



FTTH Panorama for Latin America 2024

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FTTH PANORAMA FOR LATIN AMERICA 2024

FIXED BROADBAND CONNECTIVITY ABOUT TO REACH 2/3 OF HOUSEHOLDS IN LATIN AMERICA AND THE CARIBBEAN (LAC) WITH FIBER-TO-THE-HOME (FTTH) PUSHING INCREASED ADOPTION AND TECHNOLOGY UPDATES

LAC achieved by 2023 67 million FTTH subscribers, representing a 37% of the region's households. The migration to FTTH has a 46.6 million homes immediate addressable market that might seek a technology update. It remains to be seen if FTTH will drive higher fixed broadband coverage above the current frontier of 63% of households. Comparatively, the LAC region is 18 percentage points below in FTTH penetration than the EU.



% fixed broadband subscribers' penetration (fixed broadband subscribers / households)

Source: SmC+ and NRA's information (up to Sep 2024)

HOMES PASSED ROSE BY 10% AS DEPLOYMENTS FOCUSED ON ALREADY **COVERED AREAS**

FTTH continued its commercial growth drive achieving 67 million FTTH subscribers and 126 million homes passed through 202 million sockets. FTTH growth expected to continue apace, reaching by 2028 287 million sockets, 157 million homes passed and 101 million subscribers.



HOMES PASSED TO GO FROM 67% IN 2023 TO 83% IN 2028

	2023	2028
SOCKETS Penetration	ð 107%	152 %
COVERAGE	67 %	83 %
PENETRATION	35%	53 %
TAKE UP RATE	sī 53%	64%

Source: SmC+ analysis



Fiber

FIXED DATA TRAFFIC IS PROJECTED TO TRIPLE OVER THE NEXT FIVE YEARS, INCREASING FROM 0.46 MILLION PETABYTES IN 2023 TO 1.32 BY 2028

According to ITU, fixed data traffic accounted for 84% of total traffic in 2023 in LAC. Most important growth drivers are video streaming (higher quality and live), increased digitalization, proliferation of data-intensive platforms, growth of internet of things, B2B cloud usage and Artificial Intellig ence (AI).



NETWORK OVERLAP IS EXPECTED TO GROW FROM 1.6 TO **1.8 AS DEPLOYMENTS INTENSIFY IN ALREADY COVERED CITIES**

Increasing network overlap in urban zones pushes players to increase competition, leverage QoS and review prices.



OPPORTUNITIES

DIGITAL LIFESTYLES AND STREAMING CULTURE **ARE DRIVING TRAFFIC CONSUMPTION**

Fiber

2

Broadband

Global Downstream volume: fixed	
Content category	Vol
On demand streaming	54%
Live streaming	14%
File delivery	13%
Browsing	3%
Game play	3%
Video call	2%
Messaging	0.6%
Voice call	0.5%
Other	10%

Source: Sandvine. The global Internet phenomena report. March 2024.

NEUTRAL NETWORKS ARE A VEHICLE FOR PROMOTING FTTH TECHNOLOGY TRANSITION PRIMARILY IN SUB-URBAN AREAS



IMPACT REDUCTION





ACCESS TO LOCAL VENDORS



FTTH DEPLOYMENT MOMENTUM IN LATAM EXPECTED TO CONTINUE OVER THE NEXT YEARS. KEY QUESTION GOING FORWARD IS IF DEPLOYMENT GROWTH WILL PLATEAU AND HOW MUCH COMPETITION WILL DRIVE NETWORK OVERLAP



Source: SmC+ analysis



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Introduction: An overview of fixed broadband connectivity in Latin America and the Caribbean

FTTH subscriptions keep growing, although at different speed between urban and rural areas

Fiber optics technology, particularly Fiber-To-The-Home (FTTH), has transformed broadband connectivity by providing unparalleled Internet speeds and reliability. Utilizing optical fibers instead of traditional copper wires, FTTH enables faster and more stable connections essential for today's digital demands. This technology supports high-bandwidth applications such as streaming, on-line gaming, and remote work, making it a critical infrastructure in an increasingly connected world. The evolution of FTTH has been marked by advancements in passive optical network (PON) standards, enhancing data transmission capabilities and paving the way for future innovations.

In Latin America and the Caribbean (LAC), the FTTH market is experiencing significant growth as countries strive to improve their digital infrastructure. Recent investments and government initiatives are driving the expansion of fiber optic networks across the region. As a result, many Latin American nations are witnessing a shift from traditional broadband technologies to fiber optics. This transition not only enhances the quality of Internet service but also supports economic development by enabling better access to education, healthcare, and business opportunities.

