

The Mobile Economy Latin America 2020

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Executive Summary



Covid-19 underlines the importance of connectivity

The Covid-19 pandemic has cast a spotlight on the importance of digital technologies, and connectivity in particular, for social and economic wellbeing. With confinement measures put in place to curb the spread of the pandemic, many everyday activities (including work, learning, shopping and socialising) moved online, allowing separated friends and family to stay informed and connected, and economic activity to continue. Digital connectivity has also provided a platform for innovation, facilitating new ways to deliver essential services remotely, including education and healthcare.

The mobile industry in Latin America has risen to the challenge of sustaining social and economic activity in the region during the

pandemic, despite unprecedented growth in data traffic. On average, operators reported a 25% increase in mobile data traffic during lockdown. By the end of 2020, nearly 360 million people in the region, representing 57% of the population, will be connected to the mobile internet. However, with nearly 300 million people in the region still unable to connect to the mobile internet, the pandemic serves as a reminder of the need to accelerate efforts to close the digital divide and ensure no one is left behind. Around 93% of the population is now covered by a mobile broadband network, while an additional 80 million people will start using the mobile internet by 2025.

2 Executive Summary



Nearly 440 million mobile subscribers and rapidly rising smartphone adoption

The number of unique mobile subscribers in Latin America will reach around 440 million by the end of 2020, representing nearly 70% of the population. The mobile market in the region will reach several important milestones over the next five years: 15 million mobile 5G connections in 2022, half a billion smartphone connections by 2023, and more than 400 million mobile internet subscribers by 2025. These achievements will be underpinned by operators' continued investment in network infrastructure. Despite the economic uncertainty brought about by the pandemic, operators in the region will invest \$99 billion in infrastructure rollouts between 2019 and 2025.

Smartphone adoption continues to rise rapidly, reaching 72% of total connections in 2020, as cheaper devices have become available. Several operators have brought affordable smartphones to market, some with financing options, to stimulate mobile broadband adoption. The next five years will see around 100 million additional smartphone connections in Latin America, taking the total to 532 million by the end of 2025 – an adoption rate of 80%.



The mobile industry driving social impact and contributing to economic growth

Mobile technologies and services generated 7% of GDP in Latin America in 2019 – a contribution that amounted to more than \$421 billion of economic value added. The mobile ecosystem also supported around 1.4 million jobs (directly and indirectly) and made a substantial contribution to the funding of the public sector, with \$33 billion raised through taxation. The mobile industry's contribution will rise over the coming years as countries increasingly benefit from the improvements in productivity and efficiency brought about by the increased take-up of mobile services. As well as providing much-needed connectivity during the pandemic, the mobile industry in Latin America has engaged with businesses and governments on initiatives to alleviate the impact of Covid-19 on citizens. From discounts on data tariffs for educational and health sites to cash and equipment donations to hospitals and humanitarian causes, mobile operators and other industry players have supported the most vulnerable in society while also contributing to economic recovery efforts.





5G momentum builds in Latin America

The 5G era has begun in Latin America with the launch of 5G services in Brazil and Uruguay during 2020. Auctions for spectrum in the 3.5 GHz and 26 GHz bands in Brazil are expected in H1 2021, while regulators in Chile, Colombia and Dominican Republic have also announced their intentions to assign 5G spectrum in 2021. The pandemic could increase the need for policy and regulatory reform to unlock the potential of 5G in Latin America. Key 5G capabilities, including higher speeds and ultra-low latency, have the potential to enable innovative solutions for enterprises seeking new ways to operate and boost productivity. 5G will build on the growing trend towards networks for industries, as evidenced by recent announcements from firms in the mining, utilities and manufacturing sectors. However, 5G is likely to be a long-term play for the consumer segment. With 4G adoption in Latin America forecast to reach 55% at the end of 2020 (compared to nearly 90% in North America), there remains significant room for 4G growth across the region. Nevertheless, growing demand for enhanced connectivity in the wake of the pandemic bodes well for 5G uptake in Latin America. By 2025, 5G will account for almost a tenth of total connections in the region.

4 Executive Summary

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Future-proofing policy and regulation

To address the challenges in extending connectivity to unconnected populations, there is a need for continued collaboration between policymakers, regulatory agencies and mobile operators to build sustainable network infrastructure.

Key recommendations to accelerate the expansion of the digital economy in Latin America include:

• Evolve to smarter regulation that encourages investment, removes barriers and creates new growth opportunities.

- Foster dialogue between Congress, regulatory authorities and sectoral policymakers, and the private sector.
- Build fiscal policy that is consistent with the boost in investment and GDP that digitisation can generate.
- Plan long-term spectrum policies, focusing on digital inclusion, innovation and investment.



