

Mobile network usage in Latin America

Current data
traffic and
forecasts to
2030





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1. Introduction

Global mobile data traffic has increased 15-fold in the last seven years. The increase is largely explained by growth in content heavy use of video by consumers, both short format (on social media) and long format (on streaming platforms and on-demand video). Intensive video usage is taking place on nearly all the most popular apps worldwide, such as Instagram, Facebook, TikTok, YouTube and Netflix.

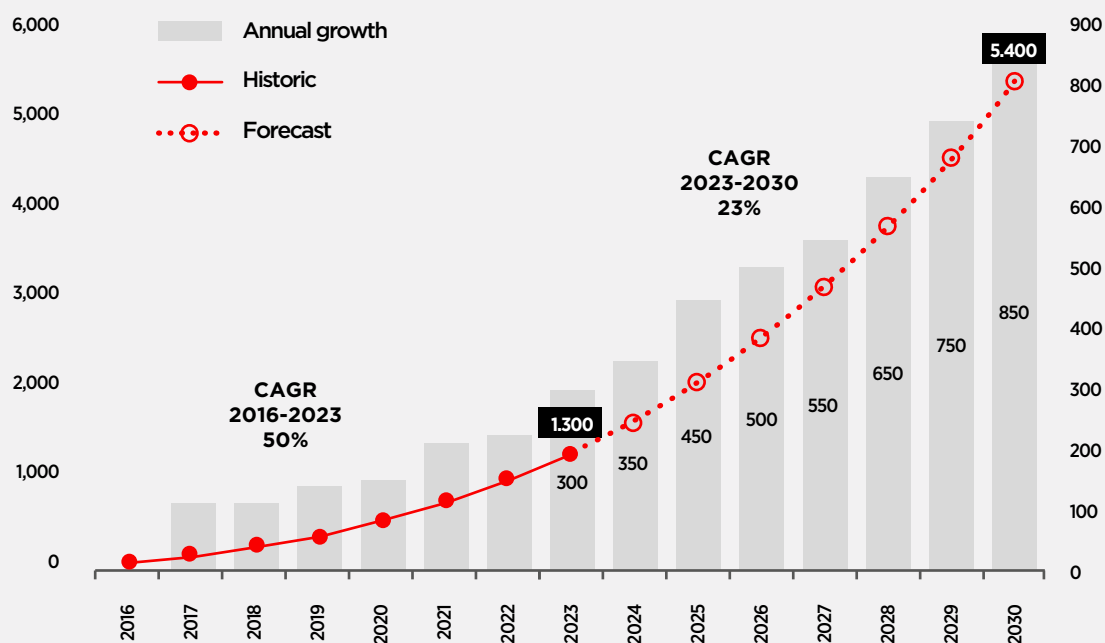
Future growth in data consumption will occur both for this type of content (with resolutions continuing to increase, from HD to 4K and eventually 8K) and new formats including augmented and virtual reality apps, artificial intelligence, and immersive and cloud gaming.

Mobile networks currently transmit 1,300 exabytes of data per year worldwide. By 2030, this figure will quadruple to 5,400 EB per year. In addition, the increase in traffic volume will consistently surpass the previous year's growth level each year. The annual growth in mobile network traffic from 2029 to 2030 will be 850 EB, compared to annual growth of 300 EB from 2022 to 2023.

Figure 1

Total mobile data traffic worldwide 2016-2023 and forecast to 2030

In exabytes



Source: GSMA Intelligence

To accommodate this growth, greater investment by operators will be necessary to increase mobile network capacity. Operators will need to acquire more spectrum, roll out new, more spectrum-efficient technologies (5G), and densify radio access networks (RANs).

The eight biggest LTGs¹ account for almost 70% of global traffic, drive most of the growth, and play a key role in traffic generation. This situation will require further increases in mobile network capacity².

In addition, the traffic generated by these companies does not typically face price signals for mobile network access. This can lead to a situation of free-riding³ or a “tragedy of the commons”⁴, where incentives for efficient use of public networks are lacking and a small number of users can exhaust network capacity to the detriment of all other users, including end users.

Evidence indicates that this problem is significant in scale. Around 15-30% of the traffic generated by some of the most popular apps is unsolicited⁵ and mostly associated with spam and online advertising. Moreover, video transmission does not always optimise network use. More efficient use could enable a 15-25% reduction of current traffic without impacting the user experience⁶.

Against this background of global traffic demand, this study brings together data on the use of mobile networks in Latin America for the first time. Present and future use of mobile networks is key to understanding future investment needs and the potential challenges for the financial sustainability of investments, ensuring the region is ready to meet the connectivity goals of international organisations such as the ITU, and promoting digital inclusion and equal access to technology.

The report includes exclusive information on the evolution of traffic in recent years, short- and medium-term growth trends, data on the share of the main traffic-generating companies in the region, and the type of content using the networks.

1 LTG: large traffic generator. This refers to companies that upload a large amount of data traffic onto mobile and fixed networks.

2 The Global Internet Phenomena Report January 2024, Sandvine. According to this report, Alphabet, Meta, TikTok, Netflix, Microsoft, Apple, Amazon and Disney accounted for 68% of global mobile network traffic in 2023.

