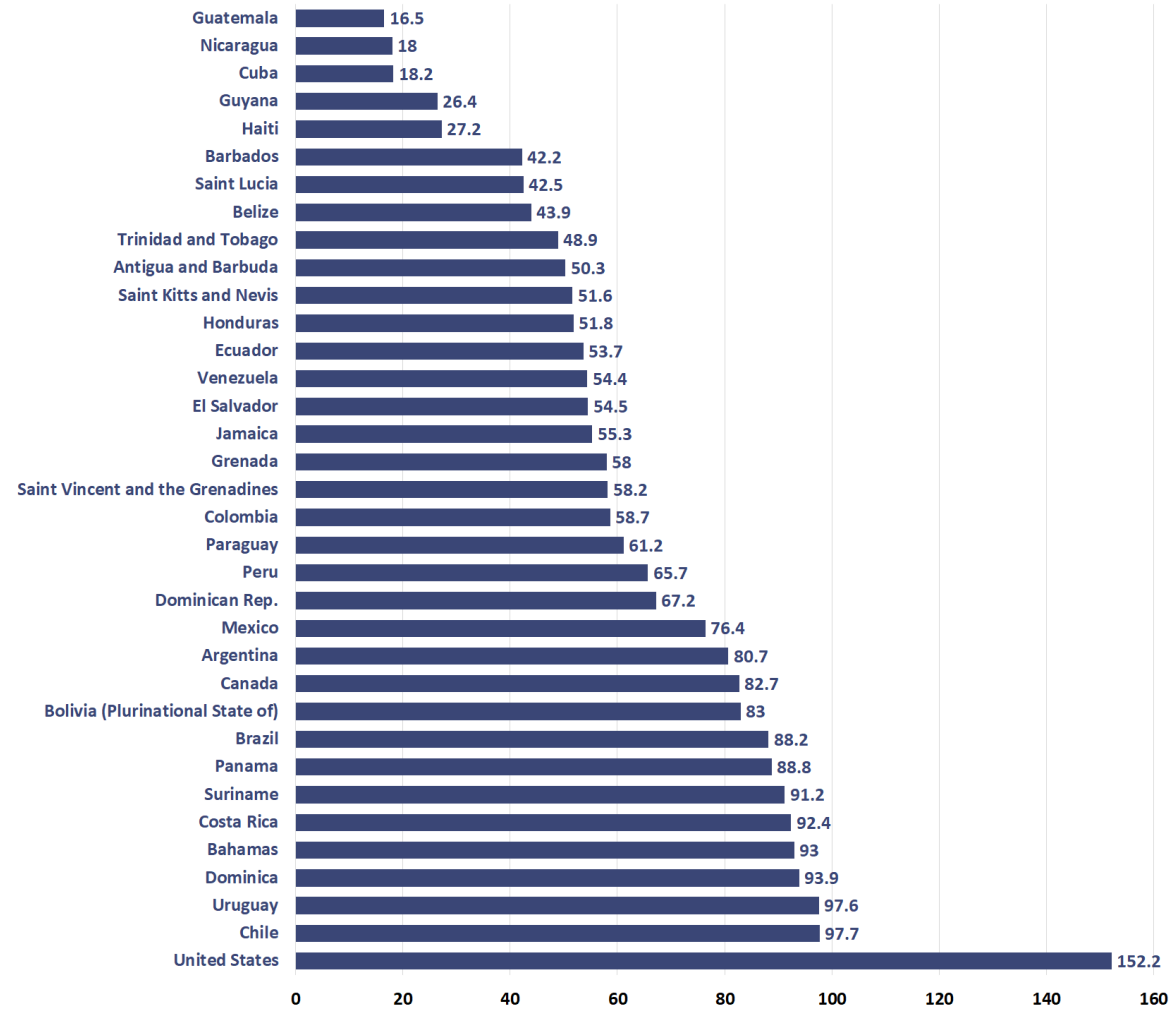
✓ **89.9 per cent of 15-24 year olds** in the Americas region were using the Internet in 2019.

35 Member States – 1 Billion inhabitants (16 SIDS) / 16 upper-middle income / 7 high-income / 1 LDC (Haiti)

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Digital trends in the Americas Region 2021

Mobile cellular subscriptions per 100 inhabitants, 2019, 35 countries of the Americas Region

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Country	Value
Venezuela	47
Cuba	53
Haiti	61
Belize	65
Honduras	78
Guyana	83
Dominican Rep.	83
Nicaragua	88
Ecuador	91
Canada	92
Saint Vincent and the Grenadines	93
Mexico	96
Brazil	96
Bolivia (Plurinational State of)	102
Saint Lucia	102
Jamaica	103
Grenada	104
Dominica	106
Bahamas	109
Paraguay	110
Barbados	115
Guatemala	119
Argentina	126
Colombia	132
Peru	132
Panama	132
Chile	132
United States	134
Uruguay	138
Suriname	140
El Salvador	147
Saint Kitts and Nevis	148
Trinidad and Tobago	155
Costa Rica	169
Antigua and Barbuda	193

Digital trends in the Americas Region 2021

Active mobile broadband subscriptions per 100 inhabitants, 2019, 35 countries of the Americas Region