Mobile Economy Latin America



102%



Penetration Rate

101%



Subscriber and technology trends for key markets



Executive Summary



* Percentage of total connections



The mobile market in numbers

1.1 The evolution of the mobile market in Latin America

Figure 1

Source: GSMA Intelligence

Key milestones over the next five years

	2020	2021	2022	2023	2024	2025
MOBILE SUBSCRIBERS			450 million mobile subscribers			Almost three quarters of the population subscribe to mobile services
MOBILE INTERNET SUBSCRIBERS				400 million mobile internet subscribers 60% of the population to subscribe to mobile internet services		Over 420 million mobile internet subscribers
CONNECTIONS	625 million mobile connections				650 million mobile connections	
36	200 million 3G connections				150 million 3G connections	
46			4G accounts for 60% of connections	400 million 4G connections		
56	Mobile 5G debuts in Latin America		15 million mobile 5G connections			50 million mobile 5G connections
MOBILE BROADBAND (MBB)			Mobile broadband accounts for over 90% of total connections	600 million mobile broadband connections		Mobile broadband accounts for over 95% of total connections
SMARTPHONES				500 million smartphone connections		80% smartphone adoption

Figure 2



Almost half a billion unique mobile subscribers in Latin America by 2025

Figure 3

Source: GSMA Intelligence

Latin America will have almost 60 million new subscribers by 2025, half of which will come from Brazil and Mexico



Mobile subscribers (million)

1.2 5G debuts in Latin America, though 4G will continue to dominate

	connections (excluding lic	ensed cellulai	r loT)		67%	
						67%	
49%							
							5G
33%							4G
-							2G
						20%	
						9%	
	0%					4%	
2019	2020	2021	2022	2023	2024	2025	
					-		
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1.3 **Evolution of the digital consumer**

Figure 5

Source: GSMA Intelligence

Over 80 million people across the region will start using mobile internet by 2025; three quarters will come from five countries



Figure 6

14

Source: Ericsson Mobility Report, 2020

Rising take-up of smartphones and the mobile internet will lead to a fivefold increase in mobile data consumption by 2025

GB per subscriber per month 5.1x 2019 2025 The mobile market in numbers

By 2025, smartphone adoption will rise above 80% in six markets in the region

Smartphones as a percentage of connections (excluding licensed cellular IoT)



Strong digital engagement a key driver of the growth in data traffic

Latin America is a global leader in user engagement in mobile services, especially media and entertainment content. Insights from the GSMA Intelligence Consumers in Focus Survey show that 58% and 67% of smartphone users in Brazil and Mexico, respectively, watch free online video content on a mobile phone at least once per day, compared to just 39% in the US. This trend has been boosted by the lockdown measures resulting from the pandemic. Some operators in the region, including Telefónica and Claro, have offered access to additional free or discounted streaming content during lockdown.

1.4 A modest revenue outlook amid uncertainty around Covid-19

Covid-19 had a significant impact on the financial performance of the mobile industry in 2020. Mobile revenues declined in several markets in Latin America, reflecting the discounts operators offered on mobile services to support consumers during the pandemic. Other factors at play included greater use of fixed broadband connectivity during lockdown, a decrease in device sales partly due to store closures, and a reduction in consumer spend as the slowdown

Covid-19 upends operator momentum

in economic activity led to job losses, particularly in the informal sector. Markets with a high proportion of prepaid customers have been particularly vulnerable to reduced spend. While revenue growth for the region as a whole is expected to remain in positive territory, it is forecast to be in the low single digits for the foreseeable future as economies continue to grapple with the economic fallout of the pandemic.

Figure 8

Source: GSMA Intelligence

5.5% 62.7 62.1 61.5 60.9 60.1 59.2 58.8 1.6% 1.3% 0.9% 1.0% 1.0% 0.6% 2019 2020 2021 2022 2024 2025 2023

Revenue Annual (\$ billion) growth

Source: GSMA Intelligence

2019-2025 Total capex: \$13.7 \$13.8 \$13.6 \$13.4 \$14.4 \$14.9 \$14.7 \$99bn 16% 18% 28% 39% 51% 74% 97% 5G capex: 84% 82% \$54bn 72% 61% 49% 26% 3% 2019 2020 2021 2022 2023 2024 2025 5G capex Non-5G capex

Figure 9 5G network spend ramps up in 2020 and will account for the majority of capex by 2022 Capex (\$ billion)

> **17** The mobile market in numbers



Key trends shaping the digital and scape

The digital landscape in Latin America is evolving rapidly. Across the region, enterprises are increasingly using digital technologies to improve operational processes; for consumers, digital platforms are providing new ways to work, learn, shop and interact with society. Here, we highlight three trends shaping the region's digital landscape.

2.1 5G: the private networks opportunity

5G continues to gain momentum around the world, though the pace of progress has been affected by Covid-19 in some markets. For example, some operators in Sweden and South Africa launched 5G early to ensure sufficient capacity was available during the crisis, while the spectrum auction in India was delayed until at least 2021. Other markets, including Greece and Portugal, have reported interruptions to 5G rollouts. A total of 45 operators launched commercial 5G services during the first nine months of 2020, taking the total number of 5G operators to 107 in 47 markets globally. In Latin America, Brazil and Uruguay have launched 5G services. In Brazil, auctions in the 3.5 GHz and the 26 GHz spectrum bands are expected in H1 2021, and regulator Anatel plans to award spectrum in the 700 MHz (unsold from 2015) and 2.3 GHz bands. Regulators in Chile, Colombia and Dominican Republic have also announced their intention to assign 5G spectrum in 2021.