3 Another Look at the Debate on the “Fair Share” Proposal - A document for Telefonica, Compass Lexecon, 2023 / FCC Commissioner Brendan Carr calls for ending big tech’s free ride on the internet, 2021 / Economic Contribution to the Debate on Cost Sharing Policy, 2023.

4 Europe’s internet ecosystem: socio-economic benefits of a fairer balance between tech giants and telecom operators; Axon Partners Group, 2022 / Fair Cost Sharing in Telecommunication Industry, a Virtuous Circle, 2023 / Fair cost sharing: big tech vs telcos, 2023.

5 Characterisation of Unsolicited Traffic Advertisements in Mobile Devices, José Pedro Veiga Silva, Paulo Carvalho Solange Rito Lima, 2020.

6 Based on tests by Telefónica and a bitrate cap on video connections. This was not noticeable on the small screens of smartphones and therefore had no impact on perceived quality of experience. At the same time, it yielded considerable network resource savings.

Countries included in the analysis

Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela.

Where applicable, countries are grouped into the following sub-regions:

- **Andes Region:** Bolivia, Colombia, Ecuador, Peru, Venezuela
- **Southern Cone:** Argentina, Brazil, Chile, Paraguay, Uruguay
- **Central America and Mexico:** Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama.

Information was provided by more than 10 groups of operators in Latin America.



2. Mobile network data traffic

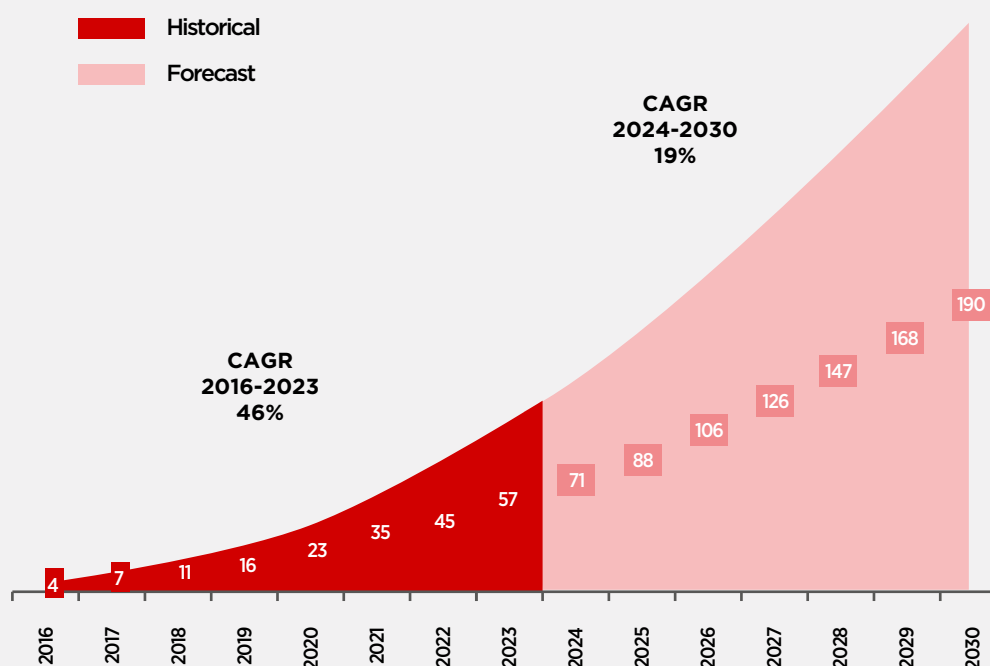
Mobile traffic evolution and forecast

Between 2016 and 2023, total mobile network traffic in the region increased 14-fold, at a year-on-year average growth rate of 46%. Latin America showed higher growth rates than North America and Europe, and a similar growth rate to the average of countries in Asia. Between 2024 and 2030, total mobile data traffic will triple, at a year-on-year growth rate of 19%.

