ITU Publications

International Telecommunication Union
Development Sector

Measuring digital development
Facts and Figures
2025

Disclaimers

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the International Telecommunication Union (ITU) or of the ITU secretariat concerning the legal status of any country, territory, city, or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by ITU in preference to others of a similar nature that are not mentioned. Errors and omissions excepted; the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by ITU to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader.

The opinions, findings and conclusions expressed in this publication do not necessarily reflect the views of ITU or its membership.

ISBN

978-92-61-41501-3 (Electronic version)
978-92-61-41511-2 (EPUB version)

Please consider the environment before printing this report.

Measuring digital development

Facts and Figures

2025

Foreword

I am pleased to present the 2025 edition of *Facts and Figures*, ITU's annual reference publication on the state of global digital connectivity.

More than 96 per cent of the global population is covered by a mobile broadband network, bringing us closer to universal access. Yet, many low-income countries still rely primarily on 3G, limiting what users can do online. For the first time, we estimated the number of 5G subscriptions; they now account for one-third of all mobile broadband subscriptions worldwide. But deployment remains concentrated in high-income countries, underscoring the need to ensure that advances in connectivity benefit all countries, not only those already ahead.

At the same time, this year's data shows that almost three-quarters of the world's population are now online. Progress continues across all regions and income groups, but it is slowing. The remaining quarter of people – 2.2 billion individuals – remain offline, most of them in low- and middle-income countries.

Internet access keeps getting cheaper, yet only around two-thirds of economies have reached a level that is considered affordable. In low- and middle-income countries, Internet services remain unaffordable in about 60 per cent of economies, preventing many from coming online or limiting their ability to fully participate in – and benefit from – the digital economy. These affordability constraints, together with quality gaps, shape who gets online and how fully they can participate.

Against this backdrop, inclusion trends are mixed. Encouragingly, the gaps between urban and rural communities and between younger and older generations are narrowing. Moreover, three regions, as well as the group of Small Islands Developing States (SIDS), have achieved gender parity in Internet use. In other regions, however, too little progress has been made in closing the gender gap.

I thank all Member States and partners for their continued cooperation in providing data, and I encourage renewed investment in national statistical capacity.

Reliable, comparable and timely data are the foundation of effective digital policies and of our shared vision to connect the world. Achieving that vision will require sustained and well-targeted efforts – in infrastructure, in digital skills, and in data systems. By working together and directing resources where the needs are greatest, we can ensure that no one is left behind and that everyone benefits fully and safely from the opportunities of the digital age.

Dr Cosmas Luckyson Zavazava
Director of the Telecommunication Development Bureau
International Telecommunication Union

Table of contents

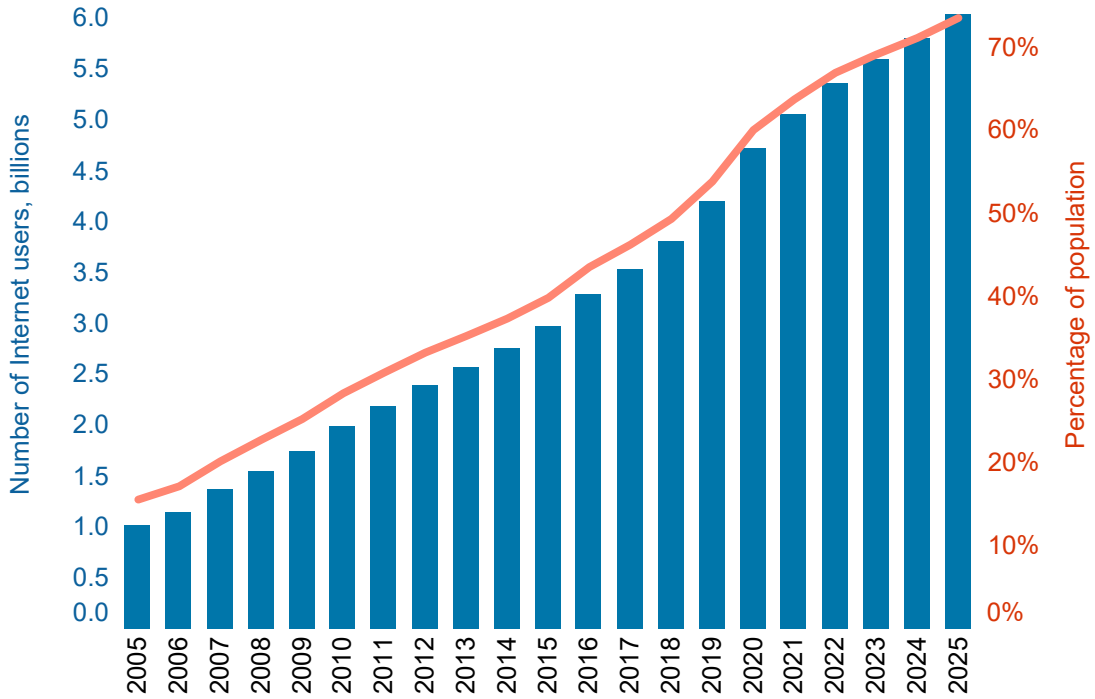
List of figures

An online version of this publication featuring interactive charts is available at www.itu.int/ff2025

Internet use

Almost three-quarters of the population are online

Individuals using the Internet



Note: Interactive chart.
Source: ITU

Today, in 2025, 74 per cent of the world's population are online, compared with 71 per cent a year earlier. In absolute numbers, this corresponds to 6 billion people, up from 5.8 billion in 2024. Year-on-year growth increased slightly to 3.3 per cent, up from 2.9 per cent previously. While progress continues toward universal connectivity more than a quarter of the global population remains offline.

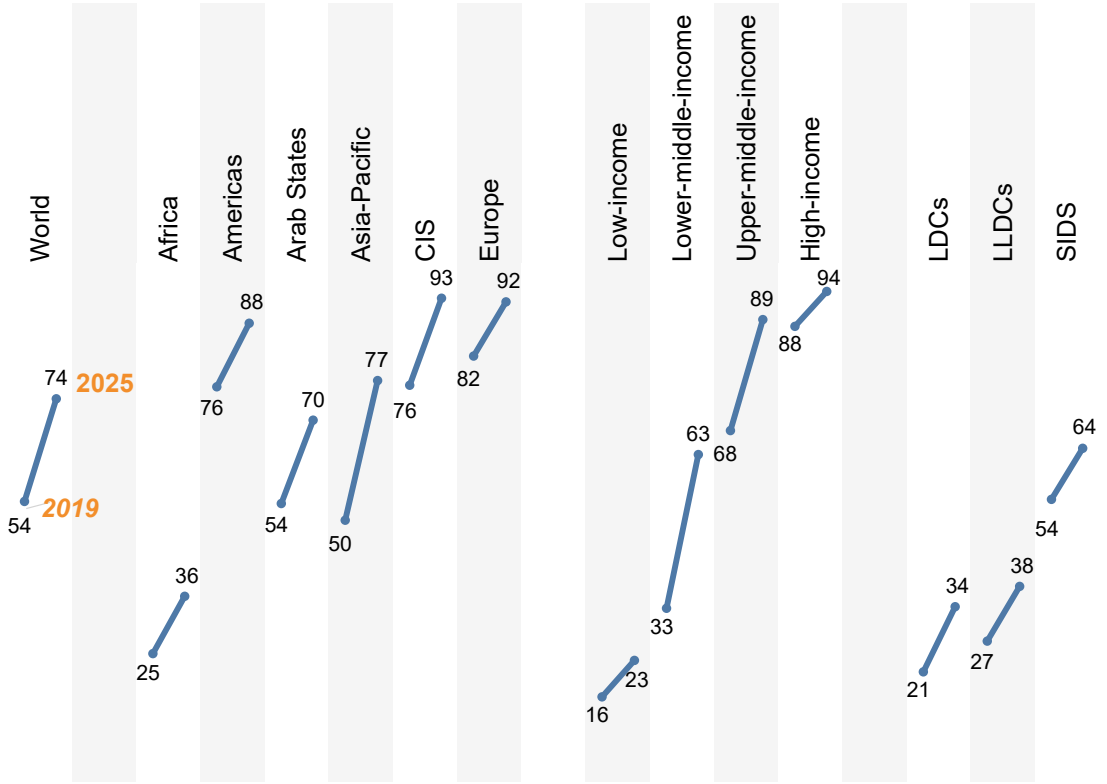
Internet use remains closely linked to the level of development. High-income countries[1] are nearing universal Internet use with 94 per cent of the population using the Internet.[2] In contrast, only 23 per cent of the population of low-income countries are using the Internet.

Looking at the regions, in the Commonwealth of Independent States (CIS), Europe, and the Americas, between 88 and 93 per cent of the population use the Internet. In Asia-Pacific and the Arab States region, Internet use is at 77 and 70 per cent, respectively, which is in line with the global average. By contrast, the average figure for Internet use for Africa is just 36 per cent.

Universal connectivity also remains a distant prospect in the least developed countries (LDCs) and landlocked developing countries (LLDCs), where only 34 and 38 per cent of the population are online, respectively.

While the annual growth rate in 2025 in these economies averages 7.4 and 5.5 per cent, respectively, which is higher than in most of the other groups or regions, the connectivity gap is not expected to close anytime soon.

Percentage of individuals using the Internet by region, 2019 and 2025



Note: Interactive chart.
Source: ITU

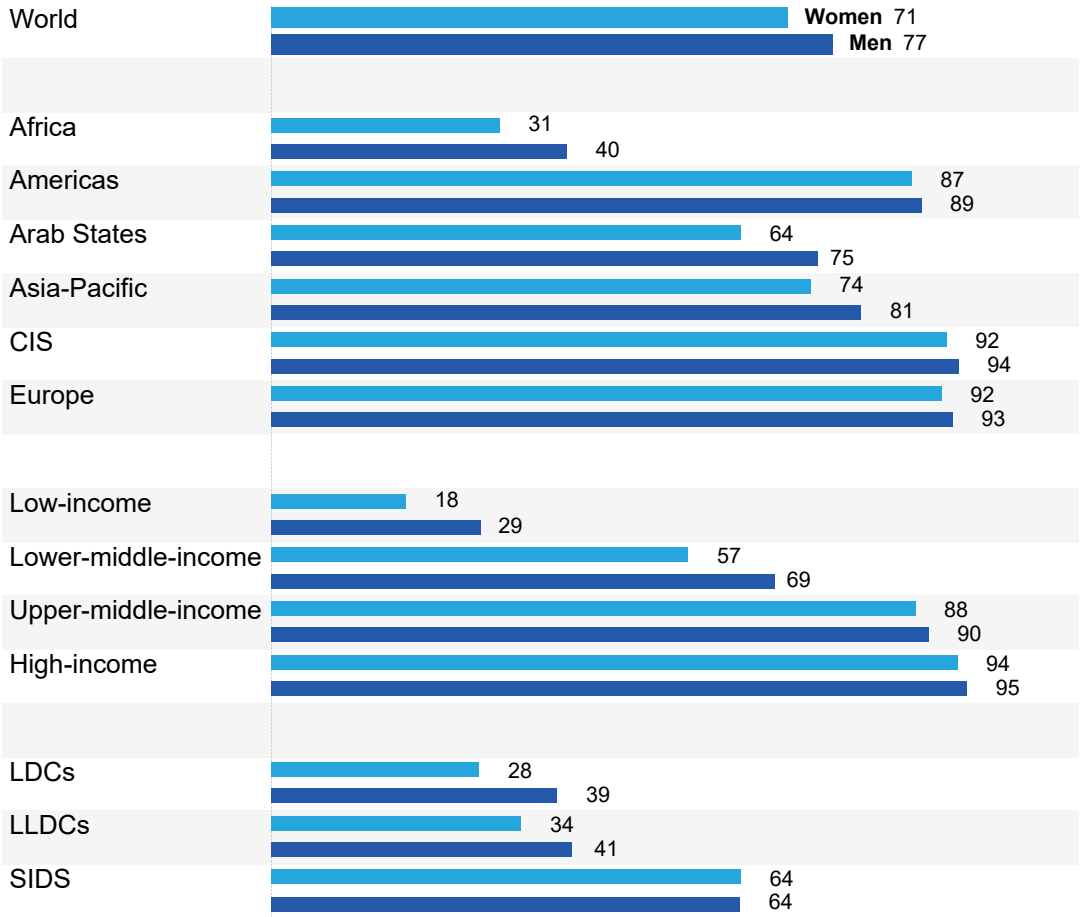
[1] In this publication, regions correspond to the ITU geographical regions: http://www.itu.int/en/ITU-D/Statistics/Pages/definitions/regions.aspx. The composition of the special groups – least developed countries (LDCs), landlocked developing countries (LLDCs) and small island developing States (SIDS) is available at https://www.un.org/ohrlls/. Income groups correspond to the World Bank classification, available at https://datahelpdesk.worldbank.org/knowledgebase/articles/906519.

[2] Considering some people may never want to connect, as a matter of convention universality is taken to mean an Internet penetration rate of at least 95 per cent.

