TRENDS IN MOBILE INTERNET CONNECTIVITY

The State of Mobile Internet Connectivity 2025

GSMA Mobile for Development

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The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry, and society thrive. Representing mobile operators and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach. This activity includes advancing policy, tackling today's biggest societal challenges, underpinning the technology and interoperability that make mobile work, and providing the world's largest platform to convene the mobile ecosystem at the MWC and M360 series of events.

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The Connected Society programme works with the mobile industry, technology companies, the development community and governments to increase access to and adoption of mobile internet, focusing on underserved population groups in developing markets.

For more information, please visit www.gsma.com/connected-society

To get in touch with the Connected Society team, please email connectedsociety@gsma.com

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TRENDS IN MOBILE INTERNET CONNECTIVITY

More people than ever before are accessing the internet through mobile devices. This connectivity enables access to critical services such as healthcare, education, e-commerce and financial services, and provides income-generating opportunities. In low- and middle-income countries (LMICs), mobile remains the primary – and often the only – means of getting online, accounting for 84% of broadband connections in 2024.[1]

Despite this progress, significant digital divides persist. Those who are digitally excluded are more likely to be poorer, less educated, rural, persons with disabilities and women – groups that stand to gain the most from connectivity.

This report explores how mobile internet connectivity has evolved since 2015, examining trends in three key areas: the share of the population using mobile internet, the proportion still living outside mobile broadband coverage (the coverage gap), and those who live within mobile broadband coverage but are not yet online (the usage gap).

1 International Telecommunication Union (ITU) estimates for 2024.

1. MOBILE INTERNET CONNECTIVITY OVERVIEW

Connected

58%

of the **world's population** are now using **mobile internet**

4.7 BILLION PEOPLE

200 MILLION PEOPLE

began using mobile internet in 2024 – a rate of growth not seen since 2021

Coverage gap

4%

of the **world's population** are still **not covered** by **mobile broadband**

Around **300 MILLION PEOPLE**

(down **40m** compared to 2023)

Usage gap

38%

of the **world's population** live within the footprint of a **mobile broadband network** but are **not using it**

3.1 BILLION PEOPLE

Almost **90%** of the **growth in mobile internet adoption in 2024** came from **LMICs**

where **93%** **of the unconnected live**

After two years of relatively slow growth, 2024 saw an increase in the rate of mobile internet adoption.[2] Approximately 200 million people began using mobile internet on their own devices[3] – a growth rate not seen since 2021. As a result, 4.7 billion people, or 58% of the global population, now use mobile internet on a personal device.[4] A further 710 million individuals use mobile internet on a device they do not own or have primary use of. This means that 9% of the global population are mobile internet users without their own device.

Almost 90% of the growth in 2024 came from LMICs, where 93% of the unconnected population lives. While the overall growth rate of mobile internet adoption was higher in 2024 than 2023, this was not the case for certain segments of the population. For instance, in LMICs, the latest data shows that the growth in women's rate of adoption has slowed relative to men in 2024.

The global coverage gap (the population living in areas without mobile broadband coverage) remains largely unchanged, at 4%. Around 300 million people are not covered by a mobile broadband network, reflecting an increase in mobile internet coverage to an additional 40 million people over the last year. The remaining uncovered communities, which are predominantly rural, poor and sparsely populated, are the most challenging to reach.

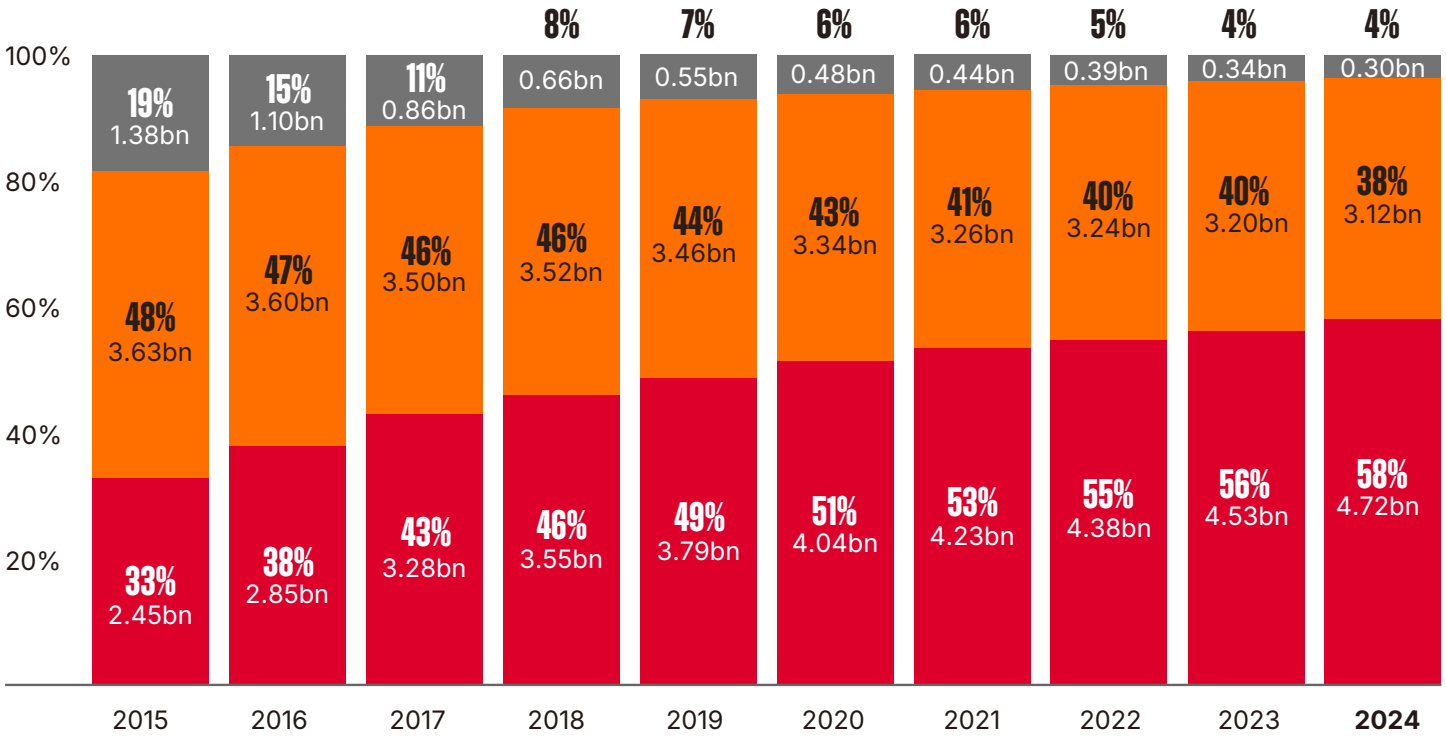
More than 90% of those still not using mobile internet already live in areas with coverage but face other barriers to adoption. In total, 3.1 billion people, or 38% of the world's population, are not using mobile internet despite being covered by a mobile broadband network. With mobile internet adoption continuing to outpace network expansion, this usage gap continues to shrink (see Figure 1). It has reduced from 49% in 2015 and 40% in 2023. However, it is now 10 times the size of the coverage gap.

2 This is based on information gathered as of Q2 2025.

3 In this report, the term device generally refers to a mobile phone, given the vast majority of internet users in LMICs access it through a mobile phone and the vast majority of users in high-income countries do so too (often in addition to other devices such as tablets, laptops and PCs).

4 Each year, GSMA Intelligence incorporates new and updated data from operators, regulators, national statistics agencies and consumer surveys where available. This applies to historical data before 2023. Estimates of mobile internet adoption during 2015–2022 can therefore differ to what was presented in previous editions of The State of Mobile Internet Connectivity.

Figure 1: Global mobile internet connectivity, 2015–2024



- Coverage gap (living outside of mobile broadband coverage)
- Usage gap (living in areas covered by a mobile broadband network but not using mobile internet)
- Mobile internet subscribers

Base: Total population, 197 countries

Note: Totals may not add up due to rounding. Each year, GSMA Intelligence updates its estimates of the number of mobile internet subscribers in each country, incorporating new (and/or updated) data from operators, regulators, national statistics agencies and consumer surveys where available. In some countries and regions, estimates of mobile internet adoption may therefore differ from what was presented in previous editions of The State of Mobile Internet Connectivity.

Source: Unique subscriber data is sourced from GSMA Intelligence. Coverage data is sourced from GSMA Intelligence, combining data reported by mobile operators and national regulatory authorities. Population data is sourced from the UN.

There are two ways people can be **unconnected**; either they live in an area not covered by mobile broadband, or they live in an area that is covered but they do not use mobile internet.

UNCONNECTED
(not using mobile internet)

COVERAGE GAP
Those who live in an area not covered by a mobile broadband network

USAGE GAP
Those who live within the footprint of a mobile broadband network but do not use mobile internet services

CONNECTED
(using mobile internet)

Those who use mobile internet. Our definition of "connected" only includes mobile internet subscribers and users who connect via 3G, 4G or 5G technologies.[5] This is consistent with our definition of the coverage gap (which only considers mobile broadband).

Two categories of mobile internet usage are considered:

Mobile internet subscribers are individuals who use mobile internet on a device they own or have primary use of.

Additional mobile internet users are individuals who use mobile internet on a device they do not own or have primary use of. This is either on a shared device or a device that belongs to someone else.[6] It is possible that the estimate of additional mobile internet users includes individuals who use the internet but not on a mobile device, though we expect such a segment to be small in proportion to the total number of mobile internet users.

This report uses the results of the GSMA Consumer Survey and GSMA Intelligence modelling. The survey aims to understand access to, and use of, mobile and mobile internet in LMICs. During 2017–2024, the GSMA has conducted nationally representative face-to-face surveys in 30 LMICs, accounting for 79% of the population in LMICs. This included 15 LMICs in 2024.[7]

More information on the GSMA Consumer Survey can be found in Appendix 1.

5 2G can be used to access data but provides an extremely limited experience. It therefore does not count towards the connected estimates.
6 For further details on this category, see The State of Mobile Internet Connectivity Report 2024, GSMA, 2024
7 Countries surveyed in 2024 include: Bangladesh, Egypt, Ethiopia, Guatemala, India, Indonesia, Kenya, Mexico, Nigeria, Pakistan, Philippines, Rwanda, Senegal, Tanzania and Uganda.