Figure 2

Growth and CAGR of total traffic in Latin America 2016-2030

In exabytes



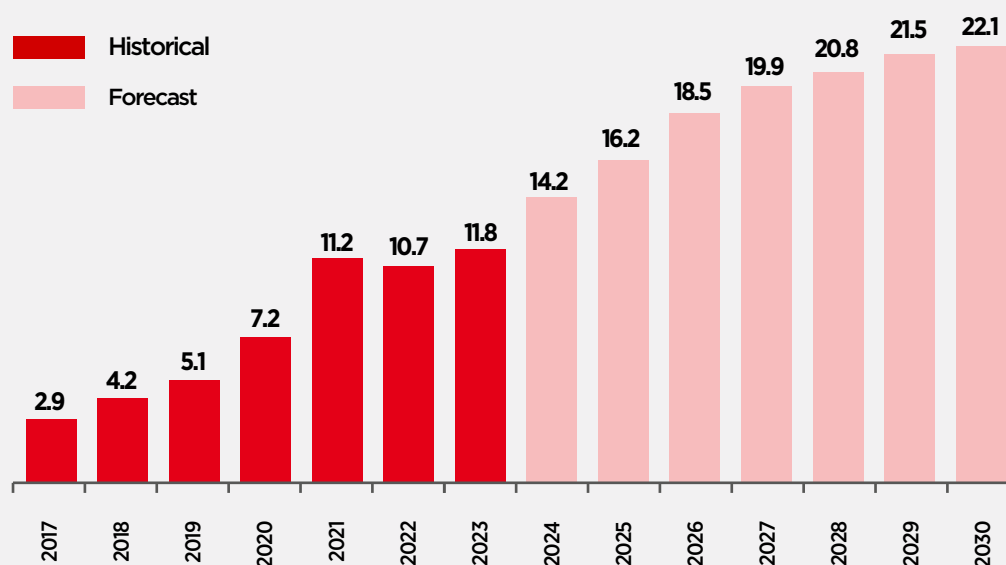
Source: GSMA Intelligence

Each year, total mobile traffic volumes will be higher than in the previous year. The annual increase will also be higher from one year to the next. Incremental growth in absolute rather than relative terms is an important metric in determining new investment needs, as it shows the additional capacity needed by mobile networks to meet the incremental demand.

Figure 3

Absolute growth of total mobile traffic 2016-2030 in Latin America

In exabytes



Source: GSMA Intelligence

This is illustrated in Figure 3, which shows how annual growth to 2030 will be consistently higher each year⁷. Absolute growth of regional traffic in 2030 is forecast to be double the level of 2023.

Drivers of mobile traffic growth

Future growth of data traffic will occur both in content with more intensive video usage (due to video resolutions improving from HD to 4K and eventually 8K) and new formats, including augmented and virtual reality apps and artificial intelligence.

- Video consumption will continue to drive a significant increase in internet traffic in the region, aided by improved video resolutions from HD to 4K and eventually 8K, and the proliferation of live event streaming. At the same time, implementing HTTP5 will enable websites to include images and videos in high resolution, raising demand for download capacity and further increasing traffic growth. Almost 90% of internet users in Latin America choose mobile as their preferred device for video consumption⁸, meaning that a large part of this growth in the region will occur on mobile networks.

⁷ This is always the case in the historical series except for 2022. In 2021, there was an exceptional jump in mobile data usage caused by the Covid-19 pandemic.

⁸ Panorama del Streaming y tendencias de consumo en América Latina, Comscore; 2024. (Overview of streaming and consumption trends in Latin America)



- Advances in artificial intelligence are starting to be part of mobile devices. In the next few years, AI will become increasingly widespread in some of the apps most used by consumers in the region. New services and AI-driven apps are expected to be widely adopted by consumers in Latin America⁹. These changes will lead to growth in upload and download traffic on mobile networks.
- Augmented reality (AR), which will demand low latency and high spectrum efficiency, could significantly increase the intensity of high-resolution video consumption. Usage intensity of virtual reality (VR) could equate to simultaneous consumption of three to six live video streams¹⁰. Virtual reality could become even more widespread in the region in the gaming industry¹¹, social experiences (meeting friends, concerts), e-commerce (online shops and marketing campaigns¹²), tourism and education.
- For other use cases that have emerged from these new technologies (e.g., B2B, IoT, M2M, web3, video hologram projection and self-driving vehicles), there is no consensus on the potential impact on traffic. Although many of these may be more niche services initially in terms of user numbers, their availability and consumption in the end-user segment as a whole could lead to significant growth in demand.
- The gradual closure of the mobile internet usage gap¹³ in Latin America is another potential source of increased demand in the short and medium term. The usage gap affects more than 270 million people (around 40% of the region's current population). Moderate forecasts indicate that the usage gap could be reduced by around 15 percentage points by 2030¹⁴. This would mean an additional 80 million users, creating incremental pressure on current mobile network capacity.

9 Two of the most used apps in the region, WhatsApp (Meta) and TikTok, already have artificial intelligence for direct use by users in Latin America (Argentina, Chile, Colombia, Ecuador, Mexico, Peru); TikTok has a content-generating tool that uses artificial intelligence on its platform and is trained to detect AI-generated content on external platforms

10 The evolution of data growth in Europe: evaluating the trends fueling data consumption in European markets; Arthur D. Little; 2023

11 Latin America is one of the regions with the highest growth in the gaming industry in recent years, with more than 260 million players (almost 10% of the total worldwide), despite the low level of income of countries in the region (Videojuegos en América Latina - Datos estadísticos (Video Games in Latin America - Statistical Data), Statista Research Department, 2024). Addition of AR and VR will create increasingly more immersive, realistic and engaging experiences that could boost this share.