The gender digital divide

Data show a lack of progress in closing the gender gap in Internet use

Percentage of women and men using the Internet, 2025

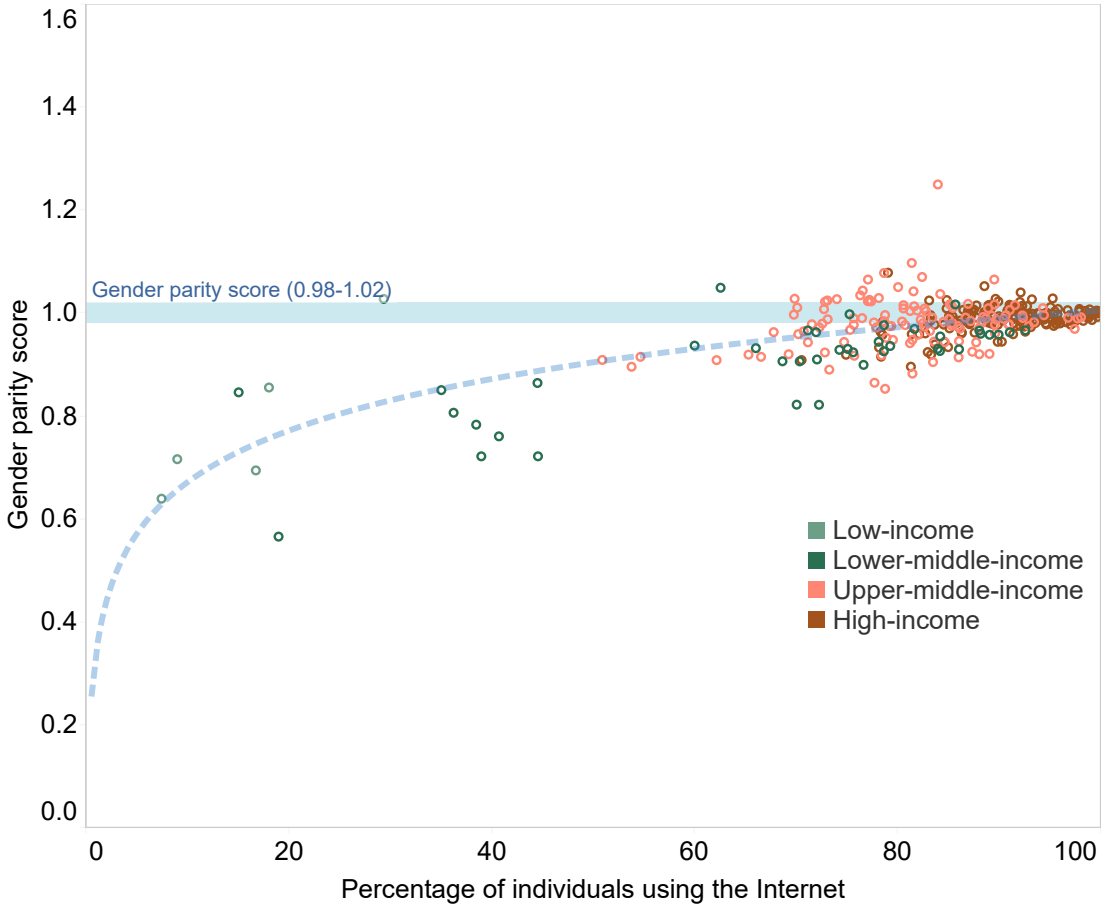


Note: Interactive chart.
Source: ITU

Globally, 77 per cent of men use the Internet, compared with 71 per cent of women. Although the number of female and male Internet users has increased by nearly 45 per cent since 2019, about 280 million more men than women use the Internet worldwide in 2025.

Gender parity is deemed to be achieved when the gender parity score, defined as the female percentage divided by the male percentage, is between 0.98 and 1.02. As is the case for overall Internet use, gender parity is closely correlated with the level of development.

Internet use gender parity score vs. overall Internet use, 2020-2025



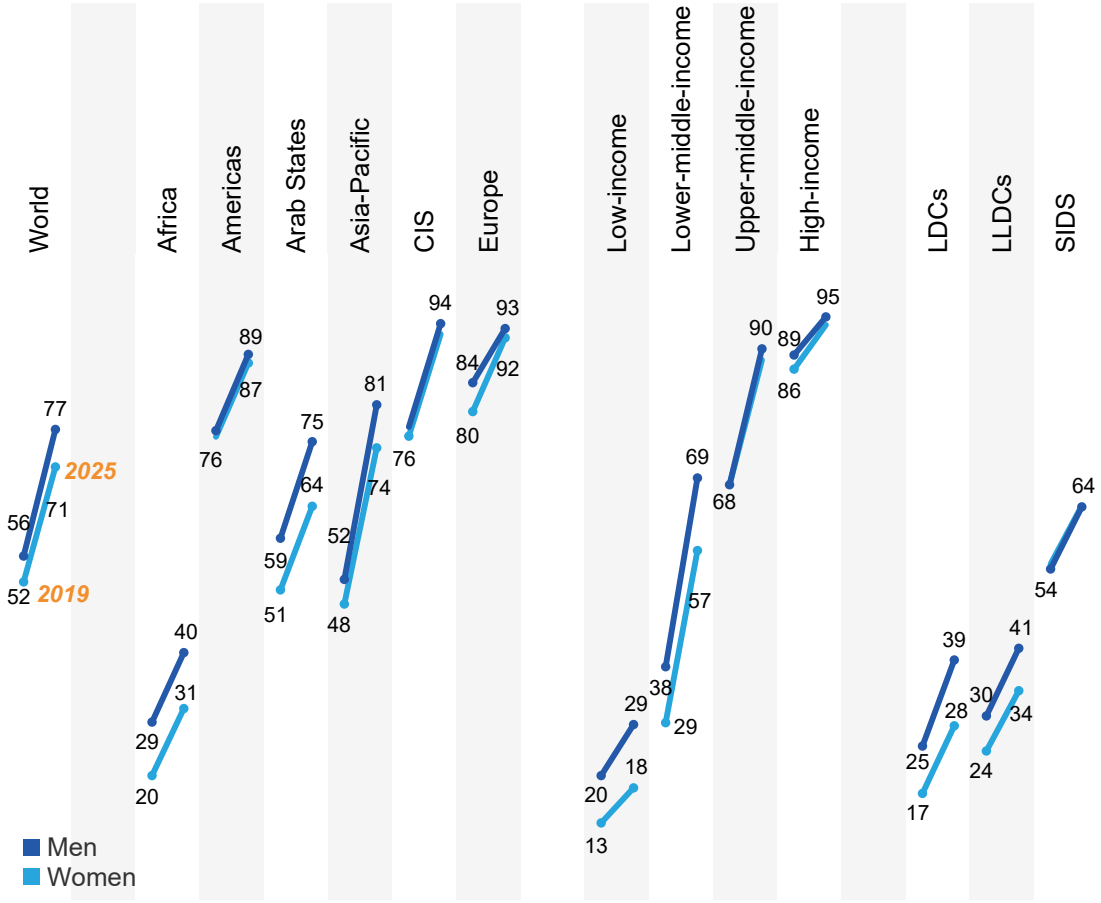
Note: In-scope ages may vary between countries. The gender parity score is calculated as the proportion of women who use the Internet divided by the proportion of men who use the Internet. A value less than one indicates that men are more likely to use the Internet than women, while a value greater than one indicates the opposite. Gender parity is considered achieved if the value lies between 0.98 and 1.02. Official data is available from 106 countries, with a total of 351 data points. Each point stands for one country in a given year between 2020 and 2025. The blue dotted line is the smoothed trend line for all countries. Interactive chart.
Source: ITU

The global gender parity score of 0.92 in 2025 is the same as in 2019, indicating that in recent years, there has been no progress towards global gender parity.

Among ITU regions, gender parity has been achieved in Europe, and in the Americas and the CIS regions. There has been no progress in the Asia-Pacific region where the regional gender parity score declined slightly from 0.92 in 2019 to 0.91 in 2025. The Arab States region displays a similar trend, with the gender parity score remaining the same at 0.86 over the same period. Africa still lags behind other regions but has witnessed notable improvement over the past six years with its gender parity score increasing from 0.70 to 0.78.

There was a small improvement in the gender parity score in LDCs and LLDCs, although men are still significantly more likely to use the Internet than women. In the SIDS group, the gender parity score remained at or even above 1 between 2019 and 2025, indicating gender parity. The SIDS are also a notable, positive exception to the strong correlation between gender parity and overall Internet use as they have achieved gender parity even though less than two-thirds of the population use the Internet.

Percentage of individuals using the Internet by gender, 2019 and 2025

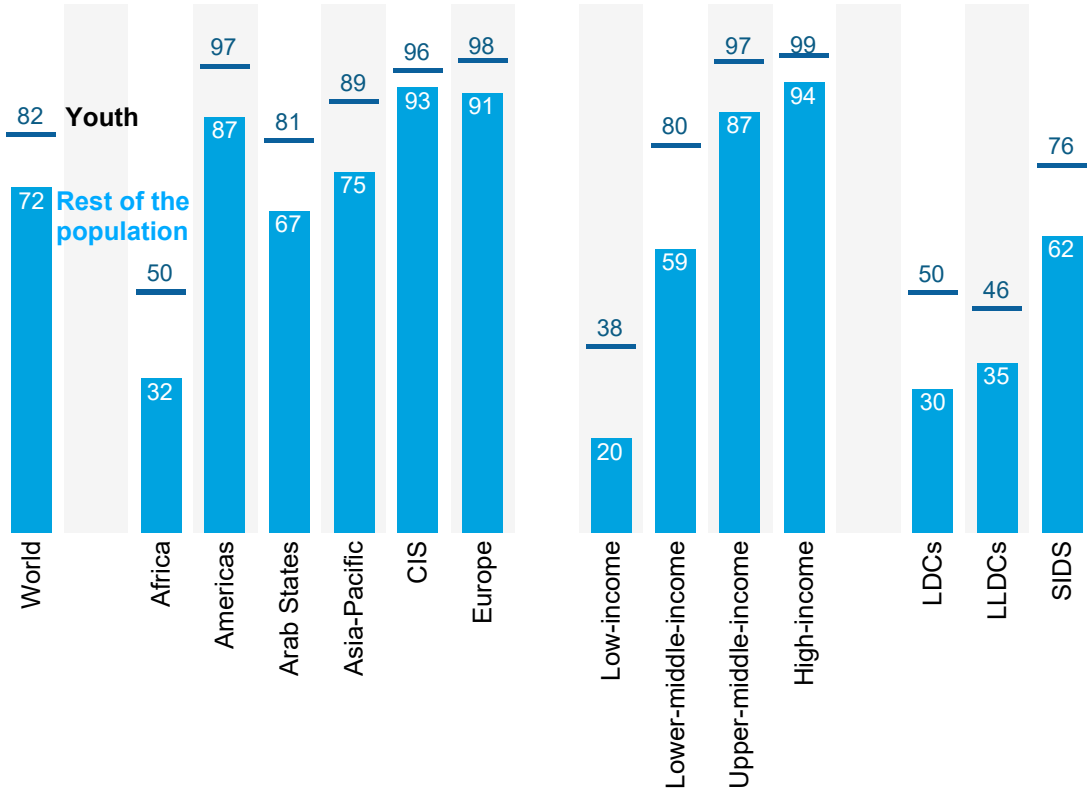


Note: Interactive chart.
Source: ITU

Youth Internet use

Internet use remains highest among youth, yet the generational gap is shrinking

Percentage of individuals using the Internet by age group, 2025



Note: "Youth" refers to 15 to 24-year-olds. Interactive chart.
Source: ITU

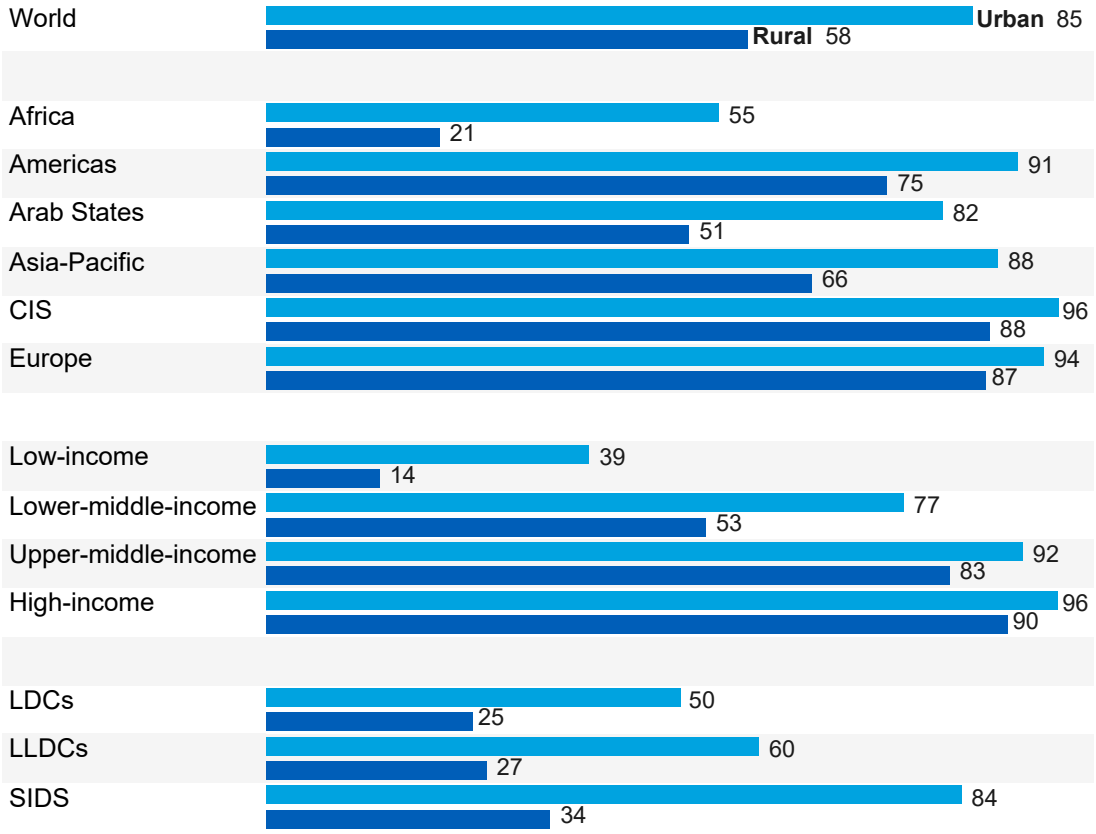
Globally, 82 per cent of people aged 15 to 24 use the Internet, ten percentage points more than among the rest of the population (72 per cent). This generational gap, observed in every region, has been slowly shrinking over the last four years. In this age group, "universality," meaning when the penetration rate is at least 95 per cent, has already been achieved in Europe, the CIS region and the Americas region.