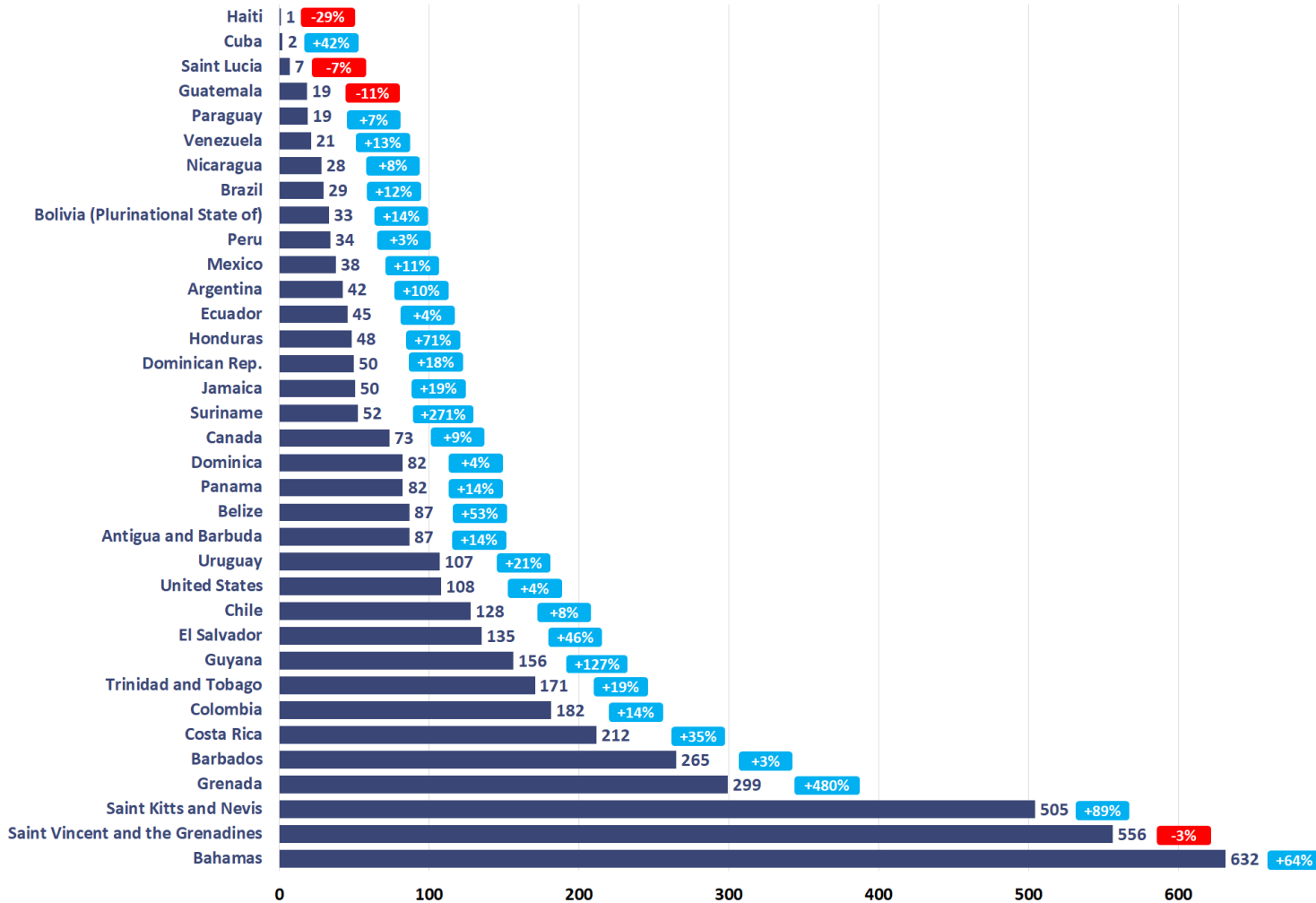itu.int/go/RPM-AMS-21

Digital trends in the Americas Region 2021
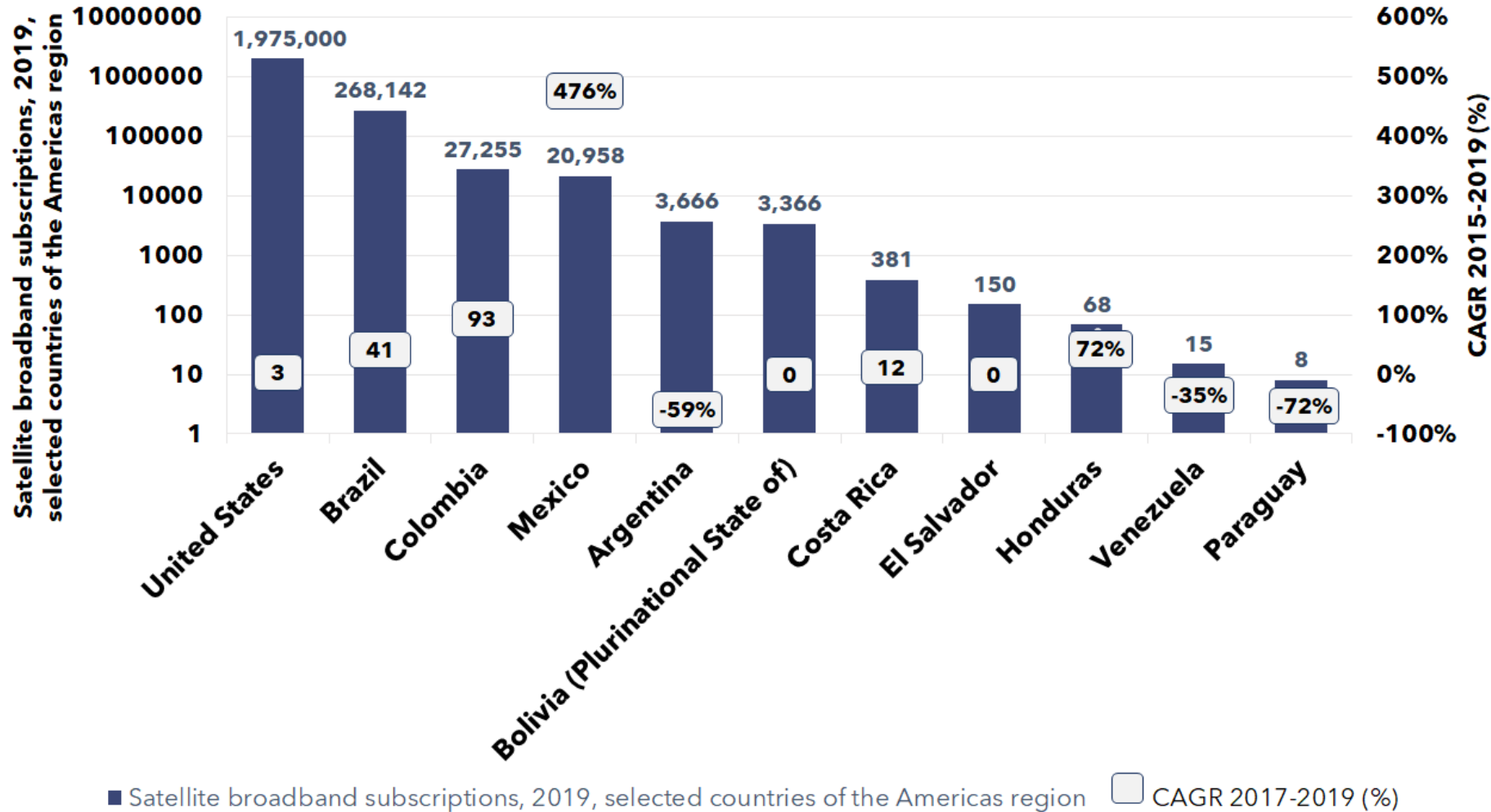
Satellite broadband subscriptions and CAGR, 2017-2019, Americas Region
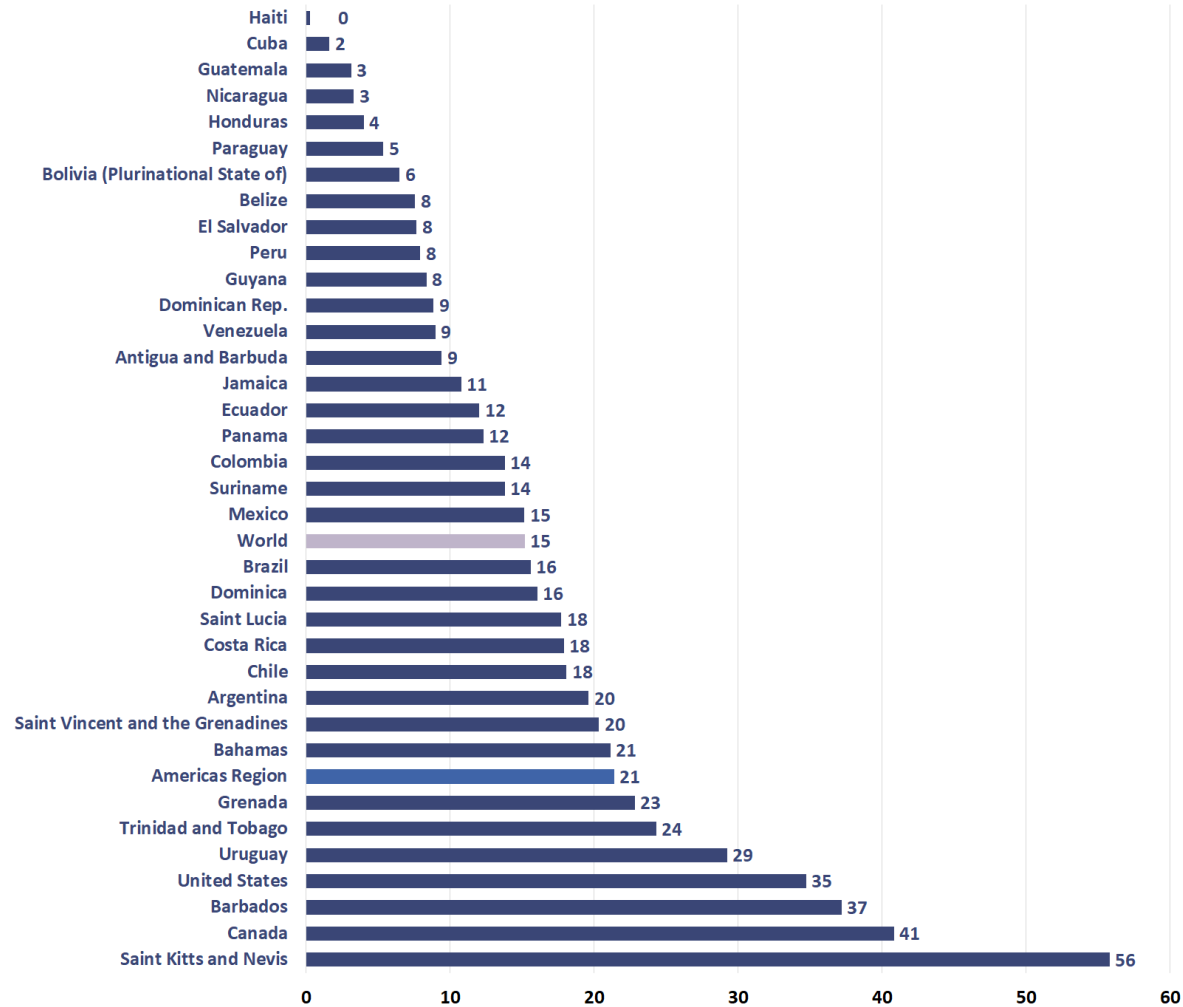
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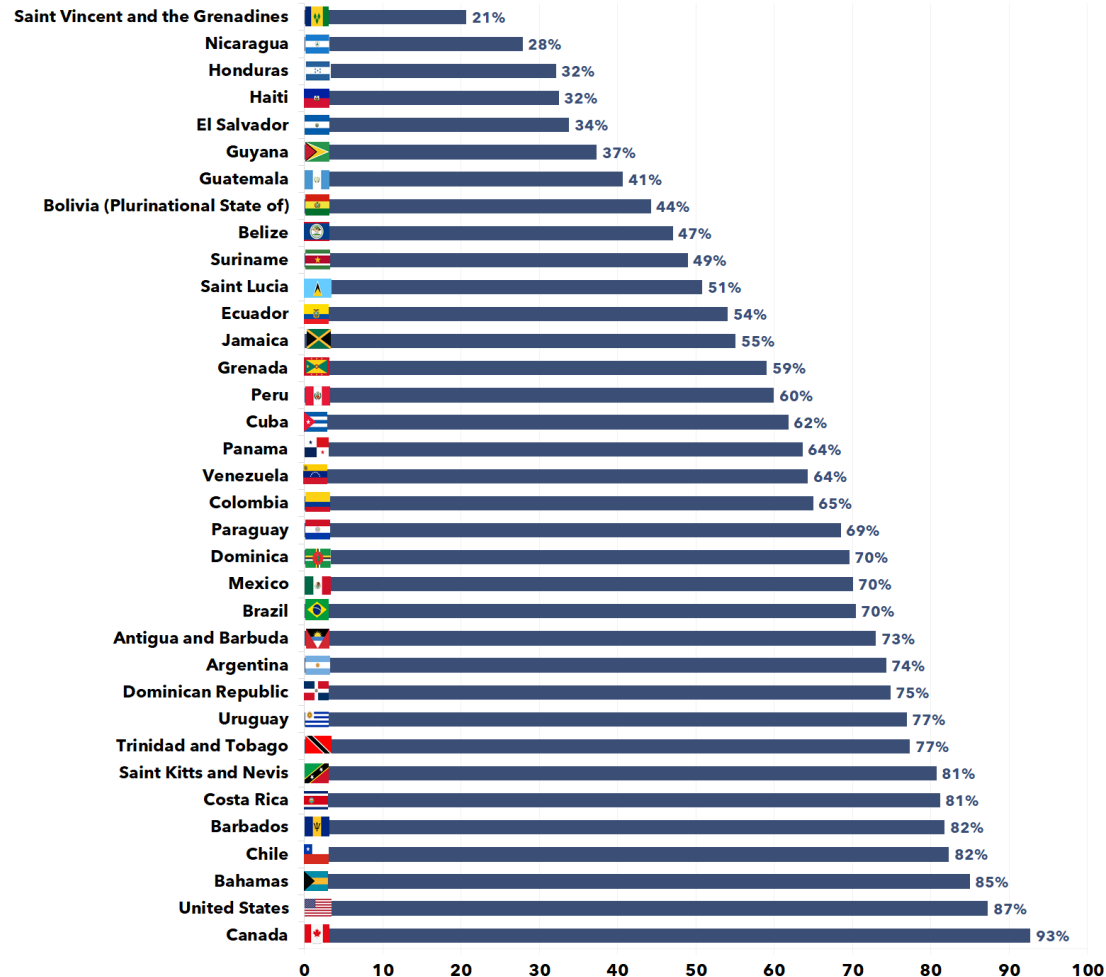
Digital trends in the Americas Region 2021

Kbit/s per Internet user, 2019, and CAGR, 2015-2019 for selected countries of the Americas region

International bandwidth in Americas Region:

Last three years from 52 Tbit/s (2017)

to 141 Tbit/s (2020)

User level: 72.2 kbit/s per Internet user (2017)

130.3 kbit/s (2019)

131.3 kbit/s per Internet user Globally.