By the end of 2023, Latin America & the Caribbean (LAC) had a fixed broadband penetration of 63%, with 113 million connected households after an annual increase of 2.5 million subscriptions. Although coming from 53% in 2018, unserved households still represent 37% in the region.

The LAC region has shown a higher fixed broadband penetration growth than the one of Europe or the USA. While in 2018 to 2022 the average yearly growth was 7.8% in LAC, it was 2.9% and 3.5% in Europe and the USA respectively. 2022 has also seen a higher growth in LAC, 4.2% vs. 2021, while in Europe and the USA it was 2.7% and 1.0% respectively. For example, in 2024, <u>Telmex recorded its first-ever higher growth in</u> <u>broadband subscribers</u> compared to fixed-line telephony in Mexico.

ILLUSTRATION 1.

Regional fixed broadband subscriptions benchmarks



Source: SmC+ analysis based on World Bank data latest data available by June 2024)

FTTH was the fastest growing technology among all fixed broadband technologies in LAC, growing from 13 million to 67 million households between 2018 and 2023. By the end of this period, the technology was close to capturing 60% of the fixed broadband market.

However, the good performance of fiber was not enough to reduce the gap between rural and urban areas in LAC. By the end of 2023, FTTH services reached a coverage of more than 78% in urban areas, while it barely reached 16% in rural areas.

Source: SmC+ analysis

FIXED BROADBAND GAP IN LATIN

89

68

19

92

69

13

HOUSEHOLDS WITHOUT

FIXED BROADBAND SUBSCRIPTION

NON-FTTH

FTTH

SUBSCRIBERS

SUBSCRIBERS

AMERICA (MILLIONS OF HOUSEHOLDS)

68

47

67

>

>

59%

41%

69

54

56

72

60

46

80

66

31

2018 2019 2020 2021 2022 2023

37%

63%

This gap has widened this year. In cities, fiber growth was 7 percentage points compared to 2022, while in rural areas, growth was only 3 points.

Fixed broadband about to reach two-thirds of households in LAC

In LAC, 63% of households have a fixed broadband subscription, totaling 113 million households. Among these, 67 million subscribe to FTTH services, while 47 million still use older technologies like HFC or xDSL. Notably, there are still 67 million households without any broadband service. This means that out of 181 million households in LAC, 114 million could potentially switch to FTTH. Governments and service providers should assess the best strategies for converting these households. There are significant differences between countries in the region. For instance, Uruguay and Barbados have higher broadband and FTTH penetration rates than those in the European Union. In contrast, Bolivia and Colombia have FTTH penetration rates below 20%. Argentina, Colombia, Panama, and Puerto Rico stand out as they have relatively high overall broadband penetration but low FTTH adoption, with a gap of 40% or more between their broadband and FTTH rates.





ILLUSTRATION 2. LAC fixed broadband subscriptions by country

Source: NRAs' information and SmC+ analysis

The European Union has a high broadband penetration rate of 87%, with only 25 million out of 198 million households lacking broadband service. In comparison, LAC has a broadband penetration rate of 63%, resulting in a gap of 24 percentage points between the two regions. When looking specifically at FTTH penetration, this gap narrows to 18 percentage points.

The smaller gap between LAC and the European Union in FTTH penetration compared to overall broadband technologies can be interpreted as a sign of increasing investment and interest in fiber infrastructure in LAC. While traditional broadband technologies like DSL and HFC have dominated for years, the growing recognition of fiber's advantages has led to a shift towards FTTH solutions, moving faster than how legacy technologies have done in the past. The smaller gap suggests that stakeholders are prioritizing fiber technology as a key driver for future growth, aiming to close the digital divide and improve Internet quality for millions of users.

LAC still shows growth potential. There are some 67.5 million unserved households that could potentially be added to fixed broadband services, which will go straight to a FTTx service. Additionally, the migration to FTTH has a 46.6 million homes immediate addressable market that might seek a technology update.

Furthermore, there are markets in the region where FTTH is not yet the dominant technology even with high fixed broadband penetration, such as Argentina, Colombia, Costa Rica, Panama, Peru and Puerto Rico. This condition, coupled with an increase in user demand for high speeds, represents an opportunity for the development of fiber.



Six key trends to watch in FTTH development

Market figures and our qualitative research reveal six key points that shape the FTTH market in Latin America.

ILLUSTRATION 3.

Trends shaping the LAC FTTH market dynamics



Source: SmC+ analysis

First, as outlined in the previous section, coverage and penetration are advancing rapidly in LAC. This progress is resulting in increasingly competitive markets, often characterized by overlapping networks in major cities. A significant trend is the shift toward full fiber solutions.