In relative terms, 15- to 24-year-olds in low-income countries are 1.9 times more likely to use the Internet than the rest of the population. This is the largest generational gap of any income group, with 15- to 24-year-olds in high-income countries only five percent more likely to use the Internet than the rest of the population.

Internet use in urban and rural areas

The urban-rural divide remains wide in regions with low penetration.

Percentage of individuals using the Internet in urban and rural areas, 2025



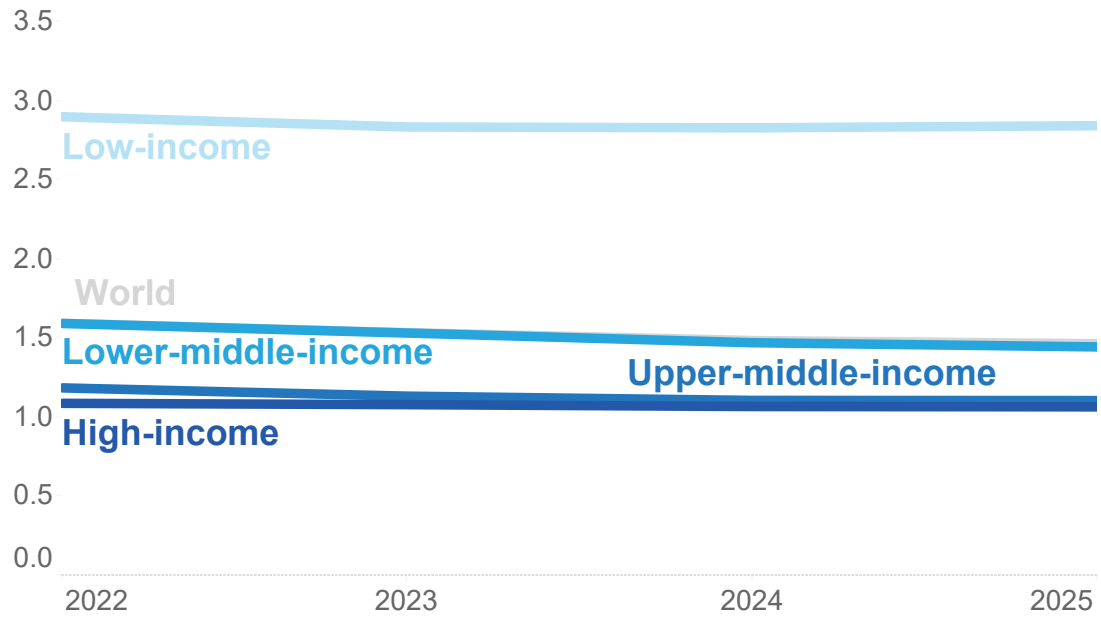
Note: Interactive chart.
Source: ITU

Globally, 85 per cent of urban dwellers use the Internet in 2025, compared to just over half of the rural population (58 per cent).

The urban-rural gap, measured as the ratio of the two percentages, has slowly decreased from 1.6 to 1.5 over the last four years. Unsurprisingly, the urban-rural gap is smallest in regions with high Internet use penetration, including in Europe, where the ratio is just 1.1, compared with 2.6 in Africa. In all regions, progress has been modest over the last four years.

In high-income countries, where 94 per cent of the population uses the Internet, the urban-rural gap has almost been bridged, with an average ratio of 1.1. In low-income countries, by contrast, the urban-rural gap remains wide with only one in seven rural dwellers (14 per cent) online, which is little more than one-third the share of urban residents.

Ratio of individuals using the Internet in urban areas to those using the Internet in rural areas, 2022-2025

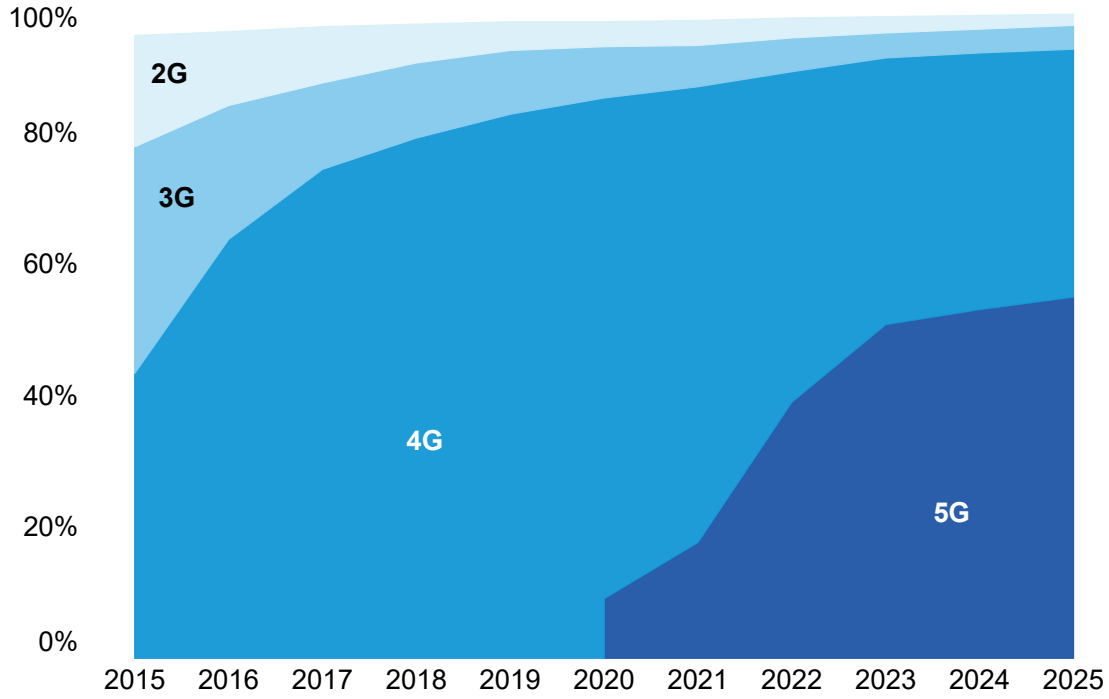


Note: A higher ratio indicates a larger urban-rural gap. Interactive chart.
Source: ITU

Mobile network coverage

More than half of the world's population is covered by 5G

Population coverage by type of mobile network, 2015-2025



Note: The values for 2G, 3G and 4G networks show the incremental percentage of the population that is not covered by a more advanced technology network (e.g. in 2025, 96 per cent of the world's population is covered by at least a 3G or above network, with 3.6 per cent having only 3G, 37.6 per cent having 4G, and 55.1 per cent having 5G). There are insufficient data to produce estimates for 5G coverage prior to 2020. Interactive chart.
Source: ITU

From the early stages of commercialisation in 2019, 5G coverage has expanded to cover 55 per cent of the world's population in 2025.[3] However, 5G currently reaches 84 per cent of people in high-income countries, but only 4 per cent of people in low-income countries, indicating that growth has been uneven.

Regionally, Europe leads with 74 per cent of the population covered by 5G, followed by the Asia-Pacific region with 70 per cent, and the Americas region with 60 per cent of the population covered by 5G. Coverage remains considerably lower in the Arab States region with 13 per cent, Africa with 12 per cent, and the CIS region with 8 per cent of the population covered by 5G. These disparities in 5G network coverage are mirrored in subscription levels (see *Subscriptions* section).

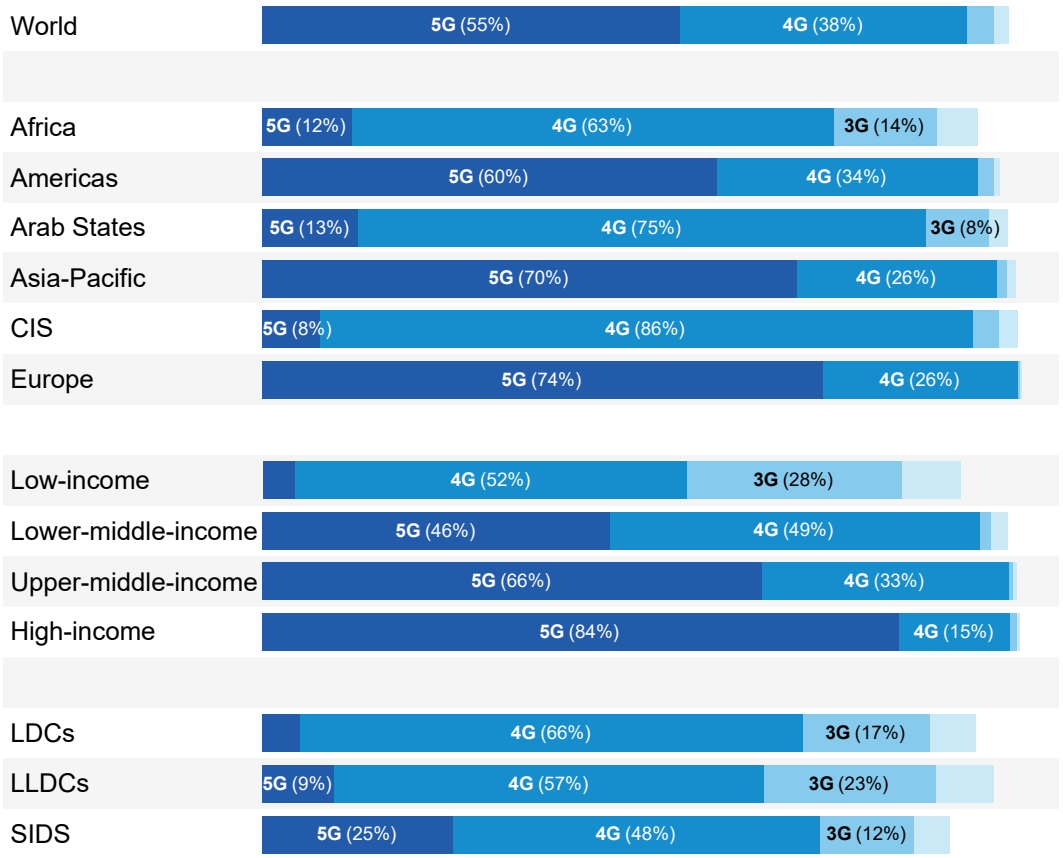
While 5G deployment is still underway in many regions, 4G remains a reliable connectivity solution, currently available to 93 per cent of the world's population. However, in low-income countries, 4G coverage drops sharply, with only 56 per cent of the population covered. In these areas, 3G continues to play a vital role for Internet access.

[3] In this publication, the term *4G* is used instead of *4G/LTE*, and *5G* instead of *5G/IMT-2020*, for readability.

Coverage by 3G or higher technology has reached 96 per cent of the world's population. Yet extending networks to the remaining 4 per cent, comprising approximately 312 million people, is proving slow and complex. Since 2018, when coverage first surpassed 90 per cent, the global gain has amounted to just six percentage points. Almost half of the global population that remain without access to a mobile broadband network are in Africa.

In LDCs and LLDCs, 12 and 11 per cent of the population, respectively, remain without access to mobile broadband, a result that falls short of Target 9.c of Sustainable Development Goal 9: *"to significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020."*