2. EXPLORING VARIATIONS IN CONNECTIVITY

Connectivity continues to vary significantly between and within regions

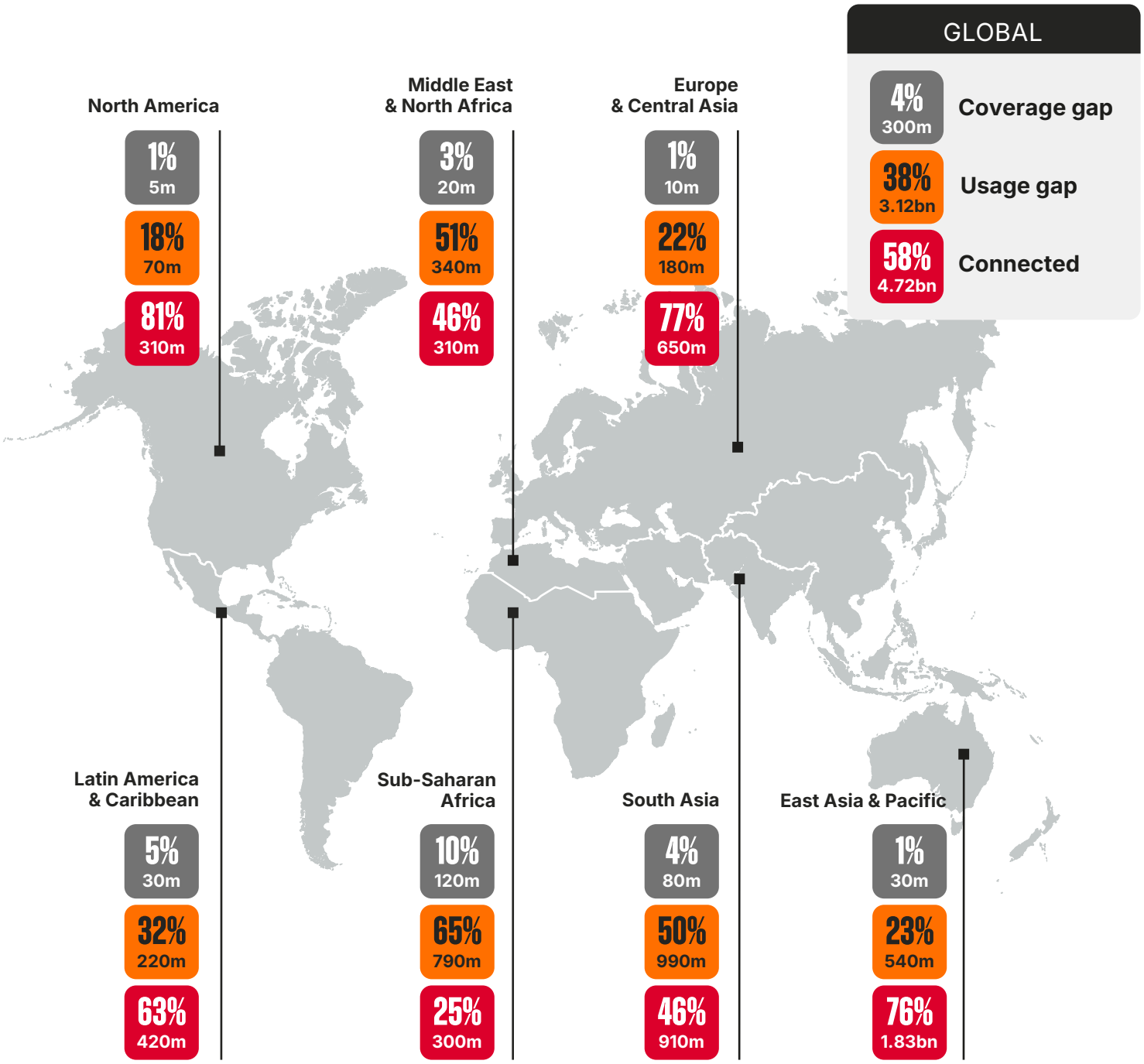
North America, Europe & Central Asia and East Asia & Pacific are the regions with the highest proportions of the population using mobile internet (see Figure 2). Sub-Saharan Africa remains the region with the lowest percentage of the population using mobile internet and the largest coverage gap. However, operators in Sub-Saharan Africa continue to make progress in closing the coverage gap, with a reduction from 13% of the population not living in areas covered by mobile broadband in 2023 to 10% in 2024 (equivalent to bringing mobile broadband coverage to 30 million people). See Figure 3. The percentage of the population using mobile internet within the region is highest in Western Africa (almost 30%) and lowest in Central Africa (16%). Central Africa also has the largest coverage gap but has made significant progress in reducing this, from 34% in 2023 to 25% in 2024 (see the Network Coverage and Infrastructure report for more information). Eastern Africa has the largest usage gap within the region, at 72%.

More people were using mobile internet across all regions, and the rates of mobile internet adoption in most regions remained similar in 2024 to the previous two years.[8] East Asia & Pacific and Latin America & Caribbean saw slightly increased growth rates of mobile adoption in 2024 compared to 2023, with growth at 3 percentage points (pp) and 2.5 pp respectively. Southeast Asia was the sub-region with the highest increase in mobile internet adoption, as the proportion of the population using mobile internet increased from 59% in 2023 to 65% in 2024.

Figure 2 provides a regional breakdown of the percentage of people using mobile internet on their own device, and estimates for the usage and coverage gaps as of the end of 2024.

8 Sub-Saharan Africa and MENA saw increases in adoption of 1 percentage point (similar to 2023), while growth in South Asia was 2 percentage points (also similar to 2023).

Figure 2: State of mobile internet connectivity by region, 2024

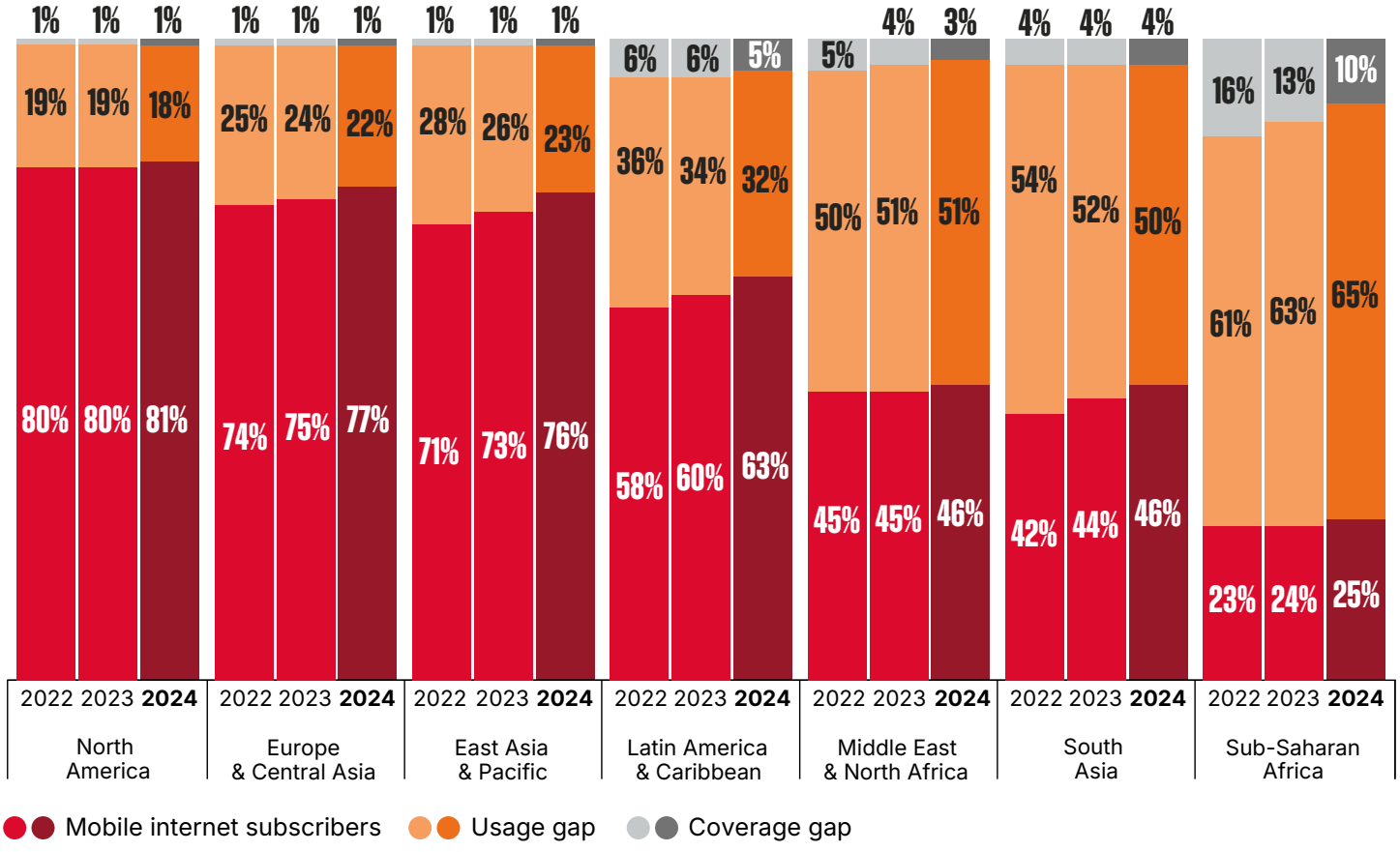


Base: Total population

Note: Totals may not add up to 100% due to rounding. Each year, GSMA Intelligence updates its estimates of the number of mobile internet subscribers in each country, incorporating new (and/or updated) data from operators, regulators, national statistics agencies and consumer surveys where available. In some countries and regions, estimates of mobile internet adoption may therefore differ from what was presented in previous editions of The State of Mobile Internet Connectivity.

Source: GSMA Intelligence

Figure 3: Mobile internet connectivity by region, 2022–2024



Base: Total population, 197 countries

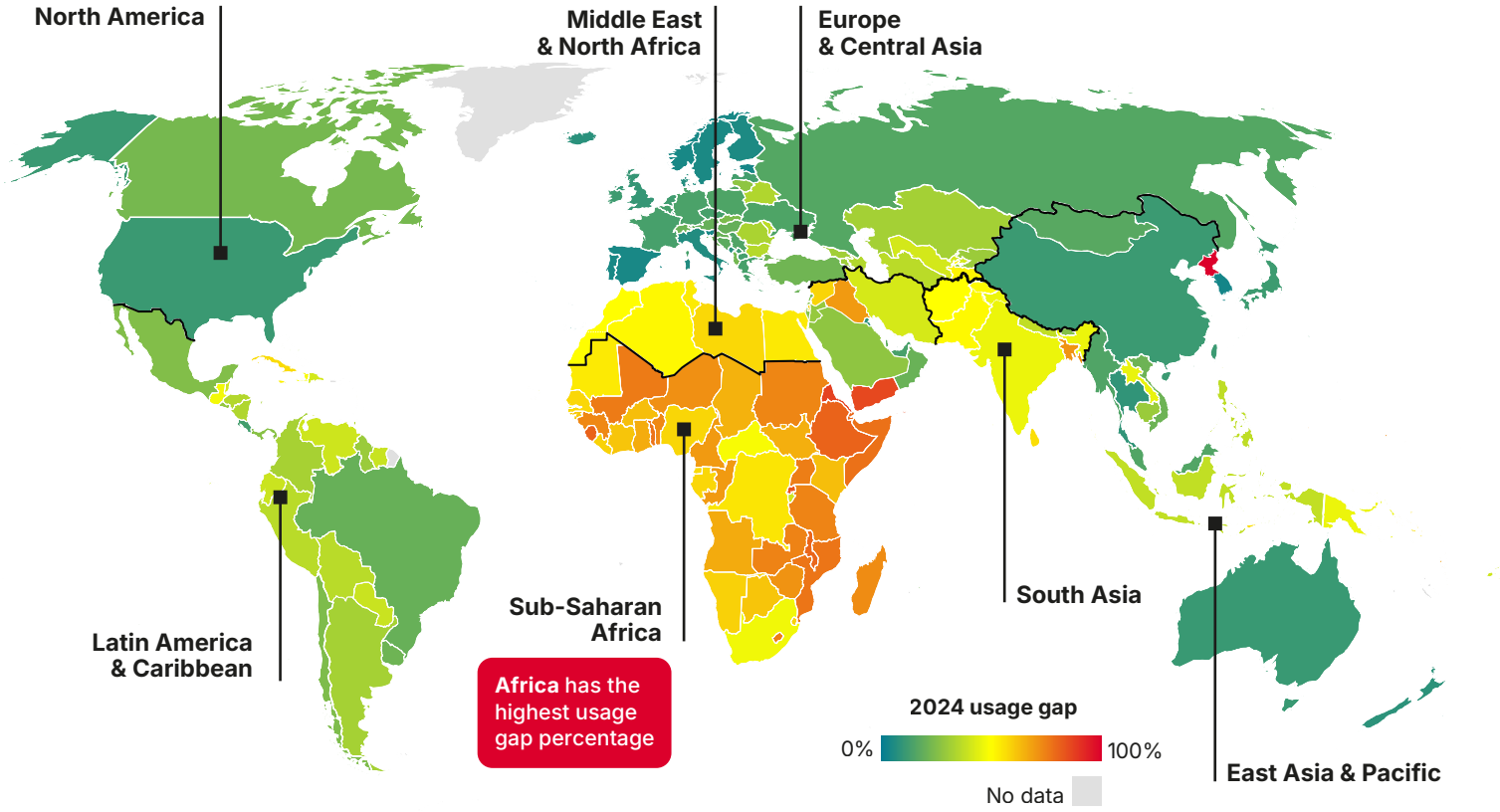
Note: Totals may not add up to 100% due to rounding. Each year, GSMA Intelligence updates its estimates of the number of mobile internet subscribers in each country, incorporating new (and/or updated) data from operators, regulators, national statistics agencies and consumer surveys where available. In some countries and regions, estimates of mobile internet adoption may therefore differ from what was presented in previous editions of The State of Mobile Internet Connectivity.