The FTTH sector is experiencing an initial wave of market consolidation that is expected to continue in the coming years, particularly in countries like Brazil, which has approximately 20,000 ISPs.

Additionally, the rise of neutral networks is a crucial factor to consider within the competitive landscape, representing a transformative shift in the business

model. This network configuration becomes increasingly important as coverage expands and new deployments are required in less populated areas. Entel, for instance, agreed to <u>expand its growth</u> <u>alongside a neutral network in Chile</u>, and achieved 30% growth in 2023 to total 309,000 subscriptions for the year.

Finally, alongside the growing demand for data, new data centers are anticipated to be established in LAC. Meanwhile, 5G technology is still struggling with an asyet unclear business model and is lagging behind other advancements.

Fixed traffic has grown at 28% per year and is expected to do it at 23% annually in the next five years

Broadband users in Latin America are increasingly straining telecommunications networks due to a surging demand for traffic. This trend, driven by both entertainment services and productivity applications, compels operators to persist in expanding and enhancing their networks while prioritizing efficiency.



ILLUSTRATION 4.

Latin America fixed broadband data traffic forecast¹





Global Downstream volume: fixed

Content category	% Vol	
On-demand streaming	54%	
Live streaming	14%	
File delivery	13%	
Browsing	3%	
Game play	3%	
Video call	2%	
Messaging	0.6%	
Voice call	0.5%	
Other	10%	
UPSTREAM REPRESENTS ONLY		

6% GLOBALLY

Source: SmC+ based on Analysys Mason²; Sandvine. The global Internet phenomena report. March 2024.

Fixed data traffic is experiencing significant growth due to several interconnected factors, such as an increase in digitalization across various sectors -such as healthcare. education, and entertainment- and the 'working-fromhome' trend. This has led to a surge in demand for higher speeds, lower latencies and reliable internet connectivity. Together with this digitalization trend, the proliferation of data-intensive platforms and applications that require substantial bandwidth, including video streaming, online gaming, and virtual/augmented reality, has contributed to higher data traffic. Users increasingly expect high-quality experiences, necessitating robust fixed broadband infrastructure. The expansion of the Internet of Things (IoT) drives fixed data traffic as these devices continuously transmit data. This includes smart home technologies, connected appliances, and industrial IoT applications that require constant internet access, and these are mainly wired devices.

The effect of Artificial Intelligence (AI) on access traffic is still uncertain. While it may not drastically alter the bandwidth needs of access networks, AI has the potential to enhance user engagement by creating more lifelike interactive experiences. Its primary impact is expected to be on traffic generated within and between data centers. The fusion of Generative AI with gaming and the metaverse could drive increased traffic through heightened user interaction. By personalizing content and enriching experiences in virtual reality (VR) and augmented reality (AR), GenAI may encourage users to spend more time on these platforms. Regarding cloud migration and in B2B usage, Analysys Mason estimates that when businesses move their data and operations to the cloud, there is a significant, one-time increase in their data traffic, estimated to be around 50%. However, even with this move to the cloud, B2B's share of total broadband traffic (excluding traffic generated by dedicated connections) is unlikely to increase much more above 8%.

In summary, these factors indicate that fixed data traffic is likely to continue its upward trajectory as technology advances and consumer habits evolve.

This demand for higher speeds has already been driving the migration towards FTTP/H services from legacy technologies, such as cable and xDSL. DSL technologies have been declining since the 2010s, dropping to just under 20% by 2023 and projected to fall to 11% by the end of 2030 as most DSL lines are upgraded to fiber. Meanwhile, after a decade of growth until 2020, cable's share is expected to decrease from 28% to 16%, partly due to some operators shifting from HFC to fiber infrastructure.

¹ There is no universally accepted standard for measuring data traffic. Variations in internet data traffic measurements occur due to the use of different methodologies, sources, and analytical scopes.

² Analysys Mason. Future fixed traffic demands depend less on technological leaps and more on user engagement. July 2024.

ILLUSTRATION 5.

Global fixed broadband connections by access technology





Source: GSMA Intelligence. Fixed broadband and 5G FWA: state of play and outlook, Q2 2024. Note: data for 36 of the world's largest fixed broadband markets, representing 90% of global fixed broadband connections. Simple average of all countries.

Looking deeper into growth by technology, FTTx shows sustained growth since 2010, which is projected to reach 60% of total fixed broadband access in the near future. In contrast, technologies such as cable modem and xDSL mostly show a downward trend, according to projections from GSMA Intelligence. Fixed Wireless Access (FWA) remains a niche technology, but it is anticipated to grow in the coming years, almost achieving a 10% market share by 2030. In Brazil, for instance, FWA currently boasts nearly 600,000 connections, representing 1.3% of the country's total broadband connections. In terms of satellite broadband, as a reference, as of November 2024, <u>Starlink has</u> <u>launched its services in 28 countries and territories</u> across Latin America, with plans for further expansion in 2025.