Population coverage by type of mobile network, 2025



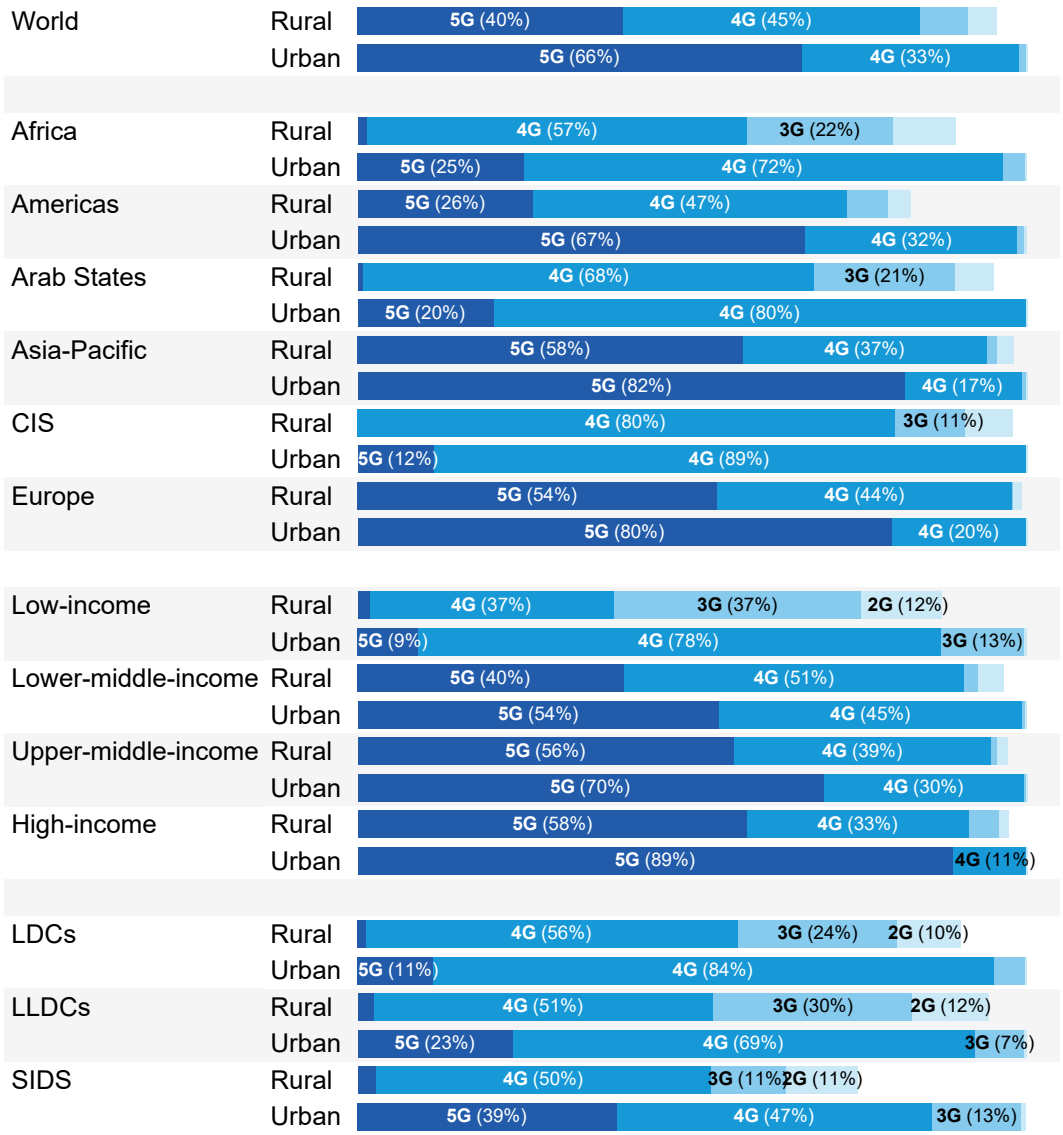
Note: The values for 2G, 3G and 4G networks show the incremental percentage of the population that is not covered by a more advanced technology network (e.g. in 2025, 96 per cent of the world's population is covered by at least a 3G or above network, with 3.6 per cent having only 3G, 37.6 per cent having 4G, and 55.1 per cent having 5G). Interactive chart.
Source: ITU

Because urban areas are more densely populated and economically attractive, they are usually prioritized when new infrastructure is deployed. As a result, 66 per cent of people living in urban areas worldwide already have access to a 5G network, compared with just 40 per cent of those in rural areas, representing a gap of 26 percentage points.

In high-income countries, the urban-rural divide is evident with 89 per cent of the urban population covered by 5G, compared with only 59 per cent of the rural population. In low-income countries, 5G reaches only 9 per cent of the urban population and is essentially unavailable in rural areas.

Older technologies are more widely available. 4G networks cover 99 per cent of urban areas worldwide, but coverage drops to 84 per cent in rural areas. However, these global averages conceal vast disparities, such as for example the fact that in low-income countries only 38 per cent of rural inhabitants have access to 4G.

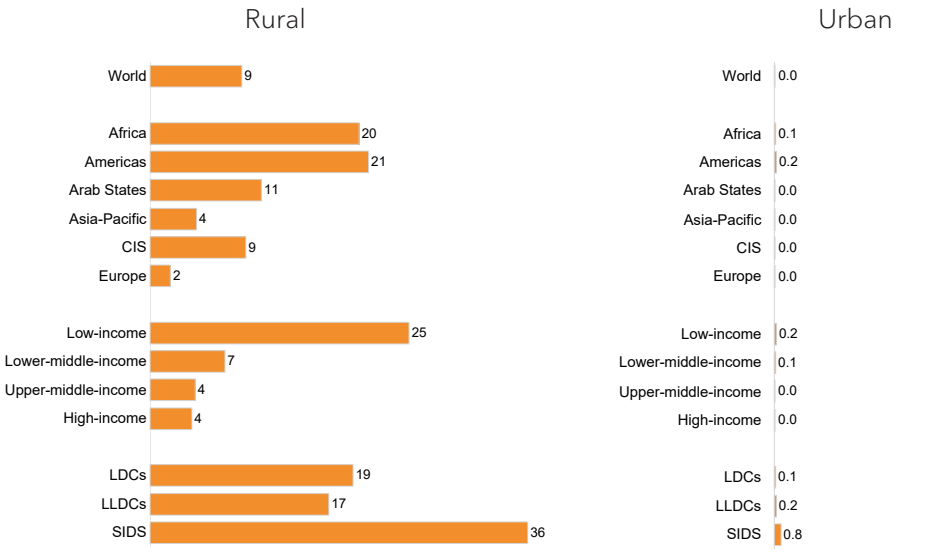
Population coverage by type of mobile network and area, 2025



Note: The values for 2G, 3G and 4G networks show the incremental percentage of the population that is not covered by a more advanced technology network (e.g. 80 per cent of Africa's rural population is covered by at least a 3G or above network, that is 1 per cent covered by 5G + 57 per cent covered by 4G + 22 per cent covered only by 3G). Interactive chart.
Source: ITU

There are still parts of the world where there is either no network coverage at all, or only 2G service. These uncovered areas are exclusively rural, with the affected population ranging from 2 per cent in rural areas of Europe, to 21 per cent in rural areas of the Americas region. In LLDCs, 17 per cent of the rural population remains without network coverage, while in LDCs the share is 19 per cent. The widest coverage gap is in rural areas of SIDS, where 36 per cent of the population still lacks mobile broadband access.

Percentage of the population without access to a 3G mobile network or higher, 2025

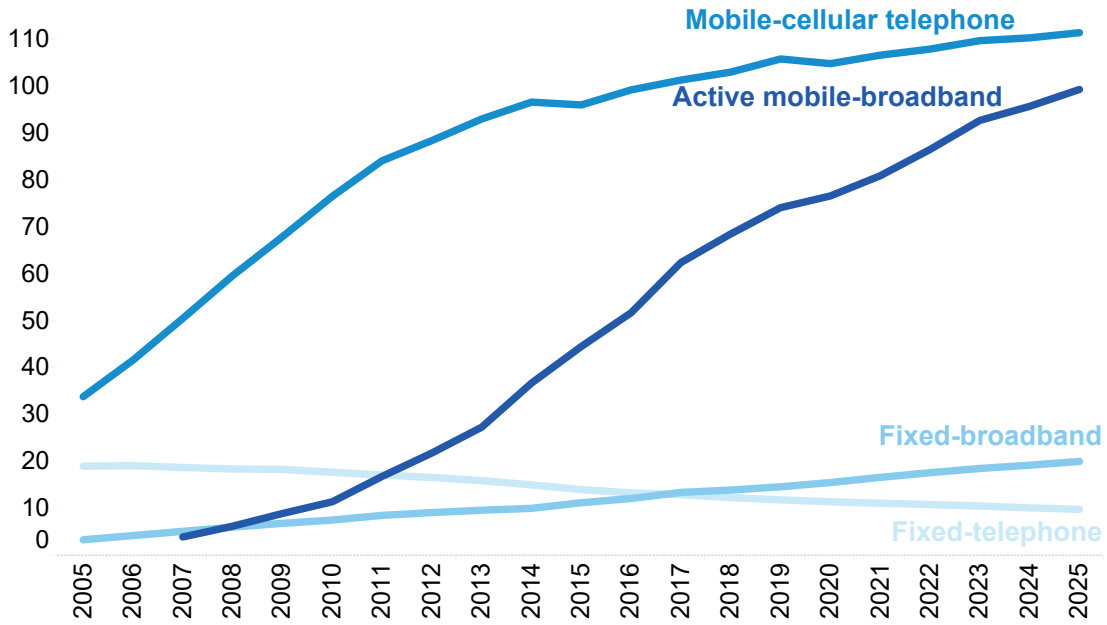


Note: Interactive chart.
Source: ITU

Subscriptions

5G subscriptions already represent more than one-third of all mobile broadband subscriptions

Subscriptions per 100 inhabitants, worldwide



Note: The levels for fixed subscriptions are usually lower than for mobile subscriptions, because the former are usually shared within a household, while the latter are normally tied to an individual. Interactive chart.
Source: ITU

In 2025, there are 9.2 billion mobile-cellular subscriptions. This means there are 112 subscriptions for every 100 inhabitants. In high-income countries, this level rises to 142 mobile-cellular subscriptions per 100 inhabitants which is twice the level in low-income countries where there are 70 mobile-cellular subscriptions per 100 inhabitants. Among the regions, the CIS region has the highest penetration, with 159 subscriptions per 100 inhabitants, or 1.7 times the level in Africa where there are 92 subscriptions per 100 inhabitants.

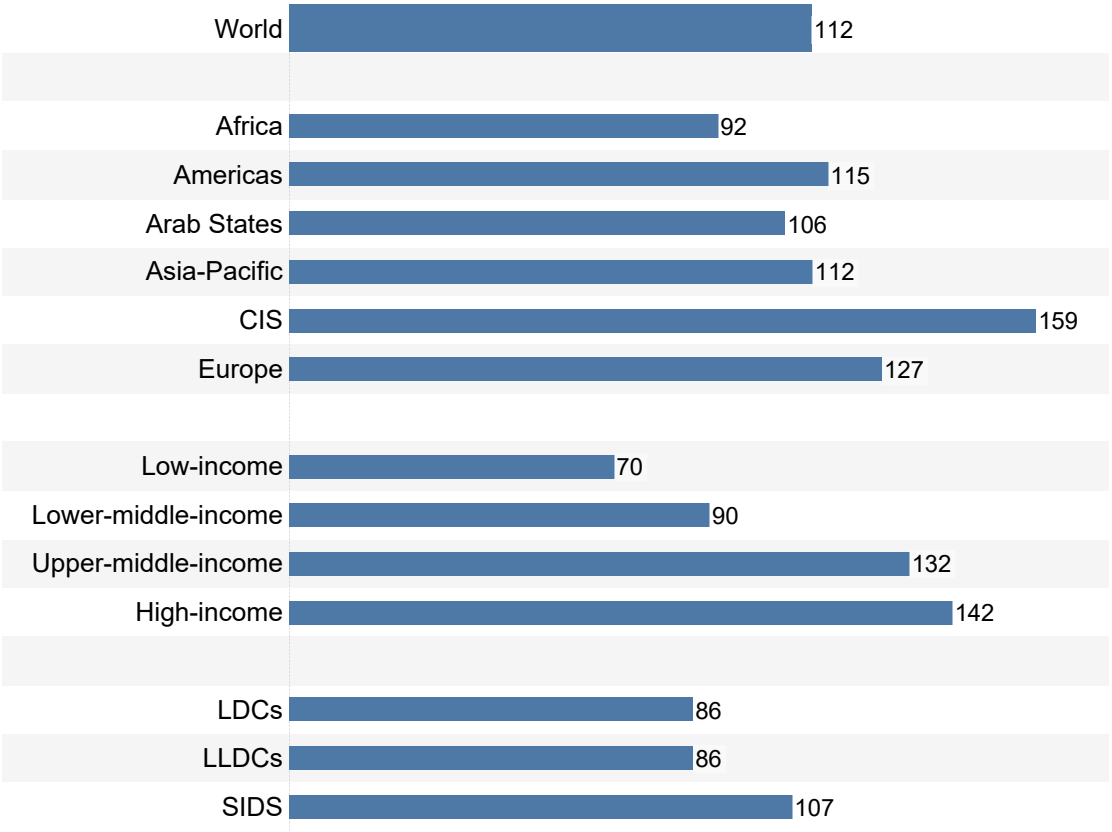
Mobile broadband continues to drive the evolution of connectivity. In 2025, there are 99 mobile broadband subscriptions per 100 inhabitants. Mobile broadband now accounts for 89 per cent of all mobile subscriptions, up from less than 50 per cent of mobile subscriptions in 2015. This shift reflects changing user behaviour, with demand increasingly shaped by data-based services and the gradual phase-out of voice-only plans.

At 99 mobile broadband subscriptions per 100 inhabitants, there are now almost as many mobile broadband subscriptions as people in the world. This does not mean, however, that everybody has a mobile broadband subscription as many individuals hold multiple subscriptions, and some subscriptions belong to connected devices rather than individuals. Regional disparities remain significant. In the Americas region there are 132 mobile broadband subscriptions per 100 inhabitants, compared to 56 mobile broadband subscriptions per 100 inhabitants in Africa.