Figure 10



5G global outlook

Key trends shaping the digital landscape

19

Source: GSMA Intelligence

Covid-19 could increase the need for policy and regulatory reform to unlock the potential of 5G in the region. Key 5G capabilities, including higher speeds and ultra-low latency, can enable innovative solutions for enterprises seeking ways to boost productivity post pandemic. In manufacturing, for example, Covid-19 has highlighted several major challenges, such as labour shortages amid travel and social restrictions, and the need for greater operational visibility, including in the supply chain. 5G and private networks offer one of many routes to connect manufacturing operations and processes. Aside from manufacturing, there is a growing trend towards the deployment of private networks by enterprises in sectors such as mining and utilities. In July 2020, Nokia and Telefónica Brazil agreed a deal with mining firm Vale to provide a private LTE network to the Carajás Mine – the world's largest iron ore mine, in northern Brazil. Meanwhile, in Chile, the Department of Telecommunications has carried out a 5G consultation to assess interest in potential networks for enterprises, targeting the mining, port, agricultural, industrial and transport sectors.

Source: GSMA Intelligence

Figure 11



Qn: For which type of service, if any, do you expect to see the strongest growth in demand from your enterprise customers due to the Covid-19 pandemic? Percentage of respondents



As 5G rollouts accelerate, many enterprises will prefer a more customised network option. Recent announcements suggest mobile operators are looking to address the needs of enterprises, including SMEs, by increasingly offering simple, outof-the-box solutions. Meanwhile, 5G hardware based on Release 16 will be commercially ready by 2022, enabling operators to go to market with a richer set of offerings. This grants operators a window

of opportunity to seek out industrial vendors and systems integrators to capture early movers in Industry 4.0. However, the rollout of 5G and the potential to serve enterprises and consumers with enhanced connectivity solutions will depend on the timely allocation of 5G spectrum in a manner that encourages investment and innovation. Sharing and trading of spectrum are vital to make this a reality.

2.2 IoT: a local focus

The GSMA Intelligence Enterprise in Focus Survey 2019 shows that the majority of enterprises (52%) around the world view IoT as transformational to their company and wider industry.¹ The pandemic has seen the importance of IoT grow, as governments and enterprises adopt digital technologies, including IoT solutions, to revive economic output and boost operational resilience and efficiency. Globally, total IoT connections will nearly double to 24 billion connections by 2025, driven by faster adoption of enterprise solutions targeting digital transformation.

The IoT market in Latin America will follow a similar trajectory, to reach 1.2 billion connections by 2025. IoT applications in the region vary considerably across the consumer and enterprise sectors. – from heavy industrial applications in mining and manufacturing to health applications for consumers. In Argentina, Telecom Argentina has partnered with Nokia to provide IoT services to corporate customers. In Mexico, AT&T provides connected car solutions in partnership with players in the auto and telematics industry. In Brazil, Vivo Empresas, the

1. IoT in business 2020: The enterprise voice on IoT adoption, GSMA Intelligence, 2020

enterprise unit of Telefónica Brazil, has partnered with bioenergy producer UISA to deploy a private 4G network and IoT solution at a 90,000 hectare farm in Brazil to improve operations, cut costs and provide real-time data. Cities across Latin America, such as Buenos Aires, Santiago, Medellin and Sao Paulo, are also implementing smart city initiatives using IoT technology.

Mobile operators play an increasingly prominent role in the rapidly expanding IoT ecosystem in the region, supported by enabling regulations. In Brazil, Anatel has approved the reduction of regulatory barriers preventing development of IoT applications, through a lower tax burden on services provided via IoT devices. As of August 2020, six mobile operators in four markets – Argentina, Brazil, Colombia and Mexico – had launched licensed LPWA (NB-IoT and LTE-M) services. Telefónica has developed a connectivity management platform in Brazil, offering companies autonomy and efficiency in the management of connected devices. Meanwhile, Telecom Argentina has announced a partnership with Nokia to offer corporate IoT services.



Figure 12

Total IoT connections in Latin America will double by 2025, driven by growth in the enterprise segment, particularly for smart manufacturing and smart building solutions



A key factor that will define the IoT landscape in Latin America is investment and innovation in solutions and devices that address local use cases, as demonstrated by a rapidly expanding IoT startup ecosystem. In Colombia, Wayra (Telefónica Movistar's open innovation hub) has launched an IoT lab for entrepreneurs in partnership with iNNpulsa (the entrepreneurship and innovation agency of the government of Colombia) and the Ministry of Commerce, Industry and Tourism. It will develop LPWA-based IoT solutions, in areas such as smart metering, livestock tracking and consumer IoT services. Meanwhile, in Brazil, Qualcomm Ventures and the National Bank for Economic and Social Development (BNDES) have launched a \$30 million fund to support IoT startups.