Source: GSMA Intelligence

Usage is accelerating in some countries, particularly in Southeast Asia and parts of South Asia

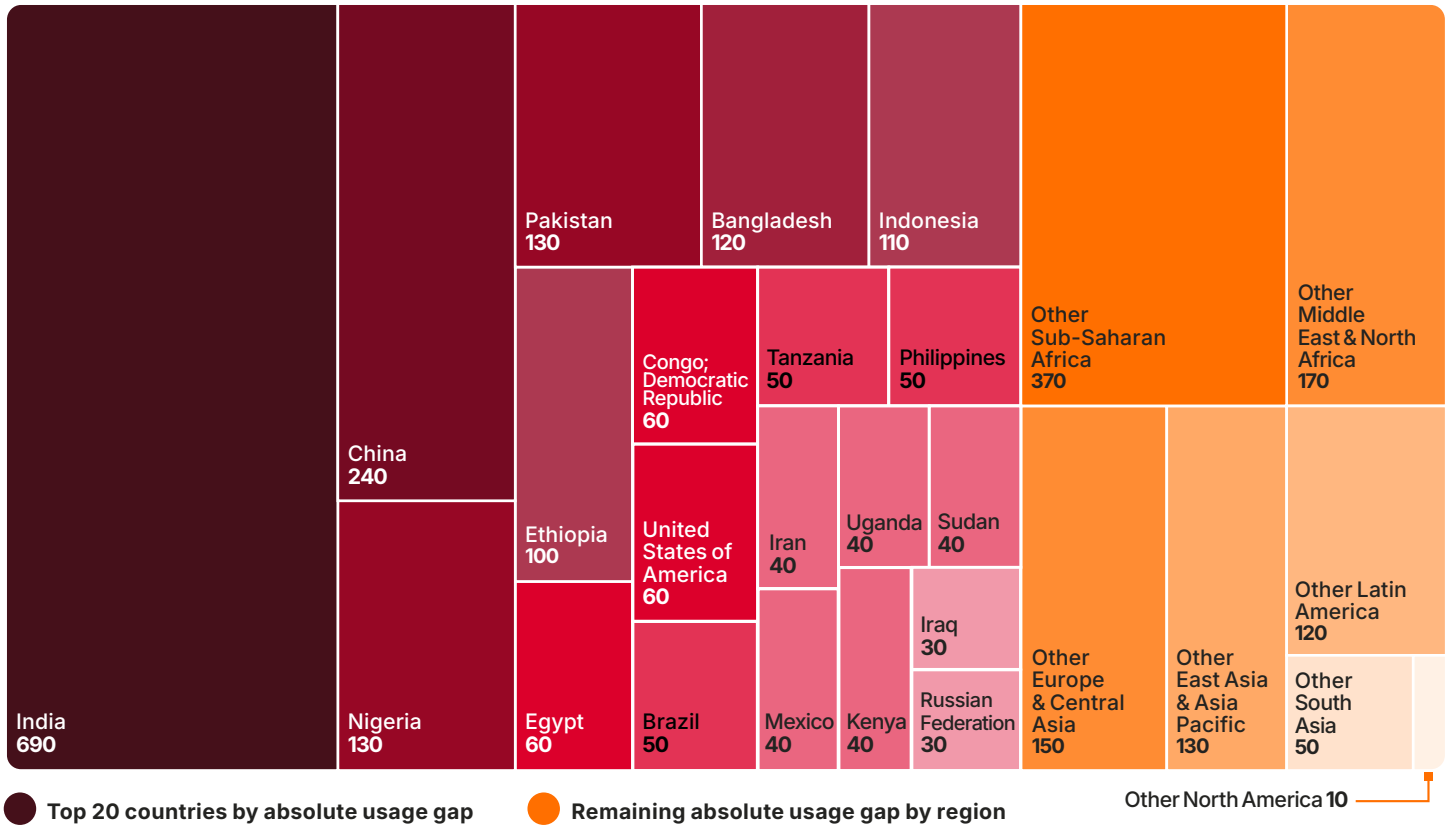
Connectivity not only varies significantly between regions but also between countries. Figure 4 shows the usage gap as a percentage of the total population and how this compares by country. In countries where there are lower levels of mobile internet coverage and adoption, the usage gap is comparatively lower but still represents a large number of people. Figure 5 shows how the usage gaps translates into number of people in each country.

Figure 4: Usage gap by country as a percentage of the population



Base: Total population, 197 countries
Source: GSMA Intelligence

Figure 5: Usage gap by country in absolute terms (2024)
In millions of people

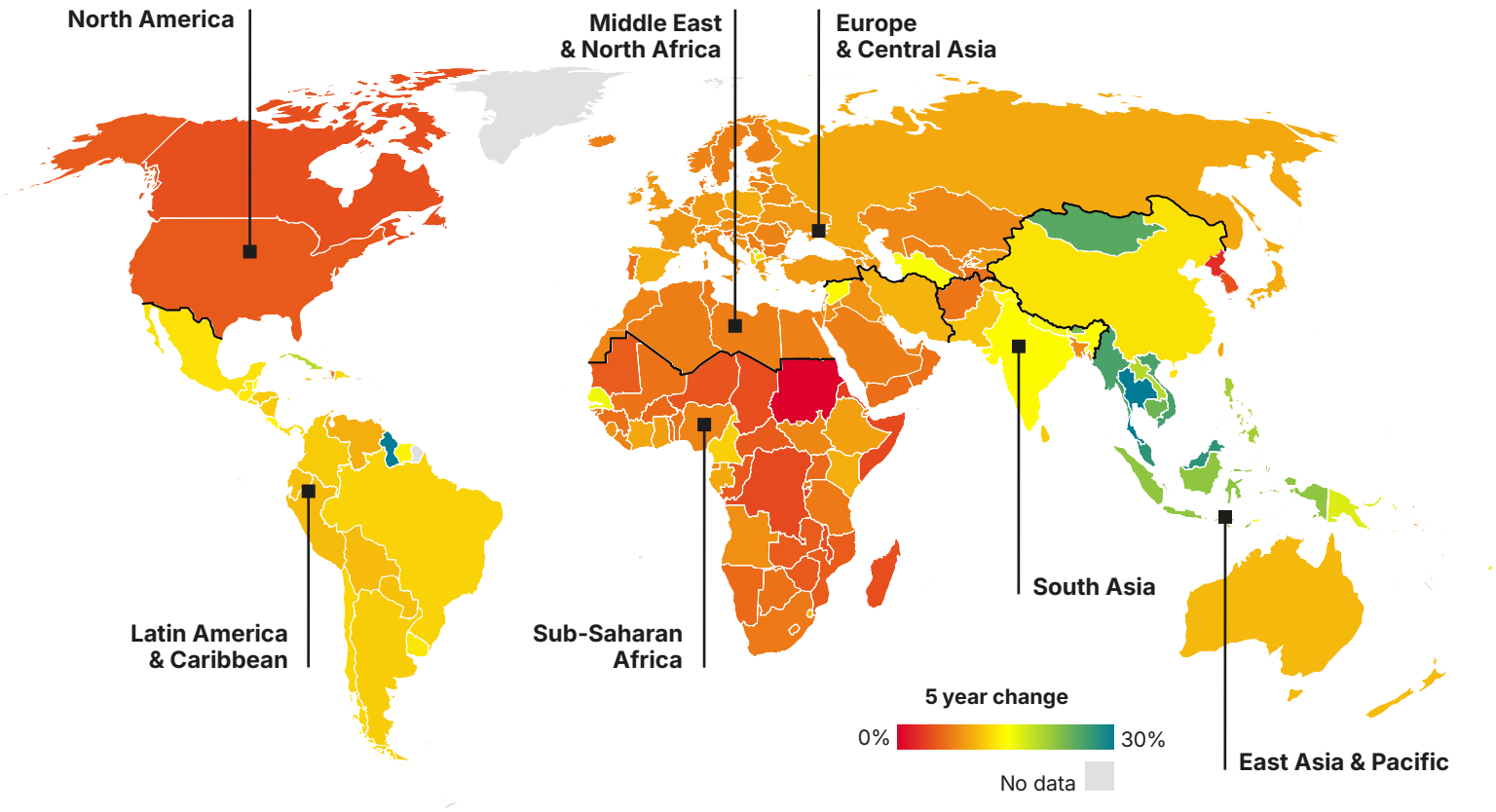


Base: Total population, 197 countries
Source: GSMA Intelligence.

The variation in connectivity between countries often follows income levels. For example, in East Asia & Pacific, high-income countries (HICs) such as Japan, South Korea and Australia have a mobile internet adoption rate of 85%, compared to 62% in LMICs in the region (excluding China). In the Pacific Islands, mobile internet adoption is much lower, at 32%. In the Middle East and North Africa (MENA), mobile internet adoption in HICs such as the Gulf Cooperation Council countries is 71%, compared to 43% for the LMICs in the region. In Latin America & Caribbean, mobile internet adoption is much lower in the Caribbean (41%) than in Central and South America (65%).

Some countries have seen greater increases in mobile internet adoption than others. Figure 6 presents percentage-point growth in connectivity for 2019–2024 by country. The most significant gains have been in Southeast Asia and parts of South Asia. More limited growth rates in HICs in North America and Europe are unsurprising, as a large percentage of the population was already using mobile internet in 2019. Of greater concern is the more limited growth in mobile internet adoption in most of Sub-Saharan Africa. However, some countries in the region have achieved significant gains, such as Senegal and Kenya (see *Spotlight: Accelerating Digital Inclusion in Sub-Saharan Africa*).

Figure 6: Percentage-point growth in mobile internet connectivity between 2019 and 2024



Base: Total population, 197 countries
Source: GSMA Intelligence

Analysis of the countries with the greatest growth in mobile internet adoption reveals a notable correlation with countries that achieved the strongest improvements in the GSMA Mobile Connectivity Index (MCI), which measures the performance of 173 countries against four key enablers of mobile internet adoption (infrastructure, affordability, consumer readiness and content & services).[9]

The 16 countries where mobile internet adoption has increased by more than 15 pp over the past five years, including most of Southeast Asia, have seen on average 26% greater increases in their MCI scores than the countries that saw mobile internet adoption increase by less than 15 pp. The countries where there were significant increases in mobile internet adoption typically saw a stronger performance across all four MCI enablers, highlighting how the enablers are intrinsically linked. While coverage is a prerequisite to connectivity, it is not sufficient in the absence of affordable devices and data, digital skills and relevant content. As more individuals have internet-enabled devices and as the internet becomes more relevant to their lives,[10] consumers will be more willing and able to use the internet, which in turn drives a more competitive and innovative market.

9 See https://www.mobileconnectivityindex.com/
10 See the Mobile Connectivity Index Methodology document for further details on how local relevance is assessed.

SPOTLIGHT: ACCELERATING DIGITAL INCLUSION IN SUB-SAHARAN AFRICA

A significant digital divide persists in Sub-Saharan Africa, where around three quarters of the population do not currently use mobile internet. Based on recent connectivity trends, it will take more than 30 years for the usage gap in mobile internet connectivity to close in the region, leaving hundreds of millions of people behind and unable to realise the transformative socioeconomic benefits of accessing the internet. It is therefore critical to accelerate work on closing the region's usage gap.

Against this backdrop, the GSMA launched the Digital Africa Index (DAI)[11] to support policymakers and regulators, as well as operators and others in the digital ecosystem. Its objective is to enable and promote progressive policies and regulations that accelerate the adoption and use of mobile internet. The DAI combines the Mobile Connectivity Index (MCI) with two new indices for Africa, the Digital Nations and Society Index (DNSI) and the Digital Policy and Regulatory Index (DPRI), as well as the Mobile Money Regulatory Index (MMRI). The objectives of each index can be understood based on the key questions they aim to address:

- **Digital Nations and Society Index:** to what extent are consumers, businesses and governments in Africa effectively leveraging mobile technologies to accelerate socioeconomic development? What is the level of digital development in each country?
- **Mobile Connectivity Index:** why are people and businesses unable or unwilling to adopt mobile broadband technologies?
- **Digital Policy and Regulatory Index:** to what extent are public policies and regulations facilitating the development of a digital society? Which bottlenecks do policymakers need to address to accelerate the deployment and adoption of new mobile technologies?
- **Mobile Money Regulatory Index:** to what extent do mobile money regulations and policies enable the widespread adoption of digital financial services? Which bottlenecks do policymakers need to address to accelerate the deployment and adoption of mobile money and digital financial services more generally?