Of all mobile broadband subscriptions, 36 per cent are now 5G/IMT-2020 subscriptions. 5G adoption varies widely across regions. In the Americas region, the Asia-Pacific region and Europe, over four in ten subscriptions are 5G, compared with just 2 or fewer per 100 subscriptions in

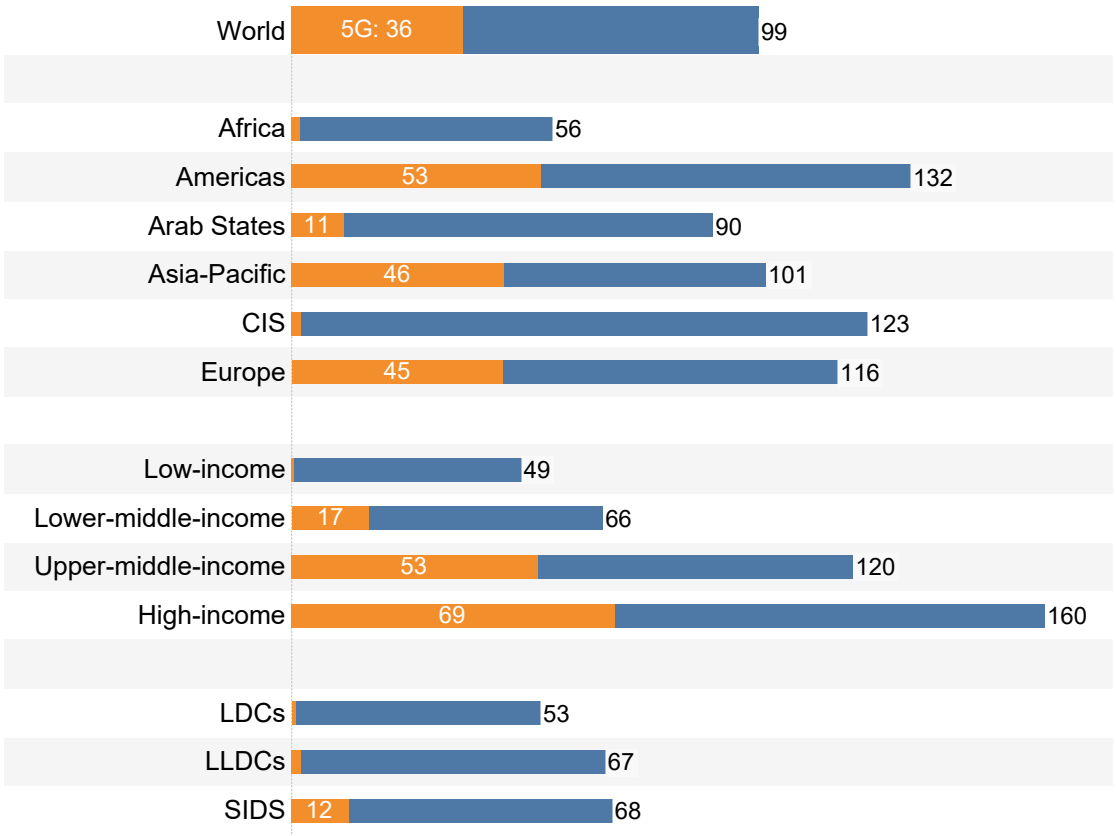
the CIS region and Africa. Unsurprisingly, 5G uptake closely mirrors network availability and where network coverage remains limited, subscriptions remain low, and vice versa (see *Mobile network coverage* section).

Mobile-cellular telephone subscriptions per 100 inhabitants, by region, 2025



Note: Interactive chart.
Source: ITU

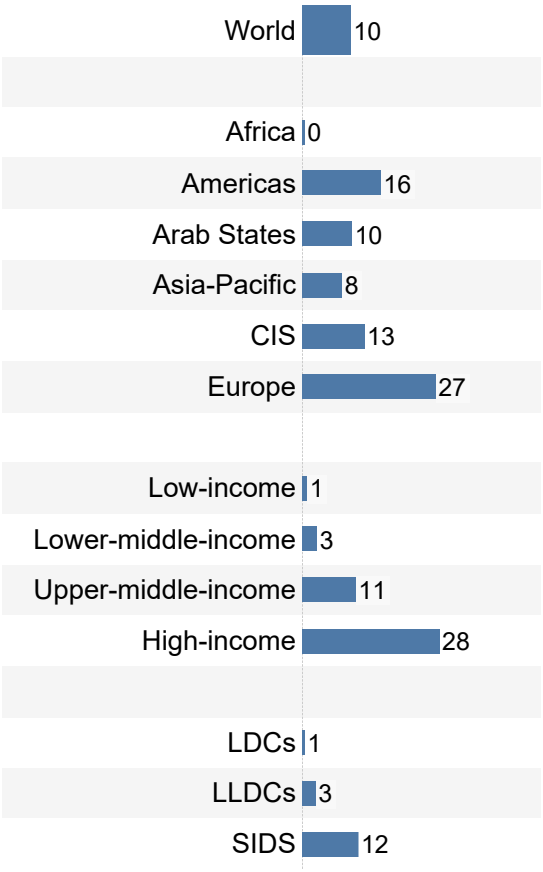
Active mobile broadband subscriptions per 100 inhabitants, by region, 2025



Note: Interactive chart.
Source: ITU

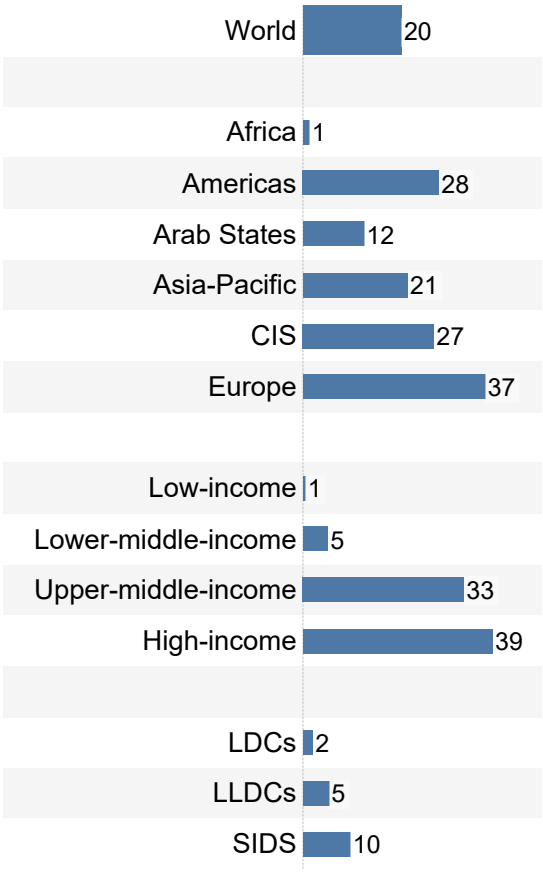
In parallel, fixed broadband subscriptions continue to expand steadily, growing by an average of 5.2 per cent annually over the past five years. During the same period, fixed-telephone subscriptions have continued to shrink by 3 per cent per year. Fixed broadband penetration, at 20 subscriptions per 100 inhabitants has now surpassed the historical peak of 19 fixed-line subscriptions per 100 inhabitants recorded in 2006. Fixed broadband penetration is significantly less than the mobile broadband penetration rate because fixed connections are usually shared by several people in a household, and because rolling out fixed broadband is much more costly than mobile broadband.

Fixed telephone subscriptions per 100 inhabitants, by region, 2025



Note: Interactive chart.
Source: ITU

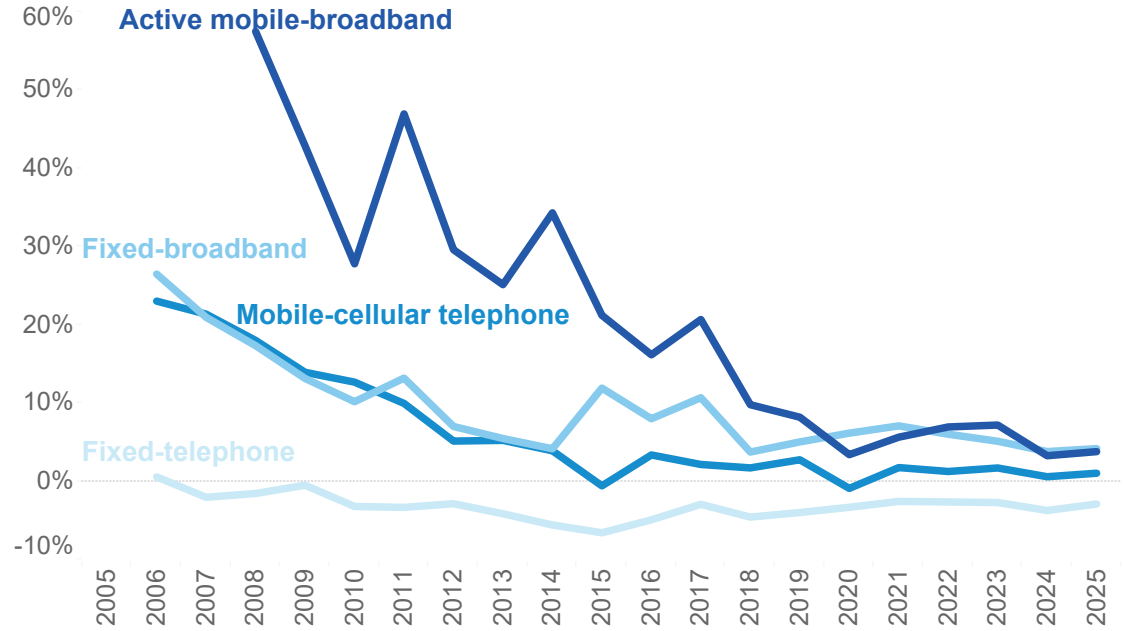
Fixed broadband subscriptions per 100 inhabitants, by region, 2025



Note: Interactive chart.
Source: ITU

Despite steady progress, fixed broadband penetration varies greatly across countries and regions, and inequalities are far higher than for mobile broadband connectivity. There are 39 fixed broadband subscriptions per 100 inhabitants in high-income countries, and less than one (0.6) fixed broadband subscription per 100 inhabitants in low-income countries, where investment constraints, regulatory barriers, and high deployment costs continue to hinder expansion.

Annual growth rates in subscription types, percentage

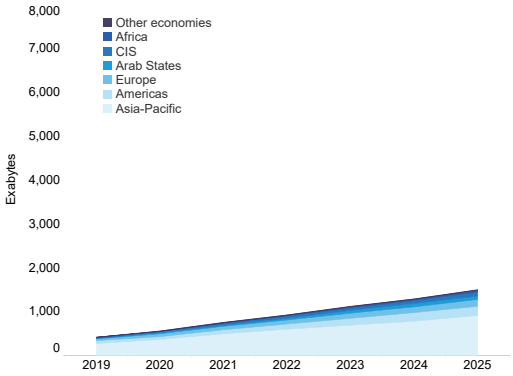


Note: Interactive chart.
Source: ITU

Internet traffic

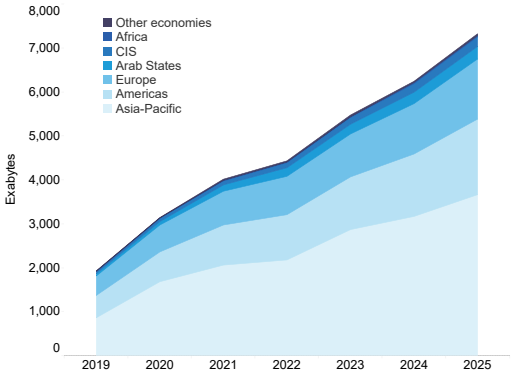
Mobile broadband traffic is growing faster, but fixed networks still carry most of the Internet data

Mobile broadband traffic, EB



Note: 1 exabyte (EB) = 10^{12} megabytes. Refers to traffic within the country. Interactive chart.
Source: ITU

Fixed broadband traffic, EB



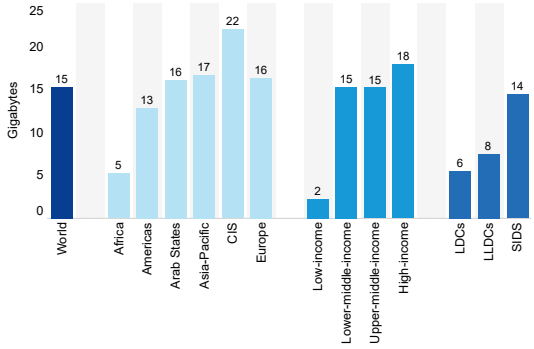
Note: 1 exabyte (EB) = 10^{12} megabytes. Interactive chart.
Source: ITU

After crossing the 1 zettabyte (ZB)[4] end-user Internet traffic threshold in 2023, mobile broadband traffic is estimated to be at 1.5 ZB in 2025. Fixed broadband traffic is almost five times greater, at 7.3 ZB in 2025, up from 6.2 ZB the previous year.

Given the infrastructure availability and connection technology, data-heavy Internet traffic is mostly carried over fixed broadband networks, which also comprise mobile devices and IoTs that connect through Wi-Fi networks to the open Internet, when in reach. Nevertheless, since 2021, mobile broadband traffic has grown on average by 19 per cent annually, faster than the 16 per cent growth for fixed broadband traffic.

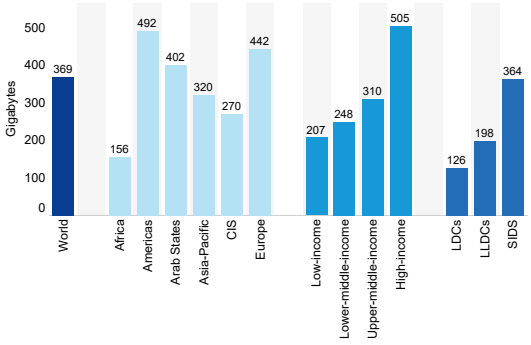
4 1 zettabyte (ZB) = 10^3 exabytes (EB) = 10^{15} MB.

Mobile broadband traffic per subscription per month (GB), 2025



Note: Interactive chart.
Source: ITU

Fixed broadband traffic per subscription per month (GB), 2025



Note: Interactive chart.
Source: ITU

The 17.9 GB average monthly mobile broadband traffic per subscription in high-income countries is roughly eight times the 2.2 GB average in low-income countries. Put another way, an average user in a high-income country generates more traffic in just four days than a user in a low-income country does in a whole month.

Though regional disparities in mobile broadband traffic per subscription are smaller than those experienced across income groups, regional disparities remain striking. The average monthly traffic in Africa is 5.2 GB per subscription, which is about one-third of the 15.3 GB global average, and one-quarter of the average monthly traffic of 22 GB per subscription in the CIS region, which has the highest traffic intensity of any region.