Key trends shaping

Examples of IoT startups across Latin America include the following:

Tecrea

Multiple IoT solutions, including real-time alerts and GPS monitoring of livestock

Sensorbox

Reducing business losses from blackouts through a solution that predicts, monitors and reports problems with power sources

Lok

Last-mile logistics solutions based on a network of smart lockers

Neltume

IoT solutions to help farmers manage pesticides and moth infestations

Jooycar

Telematics solution tracking driving patterns, and offering route optimisation and maintenance reporting for connected cars

Firecity

Interconnects fire alarm systems in real time, notifying property owners and the fire department in emergencies

Citysense

IoT solutions for air quality and crime tracking, as well as helping firms understand potential markets through crowd counting

Babybe

Connects mothers with premature babies through a connected mattress that mimics the mother's breathing and heartbeat

ChoppUp

IoT solution for restaurants and bars to reduce beer waste by remotely monitoring data from dispensers

Telefónica enables IoT smart city solutions in Argentina²

The city of San Nicolas de los Arroyos, in the Buenos Aires province of Argentina, has deployed loT solutions from Telefónica to enhance quality of life for its 130,000 inhabitants. Seeking to transform itself into a smart city, the municipality is using mobile connectivity to help manage its workforce and vehicle fleet: mobile-connected GPS trackers for employees and vehicles enable the city's administration to optimise the deployment of resources. The municipality now knows in real time where all its connected vehicles are, enabling it to coordinate movements, save on fuel and maintenance costs, and reduce the likelihood of traffic accidents.

The solution has also made the city's waste management system more efficient. Using the GPS trackers installed in vehicles, the municipality is now able to publicise the real-time routes of refuse trucks, prompting residents to take out their waste at the right time, making the city cleaner and neater. As more elements of the urban environment become connected, the municipality has access to a growing volume of data on how the city works. Telefónica's end-to-end solution also enables the city to integrate, manage and analyse this information, helping the administration to make well-informed decisions.

Key trends shaping the digital landscape

2.3 The telco of the future: the rise of fintech

Digital disruption is changing the provision of services in the financial sector across Latin America, with the emergence of a vibrant fintech market. Research by consulting firm KoreFusion estimates there are just over 1,000 fintech firms in the region across 12 main categories, including payments, lending, crowdfunding, remittances and digital banks.³ Factors driving the growth of fintechs in Latin America include the following:

- Rapid adoption of smartphones, allowing more people to access digital financial services.
 Smartphone adoption in Latin America is set to reach 72% in 2020, from 46% five years earlier.
- Lack of access to traditional banking services for large swathes of the population, creating a sizeable opportunity for new entrants. According to the 2017 Global Findex, only 51% of households in Latin America and the Caribbean have an

account at a formal financial institution – much lower than the average for Emerging Asia (78%) and the Advanced Economies group (96%).

- Enabling regulations that level the playing field between traditional financial institutions and new fintech players. In September 2020, the Colombian Ministry of Finance and Public Credit established a regulatory sandbox to support the growth of fintech firms. Brazil, Chile and Mexico are among other countries that have recently introduced regulatory initiatives for fintech.
- Sustained investment in fintech start-ups. In 2019, total funding for fintech startups tripled to £2.1 billion. In the first half of 2020, Latin American fintech firms raised a total of \$525 million across 74 deals, with lending, payments and SME finance attracting the most interest from investors.⁴

Source: CB Insights

Rising investment in fintech solutions in Latin America



24

Figure 13

3. LATAM Fintech Landscape, Redefined, KoreFusion, 2020

4. Fintech in Latin America, LatamFintech Hub, 2020

Covid-19 is accelerating demand for fintech solutions, as people transfer more of their spend to online services, and governments take steps to reduce reliance on cash to curb the spread of the disease. Argentine fintech Ualá reports that transfers into its accounts doubled when the pandemic hit the region in March 2020.

Mobile operators are waking up to the fintech opportunity. Operators have been instrumental in the growth of fintech services by providing the connectivity that underpins the distribution and use of many fintech solutions. However, operators also have an opportunity to leverage key network and distribution assets to capture more value in the fintech space. These include a large customer base and know-your-customer (KYC) attributes, extensive marketing and distribution channels, as well as APIs, carrier billing and other technical capabilities. There are also opportunities to invest directly in existing fintech companies or obtain a licence to establish a new one, as has occurred in Africa, Asia and Europe.