11 See https://www.gsma.com/digital-africa-index

SPOTLIGHT: ACCELERATING DIGITAL INCLUSION IN SUB-SAHARAN AFRICA

Figures 7 and 8 show the strong correlation between the MCI and DNSI, and the DPRI and MCI.

Figure 7 shows that for countries in Africa to realise the full benefits of digitalisation (measured by the DNSI), they need to address the key barriers to mobile internet adoption (measured by the MCI). Figure 8 shows that addressing the barriers to adoption is in turn strongly linked to having an enabling policy and regulatory framework (measured by the DPRI).

Some countries have higher MCI scores than their DPRI scores might otherwise predict, while some countries have lower MCI scores than the DPRI scores would suggest. In terms of the latter, this is due to factors outside of regulation (for example, macro-economic instability, low levels of socioeconomic development or political or civil instability). They may also have the right policies and regulations in place, but they may not be effective in practice.[12] For countries that have higher MCI scores but lower DPRI scores, this could be because a country has advantages outside of policy and regulation. These could include high levels of socioeconomic development (e.g. high income and education) and a relatively stable political landscape.

12 An example of this is around affordability, which is one of the most important barriers to mobile internet adoption. Some countries have broadband strategies that have specific policies and targets to address affordability barriers and are tracking progress over time. This would be reflected in a higher DPRI score. However, such strategies or policies may not yet be effective in improving affordability, due to challenges in implementation. This would mean a lower score on the MCI.

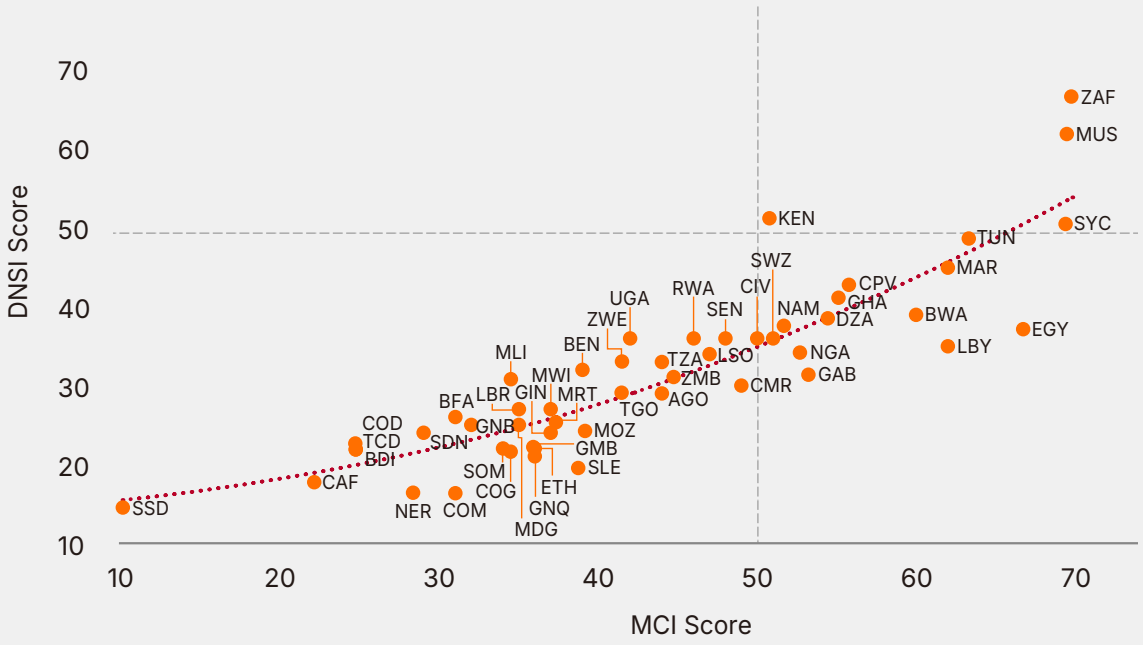
SPOTLIGHT: ACCELERATING DIGITAL INCLUSION IN SUB-SAHARAN AFRICA

Unfortunately, 36 of 48 Sub-Saharan countries score less than 50 on the DPRI. There is significant scope to accelerate digital transformation in Africa with more enabling policies and regulations, including the following:

- Assign all available spectrum bands on a technology-neutral basis and at affordable prices. This will drive greater coverage and higher network quality for mobile users.
- Remove sector-specific taxes on mobile services and handsets. This will increase network investment and make devices and new technologies more affordable and accessible for consumers. Policies and regulations that help lower the costs of handsets and data for consumers are likely to disproportionately benefit underserved groups (e.g. women).
- Refrain from imposing costly barriers to importing handsets to incentivise local production, and enable innovative financing mechanisms for handsets and providing device subsidies. This will help address the challenge of handset affordability by reducing the cost of handsets and improving consumers' ability to pay.
- Reduce regulatory uncertainty. This will support risk allocation for private capital investments and incentivise continued investment in the technologies for the future. This can be achieved by harmonising network deployment regulations, promoting regulatory parity between digital service providers, and ensuring that quality-of-service policies and coverage obligations are fit for purpose and achieve the right balance between empowering consumers and promoting digitalisation.
- Reform universal service funds to ensure more efficient, transparent, effective and sustainable delivery of inclusive connectivity in remote and underserved locations. This will spur greater adoption of digital services for these initial investments which will in turn attract relevant local digital content, critical to driving digital economies.
- Develop digital skills strategies focused on use cases that help targeted user segments, including women, meet their life goals and needs; invest in training and capacity building initiatives, including through partnerships with the private sector; and incorporate digital skills development across education policies at all levels. This will help advance digital skills development, which is critical for people to be able to use the internet.
- Create an environment for digital businesses to thrive and enable the transformation of priority sectors and SMEs. This will support the expansion of local digital ecosystems with content, products and services that meet user needs and capabilities.
- Develop appropriate mechanisms to address online safety concerns and build user trust.
- Collect, analyse and track gender disaggregated data related to mobile and mobile internet access and use. This is needed to better understand people's needs and the specific barriers they face to mobile ownership and use.

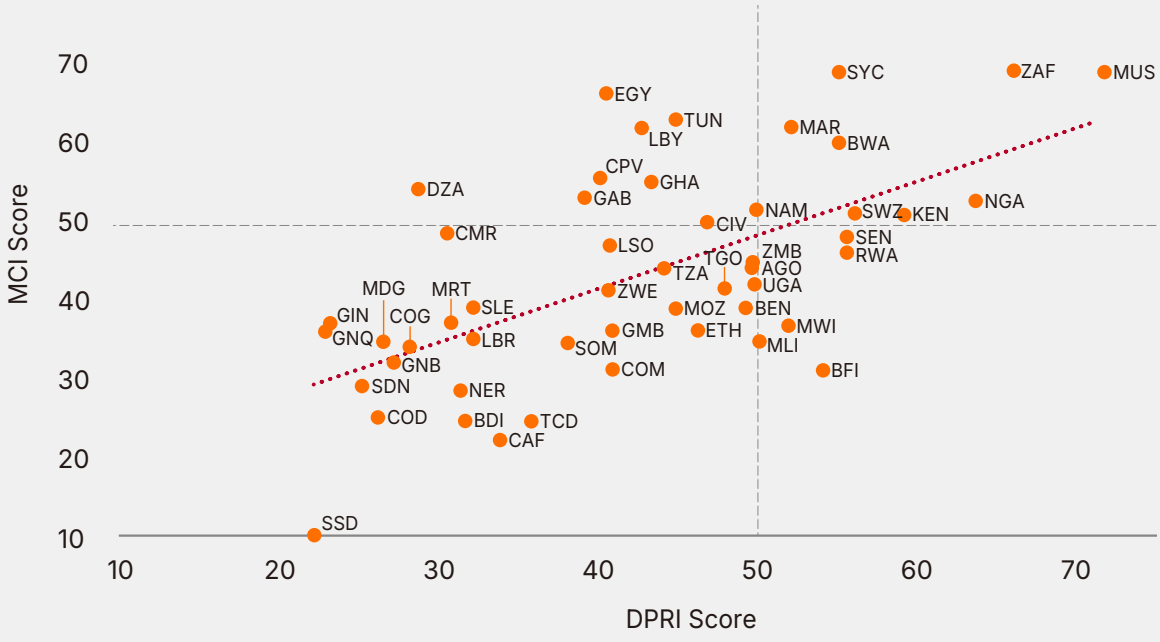
More information and analysis for each of the countries in Sub-Saharan Africa can be found on the DAI and MCI websites.

Figure 7: Digital Nations and Society Index and Mobile Connectivity Index scores in Africa, 2024



Source: GSMA Intelligence analysis of Digital Nations and Society Index and Mobile Connectivity Index 2024, 45 countries

Figure 8: Mobile Connectivity Index and Digital Policy and Regulatory Index scores in Africa, 2024



Source: GSMA Intelligence analysis of Digital Policy and Regulatory Index and Mobile Connectivity Index 2024, 45 countries

SPOTLIGHT: ACCELERATING DIGITAL INCLUSION IN SUB-SAHARAN AFRICA

Connectivity in LDCs, LLDCs and SIDS continues to lag other LMICs

Figure 9 presents the latest connectivity trends in HICs and LMICs, as well as three sub-groups of LMICs: least developed countries (LDCs)[13], landlocked developing countries (LLDCs)[14] and small island developing states (SIDS).[15] All three sub-groups have significantly lower levels of connectivity than HICs, as well as LMICs more generally. For instance, while 60% of people in other LMICs (excluding LDCs, LLDCs and SIDS) are mobile internet subscribers, in LDCs the figure is only 25%, while in LLDCs and SIDS it is 29% and 38% respectively. Moreover, none of these three groups saw an increase in their growth rate of mobile internet adoption in 2024 (or in fact since 2021).[16] By contrast, other LMICs saw an increase in the growth in mobile internet connectivity in 2024, meaning the gap in mobile internet connectivity has widened between these sub-groups and other LMICs.

LDCs are highly vulnerable to economic and environmental shocks and have lower levels of economic and social development than other countries. LLDCs and SIDS also face geographical constraints to achieving widespread connectivity. LLDCs often have less developed infrastructure and face higher costs than coastal countries for international backbone infrastructure such as submarine cable connectivity. SIDS often have a significant number of people who are rural, remote, lack access to electricity and on lower incomes. Many people in LLDCs and SIDS are also speakers, readers and signers of non-digital languages, limiting the availability of locally relevant, online content.[17]

In LDCs, only

25%

of the **population use mobile internet** compared to

29% **across LLDCs**

38% **across SIDS**

54% **across LMICs overall**

81% **across HICs**

13 UN definition. For more information on the indices, see https://www.un.org/development/desa/dpad/least-developed-country-category.html