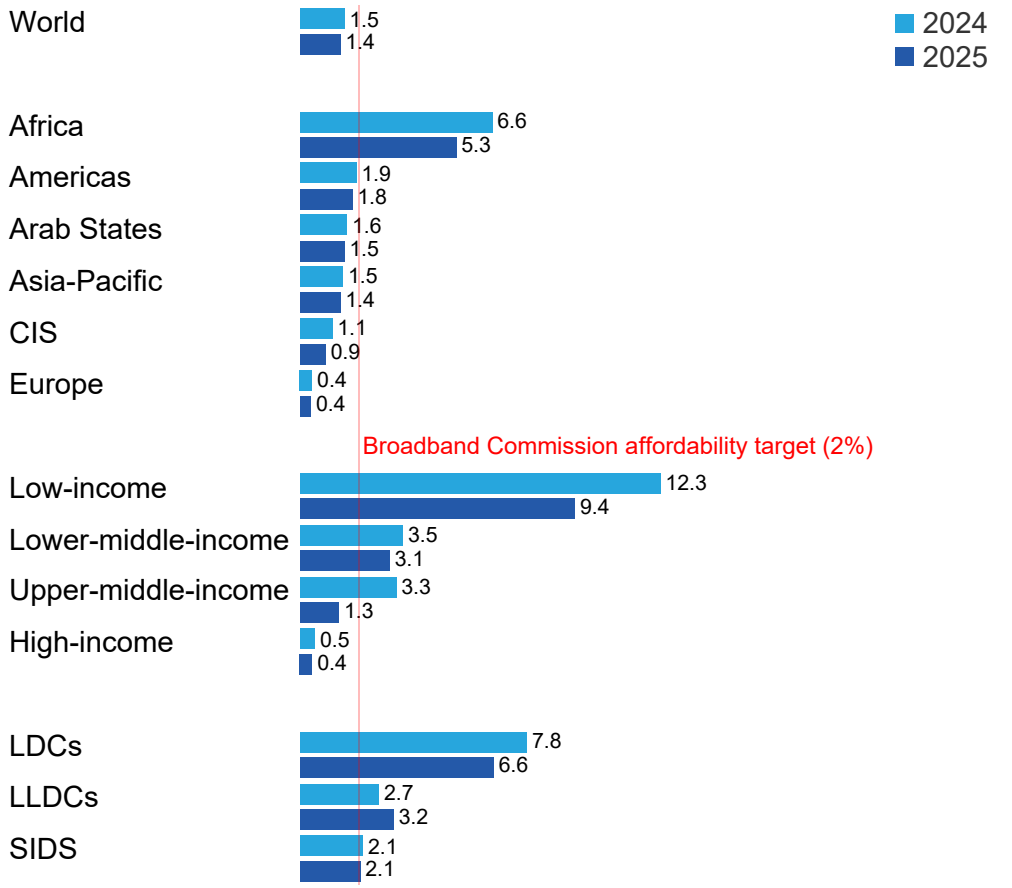
Disparities are less pronounced for fixed broadband traffic. Monthly traffic per subscription is similar across low- and middle-income economies at between 248 and 310 GB, but is still only about half the 505 GB level observed in high-income countries. However, high-income countries have seen faster deployment of fibre-optic networks, which has contributed to widening the fixed broadband traffic gap with the rest of the world.

In the LDCs, the average traffic per subscription for fixed and mobile broadband represents about one-third of the global average. In LLDCs, traffic per subscription values are about half the global average. In SIDS, a diverse group that includes some LDCs as well as advanced economies such as Singapore, traffic per subscription is in line with the world average for both fixed and mobile broadband.

Affordability of ICT services

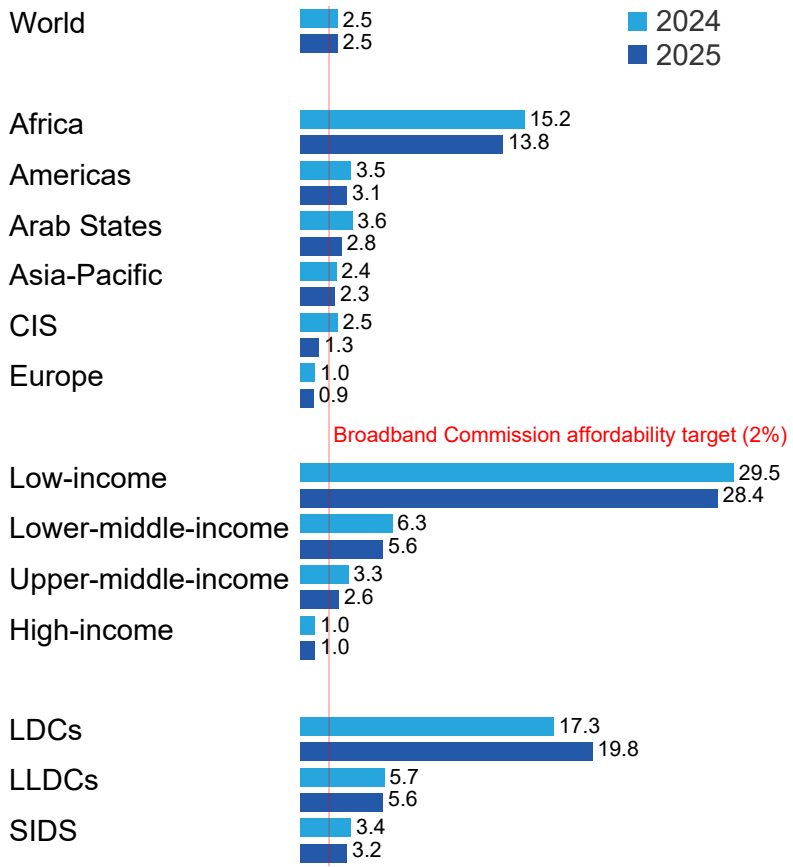
Internet access prices continue to fall, but one in three economies have yet to achieve the affordability target of the Broadband Commission

Price of data-only mobile broadband (5 GB) basket as a percentage of gross national income per capita, 2024-2025



Note: As of 2025, mobile broadband price statistics refer to the data-only mobile broadband basket with at least 5 GB monthly allowance, reflecting the methodology adopted by the Expert Group on Telecommunication/ICT Indicators (EGTI) in 2024. For comparability, 2024 statistics presented here are based on ITU's experimental data collection for the same data-only mobile broadband basket. Interactive chart.
Source: ITU

Price of fixed broadband (5 GB) basket as a percentage of gross national income per capita, 2024-2025



Note: Interactive chart.
Source: ITU

In 2025 the two connectivity benchmarks namely, the data-only mobile broadband basket, and the fixed broadband basket, have become more affordable in almost all regions, and across all income groups. Globally the median price of the data-only mobile broadband basket, expressed as a share of gross national income (GNI) per capita, fell from 1.5 to 1.4 per cent, while the fixed broadband basket remained stable at 2.5 per cent of GNI per capita.

Nonetheless, lack of affordability continues to be a major barrier to Internet access, especially in low-income economies. Despite some progress, a wide gap persists between high-income economies and the rest of the world. On average, subscribers in lower-middle-income economies spend about seven times as much of their income on a mobile broadband basket, as those in high-income economies, while subscribers in low-income economies spend about 22 times more. Where available, a fixed broadband subscription costs the equivalent of more than one quarter of the average income in a low-income country.

The Broadband Commission for Sustainable Development set as a target that the cost of broadband access in developing countries should not exceed two per cent of GNI per capita by 2025. Of the 205 economies for which data are available for the mobile broadband basket, 130 meet the affordability target, six more than in 2024. For the fixed broadband basket, 88 out of 195 countries meet the target, ten more than in 2024.

However, among low- and middle-income economies, only 54 economies, or roughly four in ten low- and middle-income economies, have met the affordability target for at least one of the two baskets. Country-level and aggregate statistics for all five ICT price baskets for 2025 will be released in November 2025.[5]

[5] See https://www.itu.int/en/ITU-D/Statistics/Pages/ICTprices/default.aspx for more information on ICT prices.

ICT skills

Internet users' digital skills uneven – communication stands out as strongest

Because self-reporting of individuals' ICT skills may be subjective, ICT skills are measured based on whether an individual has recently performed certain activities that presuppose a degree of proficiency in the relevant skills. These ICT skills are grouped into five areas: communication and collaboration; problem solving; safety; digital content creation; and information and data literacy.

While the importance of digital skills in leveraging ICTs for economic prosperity and social well-being is well-documented, data remain very scant. Only 88 countries have submitted data since 2020, and rarely for all skill areas. Of these just 48 countries provide comparable data on ICT skill levels and only eight provided data on overall skill levels (see box on methodology for calculating ICT skill levels).

Despite these gaps, certain trends and patterns in ICT skills are emerging. Internet users consistently show strong communication skills. In all countries reporting data on *communication and collaboration*, at least three-quarters of Internet users possess at least basic skills in this area, regardless of national Internet usage levels.

Skill levels in other areas are more diverse. In the countries providing data, the share of Internet users with at least basic skills in *information and data literacy* tends to be higher than in other areas, except *communication and collaboration*. However, substantial variation persists across all skill areas, even among countries with similar levels of Internet use. For the eight countries reporting overall skill levels, the share of Internet users with at least basic skills ranges from 16 to 74 per cent, a gap of almost 60 percentage points.

Methodology for calculating ICT skill levels

At its 11th meeting in September 2023, the ITU Expert Group on ICT Household Indicators (EGH) recommended changes to the reporting of data on ICT skill levels and most importantly, that individuals' skill levels should be assessed for different areas.

Individuals should be assessed on the number of activities within a skill area they report having done in the last three months using the following progression:

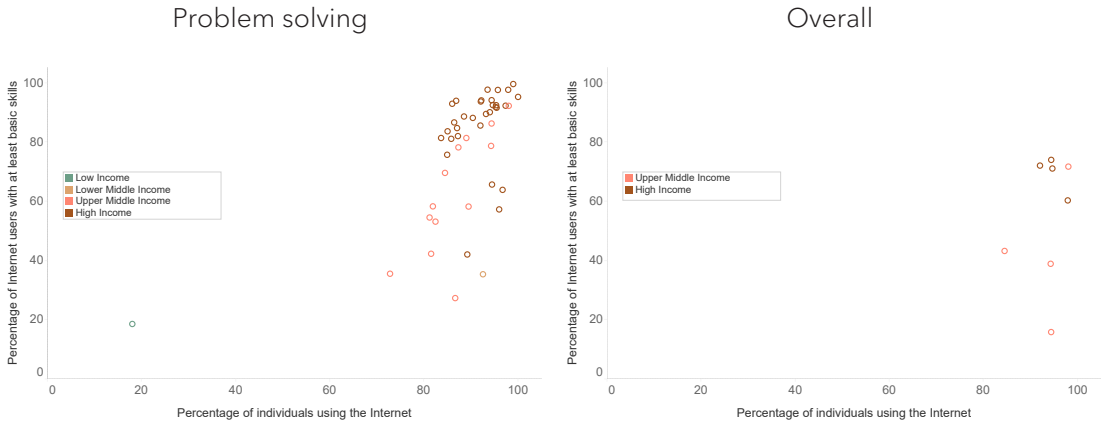
None	*Basic*	*Above basic*
0 activities	*1 activity*	*More than 1 activity*

- *Skill levels should not be assessed in skill areas where data are reported for one or no activities.*
- *Activities should be weighted equally within each skill area.*
- *Skill areas with different numbers of components should be treated equally.*

To measure overall skill levels, an individual is classified as having *basic digital skills* if they report having performed at least one activity in each of the five skill areas, and as having *above basic digital skills* if they performed two or more activities in each area. While this recommendation does not require any additional data collection, it does require that countries perform additional analysis on existing survey microdata. Through 2025, 48 countries have provided data, including eight which also provided data on overall skill levels. However, other countries were unable to provide skill level data, even though in many cases sufficient data on the underlying activities had been collected. It is expected that data availability will improve as familiarity with these new recommendations increases.