Brazilian operators explore growth opportunities in fintech

Brazilian operators have been at the centre of recent ventures in the fintech space. With increasing competition in traditional voice and messaging services, particularly from online players, the provision of financial services has become key to the revenue diversification strategies of operators. Recent examples include the following:

- October 2020 Telefónica Brazil launched a personal credit service, Vivo Money, allowing contract customers to access personal loans of up to BRL30,000 (\$5,400). This follows a pilot in 2019 in partnership with Banco Digio and lending fintech Ibi Digital.
- September 2020 TIM Brazil and digital bank C6 launched an instant money transfer service for the operator's customers. In March, TIM and C6 announced a partnership that would see the operator take a stake of up to 15% in the bank, conditional on performance.
- August 2020 Telefónica Brazil and MercadoPago, the fintech and payments arm of MercadoLibre, expanded their partnership to create a new way for Mercado Pago users to top up their mobile phones.
- July 2020 Oi and fintech Conta Zap announced a partnership to create a digital account for low-income customers.
- November 2019 Claro Brazil unveiled a partnership to offer personal credit to pre-approved customers through Banco Inbursa. Loans range from BRL1,500 to BRL10,000 (\$270 to \$1,800) and can be paid in up to 38 monthly instalments, charged directly to the Claro bill.

Mobile contributing to economic growth and social progress

3.1 Mobile contribution to economic growth

In 2019, mobile technologies and services generated 7% of GDP in Latin America - a contribution that amounted to \$421 billion of economic value added. The mobile ecosystem also supported around

1.4 million jobs (directly and indirectly) and made a substantial contribution to the funding of the public sector, with more than \$33 billion raised through taxes on the sector.

Source: GSMA Intelligence

Source: GSMA Intelligence

Figure 14



Mobile contributed \$421 billion to Latin America's economy in 2019

Figure 15

The direct economic contribution is driven primarily by mobile operators

\$ billion, % GDP 2019



Note: totals may not add up due to rounding

Mobile contributing to economic growth and social progress

Figure 16

The mobile ecosystem directly employs 620,000 people in Latin America, and supports another 810,000 jobs indirectly in other parts of the economy

Jobs (000s), 2019



Figure 17

Source: GSMA Intelligence

In 2019, the mobile ecosystem contributed around \$33 billion to the funding of the public sector through consumer and operator taxes

\$ billion, 2019



Note: totals may not add up due to rounding

Mobile contributing to economic growth and social progress

3.2 Mobile bringing more people online

The Covid-19 pandemic has cast a spotlight on connectivity and its role in sustaining social and economic activity in today's increasingly digital society. Lockdown measures at the peak of the crisis resulted in many everyday activities moving online – a situation likely to continue to varying degrees for as long as the threat of the disease persists. This underscores the need for universal access to reliable, high-speed connectivity to ensure everyone is able to stay connected. It also emphasises the need for a range of relevant digital content and services that meet the socioeconomic, cultural and lifestyle needs of local users.

In Latin America, mobile technology continues to play a key role in bringing unconnected populations

Figure 18

online and providing a platform to create, distribute and consume life-enhancing digital services. At the end of 2019, 343 million people across the region were connected to the mobile internet – an increase of 15 million on 2018. However, around 285 million people remain offline and excluded from the digital economy in the region. Around 93% of the population is covered by a mobile broadband network, reflecting operators' investments over the last decade. However, around 38% of the population covered but not yet using mobile internet face barriers other than coverage – in particular, the high cost of internet devices and services relative to the earnings of consumers in the lowest income brackets.

Source: GSMA Intelligence

The challenges to connecting unconnected populations are multifaceted, with the most prominent being demand-side factors

Countries with the highest proportion of non-internet users in Latin America



Mobile internet subscribers Covered but do not use the internet Not covered

Mobile contributing to economic growth and social progress

Figure 19

According to the GSMA's Mobile Connectivity Index, infrastructure has improved significantly, reflecting operators' investment in 4G networks, but affordability remains low

GSMA Mobile Connectivity Index scores



As digital technologies have become central to everyday life, governments and mobile industry players across the region are united on the objective of closing the digital divide. Recent examples of initiatives include the following:

- In Colombia, the government eliminated VAT (19%) on prepaid and contract mobile service plans (voice and data) up to COP71.2 (\$17) for a period of four months, to improve the affordability of mobile, particularly for those in lower income groups.
- In Argentina, the National Communications Authority (ENACOM), Argentine Satellite Solutions Company and service providers announced an agreement to ensure connectivity during the lockdown period. The agreement allowed operators to divert data traffic to each other's networks to manage the increased network traffic.
- In Peru, Telefónica announced that more than 135,000 people living in rural areas of the Puno region had been connected to 4G broadband through 'Internet for All' (IPT) – a company created in partnership with Facebook, IDB Invest and CAF Development Bank to close the digital divide in the country. IPT aims to bring 4G connectivity to more than 30,000 communities by 2021.

- In Panama, the public service regulator Autoridad Nacional de los Servicios Públicos (ASEP), authorised temporary use of additional spectrum (initially for 90 days, later extended) for mobile to cope with the increase in demand and changes in traffic patterns. However, the high price of spectrum remains a challenge, and there is a need to find a long-term solution that keeps spectrum assigned for the benefit of consumers.
- In Mexico, the government designated communications as an essential service during lockdown. As a result, the Federal Institute of Telecommunications (IFT) issued a request to municipal and state authorities to provide concessions to operators to enable them to carry out necessary installation and maintenance on telecoms networks, as well as authorise the safe transit of staff within their jurisdictions.