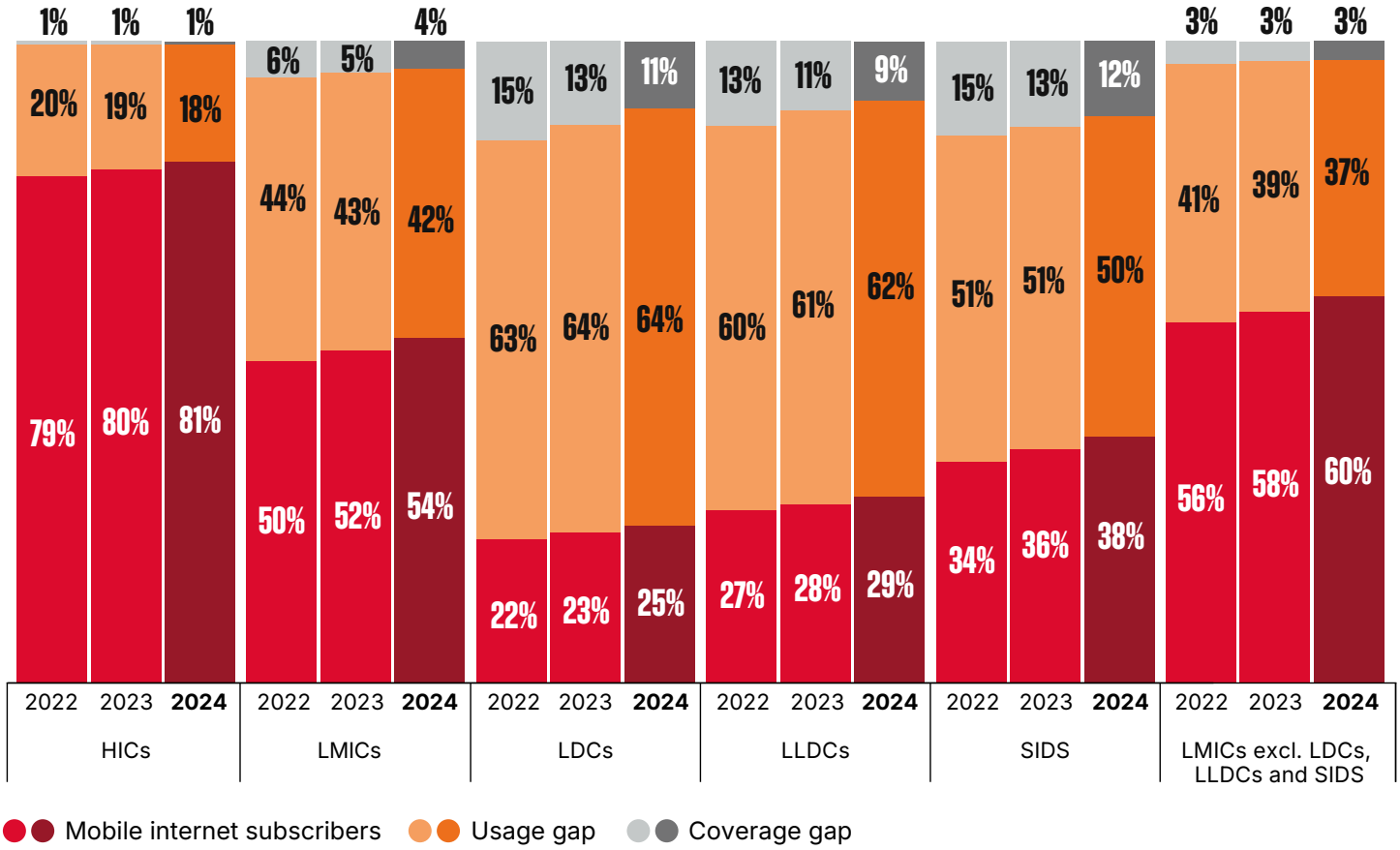
14 https://www.un.org/ohrlls/content/list-lldcs

15 https://www.un.org/ohrlls/content/list-sids. For this analysis, high-income countries are omitted from the analysis of SIDS. It therefore excludes Antigua & Barbuda, Bahamas, Barbados, Guyana, Nauru, Saint Kitts & Nevis, Seychelles, Singapore and Trinidad & Tobago.

16 In LDCs, there were 20 million new mobile internet subscribers in 2024, similar to the previous three years. In LLDCs, the figure was around 10 million, also similar to the previous three years, while in SIDS it was just over 1 million (similar to the previous three years). In LMICs excluding these three sub-groups, there were 150 million new mobile internet subscribers in 2024, compared to 120 million new subscribers in 2023 and 100 million in 2022.

17 For further discussion on digital and non-digital languages, see Spotlight: The impact of digital language support in The State of Mobile Internet Connectivity Report 2023, GSMA, 2023.

Figure 9: Mobile connectivity in LDCs, LLDCs, SIDS, LMICs and HICs, 2022–2024



Base: Total population, 197 countries

Note: Totals may not add up to 100% due to rounding. Each year, GSMA Intelligence updates its estimates of the number of mobile internet subscribers in each country, incorporating new (and/or updated) data from operators, regulators, national statistics agencies and consumer surveys where available. In some countries and regions, estimates of mobile internet adoption may therefore differ from what was presented in previous editions of The State of Mobile Internet Connectivity.

Source: GSMA Intelligence

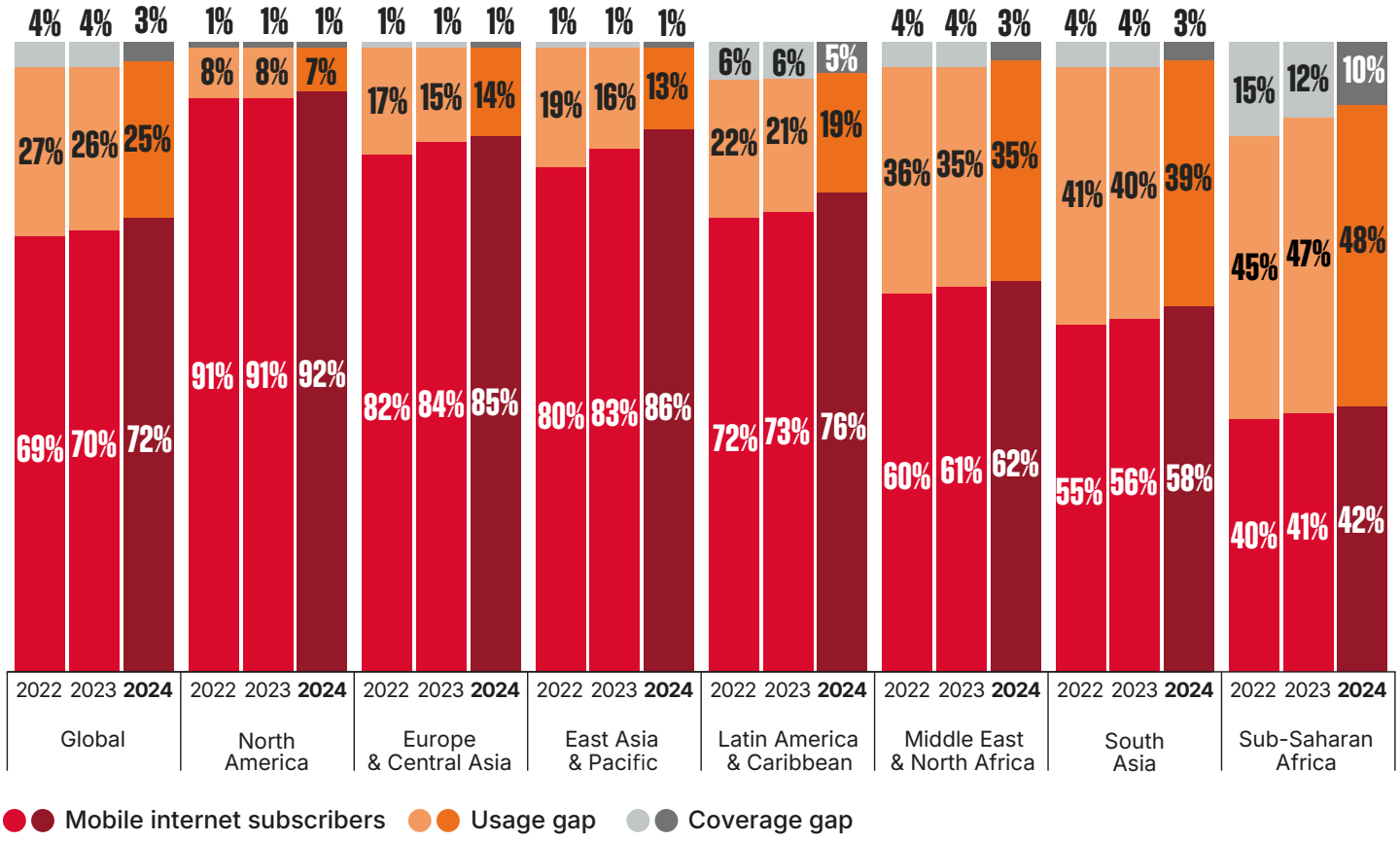
More than seven in 10 adults are mobile internet subscribers

As well as considering mobile internet use across the total population, this analysis considers adults aged 18 and above only, because many countries have much younger populations who are unlikely to have a mobile internet subscription. Considering just adults, Figure 10 shows that, in 2024, 72% of adults globally (around 4.1 billion individuals aged 18+) were using mobile internet on a device they own or have primary use of (compared to 58% of the total population, as shown in Figure 1). More than a quarter of adults globally are still not using mobile internet despite being covered by a mobile broadband network.

In the three regions with the greatest proportions of people under the age of 18, levels of connectivity increase significantly when considering the adult population only. Specifically, when looking at adults aged 18+, levels of connectivity in Sub-Saharan Africa increase from 25% to 42%, from 46% to 58% in South Asia and from 46% to 62% in MENA.[18] However, more than half of adults aged 18+ were still not using mobile internet in Sub-Saharan Africa, while more than a third were not using mobile internet in South Asia and in MENA.

Considering children aged 5–17 years old, 53% were using mobile internet at the end of 2024 (either on their own or a shared device) – an increase of 2 pp on the previous year. The digital divides seen between regions for adults and the total population are similar for children as well.[19]

Figure 10: Mobile internet connectivity among adults aged 18+, 2022–2024



Base: Adult population aged 18+, 197 countries

Note: Totals may not add up to 100% due to rounding. Each year, GSMA Intelligence updates its estimates of the number of mobile internet subscribers in each country, incorporating new (and/or updated) data from operators, regulators, national statistics agencies and consumer surveys where available. In some countries and regions, estimates of mobile internet adoption may therefore differ from what was presented in previous editions of The State of Mobile Internet Connectivity.

Source: GSMA Intelligence

18 South Asia, Sub-Saharan Africa and MENA are the three regions with the greatest proportions of the population under 18, ranging from a third in South Asia to almost half in Sub-Saharan Africa. By contrast, just over 20% of the population is under 18 years old in East Asia & Pacific, Europe & Central Asia and North America.

19 For further details on mobile internet use among children, see The State of Mobile Internet Connectivity Report 2024, GSMA, 2024.

3. THE RURAL-URBAN AND GENDER GAPS

The rural-urban gap in mobile internet adoption continues to decline across LMICs and is highest in LDCs

In 2024, 58% of adults living in rural areas in LMICs were mobile internet subscribers, compared to 77% in urban areas. Rural populations are now 25% less likely than their urban counterparts to be mobile internet subscribers. This continues a declining trend observed from 2021, when it was 32% (see Figure 11).

While there continues to be significant variation in the rural-urban gap by region, it is encouraging that the rural-urban divide declined in two of the regions with the largest gaps – namely, South Asia (where the gap reduced from 24% in 2023 to 15% in 2024) and Sub-Saharan Africa (from 55% to 48%). In both regions, most countries saw a greater increase in the number of rural mobile internet subscribers than urban residents, rather than a decline in urban connectivity. Notable declines in the rural-urban gap were seen in India, Indonesia, Kenya and Senegal.

Although more than half of rural adults in LMICs are using mobile internet, the adoption rate among rural adults is much lower in LDCs and LLDCs, at 32% and 35% respectively. This translates into a much larger rural-urban gap for LDCs and LLDCs (37% and 45%, respectively) than in other LMICs (20%). However, it is encouraging that the rural-urban gaps across LLDCs, LDCs and SIDS declined in 2024 (see Figure 12).

RURAL-URBAN GAP

The '**rural-urban gap**' refers to how much less likely a person living in a rural area is to be a mobile internet subscriber than a person living in an urban area.