Percentage of Internet users with at least basic skills vs percentage of individuals using the Internet, by skill area, 2024 or latest year

(continued)

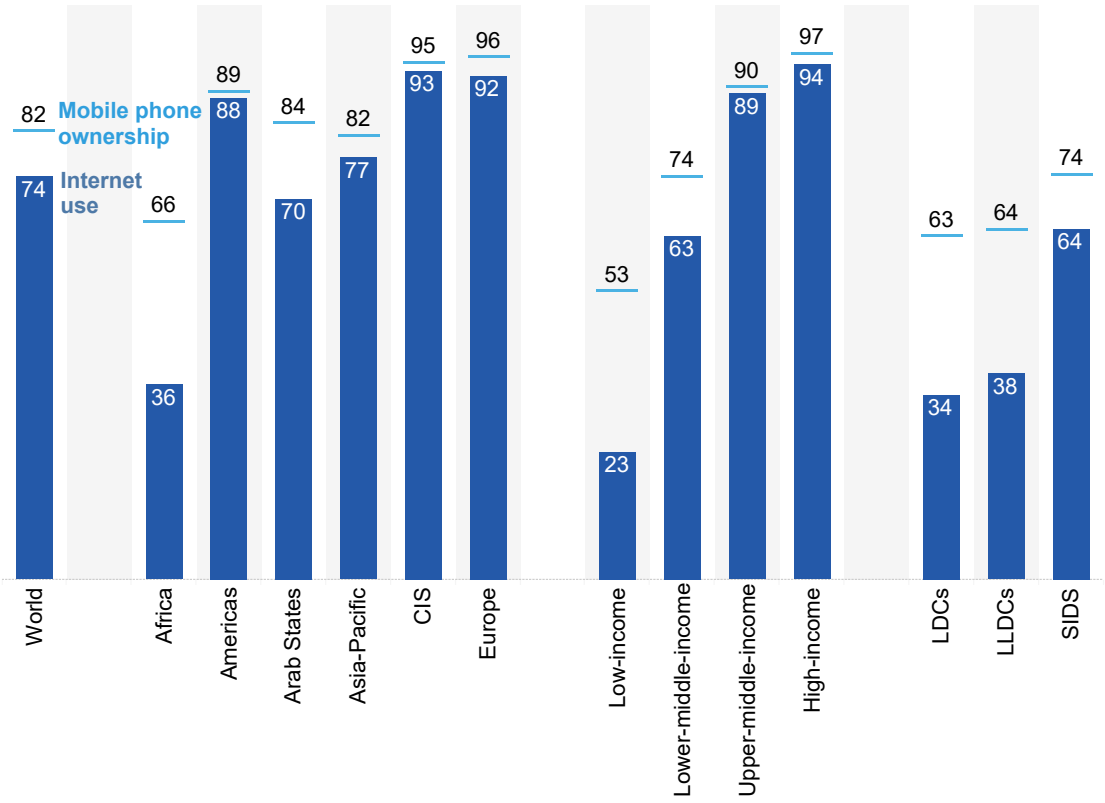


Note: Individuals with *at least basic skills* refers to those who have done at least one activity in the corresponding skill area during the survey reference period. Individuals with *at least basic overall skills* refers to those who have done at least one activity in all five skill areas. The *Information/data literacy* area refers to verifying the reliability of information; getting information about goods or services; reading or downloading newspapers, etc.; and seeking health-related information. *Communication and collaboration* refers to sending messages (e.g. e-mail, messaging service, SMS) with attached files; making calls over the Internet; participating in social networks; and taking part in consultation or voting via the Internet. *Digital content creation* refers to using copy and paste tools; creating electronic presentations; using basic arithmetic formulae in a spreadsheet; editing online text, spreadsheets, presentations; and uploading self/user-created content. *Safety* refers to changing privacy settings and setting up effective security measures. *Problem solving* refers to finding, downloading, installing, and configuring software; connecting and installing new devices; transferring files or applications between devices; electronic financial transactions; doing an online course; and purchasing or ordering goods or services.
Data availability: 44 countries for *information/data literacy,* 45 countries for *communication/collaboration*, 46 countries for *digital content creation,* 29 countries for *safety*, 46 countries for *problem solving*, and 8 for *overall skill levels*. In-scope ages may vary between countries. Interactive chart.
Source: ITU

Mobile phone ownership

Over four in five people worldwide own a mobile phone

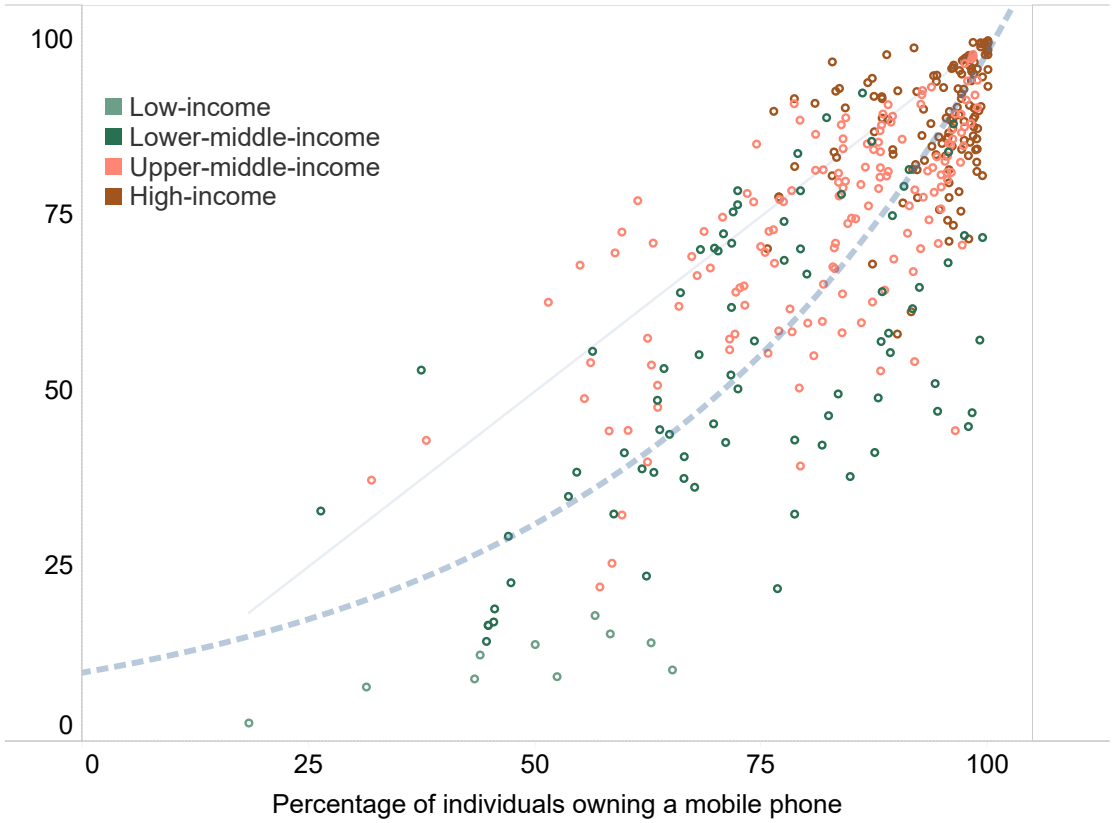
Percentage of individuals owning a mobile phone and using the Internet, 2025



Note: Mobile phone ownership refers to individuals aged 10 or older. Interactive chart.
Source: ITU

Globally, 82 per cent of individuals 10 years or older own a mobile phone. Universal ownership, meaning a penetration rate of over 95 per cent, has been reached in high-income economies, while upper-middle-income economies have already surpassed the 90 per cent mark. This stands in contrast with low-income economies, where only 53 per cent of the population aged 10 years and over own a mobile phone.

Percentage of individuals using the Internet vs percentage of individuals owning a mobile phone, 2015-2025



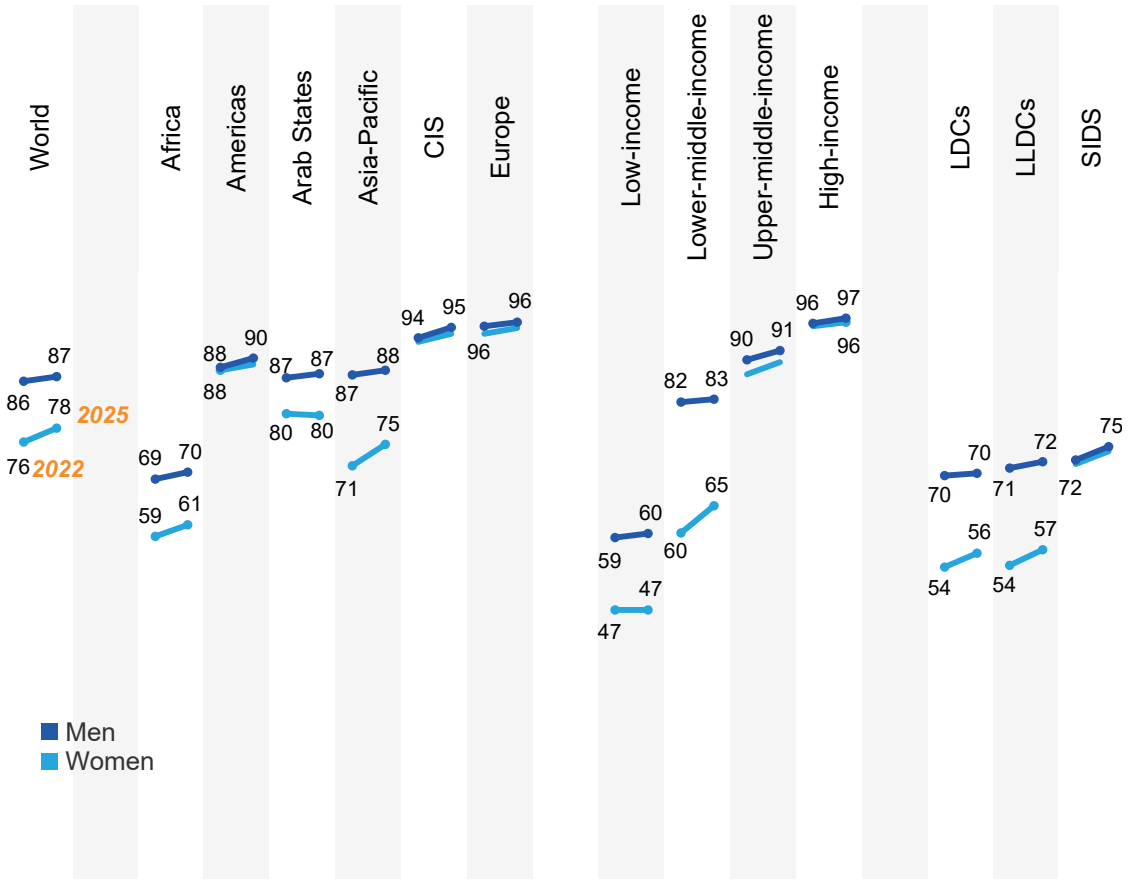
Note: Official data available from 95 economies (381 observations). In-scope ages may vary between countries. Each data point stands for a particular year between 2015 and 2025 for one country. The blue dotted line refers to the trend of all countries. The grey diagonal line is a reference line for mobile phone ownership = Internet use. Interactive chart.
Source: ITU

Mobile phones are the most common gateway to the Internet, so the prevalence of mobile phone ownership can provide an indication of Internet penetration. This is not a one-to-one relationship however, as people other than the owner may use the mobile phone to access the Internet such as for instance children using the mobile phone of a parent. Additionally, some mobile phones, such as feature phones, or limited subscription phones, are used on a calls-only basis. Furthermore, some individuals may own more than one mobile phone. In most countries, the percentage of individuals owning a mobile phone is higher than the percentage of individuals using the Internet.

This is also the case at the regional level for all six ITU regions. In Europe, the CIS region, and the Americas region the mobile phone-Internet use difference is small, as both measures are already close to universality. In the Asia-Pacific region, the prevalence of mobile phone ownership is four percentage points greater than Internet use, while in the Arab States region it is 14 percentage points greater. In Africa, although 66 per cent of the population own a mobile phone, only 36 per cent are online, a difference of 30 percentage points. However, the gap is shrinking in all regions, as growth in Internet use continues to outpace growth in mobile phone ownership.

The gender gap in mobile phone ownership is comparable with the gender gap in Internet use. Globally, 78 per cent of females and 87 per cent of males aged 10 and over own a mobile phone, translating into a gender parity score of 0.90 (i.e. skewed against women), which is slightly lower than the corresponding 0.92 score for Internet use. As with Internet use, progress on gender parity in mobile phone ownership has been uneven in the past three years. Globally, women are 10 per cent less likely to own a mobile phone than men, which is down from 12 per cent in 2022. Among those not owning mobile phones, women outnumber men by 67 per cent. As with Internet use, gender parity is strongly correlated with income levels. The lowest gender parity scores are observed in lower income countries, the LDCs, and the LLDCs.

Percentage of individuals owning a mobile phone by gender, 2022 and 2025



Note: Mobile phone ownership refers to individuals aged 10 or older. Interactive chart.
Source: ITU

Methodology

For this publication, regional and global aggregates up to 2024, are calculated using data supplied by Member States to ITU, supplemented where necessary by ITU estimates. Aggregates for those years may differ from those produced for earlier editions of *Facts and Figures*, owing to new or revised data submitted by Member States. Except for price data, all 2025 aggregates are ITU estimates computed using the methodology described below. For more detailed information, see Estimation methods for selected ICT indicators.

Mobile population coverage: end-2025 estimates

The percentage of the population covered by a mobile signal (2G, 3G, 4G, and 5G) refers to the percentage of inhabitants who have access to such coverage, regardless of whether they use the service. The indicator therefore measures the *availability* of mobile cellular services, rather than the *actual level of use or subscriptions*. Data are disaggregated by urban and rural areas.

However, in most cases data for coverage indicators are reported in aggregate form (combining urban and rural coverage). As with many ICT indicators, ITU collects this information data from telecommunication operators, telecommunication/ICT regulators, and national ministries. This information is widely available for both developed and developing countries. For countries that do not submit data, ITU applies two estimation methods: 1) estimation based on published data; and, if not feasible, 2) estimation based on trends.

Estimation based on published data

Data on coverage are sometimes available in the reports and/or on the websites of regulators and/or operators. This information can be used to estimate network coverage for the population of a country. This process involves the following steps:

1. **Identifying market players**: It is necessary to determine how many mobile network operators (MNOs) and primary market providers offer the mobile service in that country, and obtain related information.
2. **Annual report analysis**: Once the MNOs are identified, it is necessary to download and research their annual reports from the operators' websites.
3. **Alternative sources of business information**: If operators do not publish their annual reports, it may be possible to consult the reports filed with national stock exchange commissions, or international exchange commissions (such as the Securities and Exchange Commission in the United States of America). These reports, typically Form 20-F and Form F-6 filings, provide comprehensive information about the company, including subscriptions, tariffs, staffing, financial data, and more.
4. **Press releases and other media reports**: If it proves impossible to obtain data either from company annual reports or regulator publications, information can be approximated through industry analysis and news reports from trusted sources in the country, such as operator press releases, official statements from regulators or ministries, and media. Such data sources can provide absolute subscription numbers, market shares, penetration rates, growth rates, and population coverage, which can be used to derive estimates for the country.