Beyond short-term measures during the pandemic, there is a need for governments, the mobile industry and other stakeholders to work together on sustainable solutions. These include long-term spectrum frameworks and fiscal policies that support the timely and efficient deployment of mobile broadband networks and improve the affordability of mobile devices and services for end users.

Mobile contributing to economic growth and social progress

3.3 The mobile industry's response to Covid-19

Latin America has been hit hard by the Covid-19 pandemic. There were more than 10 million reported cases as of the end of October 2020, and the IMF expects the region's economy to shrink by 9.4% in 2020, leaving many people vulnerable to both a health crisis and the consequent economic fallout. The mobile industry has largely risen to the challenge of keeping people connected, through resilient network infrastructure. Mobile operators have gone further to provide support for vulnerable individuals and communities. This includes providing discounts on mobile services, free access to health and online learning platforms, medical equipment supplies for health workers, and access to additional entertainment content during lockdown.

Figure 20

Source: Company reports, GSMA Intelligence

Selected operator response measures to the Covid-19 pandemic in Latin Americ	d operator response measures to the Covid-19 pandemic in Latin Amer	rica
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Market	Initiatives
Multiple markets	• Around 12.6 million people, including more than 2.6 million children, benefited from a partnership between Millicom (Tigo) and Unicef to ensure learning continued for children affected by lockdowns in nine Latin American countries (Bolivia, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama and Paraguay). Tigo provided access to government education platforms free of charge, allowing national educational authorities to continue implementing online education programmes. SMS has also been used to disseminate messaging on health and protection measures.
Argentina	 Telefónica, Claro and Personal partnered with the Ministry of Education and the National Commnications Agency (ENACOM) to provide free access to educational platforms and virtual classrooms at around 57 national universities. Telefónica donated ARS10 million (\$130,000) to a public-private campaign, #SeamosUno, to purchase and distribute food and medical supplies.
Bolivia	• Entel offered discounted tariffs for various services.
Brazil	 Telefónica donated BRL16.3 million (\$2.9 million) for health equipment and food for children in vulnerable situations. Telefónica also partnered with Santander Brazil to import 200 respirators from China to support the health response, and zero-rated access to collaboration platforms for corporate customers. Claro increased data consumption limits and opened its public Wi-Fi networks to everyone, including non-customers.

Mobile contributing to economic growth and social progress

Market	Initiatives
Chile	 Claro, Entel, GTD, Movistar and VTR signed up to the Transport and Telecommunications Ministry's Solidarity Connectivity Plan, which allows users who cannot afford to pay their telecoms bills to temporarily suspend their regular service charges and activate a free 60-day connectivity bundle to browse the web and access emails. The plan was expected to benefit 3 million households in Chile in the low-income category. Mobile operators, under the auspices of the Mobile Telephone Association (ATELMO), partnered with the Ministry of Transport and Telecommunications (MTT) and Ministry of Education (MINEDUC) to provide free access to online learning content for more than 3 million students. Telefónica provided additional data allowances to support SMEs and remote working, as well as discounts for over 65 year-olds and those who had lost their jobs.
Colombia	 Telefónica partnered with 50 universities to guarantee virtual education to 20,000 students through mobile connectivity, and launched unlimited data plans to help people stay connected. Claro offered contract customers additional data at no extra cost to help people stay connected.
Costa Rica	• Telefónica offered customers free access to music streaming apps to provide mental support during lockdown, and zero-rated access to video learning and collaboration tools.
Dominican Republic	• Claro partnered with the Ministry of Higher Education, Science and Technology (MESCYT), the Dominican Association of Universities (ADOU) and the Dominican Association of University Rectors (ADRU) to offer discounted internet plans to more than 600,000 students and 30,000 teachers from 51 universities.
Ecuador	• Telefónica facilitated remote psychological care for the elderly in partnership with the Municipality of Quito and Microsoft. It also donated masks and other protective equipment to health personnel.
Mexico	 Telefónica Foundation, through the #SumaFuerzas programme, donated MXN11 million (\$500,000) for the purchase of personal protection supplies for hospitals, and offered free mobile service to health professionals for three months. AT&T allocated around MXN60 million (\$2.9 million) to support specific health, food, education and other social causes for vulnerable people. The operator also offered additional mobile services free of charge to customers.