Although FTTP/B combined with Wi-Fi offers high speeds, it may not adequately satisfy the rising demand for faster and more reliable fixed broadband connectivity throughout every area of the home. As a result, an increasing number of operators have introduced fibre-tothe-room (FTTR) services, creating an upsell opportunity, particularly in countries with already high fibre penetration. For instance, in Brazil, the home broadband service provider <u>Oi was an early mover and launched in</u> <u>2022 an FTTR service called Oi Fibra X</u>.



FTTH reached 126 million homes passed in 2023

In 2023 FTTH subscriptions and sockets increased both by 18% and homes passed rose by 10% as deployments focused on already covered areas

This study on the FTTH situation in LAC³ was developed based on a survey of the situation in 18 countries (LATAM-18). For methodological reasons, the report will use the terms LAC and LATAM-18 interchangeably as synonyms.

In 2023, the markets analyzed experienced sustained growth, reaching a total of 67 million subscribers. This growth was linked to previous years' deployments and to the expansion of sockets (or single ports), which surged to 202 million. The number of homes passed also saw an increase during the year, albeit at a slower pace, rising from 115 million to 126 million households.

In 2023, FTTH subscribers experienced an 18% growth year-over-year and a remarkable 5.2x increase compared to 2018. As a reference,

<u>Telefónica Hispam grew its broadband subscriber base</u> by 7.4% between 2022 and 2023, reaching 5.5 million subscribers across its eight operational markets in Latin America.

This year saw significant progress in subscriber growth relative to homes passed, leveraging synergies from prior deployments and driving an increase in the takeup rate.

Examining the evolution of socket deployment, it is evident that operators have concentrated their strategies on expanding network infrastructure, particularly in urban areas where they have established business models that yield better returns on investment. This focus is clearly illustrated by the fact that while the number of homes passed has increased by 11 million,

3 This study is based on data and information gathered from local regulators in each country (when available), information from public reports of operators and on primary research obtained by interviews and data requests with operators throughout the region.

the number of sockets has grown by 32 million.

This is particularly evident in <u>Peru, where 50% of fiber</u> connections are concentrated in the capital, Lima. This

situation remains despite a remarkable growth rate of 64.5% from 2022 to 2023, averaging an annual growth rate of 86.0% over the past five years.



ILLUSTRATION 6.

FTTH LATAM-18 Panorama 2024 (in millions)

This situation resulted in a fiber network overlap (number of sockets over the total number of homes served by FTTH networks) that reached a regional average of 1.6, meaning that each home served by fiber services is served by, on average, 1.6 operators. While in rural or remote areas there is typically no overlap among operators, in certain urban neighborhoods, it is common to find up to five operators competing for the same customers. This overlap of networks is more noticeable in cases of clients that present a higher ROI, with urban areas with a higher socioeconomic level having the largest number of operators competing with their networks.

Fiber service coverage in LAC has reached 67%, continuing the trend observed over the past years. Yearly growth is declining as the most attractive areas have

already been addressed. Meanwhile, the FTTH takeup rate -calculated as subscribers relative to homes passed- has risen to 53%, an increase of 3 percentage points compared to 2022. This indicates that there is still significant potential to attract new subscribers and optimize the existing networks.

In LATAM-18, Brazil is the absolute leader when it comes to homes passed, with 58 million. The South American giant showed a CAGR (2018-2023) of 36%, and accounted for 46% of homes passed in the region. Fiber drove industry growth in Brazil, <u>with Telefónica</u> <u>expanding its service footprint to 443 cities in 2023</u>, a 34-city increase from the previous year. It should be noted that 85% of homes passed in LAC are concentrated in five countries: Brazil, Mexico, Argentina, Colombia and Chile.

Source: SmC+ based on authorities' and operators' public Information and on primary research Note: from 2013 to 2018, the information in previous studies was collected by Q3, the rest of the years by Q4.

ILLUSTRATION 7.

FTTH homes passed in LATAM-18 (in millions)



Source: SmC+ based on authorities' and operators' public Information and on primary research

During 2023, the five largest LAC markets added 8 million households to FTTH. These are joined by around 4 million from the rest of the region's markets, which together showed a CAGR of 31% in the period 2018-2025.