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Digital trends in the Americas Region 2021

Country	%
Saint Vincent and the Grenadines	21%
Nicaragua	28%
Honduras	32%
Haiti	32%
El Salvador	34%
Guyana	37%
Guatemala	41%
Bolivia (Plurinational State of)	44%
Belize	47%
Suriname	49%
Saint Lucia	51%
Ecuador	54%
Jamaica	55%
Grenada	59%
Peru	60%
Cuba	62%
Panama	64%
Venezuela	64%
Colombia	65%
Paraguay	69%
Dominica	70%
Mexico	70%
Brazil	70%
Antigua and Barbuda	73%
Argentina	74%
Dominican Republic	75%
Uruguay	77%
Trinidad and Tobago	77%
Saint Kitts and Nevis	81%
Costa Rica	81%
Barbados	82%
Chile	82%
Bahamas	85%
United States	87%
Canada	93%

Percentage of individuals using the Internet, 2019, selected countries of the Americas region
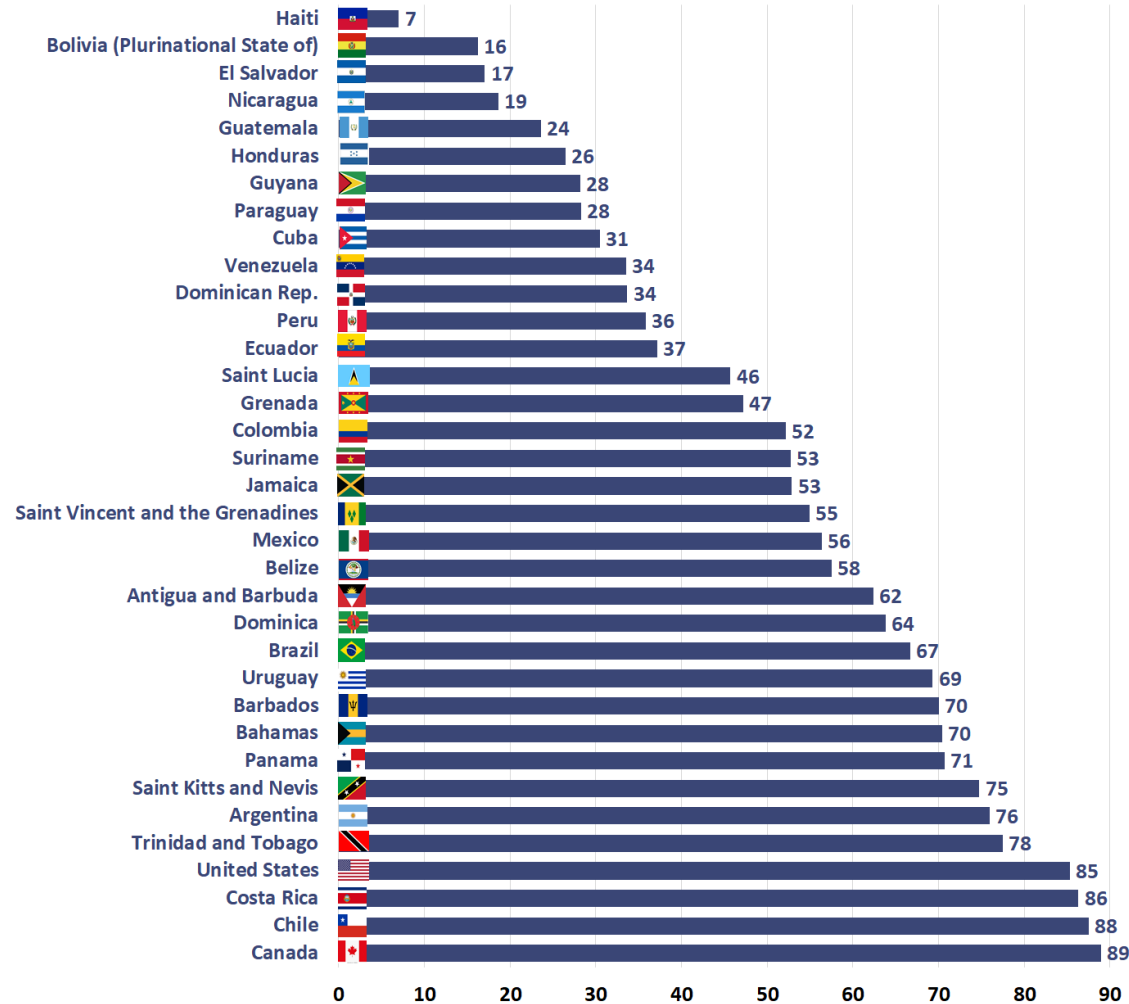
4G leading mobile technology

285 million not connected Mobile Int (2019)
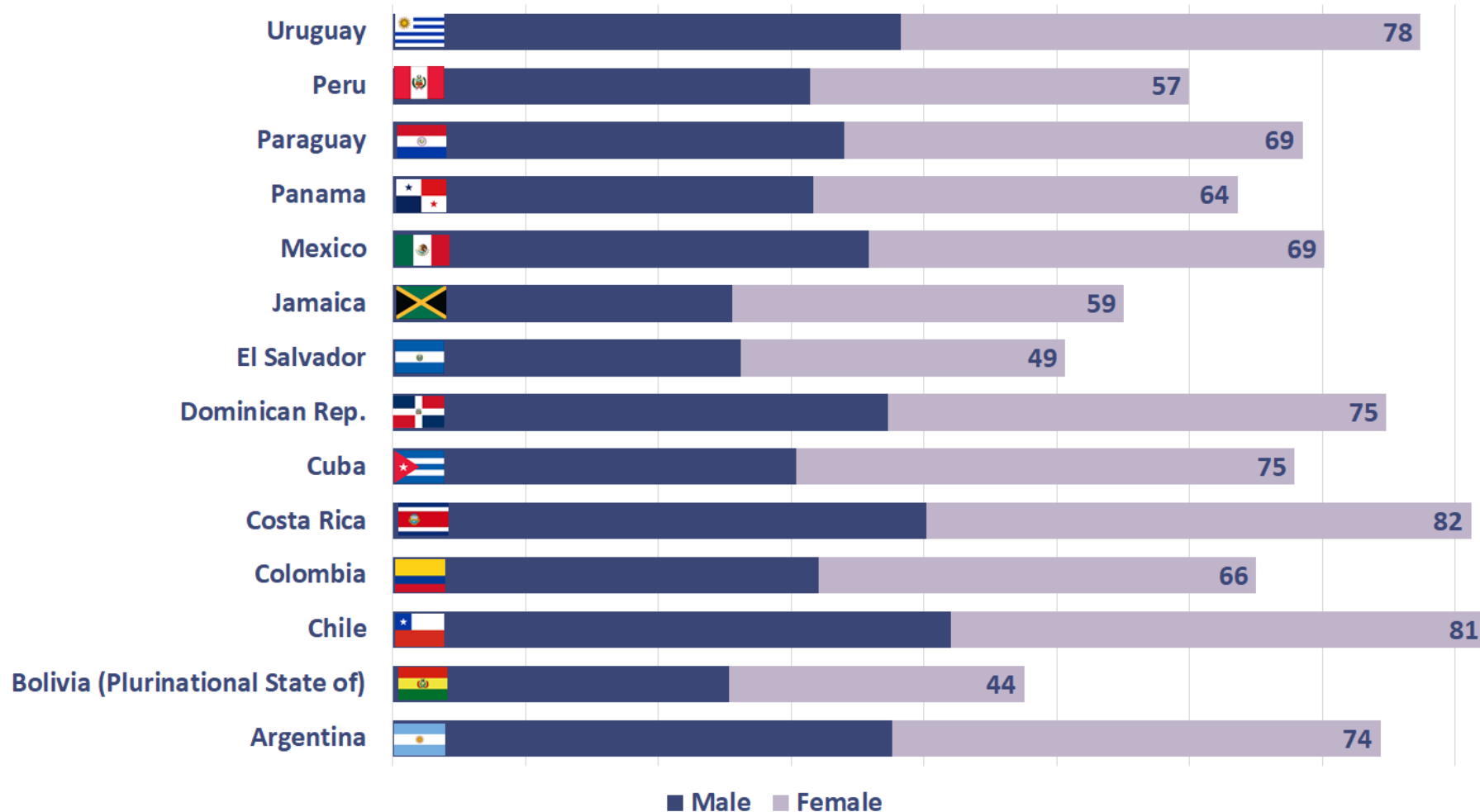
95.5% covered by 3G