Once the data from all operators are available, the total percentage of the population covered can be calculated.

Estimation based on trends

When data are not available from filings or industry reports, it may be possible to produce estimates by analysing trends from the previous five years, using forecasting tools such as Expert Modeller in IBM SPSS.

As the data available for most countries do not differentiate between urban and rural coverage, they require disaggregation. This is a straightforward calculation because mobile cellular coverage is virtually ubiquitous in urban areas, and the proportion of urban to rural inhabitants is published by the World Bank. This makes it possible to calculate how many rural inhabitants have coverage.

The percentage of the rural population covered by a mobile cellular signal (2G, 3G, 4G, and 5G) is then obtained by dividing the number of rural inhabitants with coverage, by the total rural population and multiplying by 100.

Aggregate values for regions, income groups, and other groupings are calculated as the population-weighted mean of the values for the individual countries in that region or group.

Internet use and mobile phone ownership estimates

Household surveys are a valuable source of statistics on Internet use and mobile phone ownership. However, mainly owing to their cost, relatively few countries administer such surveys and accordingly, there are large data gaps.

In addition, the delay between the collection of household survey data and their publication can be as much as two years or more, limiting their usefulness for ICT statistics given the rapid pace of technological change.

To overcome these shortcomings, data modelling and imputation are used to estimate missing historical values, and nowcasting techniques are used to estimate the figures for 2025. The models used to estimate these missing values rely on a diverse range of widely available national indicators for mobile broadband subscriptions, ICT services affordability, and GNI per capita, among others, and account for their changes over time. Weighted regression is used to give proportional influence in models to each region based on the number of countries in the region.

In addition to official data from the membership, important sources used to obtain data and/or cross-check estimates include the Gallup World Poll and the household survey of UNICEF, the Multiple Indicator Cluster Surveys (MICS). Additional data on socio-demographic characteristics are obtained from the World Bank, UNESCO, the International Labour Organization, and the Population Division in the Department of Economic and Social Affairs of the United Nations.

The official data and estimates are used to calculate aggregate values for regions, income groups, and other groupings, based on a weighted average of the values for individual countries. Because household surveys on Internet use rarely include children younger than five years old, estimates of total Internet users based on this weighted average should be interpreted with caution. Mobile phone ownership aggregates are weighted by the size of the population aged 10 years or older.

Disaggregation of overall values is performed separately. For instance, where official country data on the number of Internet users are only available in aggregate form, available disaggregated data for urban and rural populations from comparable economies are analysed to estimate

the proportion of the urban population that uses the Internet. Existing data on the country's overall Internet usage, population size, and urbanization are then used to derive estimates of the proportion of the rural population using the Internet, and the ratio between urban and rural usage levels. Global and regional figures are calculated by weighting the figures for individual countries by the rural and urban population in each country.

A similar procedure is used to estimate Internet use by young people, and Internet use and mobile phone ownership by gender.

For 2025, nowcasting is used to estimate the proportion of individuals who use the Internet and own mobile phones. Predictions are made at the country level for overall Internet use based on the country's growth history and that of other countries with similar levels of use. For all other indicators, predictions are produced for regional and global aggregates only, based on past growth.

Mobile-cellular, mobile broadband, and fixed broadband subscription estimates

The data on subscriptions in 2025 are compiled from publicly available data from regulators and ministries, as well as subscription information published by each country's main operators. When operator data are used, the reported number of subscriptions is divided by the operator's market share to obtain the total number of subscriptions in the country for a particular service. In the absence of annual reports, subscription data are estimated from industry analyses, authoritative news articles, and operator press releases.

Data from these sources include the absolute number of subscriptions, market shares, penetration, and growth rates which are used to derive the country estimates using the same method employed with operator data. In the case of countries for which data are not available either from the national administration or from filings and industry reports, subscriptions are estimated using univariate time series analyses applied to the data from the last 10 years.

The univariate time series analyses are done by decomposing the time series of penetration data of a particular service to its trend and residual component so as to obtain the autoregressive integrated moving average (ARIMA) models. The resulting ARIMA models are used to make the point prediction for 2025 each country and service.

Aggregate values for regions, income groups, and other groupings are calculated based on a weighted average of the values for individual countries.

Fixed and mobile broadband Internet traffic estimates

ITU collects Internet traffic statistics on fixed and mobile broadband (inside the country) through its annual World Telecommunication/ICT Indicators short and long questionnaires, according to the methodology provided in the *Handbook for the Collection of Administrative Data on Telecommunications/ICT*. Statistics refer to traffic over the open Internet and thus exclude 'walled garden' and IPTV services. Internet traffic over a mobile device connected through Wi-Fi to a fixed network is considered part of fixed broadband traffic.

Traffic figures for 2025 are estimates based on an extrapolation of trends in quarterly traffic per subscription, for countries that publish such figures. For all other countries, model-based

estimates are used, relying on changes in subscriptions (see above) and average download speed, obtained from Ookla Speedtest data.[6]

Where Internet traffic statistics are not available from the questionnaires, the figures are compiled from publicly available sources from regulators, ministries, the OECD Broadband statistics, or operator reports. In the absence of any of these alternative sources, ITU produces estimates, using modelling tools and imputation to estimate aggregates.

Fixed broadband Internet traffic estimates are based on the assumption that traffic is a function of technical conditions, moderating factors such as quality of connectivity, and economic factors influencing demand. Consequently, models rely on ITU indicators such as the number of fixed broadband subscriptions (overall, and in the speed tier above 100 Mbit/s), the share of individuals and households using the Internet, affordability of the fixed broadband price basket, average download speeds obtained from Ookla Speedtest data, and per capita income obtained from the World Bank. Mobile broadband traffic estimates are based on ITU data, including data-only mobile broadband affordability, share of individuals using the Internet, Ookla Speedtest data for average download speed, and per capita income. The actual linear model selected is based on data availability and model fit measures.

In cases where data are only missing for some of the years, extrapolations are made with the help of changes in average download speeds or exponential smoothing functions.

Traffic estimates have a number of limitations. One limitation is that many mobile operators and Internet service providers do not regularly publish traffic statistics, and the statistics provided by ministries and regulators often include estimates. While there are some good practices for publishing quarterly data on Internet traffic, few sources provide timely data. A second limitation is that the predictive power of the models used to estimate traffic is lower than for other indicators.

ICT price statistics

ITU price statistics refer to ICT baskets, which are internationally comparable units of ICT services. The *Affordability of ICT services* section above presents medians based on the 205 economies for which price data are available for both 2024 and 2025, for the data-only mobile broadband basket, and on the 195 economies for which such data are available for the fixed broadband basket. The data-only mobile broadband basket is defined as the cheapest data-only mobile broadband subscription available domestically with a 3G technology or above, and a minimum monthly data allowance of 5 GB.[7] The fixed broadband basket is defined as the cheapest fixed Internet subscription available domestically with a minimum of 5 GB monthly data allowance, and an advertised download speed of at least 256 kbit/s.

The 2025 ICT prices refer to retail prices for the basket in effect in February 2025. GNI per capita figures are obtained from the World Bank World Development Indicators and refer to the latest available year (2024 or 2023), retrieved in July 2025; or, if unavailable, from the United Nations

[6] Ookla Speedtest data. Speedtest by Ookla Global Fixed and Mobile Network Performance Maps was accessed in August 2025 from https://registry.opendata.aws/speedtest-global-performance.

[7] As of 2025, mobile broadband price statistics refer to the data-only mobile broadband basket with at least 5 GB monthly allowance, reflecting the methodology adopted by the Expert Group on Telecommunication/ICT Indicators (EGTI) in 2024. For comparability, 2024 statistics presented here are based on ITU's experimental data collection for the same basket.

DESA National Accounts Main Aggregates Database. More information on ICT service price data collection methodology is available in the Manual.

Office of the Director
International Telecommunication Union (ITU)
Telecommunication Development Bureau (BDT)
Place des Nations
CH-1211 Geneva 20
Switzerland

Email: bdtdirector@itu.int
Tel.: +41 22 730 5035/5435
Fax: +41 22 730 5484

Office of Deputy Director and Regional Presence
Field Operations Coordination Department (DDR)
Place des Nations
CH-1211 Geneva 20
Switzerland

Email: bdtdeputydir@itu.int
Tel.: +41 22 730 5131
Fax: +41 22 730 5484

Digital Networks and Society (DNS)
Email: bdt-dns@itu.int
Tel.: +41 22 730 5421
Fax: +41 22 730 5484

Digital Knowledge Hub Department (DKH)
Email: bdt-dkh@itu.int
Tel.: +41 22 730 5900
Fax: +41 22 730 5484

Partnerships for Digital Development Department (PDD)
Email: bdt-pdd@itu.int
Tel.: +41 22 730 5447
Fax: +41 22 730 5484

Africa

Ethiopia
International Telecommunication Union (ITU) Regional Office
Gambia Road
Leghar Ethio Telecom Bldg. 3rd floor
P.O. Box 60 005
Addis Ababa
Ethiopia

Email: itu-ro-africa@itu.int
Tel.: +251 11 551 4977
Tel.: +251 11 551 4855
Tel.: +251 11 551 8328
Fax: +251 11 551 7299

Cameroon
Union internationale des télécommunications (UIT)
Bureau de zone
Immeuble CAMPOST, 3e étage
Boulevard du 20 mai
Boîte postale 11017
Yaoundé
Cameroon

Email: itu-yaounde@itu.int
Tel.: + 237 22 22 9292
Tel.: + 237 22 22 9291
Fax: + 237 22 22 9297

Senegal
Union internationale des télécommunications (UIT)
Bureau de zone
8, Route du Méridien Président
Immeuble Rokhaya, 3e étage
Boîte postale 29471
Dakar - Yoff
Senegal

Email: itu-dakar@itu.int
Tel.: +221 33 859 7010
Tel.: +221 33 859 7021
Fax: +221 33 868 6386

Zimbabwe
International Telecommunication Union (ITU) Area Office
USAF POTRAZ Building
877 Endeavour Crescent
Mount Pleasant Business Park
Harare
Zimbabwe

Email: itu-harare@itu.int
Tel.: +263 242 369015
Tel.: +263 242 369016

Americas

Brazil
União Internacional de Telecomunicações (UIT)
Escritório Regional
SAUS Quadra 6 Ed. Luis Eduardo Magalhães,
Bloco "E", 10º andar, Ala Sul (Anatel)
CEP 70070-940 Brasilia - DF
Brazil

Email: itubrasilia@itu.int
Tel.: +55 61 2312 2730-1
Tel.: +55 61 2312 2733-5
Fax: +55 61 2312 2738

Barbados
International Telecommunication Union (ITU) Area Office
United Nations House
Marine Gardens
Hastings, Christ Church
P.O. Box 1047
Bridgetown
Barbados

Email: itubridgetown@itu.int
Tel.: +1 246 431 0343
Fax: +1 246 437 7403

Chile
Unión Internacional de Telecomunicaciones (UIT)
Oficina de Representación de Área
Merced 753, Piso 4
Santiago de Chile
Chile

Email: itusantiago@itu.int
Tel.: +56 2 632 6134/6147
Fax: +56 2 632 6154

Honduras
Unión Internacional de Telecomunicaciones (UIT)
Oficina de Representación de Área
Colonia Altos de Miramontes
Calle principal, Edificio No. 1583
Frente a Santos y Cía
Apartado Postal 976
Tegucigalpa
Honduras

Email: ituteguciglapa@itu.int
Tel.: +504 2235 5470
Fax: +504 2235 5471

Arab States

Egypt
International Telecommunication Union (ITU) Regional Office
Smart Village, Building B 147,
3rd floor
Km 28 Cairo
Alexandria Desert Road
Giza Governorate
Cairo
Egypt

Email: itu-ro-arabstates@itu.int
Tel.: +202 3537 1777
Fax: +202 3537 1888

Asia-Pacific

Thailand
International Telecommunication Union (ITU) Regional Office
4th floor NBTC Region 1 Building
101 Chaengwattana Road
Laksi,
Bangkok 10210,
Thailand

Email: itu-ro-asiapacific@itu.int
Tel.: +66 2 574 9326 – 8
+66 2 575 0055

Indonesia
International Telecommunication Union (ITU) Area Office
Gedung Sapta Pesona
13th floor
Jl. Merdeka Barat No. 17
Jakarta 10110
Indonesia

Email: bdt-ao-jakarta@itu.int
Tel.: +62 21 380 2322

India
International Telecommunication Union (ITU) Area Office and Innovation Centre
C-DOT Campus
Mandi Road
Chhatarpur, Mehrauli
New Delhi 110030
India

Email:
Area Office: itu-ao-southasia@itu.int
Innovation Centre: itu-ic-southasia@itu.int
Website: ITU Innovation Centre in New Delhi, India

CIS

Russian Federation
International Telecommunication Union (ITU) Regional Office
4, Building 1
Sergiy Radonezhsky Str.
Moscow 105120
Russian Federation
Email: itu-ro-cis@itu.int
Tel.: +7 495 926 6070

Europe

Switzerland
International Telecommunication Union (ITU) Office for Europe
Place des Nations
CH-1211 Geneva 20
Switzerland

Email: eurregion@itu.int
Tel.: +41 22 730 5467
Fax: +41 22 730 5484

International
Telecommunication
Union
Place des Nations
CH-1211 Geneva 20
Switzerland

ISBN: 978-92-61-41501-3

Published in Switzerland
Geneva, 2025
Photo credits: Adobe Stock