In terms of subscribers, Brazil stands out as the clear leader with a total of 36 million users, making it the country with the highest number of new subscribers in 2023, adding nearly 5 million. Over the past five years, this market has achieved an impressive compound annual growth rate (CAGR) of 47%, one of the highest in the LATAM-18 region. Other significant markets include Mexico, which saw an increase of 2.1 million subscribers in 2023; Argentina, with 916,000 new users; Peru, adding 810,000; and Colombia, which gained 480,000 subscribers.

In percentage terms, the picture is somewhat different. Caribbean markets performed better, with the Bahamas standing out with 159% growth. Then Panama with 95% and Peru (which stood out in both total additions and percentage growth), with 65%; Puerto Rico with 55% and Jamaica with 51%.

ILLUSTRATION 8.

FTTH subscribers in LATAM-18 (in millions)



Source: SmC+ based on authorities' and operators' public Information and on primary research

LAC growth rates continue to show the migration in fixed broadband access as subscribers choose more

robust and faster access technologies such as FTTH over xDSL and Cable.

In 2023 take-up has surpassed 50% for the first time

By 2023, 53% of subscribers with fiber networks in their homes had transitioned to this technology. This statistic highlights the need for ISPs to enhance their commercial efforts to encourage a larger share of households to migrate to FTTH services. However, it is important to note that due

to network overlap, this figure has an upper limit and will never reach 100%. To calculate this adoption rate, the number of FTTH subscribers out of the total number of homes served with the same technology is considered.

ILLUSTRATION 9.

Take-up and network overlap rates in LAC (December 2023)



Source: SmC+ based on authorities' and operators' public Information and on primary research

The LATAM-18 adoption rate is approximately one year behind the one of Europe (EU27+UK). In LAC, five markets have an above-average rate: Barbados (94%), Uruguay (89%), Brazil (63%), Trinidad and Tobago (55%) and Chile (54%). Two other markets, Mexico (52%) and Costa Rica (51%), exceed 50% adoption.

It should be noted that some countries that lead in terms of subscribers and homes passed, such as Argentina or Colombia, do not, however, have a high take-up rate: 36% and 28% respectively. The strong position of established cable operators is the main challenge to achieve a higher take-up.

On the other hand, the overlap index (sockets deployed over past homes) of LATAM-18 is around 1.60, due to a densification of fiber networks in urban areas. Barbados (2.0), Brazil (1.9), Chile (1.8), Mexico (1.7) and Trinidad and Tobago (1.7) are the countries that are above the regional average.



Fifteen of the surveyed countries have more than 50% of households covered by FTTH services

LAC has shown an intensification in the deployment of fiber optic networks over the last few years, reaching an average coverage of 67%. There have been great efforts in many markets to increase fiber deployment; by 2023, only the Dominican Republic (with 32%) was below the 40% penetration line.

Despite this, there are several countries below 60% penetration, such as Peru (58%), Costa Rica

(52%), Colombia (46%) and Bolivia (44%). While the geography of these latter countries presents a challenge for operators, there are opportunities in them for greater investment in fiber infrastructure and the acquisition of new customers. Anyhow, these countries are actively working to expand their fiber networks. For example, <u>Entel in Bolivia has increased its fiber access</u> by over 7,300 km in the past three years.

ILLUSTRATION 10.





Source: SmC+ based on authorities' and operators' public Information and on primary research

In terms of fiber penetration, more than a third of households in the region have access to the service. By the end of 2023, Barbados (88%) and Uruguay (82%) were the leading countries in this area, while others such as Trinidad and Tobago (53%), Brazil (49%), Bahamas (38%) and Chile (36%) were above the regional average. However, LAC continues to show growth opportunities in large markets such as Mexico (33%), Argentina (22%), Peru (20%) and Colombia (13%). In the latter, operators have made significant investments in both coverage and penetration. For instance, in Bogotá, <u>ETB</u> increased its broadband deployment to cover 23% of households in 2023, achieving an overall coverage of 80%. Meanwhile, <u>Telefónica reported closing 2023 with</u> 1.2 million fiber subscribers in Colombia, averaging 1,005 new clients daily.



Homes passed to reach 139 million in 2024 and to grow by 4.5% annually until 2028

We expect 85 million new sockets to be deployed by 2028

The LAC region is expected to grow 1.2 times in FTTH households passed by 2028. Although this performance will be considerably lower than the one of the previous five years -resulting in a plateau in the graph- it must not be understood as a hindrance to deployments.