88.7% covered by 4G

76.7% used Internet

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Digital trends in the Americas Region 2021

Proportion of households with Internet access, most recent year (2017, 2018 and 2019), countries of the Americas region
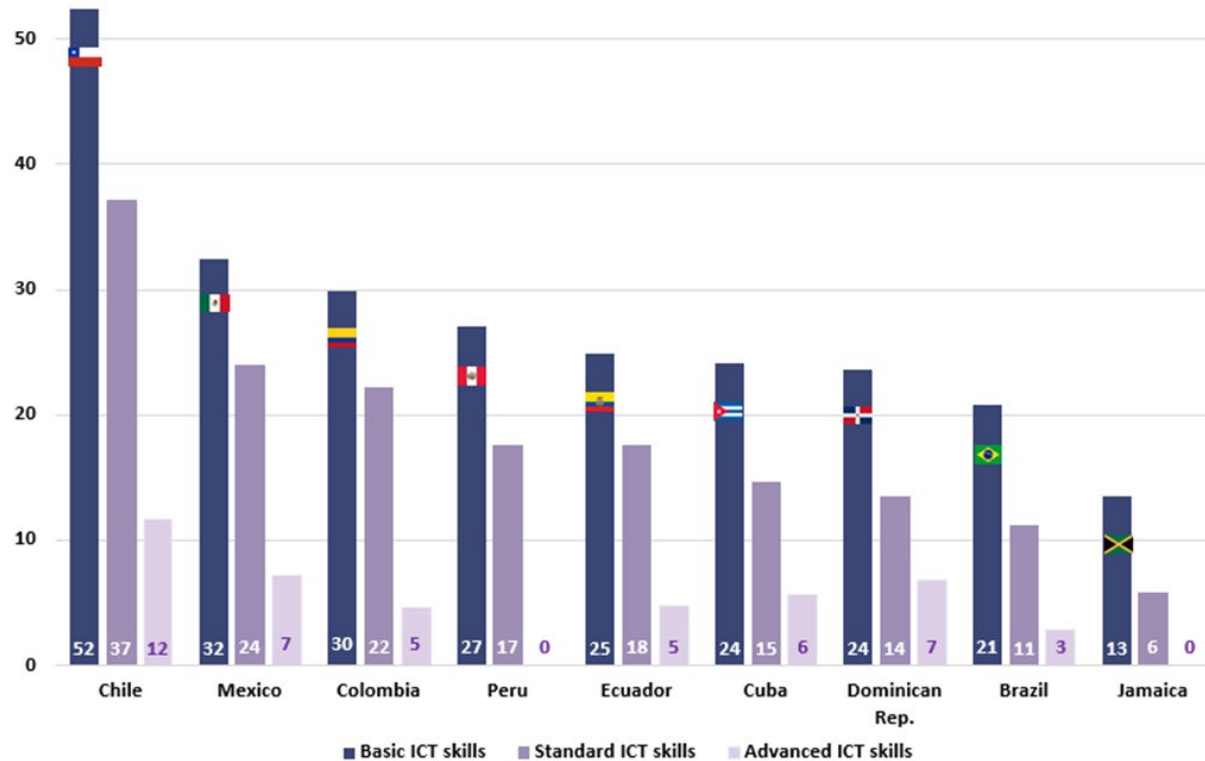
69.8% in average in AMS

57.4% in average globally

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Digital trends in the Americas Region 2021

Individuals using the Internet by gender, selected countries of the Americas region, 2019

Gender parity score of 1.01 (2019)

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Digital trends in the Americas Region 2021

Penetration of basic, standard and advanced ICT skills as a percentage of population for selected countries of the Americas region (%), 2019

Basic Skills: Copy, move files/folder, sending e-mails with attached files, transfer files

Standard Skills: basic arithmetic formula in a spreadsheet, connecting and installing new devices, creating electronic presentations, finding, downloading, installing, and configuring software

Advanced Skills: writing computer programs using a specialized programming language