It is calculated as follows:

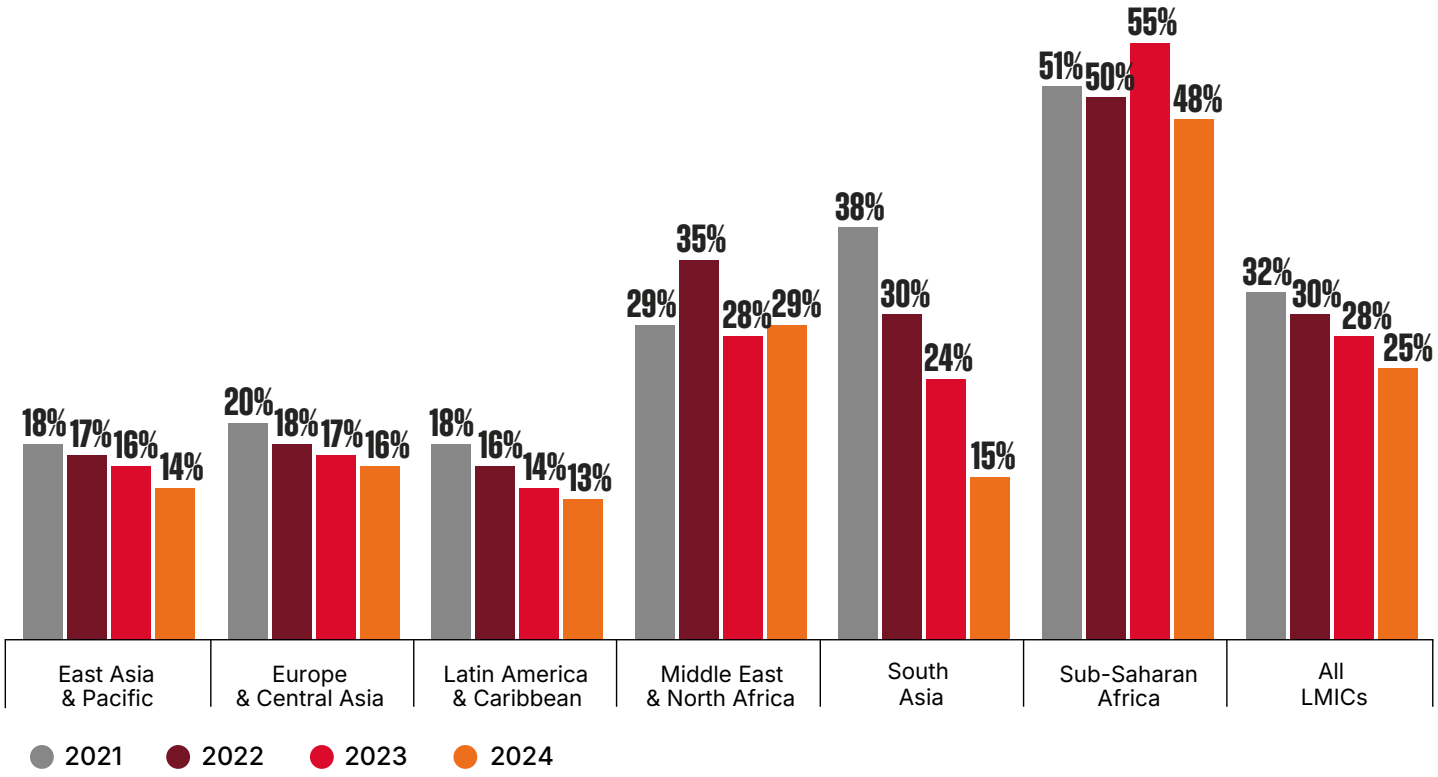
$$\textbf{Rural-urban gap} = \frac{\%\text{ of urban subscribers} - \%\text{ of rural subscribers}}{\%\text{ of urban subscribers}}$$

Across LMICs,
adults living in **rural areas** are

25%

less likely to use mobile internet than those living in **urban areas**

Figure 11: Rural-urban gap in mobile internet use in LMICs, by region, 2021–2024

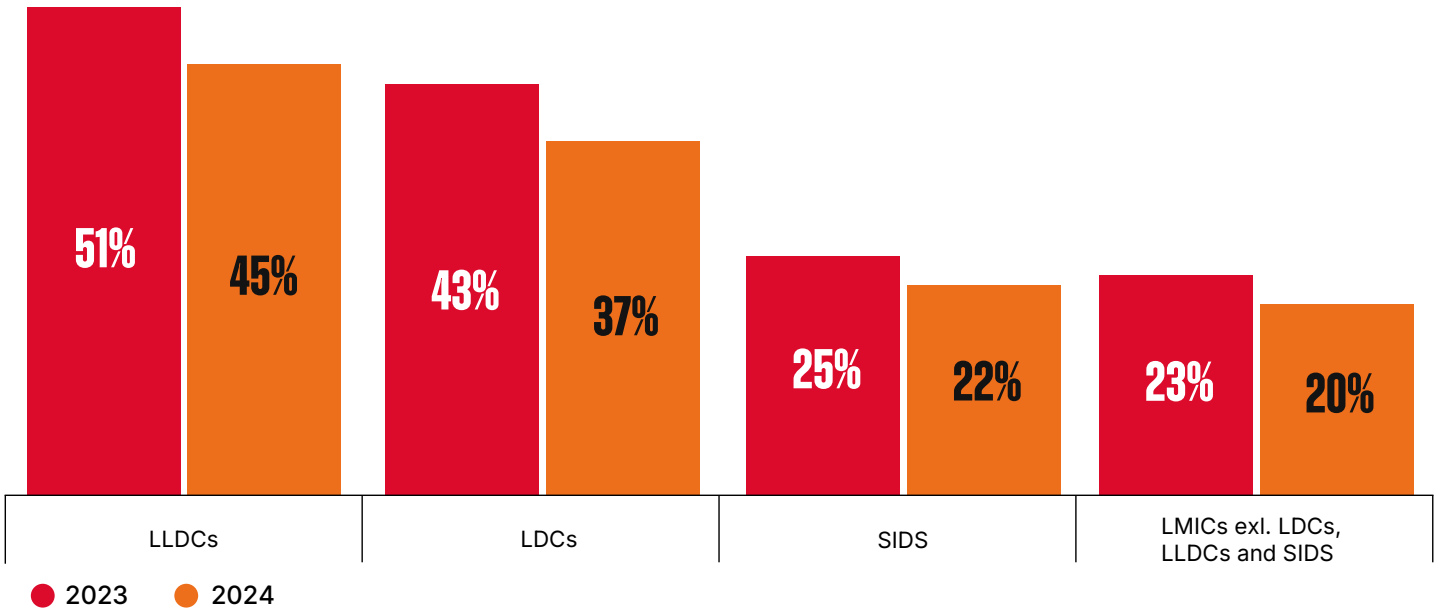


Base: Adults aged 18+

Note: 2020 data was not available

Source: GSMA Intelligence calculations based on data sourced from the GSMA Consumer Survey 2017–2023 and Gallup World Poll (for countries not included in the former). In some countries and regions, estimates of the rural-urban gap may differ from what was presented in previous editions of The State of Mobile Internet Connectivity.

Figure 12: Rural-urban gap in mobile internet use in LDCs, LLDCs, SIDS and LMICs, 2023–2024



Base: Adults aged 18+

Source: GSMA Intelligence calculations based on data sourced from the GSMA Consumer Survey 2017–2023 and Gallup World Poll (for countries not included in the former). In some countries and regions, estimates of the rural-urban gap may differ from what was presented in previous editions of The State of Mobile Internet Connectivity.

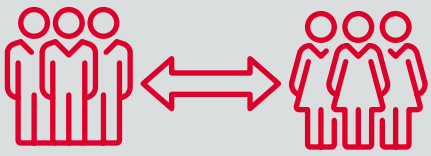
Progress has stalled in closing the gender gap in mobile internet adoption across LMICs

While more women in LMICs are using mobile internet than ever before, a significant gender gap remains. Women are 14% less likely than men to use mobile internet across LMICs (see Figure 13). This translates to around 235 million fewer women than men.[20]

Between 2017 and 2020, the mobile internet gender gap in LMICs narrowed significantly (from 25% to 15%), but in 2021 and 2022 progress stalled and the mobile internet gender gap widened slightly. Promisingly, in 2023, the gender gap narrowed again for the first time in three years, to 15% (back to where it was in 2020). Unfortunately, in 2024, progress has stalled once again, and the figure remains relatively unchanged at 14%. Furthermore, the latest data shows that the growth in women's rate of adoption has slowed relative to men in 2024.

At a regional level, mobile internet gender gaps are widest in South Asia and Sub-Saharan Africa, where around 60% of the 885 million women still not using mobile internet live. In South Asia, this gender gap narrowed from 41% in 2022 to 31% in 2023 but did not shift materially in 2024. This year, the only region where there was any progress in closing the mobile internet gender gap was Sub-Saharan Africa, where the gap has narrowed from 36% in 2022 to 32% in 2023 and 29% in 2024. This is important given there are still around 205 million women in the region still not using mobile internet (61% of the adult female population).

GENDER GAP



The **gender gap** in mobile internet use refers to how much less likely a woman is to be a mobile internet subscriber than a man.

It is calculated as follows:

$$\text{Gender gap} = \frac{\%\ \text{of male subscribers} - \%\ \text{of female subscribers}}{\%\ \text{of male subscribers}}$$

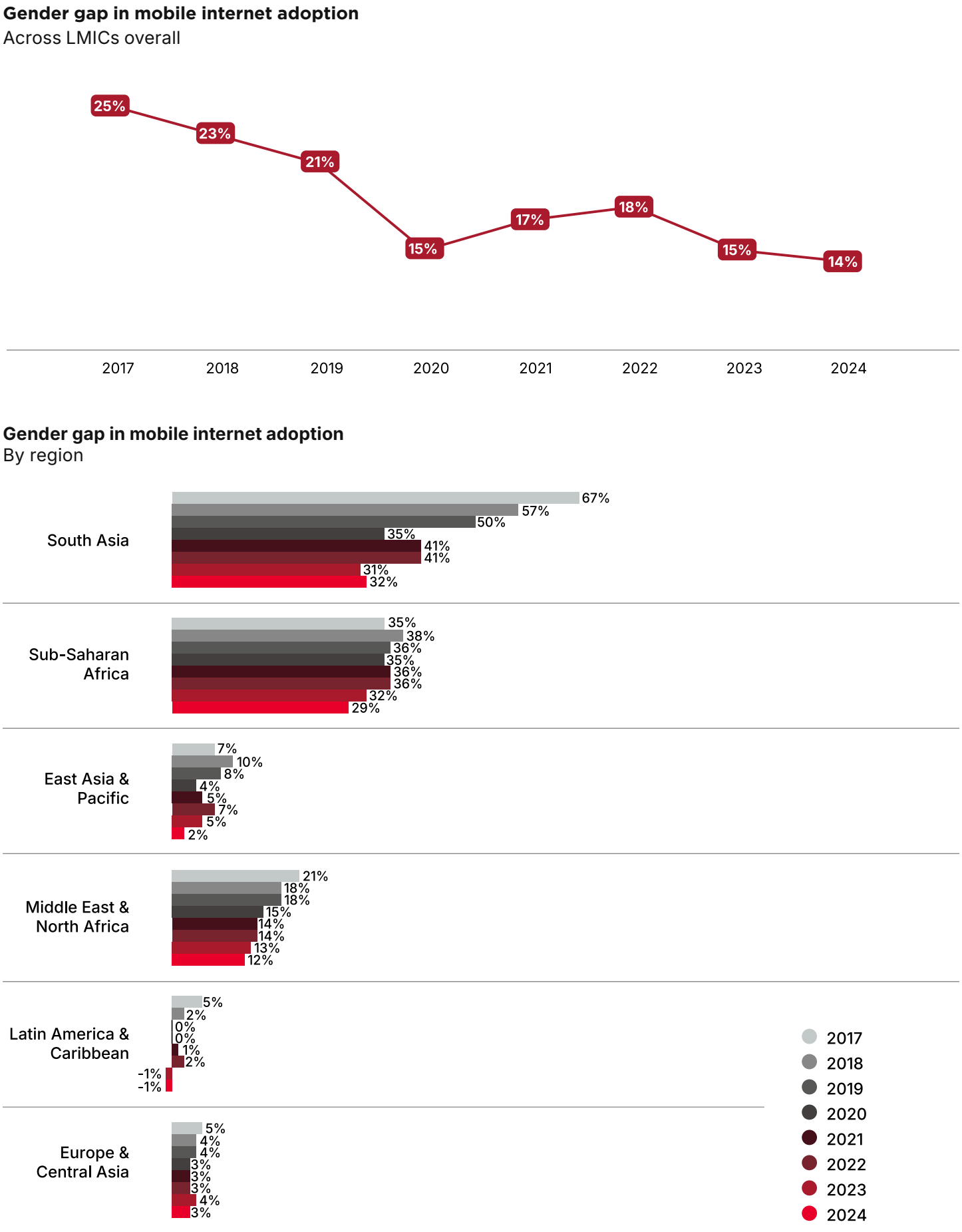
Across LMICs, women are

14%

less likely to use mobile internet than men

20 The Mobile Gender Gap Report 2025, GSMA, 2025

Figure 13: Gender gap in mobile internet use across LMICs and by region, 2017–2024