Sockets will grow x1.4 to 2028 (going from 202 to 287 million in the next five years). For example, <u>by</u> 2024 On-Net in Colombia aims to expand its fiber network by 700,000 households, bringing the total to 4.3 million. <u>America Movil is set to invest in Brazil</u> 7.7 billion USD over the next 5 years in fiber and 5G infrastructure deployments, while also <u>committing 300</u> million USD in Ecuador to extend fiber coverage to 24

<u>new cities</u> in 2024. Additionally, <u>América Móvil has also</u> <u>announced 200 million USD investment in Colombia</u> for fiber deployment to support new technologies such as artificial intelligence. In Mexico, the second-largest market in the region for FTTH homes passed, fiber deployment continues to grow. <u>Izzi, Megacable, Telmex,</u> <u>and Totalplay made significant investments during</u> <u>the first half of 2024, totaling \$1.2 billion in just one</u> <u>semester</u> - the largest in the past five years.

This phenomenon will be due to a greater densification and higher network overlap of fiber within the most profitable areas.



ILLUSTRATION 11. FTTH forecast (2024-2028)



The number of subscribers is expected to grow annually by 8.6% over the period 2024-2028, reaching 101 million (1.5 times the current number). This growth rate will be higher than that of previous sockets and homes passed. Service densification will need to be accompanied by marketing differentiation by operators, who will seek to leverage service quality, user experience and price to reduce churn rates.

FTTH coverage to reach 83% of households by 2028

Fiber optic coverage expansion will continue through 2028. But as outlined in this study, the industry's focus will be mostly on those areas where coverage already

exists, increasing FTTH densification and increasing competition.

ILLUSTRATION 12.

Coverage, penetration and take-up forecast (2024-2028)



Source: SmC+ analysis

FTTH coverage in LATAM-18 will continue to grow over the next few years, increasing by 16 percentage points when it goes from the current 67% to 83% in 2028.

It is expected that in the next years LAC will reach the expected coverage limit beyond which private operators may no longer find new developments economically viable. To progress beyond this limit, it will be essential for governments to implement public-private initiatives and develop subsidies aimed at stimulating both supply and demand.

Regarding the penetration of FTTH sockets, a growth from 107% in 2023 to 152% by 2028 is expected. The aforementioned service densification will be the main cause of socket overlapping, which will take place in the most commercially attractive areas.

Fiber penetration is expected to rise from 35% in 2023

to 53% in 2028. This increase will primarily result from more households migrating from legacy technologies (such as cable or xDSL) to FTTH, and as new customers are acquired in greenfield real estate developments. This trend, along with network densification, will enhance service quality and offerings for end users. In this scenario, the take-up rate is expected to increase from 53% in 2023 to 64% in 2028.

FTTH is expected to grow from 67 million subscribers in 2023 to 101 million in 2028, also increasing its share of the fixed broadband market to 73% at the end of the period analyzed.

In contrast, non-FTTH fixed broadband subscribers will decline by around 10 million between 20243 and 2028, dropping from a market share of 41% to 27% over that period.



ILLUSTRATION 13.

Forecast of fixed broadband subscribers by technology

High service demand is driving price and QoS⁴ competition in already covered areas

The fiber optic overlap phenomenon began to gain attention in Latin America around 2016, largely due to the increasing demand for higher data volumes and speed driven by digital lifestyles. As consumers seek faster Internet for activities like streaming, gaming, and remote work, telecom operators have focused their infrastructure deployment strategies on higher-income urban areas. This has resulted in situations where multiple operators sometimes three or more—are providing service to the same households. As of 2023, the network overlap index in the region stands at 1.6. We have estimated that for 2028 this index will rise to an average of 1.8 across the region. This trend reflects a growing competitive landscape in urban areas, where operators are vying for market share. However, it also raises questions about sustainability and profitability, as overlapping networks may lead to increased operational costs without a corresponding rise in customer demand. As the market evolves, stakeholders will need to evaluate the longterm implications of these network overlaps for both consumers and service providers.

4 QoS: quality of service.



ILLUSTRATION 14.

LATAM-18: average network overlap



Source: SmC+ analysis

The network overlap factor will vary depending on the demographic characteristics of each area. In rural areas, there are no significant network overlaps. Considering distances, population density and service demand, it is not economically feasible to have more than one network in the same home. However, when looking at urban areas, this factor varies according to population and housing density, as well as the service competition that exists in each city. To reflect this situation, an exercise was carried out to estimate the difference in the overlap factor according to the density of households in some countries. Households were divided into urban tier 1, urban tier 2 and rural categories, where the first has a higher housing density and economic attractiveness. With an average country network overlap below 2, Brazil, Mexico and Chile show an overlap of 2.9, 2.7 and 2.4 respectively in urban tier 1 areas.

ILLUSTRATION 15.

Network overlap according to housing typification (2023)



Source: SmC+ analysis

In any case, operators will continue to deploy fiber in LAC, which will increase network overlap. As a result, players will need to offer differentiation in their services

to face competition and retain their subscriber base while seeking to attract new customers, mainly from other players and legacy technologies.