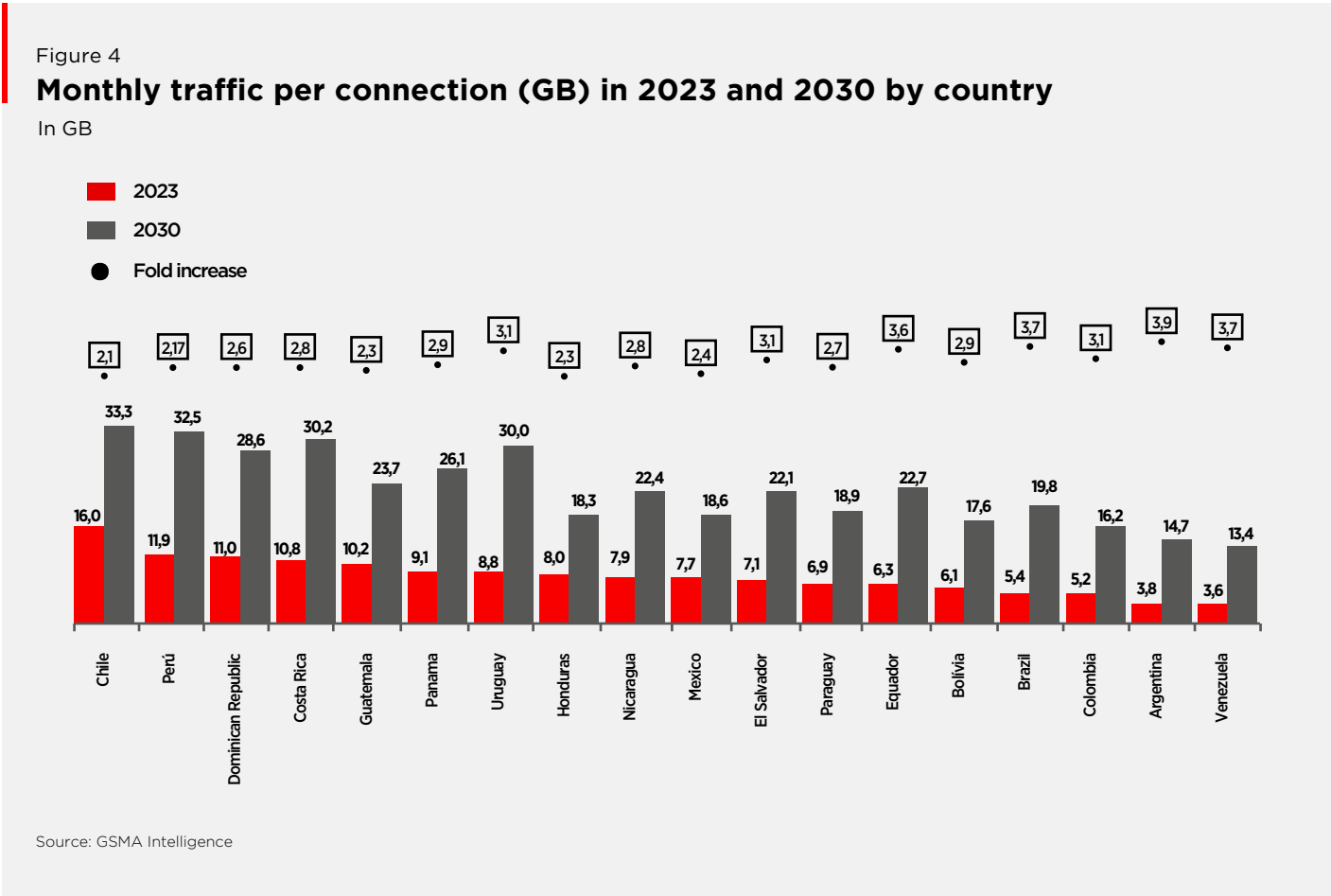
12 Coca Cola y Marvel unen fuerzas con el poder de la Realidad Aumentada, DPL News, 2024 (Coca Cola and Marvel join forces with the power of augmented reality), DPL News, 2024.

13 People who live in areas with mobile broadband coverage but are not using it.

14 Estimates from forecasts by GSMA Intelligence to 2030.

Impact on users' consumption intensity

Average monthly data traffic per connection in Latin America in 2023 was 7 GB, although its distribution across countries was varied, reflecting the different levels of adoption and the rollout of networks and devices. Chile had the highest usage intensity per connection in 2023, at 16 GB/month. Peru, Dominican Republic, Costa Rica and Guatemala also had consumption levels higher than 10 GB/month.



The introduction and adoption of new use cases will have a considerable impact on subscriber consumption patterns, increasing the pressure on current networks. Between 2023 and 2030, average consumption per connection in the region will triple to more than 20 GB/month in 2030. Chile, Peru, Costa Rica and Uruguay will be the leading countries for growth. Strong growth could put quality of service at risk without new investments and timely spectrum assignment processes.

3.

Generators and sources of mobile data traffic in the region

By content provider and apps

Global tech companies have played an active role in the mobile ecosystem, launching new products and services that have redefined the way users interact and use connectivity each day.

Data shows that the services with highest data usage and requiring the greatest use of mobile network capacity are provided by the following companies:¹⁵

Meta

- Whatsapp
- Instagram
- Facebook

Aphablet/Google:

- YouTube
- Gmail
- Waze
- Maps

Microsoft

Social media

- TikTok
- Telegram
- Snapchat

Video and audio streaming services

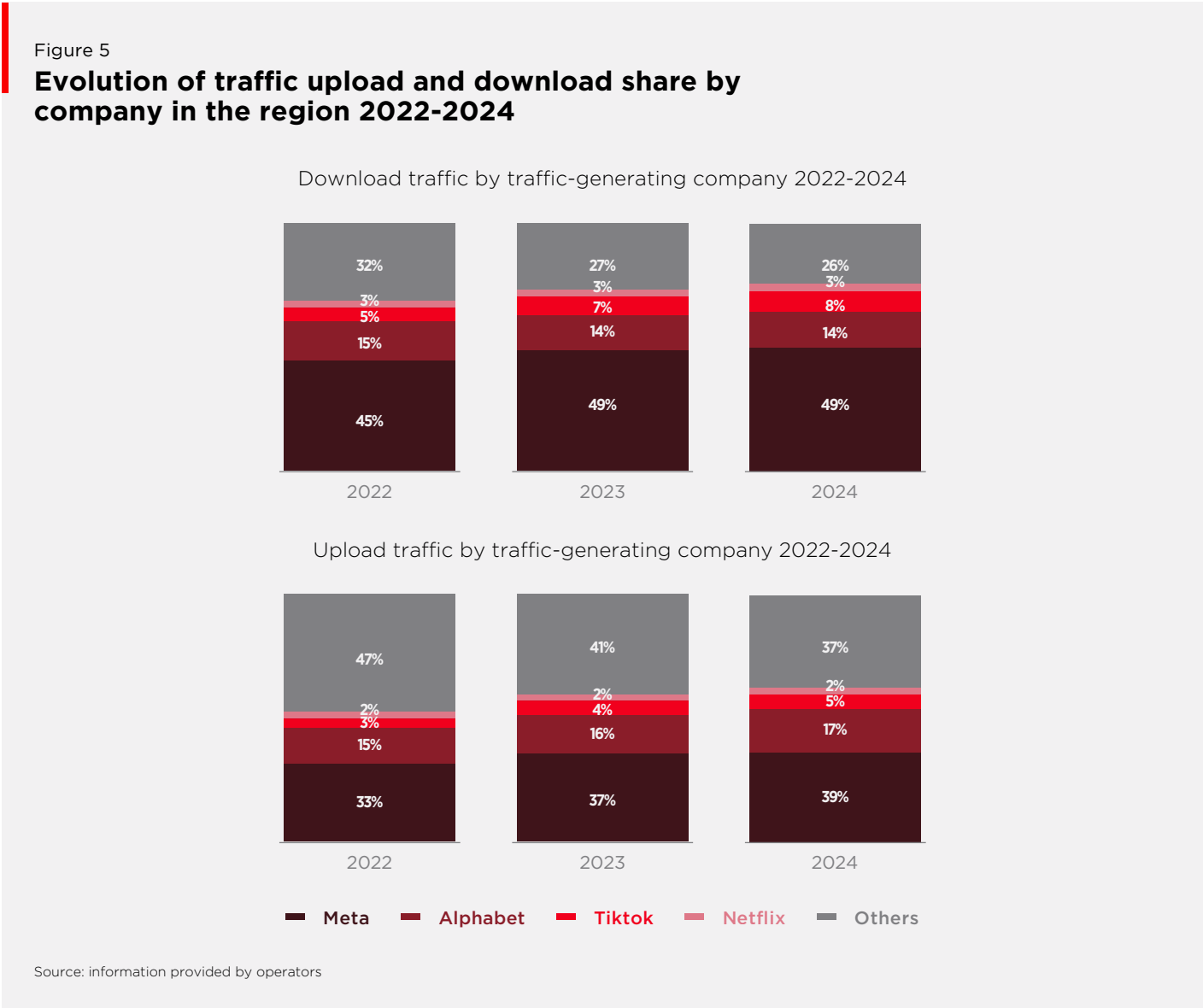
- Netflix
- Prime Video
- Hulu
- AppleTV+
- Disney+
- Spotify

¹⁵ The following estimates were made using GSMA Intelligence traffic and market share data for each country. The shares of traffic by company and content type, as reported by the operators, were applied to those metrics from GSMA Intelligence. To maintain confidentiality, no values are shown for countries without information on a sufficient number of operators and/or where the market share of the data reported is less than 50% of the market. The values have been rounded to multiples of 5 percentage points, except where they are less than 5 percentage points.

Across the region

The three main traffic generators in the region, Meta, Alphabet and TikTok, generated more than 70% of total download traffic in Latin America¹⁶. Meta led the generation of download traffic on mobile net-works, accounting for around 50% in 2024 and almost tripling the traffic generated by the second-place provider (Alphabet).

This situation has remained relatively stable since 2022. In recent years, the greatest growth has been seen by TikTok and in Meta’s share of traffic. The traffic share for streaming and audio on-demand platforms was less than 5% in 2024.