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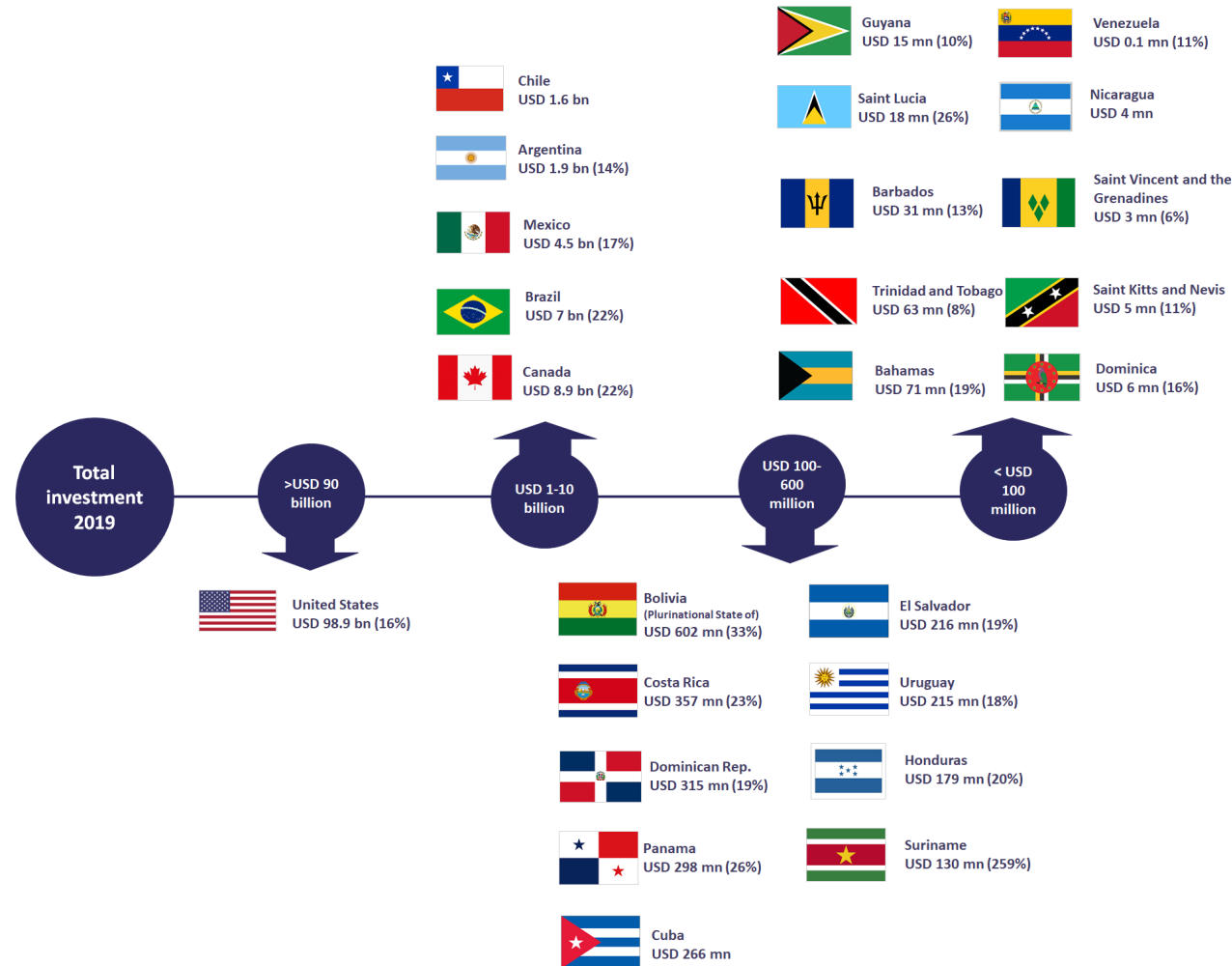
GIGA Project in Americas Region

- UNICEF and ITU joined forces (Sep 2019) to connect every school to the Internet and every young person.

- El Salvador: mapped all connected schools to estimate schools in need of connectivity (3893). Will help mobilize investment and financing to bridge the initial infrastructure gaps. Development of a proposed way to connecting 1 000 schools (with a focus on FOMILENIO investment communities).

- Honduras: 3% of all the schools (545) are connected by CONATEL and some more thought private providers. 16445 are in need of connectivity. 45% need electricity.

- In the Americas Region is currently working with El Salvador and Honduras to improve school connectivity.

- Giga is looking at how create stronger infrastructure of hope and opportunity in the "time after COVID."

- Members of the Organisation of Eastern Caribbean States (OECS) will reap the benefits of working with Giga in a project to map every school in the eastern Caribbean and real-time monitoring data on the quality of Internet connectivity.

- Improving school connectivity and affordability are among some of the quick benefits of the programme.

- Giga Barbados and OECS -> development of an e-Education ICT strategy, child online protection (COP), and an anticipated network resilience study.

Digital trends in the Americas Region 2021
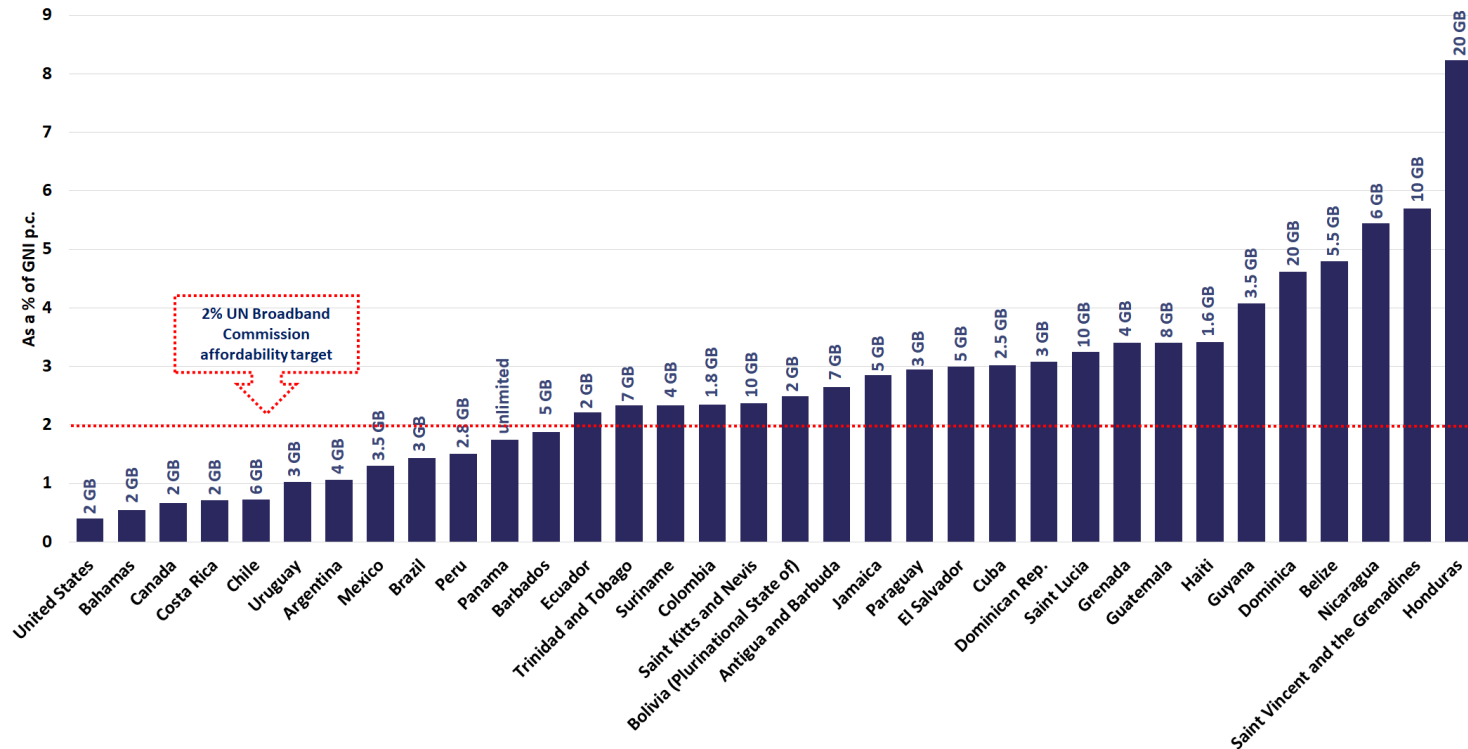
ICT services are becoming more affordable in the last 4 years.