Source: The Mobile Gender Gap Report 2025, GSMA, 2025

4. MOBILE OWNERSHIP

250 million people started using a smartphone to access mobile internet in 2024

At the end of 2024, 4.4 billion people (54% of the global population) were using their own smartphone to access mobile internet – an increase of 250 million compared to 2023. Understanding the type of device used to access the internet is important, as evidence from the GSMA Consumer Survey shows access to smartphones enables a richer and broader connectivity experience. Smartphone owners are much more likely to be aware of and adopt mobile internet, and use it more frequently and for a wider variety of tasks.[21]

Ownership of 4G and 5G smartphones continues to increase, but many LMICs continue to rely on feature phones and 3G smartphones

More than 80% of mobile internet subscribers globally now access the internet on a 4G or 5G smartphone (see Figure 14), with 5G smartphone use increasing rapidly. Just five years on since the launch of 5G, 1.5 billion unique mobile internet subscribers are now using a 5G smartphone, accounting for just over 30% of the mobile internet subscriber base.[22] Between 2023 and 2024, an additional 350 million people became mobile internet users on 4G/5G smartphones. South Asia and East Asia & Pacific continue to see a displacement of feature phones and 3G smartphones for 4G/5G devices. The growth of 5G has been particularly noteworthy in India, with more than 100 million 5G devices acquired in 2024 and 5G now accounting for 35% of mobile data traffic in the country.[23]

However, 16% of mobile internet subscribers globally are still using 3G smartphones or feature phones to access the internet. This reaches 30% in MENA, 34% in Latin America & Caribbean, and 60% in Sub-Saharan Africa. While all three regions have seen increased adoption of 4G/5G devices, the large 2G/3G user base remains important to consider as mobile operators evaluate shutdowns of these networks.[24]

54%

of the world's population **(4.4 billion people)** own a smartphone – **an increase of**

250M **in 2024**

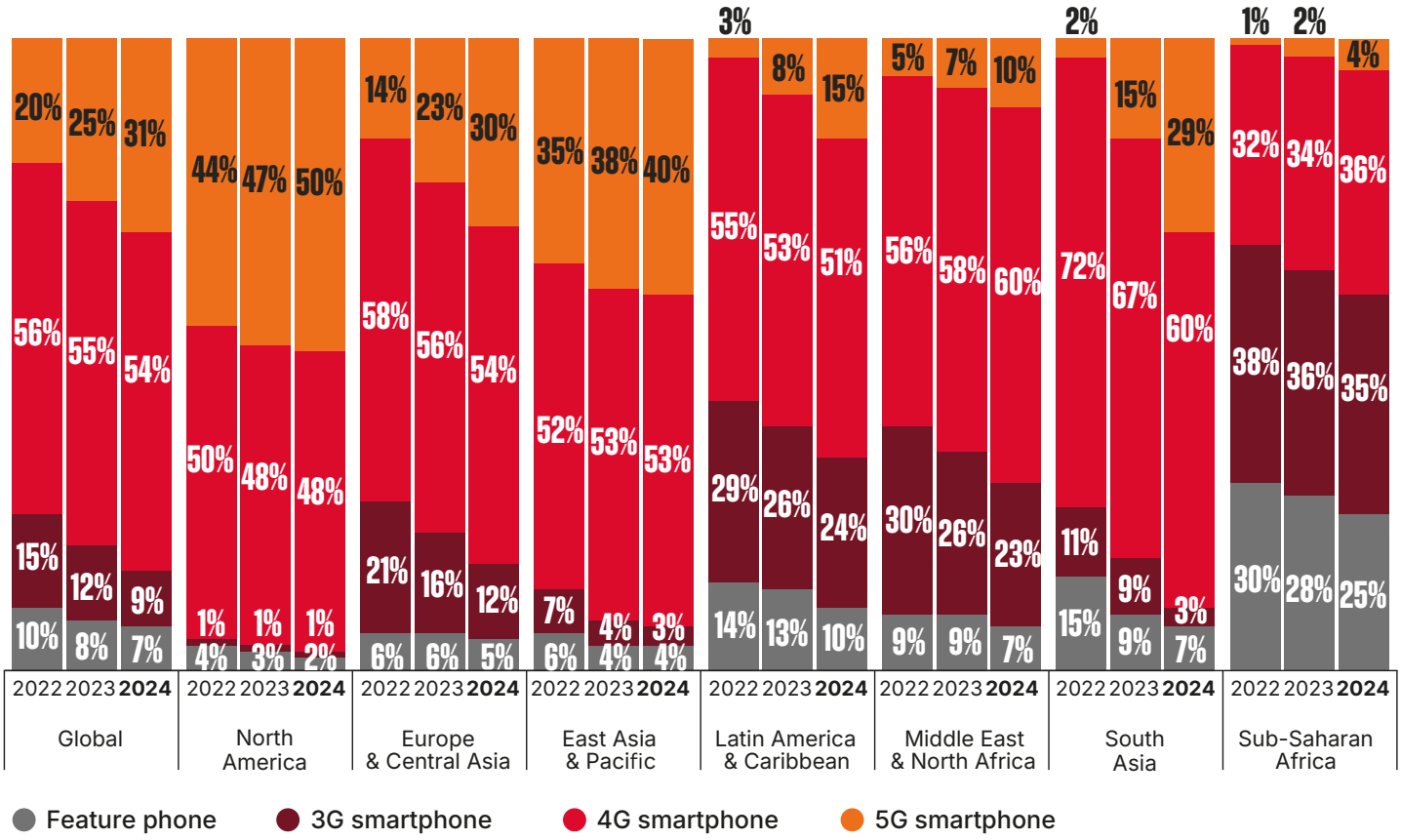
16% **of mobile internet subscribers**

are still using **3G smartphones or a feature phone** to access the internet, **reaching**

60% **in Sub-Saharan Africa**

21 For in-depth analysis, see Figure 9 in The Mobile Gender Gap Report 2022, GSMA, 2022.
22 For more analysis on the use of 5G and its impact on the digital divide, see The State of Mobile Internet Connectivity Report 2024 (Spotlight: Is a digital divide emerging for 5G?), GSMA, 2024.
23 India Mobile Broadband Index 2025, Nokia, 2025
24 For further discussion on legacy network sunsets and shutdowns, see The State of Mobile Internet Connectivity Report 2023, GSMA, 2023.

Figure 14: Distribution of devices used by mobile internet subscribers, 2022–2024

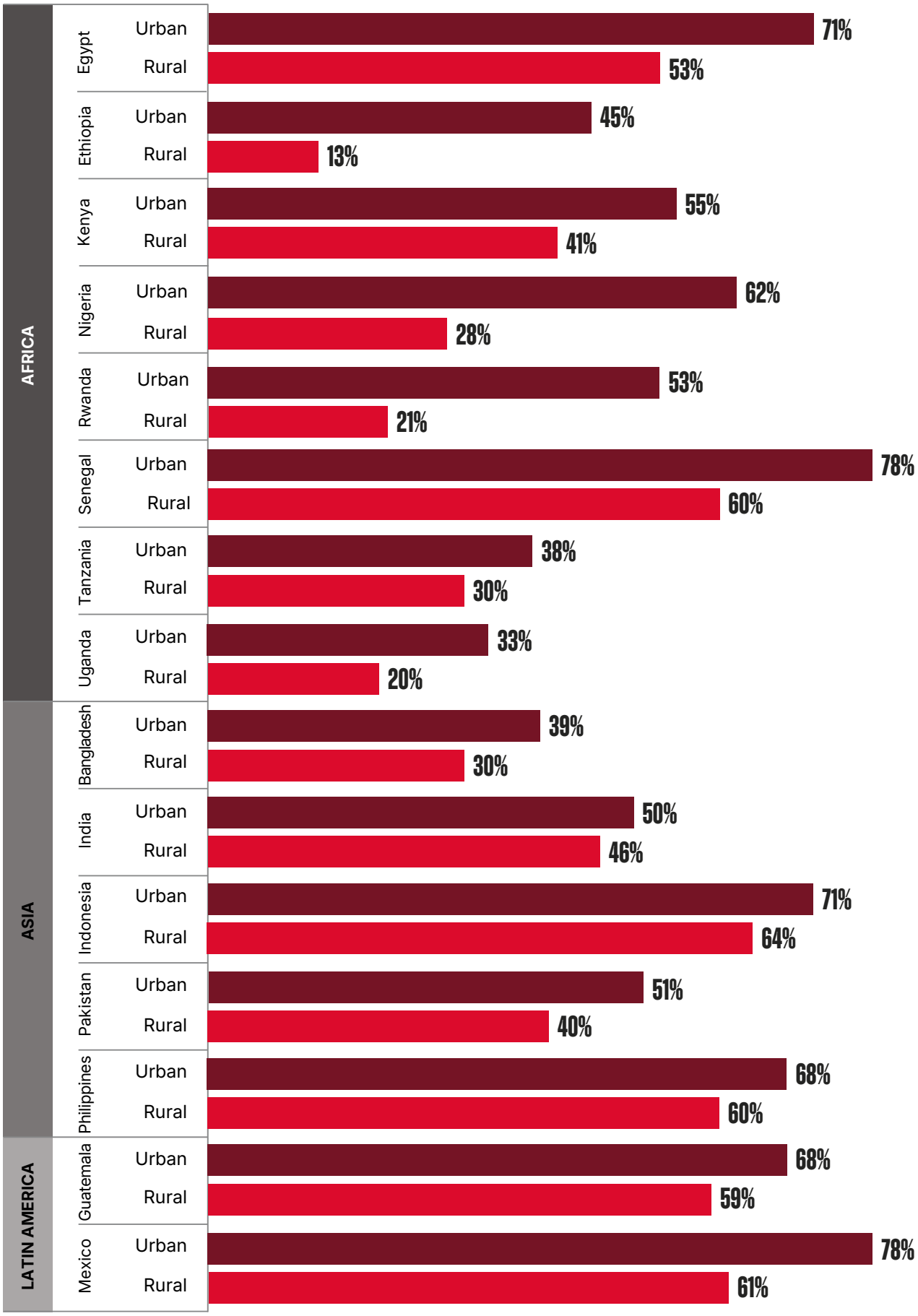


Base: Total population, 197 countries
Note: Totals may not add up to 100% due to rounding.
Source: GSMA Intelligence

Smartphone ownership continues to grow, but rural-urban and gender gaps remain. Across almost all countries surveyed across LMICs,[25] people living in rural areas are significantly less likely to own a smartphone than those in urban areas (see Figure 15). Few survey countries saw substantial growth in either setting in 2024.

25 The sole exception is India.

Figure 15: Smartphone ownership, 2024



Base: Adults aged 18+. N = from 292 to 848 for urban and from 220 to 1,493 for rural.
Note: For further details on the questions asked, see Appendix 1.
Source: GSMA Consumer Survey, 2024

Across LMICs, 61% of women and 71% of men now own a smartphone. While this is an increase from 2023 in the total number of people who own a smartphone, the gender gap did not change in 2024; women are still 14% less likely than men to own a smartphone. Regional gender gaps in smartphone ownership across LMICs also remain unchanged, except in South Asia and Sub-Saharan Africa. In South Asia, the smartphone ownership gender gap widened slightly, from 34% to 40%. This was driven primarily by India, where smartphone ownership among men increased slightly but remained unchanged among women.[26] In contrast, there was promising progress in Sub-Saharan Africa, where the gender gap in smartphone ownership narrowed from 28% in 2023 to 25% in 2024. Closing this ownership gap is key to closing the mobile internet gender gap, as once women own a smartphone, the vast majority are aware of and use mobile internet to a similar extent to men.