User-related issues among the most frequent complaints from customers

Service quality is crucial for operators, as it directly impacts customer retention, minimizes the burden on customer support, and helps prevent penalties from regulatory authorities.

Issues related to service quality are among the most frequent complaints from customers, often arising from equipment mishandling, connection outages, or improper placement of ONTs (Optical Network Terminals) and/or signal extenders. Additionally, complaints regarding customer service and billing are also prevalent.



Operators must adopt best practices to ensure proper initial service installation and provide personalized follow-up. Approximately 90% of complaints and grievances are resolved remotely, while the remaining cases necessitate scheduling a technical visit.

For instance, Costa Rica stands out as the only country in the region that has recently published a detailed breakdown of complaints related to telecommunications operators. In this context, issues related to disconnections, service continuity, quality, and installation collectively account for nearly two-thirds of all complaints.



Source: Sutel complaints report 2023. *Costa Rica stands out as the only country in the region that has recently published a specific breakdown of complaints related to telecommunications operators.



There is a growing demand for higher-speed broadband services in LAC. This demand is prompting increased competition among telecom operators as they strive to enhance their service offerings. To attract more customers, these companies are investing in better technology and infrastructure, resulting in faster Internet speeds and improved reliability. As competition intensifies, many operators are also working to lower prices. Consumers are benefiting from this competitive environment, as they have access to more options and better services at lower prices. Overall, the push for higher-speed broadband is driving innovation and improving connectivity for households and businesses throughout LAC.

ILLUSTRATION 16.

Broadband plans speed and price



Source: SmC+ analysis based on cable.co.uk

Note: mean download speed of all speed test results from unique IPs in each country. Price is the median average of all qualifying fixed-line broadband packages sampled in each country.

High fiber adoption will support 5G development

Mobile 5G services in LAC experienced significant growth in 2023, primarily due to the allocation of spectrum in the 3.5 GHz band, which has become the most widely adopted band in the region. These deployments will necessitate robust fiber infrastructure to connect mobile network antennas and meet minimum quality standards. Consequently, Fiber to the Antenna (FTTA) plays a crucial role in the development of 5G, especially as service maturity and demand increase, requiring substantial data transmission volumes and widespread deployment of small cells.

However, the extensive rollout of 5G will take time in the region due to several challenges, including delays in granting spectrum concessions, among other factors, which have led to reduced growth forecasts for this technology⁵.

By the end of 2023, the number of 5G subscribers in

Latin America remained marginal in the total number of lines in the region, with a share of 5%⁶. Estimates predict growth of up to 55% of 5G lines by 2030, reaching 425 million lines, although these estimates were sharply reduced due to delays in the delivery of radio spectrum.

By 2030, Brazil, Chile, and Mexico are anticipated to be the leading markets for 5G technology, accounting in each country for over 60% of the total market share. In comparison, Argentina, Colombia, and Peru are expected to lag behind in adoption, with 5G projected to exceed only 40% of total mobile subscriptions in these countries.

New 5G spectrum auctions are expected to take place next year to enable further expansion of the technology. These markets include Costa Rica, Peru, Paraguay, Panama, Venezuela, Mexico and Bolivia.

5 Mainly limited incremental ARPU (Average revenue per user) and high capital expenditures requirements.

6 La economía móvil en América Latina 2024. GSMA Intelligence.



Key findings: high consumer demand and legacy technologies upgrade to drive next years' growth

FTTH deployment momentum in Latam expected to continue over the next years

LAC is poised to continue expanding fiber deployment to enhance coverage and bridge the digital divide. Fast, reliable broadband is essential as consumers adopt online services across all areas of their lives, and enterprises focus on digital transformation. Additionally, there will be a significant densification of fiber networks in areas where

service already exists, leading to an expected increase in socket deployments and a higher network overlap ratio. This evolving landscape will drive the FTTH industry toward intensified competition and the emergence of innovative business models.



ILLUSTRATION 17.

FTTH 2024 Latam panorama key findings



Source: SmC+ analysis

Similarly, market growth will be accompanied by the emergence of new business models, with the neutral network model taking center stage. Additionally, in line with global trends, consolidation is anticipated within the industry. Incumbent operators and neutral network players are increasingly eyeing smaller niche ISPs, particularly as the prices paid per household are lower than those seen during the first wave of acquisitions. In a notable example of consolidation in Latin America, Liberty Latin America and Millicom have agreed to merge their operations in Costa Rica. This partnership will create a new entity with over 440,000 broadband subscribers, enhancing fiber network investments and service offerings in the region. Also, in Argentina, Silica Network acquired InterNexa with the aim to consolidate its position as a regional operator.