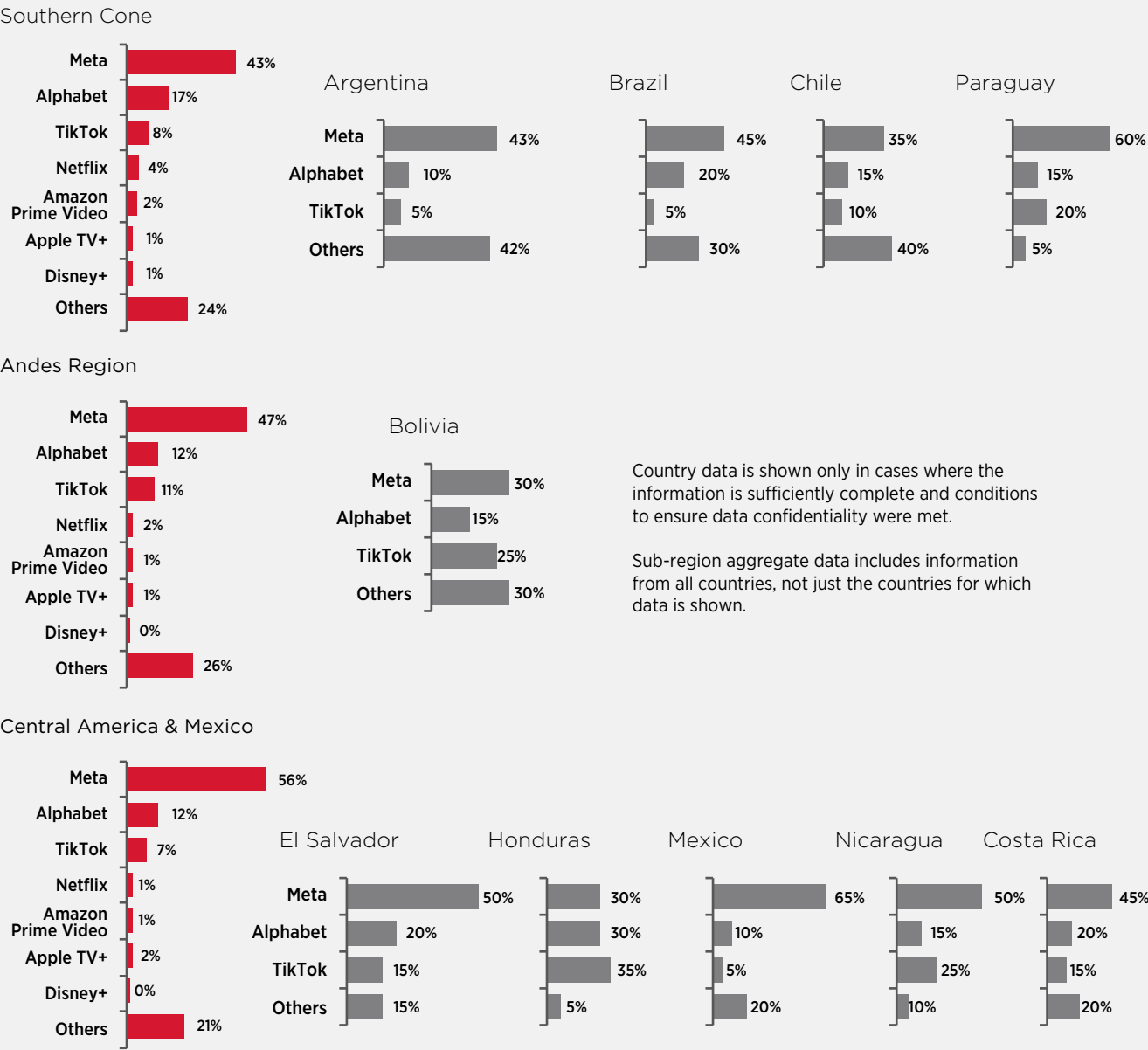
Upload traffic is also largely accounted for by these three providers, at just over 60% of total upload traffic in 2024, though this is less than their share of download traffic. Meta has increased its share year-on-year to nearly 40% of upload traffic in the region, almost doubling the combined share of the companies in second (Alphabet) and third place (TikTok).

16 All data for 2024 shown in this report refers to cumulative values to May 2024, the most recent full month reported by operators.

Download traffic by sub-region and country

In the last three years (2022-2024), mobile download traffic has been much higher than upload traffic in Latin America, accounting for more than 90% of total traffic. Because of this, detailed analysis of the origin of download traffic provides more of an insight to better understand the causes and bottlenecks in mobile network capacity.

Figure 6
Share of download traffic by company, sub-region and country, 2024



Source: information provided by operators

In all sub-regions, download traffic shares in 2024 are led by Meta, Alphabet and TikTok. These three companies accounted for 68% of download traffic in the Southern Cone, 70% in the Andes Region, and 75% in the Central Region.

Meta accounted for 40% of download traffic in the Southern Cone and more than 55% in the region of Central America and Mexico, doubling or tripling the respective share of Alphabet in second place.

Meta is the largest traffic generator in all the countries analysed – except Honduras, where TikTok is the largest generator. Alphabet is the second-largest traffic generator in some of the region's most significant markets. However, since 2022, TikTok has increased its share to become the second-largest traffic generator in Paraguay, Bolivia and Nicaragua, and has positioned itself as the largest generator of download traffic in Honduras.

By content type

In both downloads and uploads, three uses¹⁷ account for most of the traffic¹⁸: social media, web browsing and streaming. A common feature across all three use cases is that the content involves intensive video usage, both in the short format predominant on social media and the larger formats consumed through streaming platforms.