Mobile contributing to economic growth and social progress

Market	Initiatives
Panama	• All four mobile operators jointly announced a Solidarity Mobile Plan – a free, basic package for those unable to afford their current tariff. The plan provided 200 SMS and 100 voice minutes (both within the same network), as well as free access to the Panama Solidarity Portal and the websites of the Ministries of Health, Education and Public Security.
Paraguay	• Mobile operators provided free access to the websites of the Ministry of Health and the World Health Organization, and delivered free SMS with content from the government.
Peru	 Mobile operators partnered with Facebook to develop an app allowing people to access websites using a daily allocation of free mobile data, for enhanced access to health information during the pandemic. Telefónica partnered with the Ministry of Education (MINEDU) to provide educational content to students through the Movistar Play video streaming platform.
Uruguay	 Antel partnered with the Bank of the Eastern Republic of Uruguay (BROU) to develop a mobile app to facilitate the delivery of emergency food baskets and other supplies from the Ministry of Social Development. Telefónica Foundation donated \$400,000 for the purchase of medical equipment and provided free access to online learning platforms.

Mobile contributing to economic growth and social progress

Future-proofing policy and regulation



In 2020, digital technologies became even more integral to the way people live and interact, in the wake of the Covid-19 pandemic. Today, the role of mobile networks as the foundation for a modern, connected and constantly evolving society has never been more important.

Following sustained investment by mobile operators, mobile networks in Latin America have largely remained resilient and coped with unprecedented demand for connectivity during the pandemic. Mobile networks have enabled digital financial services for the unbanked as governments have taken steps to reduce reliance on cash. Networks have also supported remote working and learning, and enabled businesses to sustain their activities online.

The mobile industry plays a key role in the economic development of Latin America. The case for economic recovery through digitisation is evidenced by its impact on gross domestic product (GDP). A 10% increase in mobile internet penetration has the potential to increase GDP by 1.2%, while a 10% increase in the digitisation of a country can result in a GDP uplift of 1.9%.⁵ The digital transformation of public and social services, including education and health, can further promote the adoption of mobile connectivity by citizens, boost productivity and drive significant efficiencies across the economy.





While the lockdown measures put in place to tackle the spread of the pandemic have highlighted the importance of fast, reliable access to connectivity, they have also exposed the inflexible frameworks behind legacy public policies and regulation. These impede the efficient expansion of mobile connectivity and the benefits it can bring to society.

To address the challenges highlighted by the pandemic, there is a need for continued collaboration between policymakers, regulatory authorities and mobile operators to build sustainable network infrastructure.

During the pandemic, some governments in Latin America have adopted temporary measures to address the needs of citizens and meet the rapid growth in traffic. For example, in Panama, public service regulator Autoridad Nacional de los Servicios Públicos (ASEP) authorised temporary use of additional spectrum (initially for 90 days, later extended) for mobile services, to cope with the increase in demand and change in traffic patterns. However, the high price of spectrum remains a challenge. A long-term solution needs to be found that keeps spectrum assigned for the benefit of consumers.

Other recent policies to support the sustainability of the industry include the following:

- In Colombia, certain mobile plans were made exempt from VAT to ease the tax burden on users and encourage use of telecoms services. In addition, the periodic fees paid by service providers to the Single Fund for Information and Communication Technologies were reduced from 2.2% to 1.9% of gross income. The tax exemption and reduction of charges were aimed at boosting digital inclusion and the sustainability of networks.
- In Brazil, the government published a decree regulating the country's antenna law to stimulate network deployment. The publication of the document has been a request from the industry since approval in 2015. As of May 2020, around 4,000 installation requests had not been attended to, holding back around BRL2 billion (\$371.6 million) of infrastructure investment.⁶

<u>The economic contribution of broadband, digitisation and ICT regulation</u>, ITU, 2019
 "What will change for telcos with Brazil's antenna decree?", bnamericas, September 2020

6. What will change for telcos with Brazil's antenna decree? , bhamericas, september 2020

Future-proofing policy and regulation

4.1 Policy recommendations for the digital transformation of Latin America

Policies and regulatory frameworks in Latin American countries frequently change – often in response to political factors or to keep pace with advances in technology. Policymakers should seek

Figure 22

Policy recommendations for Latin America

Evolve regulatory frameworks and national policies

Update policy frameworks to make them consistent with connectivity goals.



for new services.

Foster dialogue between different government agencies

Source: GSMA

Nurture dialogue between Congress, NRAs, policymakers and the private sector.

to create future-proof frameworks that allow for

the simplification of regulation and pave the way



Enable and encourage investment

Build fiscal policy that fosters investment.



Close the digital inclusion gap

Foster competition and implement enabling spectrum policies.



Evolve to smarter regulation that encourages investment, removes barriers and creates new growth opportunities

The first step in providing high-quality services to more people is to carry out an analysis of existing policies and frameworks. There is a need to look at efficiencies and eliminate regulation and historical policy frameworks that hinder the development of the sector – one which has the potential to alter the balance of a country's GDP and involve more people in the economy through the digital ecosystem.