The Americas Region is the less affordable prices.

ICT services are becoming more affordable in the last 4 years.

The Americas region is among the regions with less affordable prices.

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Digital trends in the Americas Region 2021

Guyana
USD 15 mn (10%)

Venezuela
USD 0.1 mn (11%)

Chile
USD 1.6 bn

Saint Lucia
USD 18 mn (26%)

Nicaragua
USD 4 mn

Argentina
USD 1.9 bn (14%)

Barbados
USD 31 mn (13%)

Saint Vincent and the Grenadines
USD 3 mn (6%)

Mexico
USD 4.5 bn (17%)

Brazil
USD 7 bn (22%)

Trinidad and Tobago
USD 63 mn (8%)

Saint Kitts and Nevis
USD 5 mn (11%)

Canada
USD 8.9 bn (22%)

Bahamas
USD 71 mn (19%)

Dominica
USD 6 mn (16%)

Total investment 2019 — >USD 90 billion — USD 1-10 billion — USD 100-600 million — < USD 100 million

United States
USD 98.9 bn (16%)

Bolivia
(Plurinational State of)
USD 602 mn (33%)

El Salvador
USD 216 mn (19%)

Costa Rica
USD 357 mn (23%)

Uruguay
USD 215 mn (18%)

Dominican Rep.
USD 315 mn (19%)

Honduras
USD 179 mn (20%)

Panama
USD 298 mn (26%)

Suriname
USD 130 mn (259%)

Cuba
USD 266 mn

Total telecommunication investments and total telecommunication investment as a percentage of revenue by country (in brackets), Americas region, 2019.

Americas region amounted to USD 126.8 billion in 2019, 78% in USA.
GSMA estimates: Latin America will invest more than USD 70 billion and North America USD 290 billion in capex (2021 and 2025) -> 5G-specific.

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Cybersecurity in Americas Region 2021

GCI pillars and indicators

Legal
Cybercrime legislation
Cybersecurity regulation
Legislation for the containment/curbing of spam

Technical measures
CERT/CIRT/CSIRT
Standards implementation framework
Standardization body
Technical mechanisms and capabilities deployed to address spam
Use of cloud for cybersecurity purpose
Child online protection mechanisms

Organizational measures
National cybersecurity strategy
Responsible agency
Cybersecurity metrics

Capacity building measures
Public awareness campaigns
Framework for the certification and accreditation of cybersecurity professionals
Professional training courses in cybersecurity
Education programmes or academic curriculum in cybersecurity
Cybersecurity R&D programmes
Incentive mechanisms

Cooperation measures
Bilateral agreements
Multilateral agreements
Participation in international forums/associations
Public-private partnerships
Inter-agency/intra-agency partnerships
Best practices

Americas region by GCI pillar

Top three highest scoring countries: United States   Canada   Uruguay

- ✓ 32 countries have cybercrimine legislation
- ✓ 32 countries have cybersecurity regulations
- ✓ 10 countries have regulations to curb spam

- ✓ 17 countries have a national critical incident response team (CIRT)
- ✓ 14 countries have cybersecurity standards
- ✓ 21 countries have a standardization body
- ✓ 7 countries have technical mechanisms and capabilities to address spam
- ✓ 8 countries use the cloud for cybersecurity purposes
- ✓ 12 countries have child online protection measures

- ✓ 17 countries have a national cybersecurity strategy
- ✓ 15 countries have an agency responsible for cybersecurity
- ✓ 11 countries use cybersecurity metrics at national level

- ✓ 21 countries have cybersecurity public awareness campaigns
- ✓ 6 countries have a framework for certification and accreditation
- ✓ 17 countries have professional training/courses in cybersecurity
- ✓ 21 countries have educational programmes or academic curricula
- ✓ 16 countries have cybersecurity research and development programmes
- ✓ 7 countries have an incentive mechanism to encourage capacity building
- ✓ 19 countries have a home-grown cybersecurity industry

- ✓ 14 countries have bilateral agreements
- ✓ 12 countries have multilateral or international agreements
- ✓ 27 countries participate in international forums/associations
- ✓ 9 countries have public-private partnerships
- ✓ 13 countries have inter-agency partnerships

Country example of implementation of measures by GCI pillar: Brazil

Brazil

Legal measures: Brazil – The draft Brazilian Data Protection Law, which includes breach notification provisions, was approved by the Chamber of Deputies on 29 May 2018.

McAfee estimated in 2020 cybercrime led monetary loss of USD 1 trillion.

Fit-for-purpose cybercrime legislation, strategies and frameworks, as well as computer emergency response teams, capabilities, awareness and capacities are key to advancing sustainable economic and socio-economic development.