Neutral host networks model to gain popularity and adoption increase in the region

Neutral hosts networks (NHN) are companies that build and operate FTTH networks, leasing access to multiple service providers rather than offering services directly to end customers. Operators using the network (tenants) benefit from the deployment without having to make the initial investment. This model has gained traction in Latin America in recent years driven by the need for expanded fiber infrastructure.

Neutral networks can vary in architecture from passive to active infrastructure, each offering distinct advantages. One of the primary benefits is the potential for reduced deployment costs. Additionally, these networks enable faster time-to-market, allowing tenants to deliver services promptly in previously underserved areas.

This model is gaining traction and popularity across various markets in the region. Within this framework, it is essential to establish a mutually beneficial relationship between the NHN and the tenants, ensuring that economic imbalances are avoided.













ACCESS TO Local vendors By enabling multiple operators to provide services on the same network, the neutral network model also contributes to reducing environmental impact and carbon footprint. Furthermore, this approach enhances expansion opportunities for smaller operators, which find more challenging the economics of the owned-network deployment.

However, despite these advantages, the adoption of a neutral network model requires careful consideration. The transition from CapEx to OpEx must be thoroughly evaluated, strategically planned, and executed efficiently, ensuring alignment with both commercial objectives and customer loyalty initiatives.

Several variables influence the economics for a tenant considering the use of services on a neutral network. Among the most significant factors are the network usage fee and the costs associated with customer acquisition and connection, which typically remain the responsibility of the tenant. High network usage fees and/or elevated customer acquisition and connection costs can create a negative imbalance for the tenant. Conversely, if the network usage fee is set too low, it may result in a negative imbalance for the neutral host network (NHN).

The potential imbalances of the model can conspire against its development. In any case, in intermediate scenarios, virtuous spaces develop where both, NHN and tenants, can obtain benefits from this model. Its implementation can be a valuable alternative in a sector that must seek new geographies where the ROI is lower, and where the overlap of networks is not economically viable.



Fiber is the most robust solution to meet Latin American digital lifestyles' demands and will continue to grow throughout 2025

The fiber to the home (FTTH) market in Latin America has experienced remarkable growth and transformation throughout 2023 and 2024, building upon the momentum of previous years. This expansion is characterized by increased investments, market consolidation, and technological advancements that are reshaping the telecommunications landscape across the region. The market is expected to grow driven primarily by increasing demand for high-speed connectivity, technological advancements such as 5G and Wi-Fi 6/7, and growing investor interest in infrastructure, particularly newly established neutral networks.

Significant market consolidation and strategic repositioning have been observed, with major players like Millicom restructuring their shareholdings and acquisitions such as Linzor Capital Partners' purchase of Win in Peru. The industry is also witnessing a shift towards more specialized infrastructure management, with the emergence of InfraCos, NetCos, and CloudCos as neutral partners for service providers. While FTTH remains the focus, alternative technologies like satellite and Fixed Wireless Access (FWA) are complementing fiber deployments, especially in hard-to-reach areas.

Despite the growth, the FTTH market in Latin America faces several challenges. Expanding beyond the current 80% coverage ceiling requires innovative publicprivate partnerships. Regulatory hurdles, including complex permit acquisition processes and inconsistent requirements across regions, continue to impede network expansion. Environmental regulations, security issues such as network vandalism, and a shortage of skilled technical personnel also pose significant challenges to the industry.



The financial landscape presents unique challenges for FTTH deployment in Latin America. With deployment costs primarily in USD and revenues in local currencies, ROI calculations are complex and potentially less attractive compared to other regions. As a result, many operators continue to maximize investments in existing DOCSIS and HFC infrastructure to balance costs and returns. This financial dynamic has led to a cautious approach in some markets, with operators carefully weighing the benefits of FTTH against the costs of deployment.

Looking ahead, the FTTH market in Latin America is poised for continued growth, driven by increasing

demand, technological advancements, and strategic investments. Public-private collaboration will be crucial in addressing challenges and accelerating deployment, as exemplified by initiatives like Colombia's project to expand fiber connectivity to underserved areas. The trend towards neutral fiber infrastructure is likely to continue. As the market evolves, overcoming regulatory, financial, and infrastructure challenges will be crucial for realizing the full potential of fiber optic networks across the region. Innovative financing and operational models including an eye on converged technologies, a focus on sustainability, and empowering local communities through shared network infrastructures will be key to lighting up the digital landscape of Latin America.

ILLUSTRATION 18.

Fiber deployments opportunities and challenges to overcome





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