Across the region

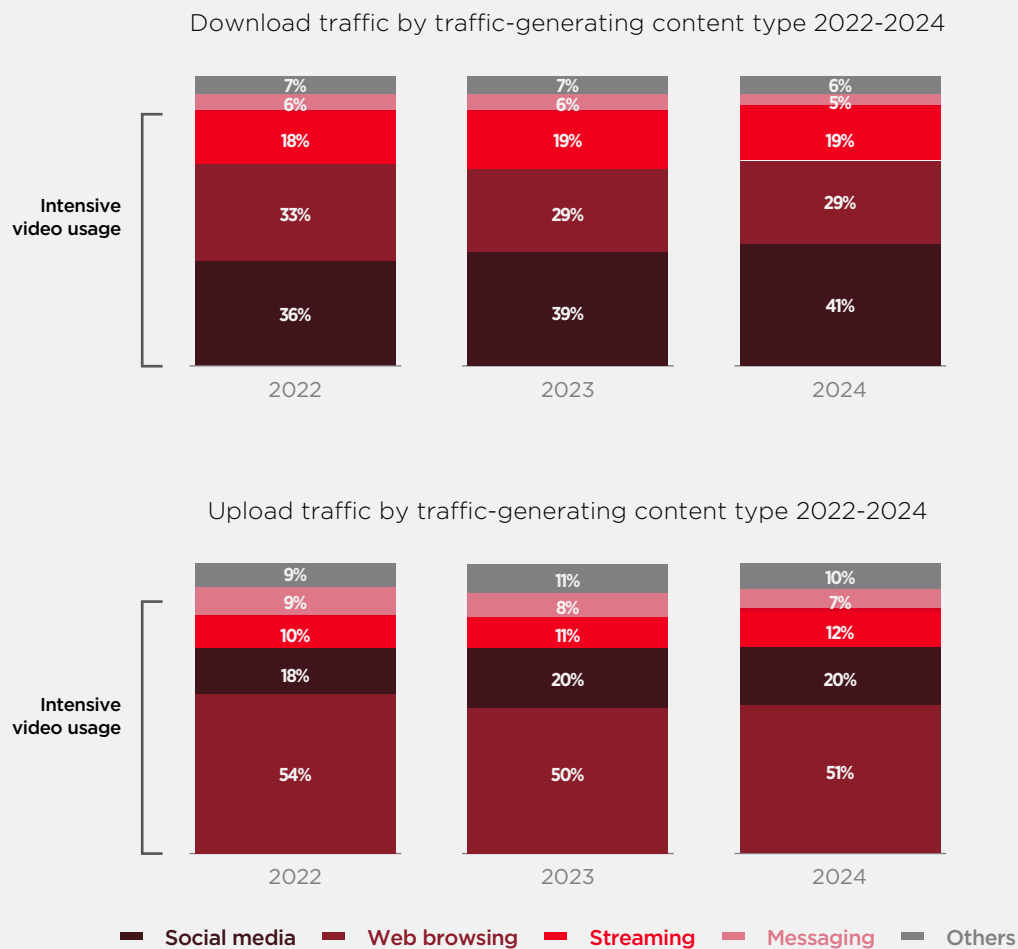
Social media's share of total use of mobile network capacity in the region has increased in recent years in terms of download traffic, accounting for 41% compared to 36% in 2022. This is followed by web browsing, though its share has decreased as a result of the growth in social media and streaming.

¹⁷ The data shows that the contents with highest data usage are social media, streaming and web browsing. Services such as messaging also have a significant share. Audio / music, cloud services, gaming, and e-commerce / marketplace were grouped under "Others".

¹⁸ These estimates were made using GSMA Intelligence traffic and market share data for each country. The content type weightings provided by operators (video, audio, and others) were applied to these metrics. To maintain confidentiality, no values are shown for countries without information on a sufficient number of operators and/or where the market share of the data reported is less than 50% of the market. The values have been rounded to multiples of 5 percentage points, except where they are less than 5 percentage points.

Figure 7

Evolution of traffic upload and download shares by content type in the region, 2022-2024



Source: information provided by operators

Download traffic by sub-region and country

The use of digital services varies in Latin American countries and sub-regions.