Source: GSMA

Figure 23

Policy actions to encourage investment and modernise regulation⁷



Implement a broadband policy with clear goals

Support infrastructure deployment

Focus on spectrum allocation and use, not auction revenues



Favour ex-post approaches over ex-ante, prescriptive regulation

Apply regulations consistently across the digital ecosystem

Foster dialogue between Congress, regulatory authorities, policymakers and the private sector

The relationship between the Executive Branch, the Legislature and the private sector is fundamental to creating and applying policies consistent with digital agendas that promote digital inclusion, encourage investment and look to the long term. A full understanding of the digital economy and connectivity is essential to formulate forwardlooking public policies that can enhance connectivity and deliver the socioeconomic benefits of digitisation. Policies that are carried out without due consultation with sector authorities/experts, or recognition of advances in technology, can negatively impact the sustainability of the industry and further exclude unconnected citizens from the benefits of a digital society.

Build fiscal policy consistent with the boost in investment and GDP that digitisation can generate

Increasing GDP and productivity across the region over the medium to long term will largely depend on fiscal policies that encourage investment and job creation. Mobile internet improves communication and access to information, allows people to access more products and services, improves the productivity of economies and increases the efficiency of markets.⁸ However, sector-specific taxes on the mobile sector have the potential to reduce the affordability of services and devices, and discourage investment.

Plan long-term spectrum policies, focusing on digital inclusion, innovation and investment

Governments should avoid inflating prices (for example, through reserve prices or excessive annual fees) as they risk reducing investment in networks and increasing the cost of services. Spectrum policies should focus on expanding the capacity and coverage of current networks, but should also take a long-term perspective. Spectrum policies that maximise the welfare of citizens are essential.

A long-term spectrum roadmap is needed to protect and encourage investment. In particular, governments need to take into account the development of 5G and adopt public policy measures that leverage its potential. Governments and regulators need to take national spectrum policy measures to incentivise significant, long-term investment in 5G networks (e.g. long-term licences, clear renewal procedures and spectrum roadmaps).

Recommended spectrum policies to unlock benefits for citizens:

- Predictable and timely spectrum licensing should be adopted to encourage long-term network investment.
- There should be a presumption of licence renewal to encourage long-term network investment.
- Spectrum licences should be technology and service neutral.
- Licence durations should be at least 20 years to incentivise network investment.
- Competition can be supported by licensing as much spectrum as possible and limiting charges and other barriers to services, including set-asides.
- Spectrum harmonisation is needed at regional and global levels.
- Spectrum prices should be set conservatively and should consider the cost of obligations as a discount on the reserve prices or upfront fees.

8. <u>5G Spectrum Positions,</u> GSMA, 2020

Future-proofing policy and regulation

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4.2 Setting the stage for 5G

In Latin America, Brazil and Uruguay have launched 5G services, with 5G trials conducted in at least eight other markets. We expect the technology to spread to the rest of the region over the course of the next decade, but it is important that policymakers start planning now. Making sure the required spectrum resources are available under optimum conditions when the time is right to launch helps lower mobile broadband costs, increase coverage and boost connectivity.

The success of 5G services will depend on a significant amount of new harmonised mobile spectrum. Ensuring the timely availability of prime bands – including those requiring defragmentation – should be a priority. Regulators should aim to make available 80–100 MHz of contiguous spectrum per operator in prime 5G mid bands (e.g. 3.5 GHz) and around 1 GHz per operator in high bands (e.g. mmWave spectrum). Lower bands (e.g. 600 MHz) are also key to set the stage for 5G to reach more people, due to their greater coverage capabilities.

Mid-range frequencies are used as the basis for the first commercial 5G services all over the world. The initial focus on the 3.5 GHz range in particular produces the scale needed to bring down the cost of network equipment and mobile devices. Harmonisation has always played a key role in the success of mobile networks; 5G is no different. Latin America has expressed its plans for this band, while the GSMA expects more countries to follow and make 5G a reality throughout the region. The GSMA has released a report on the status of the band in the region and expects more countries to make 5G a reality.⁹ More spectrum beyond 80–100 MHz will be required as 5G demand increases. Reusing 4G bands and extending the 3.5 GHz range are important steps, but adding new bands is also important. Here, mobile operators agree that the 6 GHz band offers significant potential. It is already used for backhaul, and operators are making the case for its use in 5G networks. Part of the band is also up for discussion at WRC-23. Discussions regarding the band's future need to focus on maximising its value and balancing different uses.

Momentum behind mmWave spectrum is also growing. At WRC-19, countries supported a harmonised identification of 26, 40 and 66–71 GHz for ultra-high-speed and ultra-low-latency services. National governments around the world now have the opportunity to consider mobile assignments across the mmWave spectrum identified. In doing so, they can help deliver long-lasting socioeconomic benefits. The financial impact by 2034 is estimated to be \$20.8 billion or a 1.2% GDP increase in Latin America.¹⁰

Once assigned, mmWave 5G can enable innovative new services in areas such as manufacturing, transport, healthcare and education. While mid-band spectrum is the birthplace of 5G, mmWave spectrum can power its most groundbreaking services. The first commercial mmWave 5G networks are already capable of gigabit speeds.

^{10.} Study on Socio-Economic Benefits of 5G Services Provided in mmWave Bands, GSMA, 2018



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