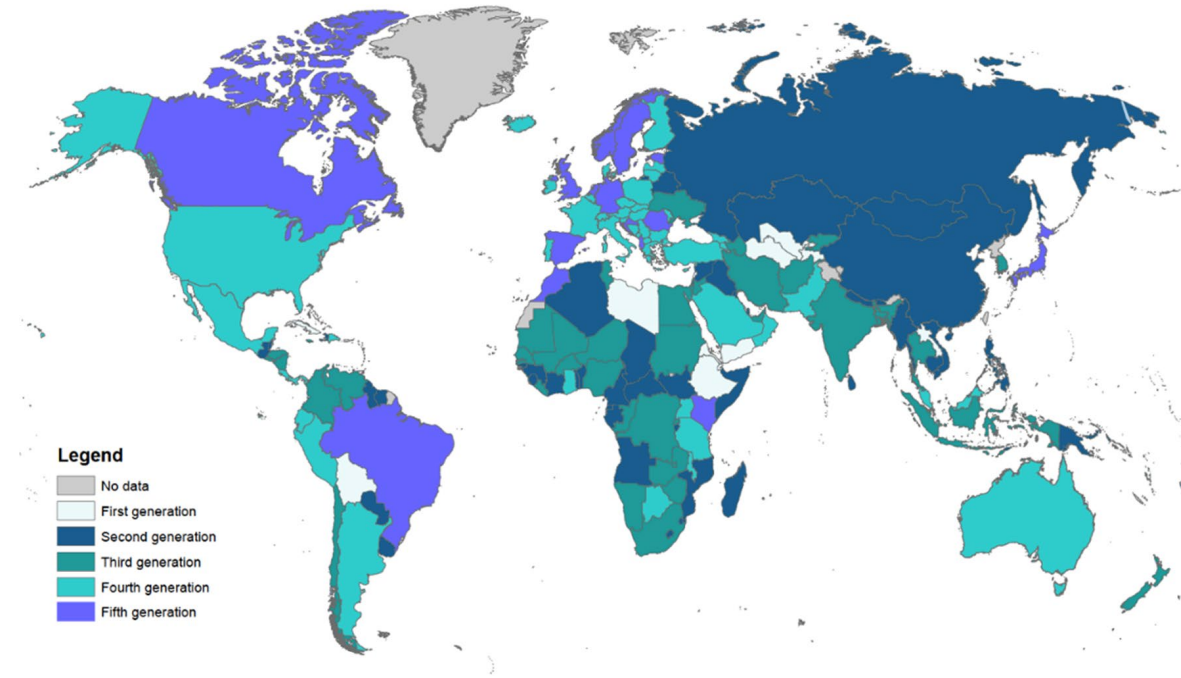itu.int/go/RPM-AMS-21
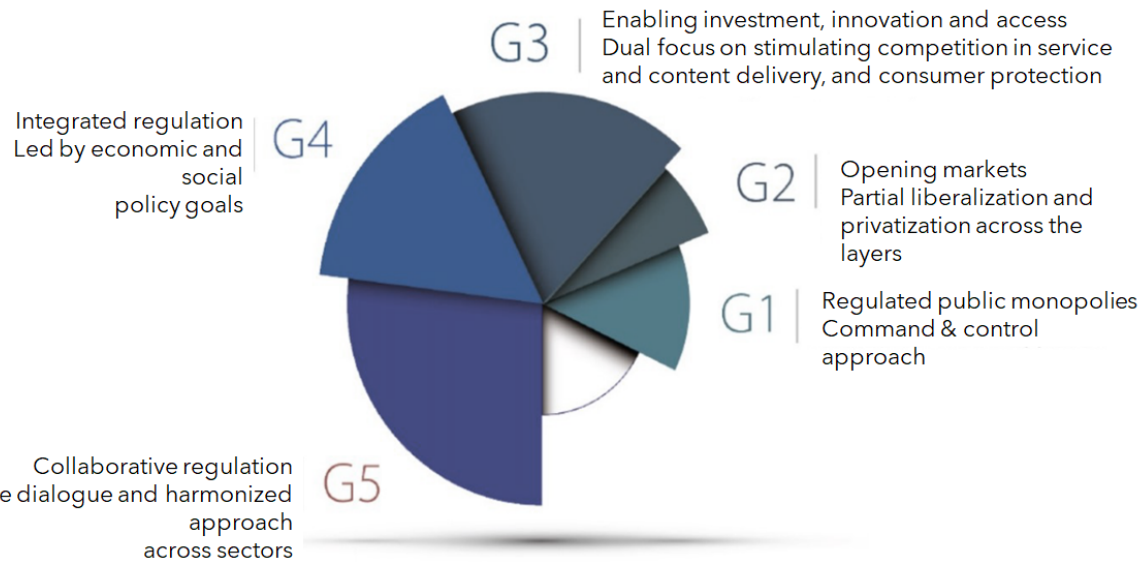
AI, IoT, 5G in Americas Region

- USA and Canada are champions on artificial intelligence innovation.

- AI in Latin America and the Caribbean: Applications in logistics, supply chain, customer service, and sales and marketing. Potential in social and government services, health, education (IADB).

- AI could add up a percentage point to the region's annual economic growth by 2035.

- Several countries have implemented efforts to increase connectivity, infrastructure development, national digitalization strategies, open data, and national AI agendas.

- IoT is lead by North America on financial services, health care and manufacturing.

- GSMA estimates: IoT connections in Latin America -> 1.2 billion (2025) / USD 19 billion (2023).

- Brazil in Latin America has a National IoT Strategy.

- North America leads the adoption of 5G Regionally and Globally. By 2025 will have 50% of all connections.

- In Latin America by 2025 is predicted 10% of all connections.

- Some countries have launched 5G with trials.

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Generations of regulation in Americas

Collaborative regulation: holistic policy ground for a greater impact – policy-makers, single-sector and cross-sector regulators to market players of any size.

Shifts regulatory focus on behaviours and impact on markets and development.

G3 — Enabling investment, innovation and access
Dual focus on stimulating competition in service and content delivery, and consumer protection

G4 — Integrated regulation
Led by economic and social policy goals

G2 — Opening markets
Partial liberalization and privatization across the layers

G1 — Regulated public monopolies
Command & control approach

G5 — Collaborative regulation
Inclusive dialogue and harmonized approach across sectors

Legend
- No data
- First generation
- Second generation
- Third generation
- Fourth generation
- Fifth generation

Emphasis on consumer benefits and protection.

Development and inclusion have become a primary focus of regulation.

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Regional Initiatives

- AMS RI 1: Disaster risk reduction and management communications.

- AMS RI 2: Spectrum management and transition to digital broadcasting.

- AMS RI 3: Deployment of broadband infrastructure, especially in rural and neglected areas, and strengthening of broadband access to services and applications

- AMS RI 4: Accessibility and affordability for an inclusive and sustainable Americas region.

- AMS RI 5: Development of the digital economy, smart cities and communities and the Internet of Things, promoting innovation.

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General Conclusions

- Americas Region has growth in ICT infrastructure, access and use, however there is huge need highlighted by COVID-19 pandemic.

- Still few activities can be carried out remotely mainly due to lack of connectivity.

- Mobile network coverage: 95.5 % (3G) and 95.5 % and 88.7 (4G)

- 76.7% of individuals are using the Internet

- Internet use by individuals has grown from 72.2% (2017) to 76.7% (2019)

- 69.8% of homes have Internet access

- 89.9% of 15–24-year-olds are using the Internet

- ICT prices are more affordable, but in some countries prices are 8 per cent of GNI p.c.

- Digital divide persists, with 49.9% of rural households vs 74.4% of urban households having access to Internet (2019)

- Americas Region achieved gender parity score of 1.01% (2019)

General Conclusions

- Significant need of ICT skills
  - Advanced skill levels below 10%
  - Standard level above 10%
  - Basic ICT skills level above 20%
- Total telecommunication investment up to USD 126.8 billion in 2019
- Need to improve cybersecurity -> 32 countries have cybercrime legislation and cybersecurity regulations, but need to improve in other pillars
- Need of deploying ICT infrastructure and integrated technologies, develop artificial intelligence capabilities and capacities, including cybersecurity
- COVID-19 pandemic pushed towards digital services and technologies and accelerated digital transformation
- Most network operators responded to the increased demand, but still areas for more attention
- Infrastructure gaps is still a significant constraint to mitigate the huge impact on the economy and on society

General Conclusions

- There is a positive ICT developments and trends and steady improvement in regulatory frameworks

- There is a new regulatory paradigm of collaborative regulation

- Most countries (68 per cent) in the region are still classified as G2 and G3 in regulatory framework

- Projects, programmes and initiatives by ITU-D and Member States across all five ITU regional initiatives

  - Progress has been achieved in addressing disaster risk reduction and management communications

  - Spectrum management and transition to digital broadcasting

  - Deployment of broadband infrastructure especially in rural and neglected areas

  - Accessibility and affordability for an inclusive and sustainable Americas region

  - Development of the digital economy, smart cities and communities and the Internet of things, promoting innovation

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The outlook for the Americas ICT market is positive, but major efforts are required to meet all the challenges identified and to build on the successes achieved thus far. The Americas region and the ITU Regional Office for the Americas stand ready to build on the progress achieved and to address all remaining challenges.

THANK YOU!!!