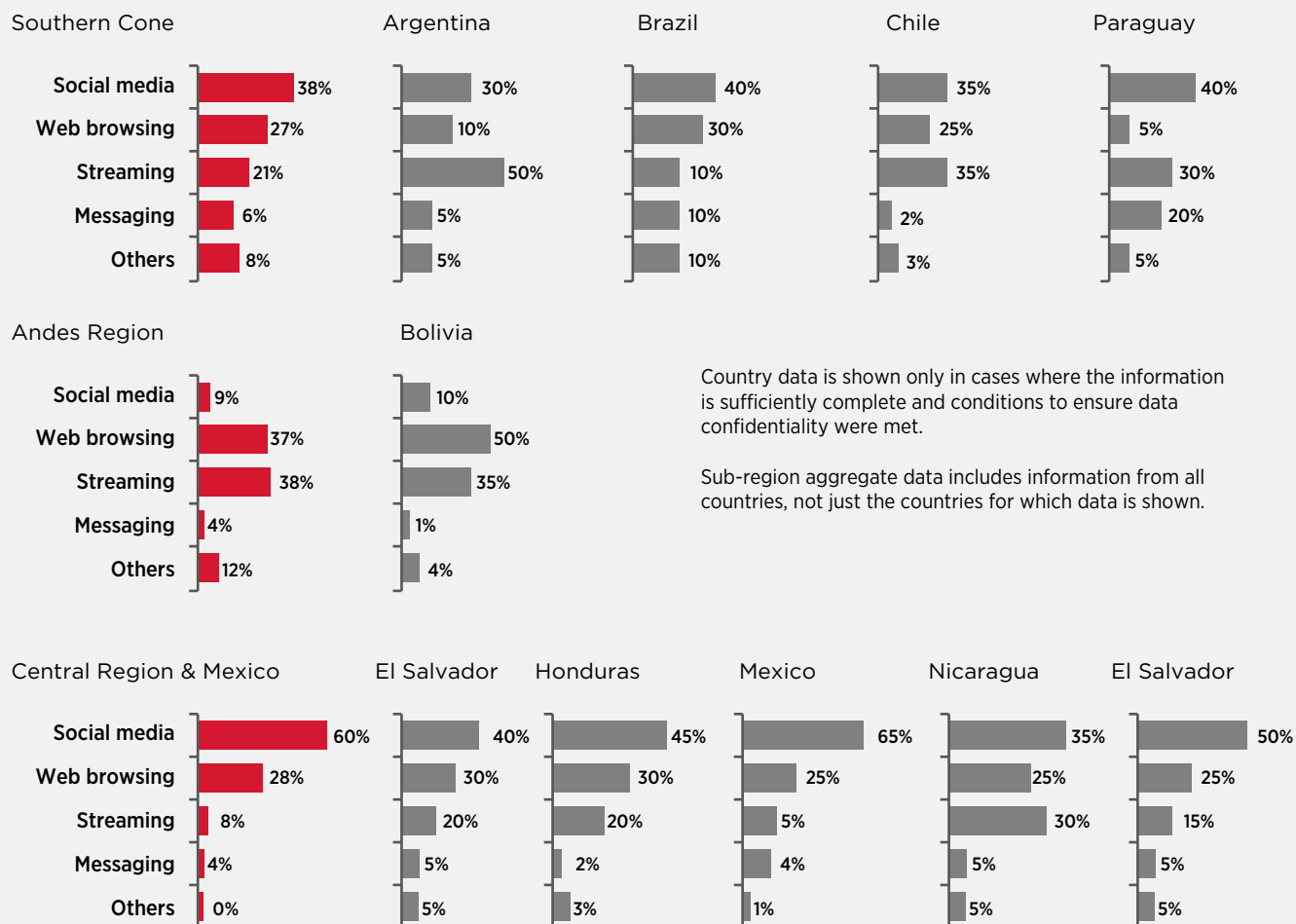
In the Southern Cone, social media predominates, though in Argentina, Chile and Paraguay, streaming is at similar levels of mobile data use.

In the Andes Region, browsing and streaming are the main sources of mobile network capacity usage, accounting for nearly 75% of all traffic. As in the preceding section, data in this region is shown solely for Bolivia – the only country where conditions to ensure data confidentiality were met.

In Central America and Mexico, social media is the main driver of consumption, accounting for nearly 60% of download traffic. Nicaragua is a notable exception, with for its larger streaming share.

Figure 8

Download traffic share by content type, sub-region and country, 2024



Source: information provided by operators



4. Conclusions

Traffic in Latin America has increased 14-fold in the last seven years, at a year-on-year growth rate of around 45%. Currently, almost 90% of traffic is data download, and the three major LTGs in the region account for around 70% of total download traffic.

Forecasts estimate that traffic demand in the region will triple by 2030, from 71 to 190 EB, as a result of new consumption trends (including videos in 4K and eventually 8K, live sports, HTTP5, AR/VR and AI) and the addition of new users (a natural reduction in the usage gap).

Mobile networks will have to absorb an increasingly larger absolute year-on-year growth in data traffic. In 2023, traffic volume increased 12 EB in absolute terms compared to the previous year; in 2030, the volume is expected to be 22 EB higher than in 2029. Growth could be significantly greater if new, data-intensive apps (e.g. AI-based) see a rapid rate of adoption among users.

The increase in mobile network traffic in the region is driven by that generated by LTGs. These companies play a key role in generating the traffic spurring the need for increased mobile network capacity.

With LTGs not facing price signals for the amount of traffic they generate, this can result in free-riding or market failure in the form of the “tragedy of the commons”, where the lack of appropriate incentives for responsible and efficient use of public networks can exhaust the available network capacity for other uses, such as telemedicine, remote learning, public safety, rescue operations, industry 4.0 and smart cities. These use cases rely on a robust, efficient network to function properly and meet the growing needs of the population in a digital future.

In this context, greater investment will be needed across the region to increase mobile network capacity and absorb the projected increase in demand.¹⁹ Without this investment, the digital future of Latin America is not guaranteed. Market conditions that encourage efficient use of the region's networks could provide a starting point to optimise existing capacity and enhance incentives to make the investments needed for a digital future.

¹⁹ According to the report “Implicaciones de la concentración del tráfico IP en OTT y las posibilidades de su contribución al desarrollo de redes” (Implications of the concentration of IP traffic on OTT and potential contribution to network development) prepared by NERA for Telefónica Hispanoamérica and published in May 2023, the additional investment required by mobile operators to meet the increase in demand to 2028 is estimated at between \$20.4 billion and \$40.7 billion, depending on which methodology is used.

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