26 The Mobile Gender Gap Report 2025, GSMA, 2025

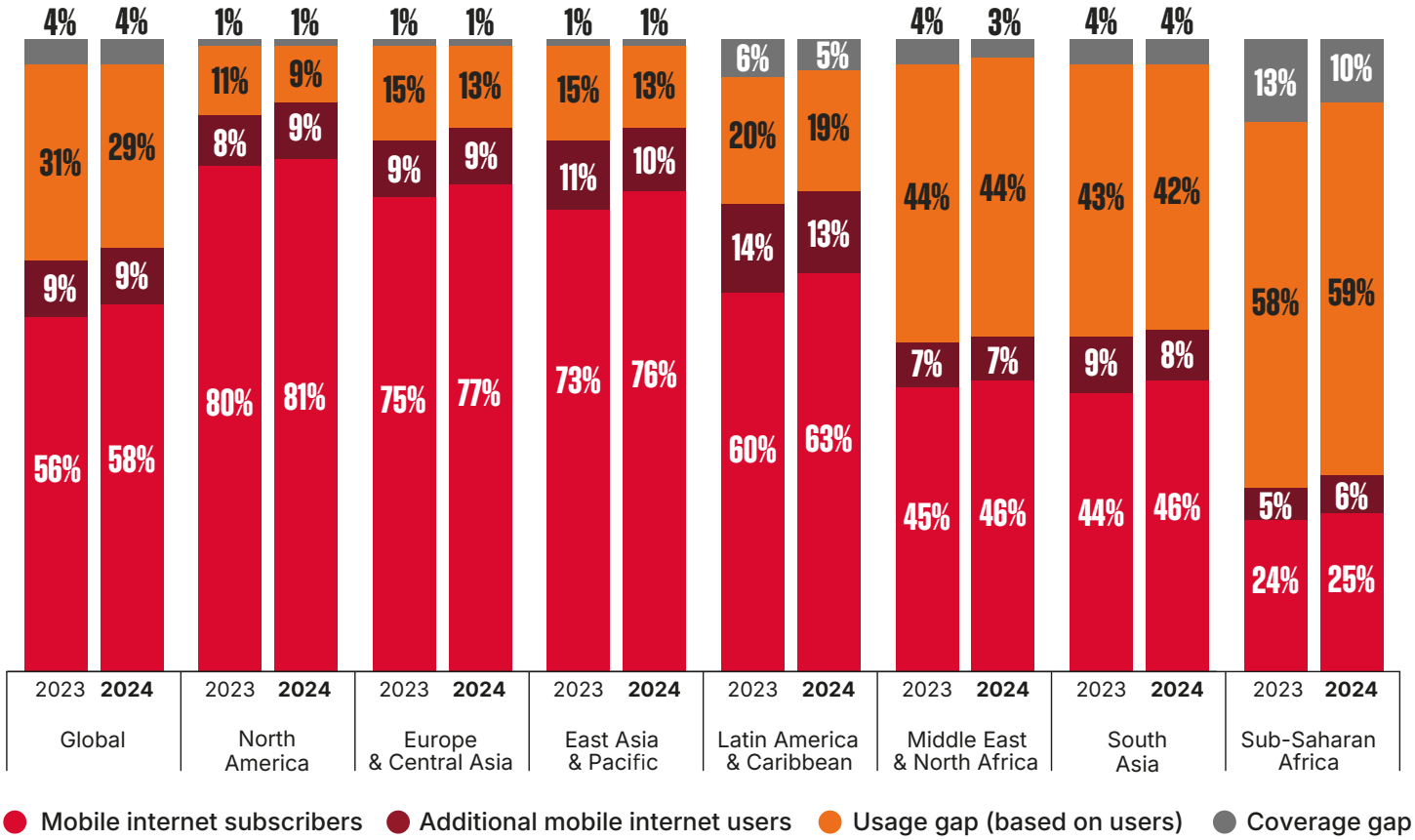
2024 saw a decline in the number of people accessing the internet on a shared device

The State of Mobile Internet Connectivity Report 2024 presented, for the first time, data on mobile internet use through shared devices, as this represents a means of internet access for many adults and especially children. Two consecutive years of data have now been analysed.[27]

In addition to the 4.7 billion people who use mobile internet on their own device as of 2024, a further 710 million use mobile internet on a device they do not own or have primary use of. Of the global population, 9% are mobile internet users without their own device (see Figure 16). This mode of access is more limiting for users, especially adults. They are unable to realise the full benefits of mobile internet if they only have temporary, shared or intermittent access.

In 2024, the number of people using internet on a shared device fell compared to 2023, when 740 million people used mobile internet without owning a device. This will likely be driven in part by a proportion of shared users acquiring their own device.[28]

Figure 16: Connectivity based on mobile internet subscribers and users, 2023–2024



Base: Total population, 197 countries

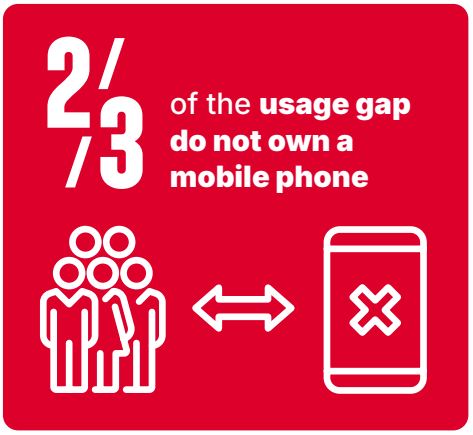
Note: Totals may not add up to 100% due to rounding.

Source: Unique subscriber and user data is sourced from GSMA Intelligence. Coverage data is sourced from GSMA Intelligence, combining data reported by mobile operators and national regulatory authorities. Population data is sourced from the UN. In some countries and regions, estimates of mobile internet subscribers and additional mobile internet users may differ from what was presented in previous editions of The State of Mobile Internet Connectivity.

27 The estimates are primarily based on data gathered in the GSMA Consumer Survey as well as other third-party data where available. We are able to present this analysis from 2023, when we started to gather the data.

28 We are unable to determine whether most new mobile internet subscribers were previously mobile internet users on a shared device or are first-time internet users. However, the fact that the number of people accessing on a shared device has declined means at least a proportion of shared users now have their own device.

The majority of the usage gap comprises those without access to any device

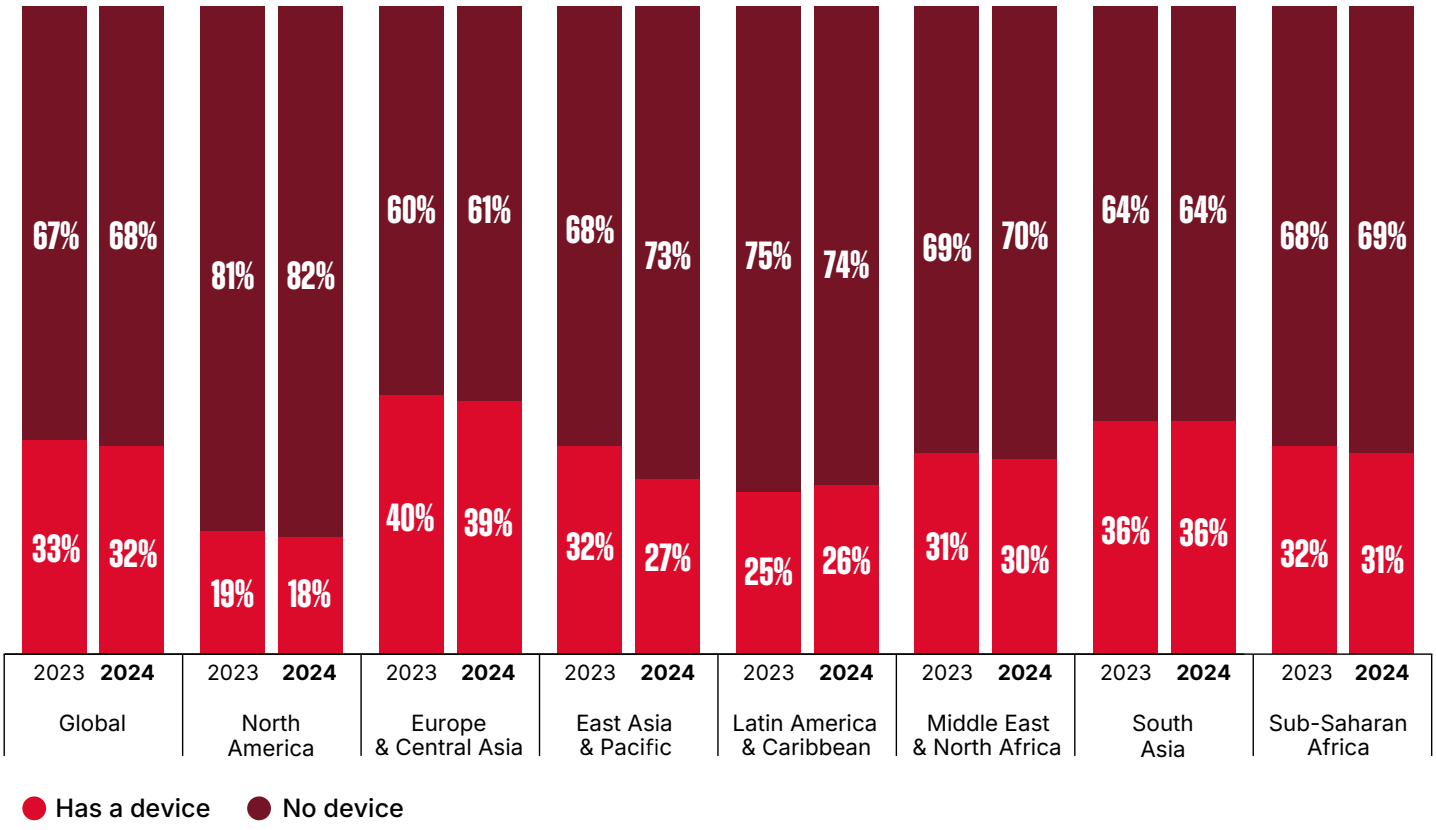


The usage gap comprises those who live in areas covered by a mobile broadband network who either own a device (whether a smartphone, feature phone or basic phone) but do not use it to access the internet, or do not have one. Of the 3.1 billion who are covered by mobile broadband networks but are not mobile internet subscribers, almost a third (1 billion people) fall into the first group. They are only using mobile voice or SMS on a device they own or have primary use of; they are not using the internet.

The remaining two thirds of the usage gap fall into the second group; they do not own a mobile. Figure 17 shows regional variation in mobile phone ownership among those covered by a mobile broadband network but not using mobile internet. In North America, a notably larger proportion of this group does not own a mobile phone, driven by the fact that most mobile users in the region are using mobile internet.

The proportion of the usage gap without a device remained relatively unchanged in 2024 in most regions, except East Asia & Pacific, which as described above also saw the biggest increase in mobile internet adoption. This suggests that a significant proportion of new mobile internet subscribers in the region were previously using mobile. These users are typically easier to bring online, as they either require an upgrade in the type of device they own or already own a device that can access the internet (a feature phone or smartphone).

Figure 17: Distribution of usage gap based on those who have a device and those who do not, 2023–2024



Base: Total population, 197 countries

Note: Totals may not add up to 100% due to rounding.

Source: GSMA Intelligence. In some countries and regions, estimates of device ownership among the usage gap may differ from what was presented in previous editions of The State of Mobile Internet Connectivity.

THERE ARE SIGNIFICANT BENEFITS TO UNDERSTANDING THESE GAPS AND WORKING TO CLOSE THEM

In The State of Mobile Internet Connectivity Report 2024, the GSMA estimated a significant economic opportunity in closing the usage gap and mobile internet adoption gender gap. By closing the usage gap across all countries between 2023 and 2030, the GSMA estimates that an additional $3.5 trillion in total GDP could be generated, including $900 billion in 2030 alone. Similarly, closing the mobile internet gender gap in LMICs could yield an additional $1.3 trillion in total GDP, with $340 billion of that in 2030 alone.[29] Greater connectivity not only presents substantial economic opportunities; it also ensures individuals and communities can derive socioeconomic benefits from mobile internet use, contributing to inclusive digital development and broader societal advancement.

This report is part of The State of Mobile Internet Connectivity 2025 Report Series. The other reports can be accessed below:

29 See Spotlight: The economic impact of closing the usage gap and gender gap in The State of Mobile Internet Connectivity Report 2024, GSMA, 2024

APPENDICES

APPENDIX 1: THE GSMA CONSUMER SURVEY

This report uses the results of the GSMA Consumer Survey. As part of the survey, the GSMA conducted face-to-face interviews in 15 LMICs in 2024, 12 LMICs in 2023, 12 LMICs in 2022, 10 LMICs in 2021, eight LMICs in 2020, 15 LMICs in 2019, 18 LMICs in 2018 and 24 LMICs in 2017.

The 15 LMICs surveyed in 2024 were Bangladesh, Egypt, Ethiopia, Guatemala, India, Indonesia, Kenya, Mexico, Nigeria, Pakistan, Philippines, Rwanda, Senegal, Tanzania and Uganda. The countries included in the survey across all years account for 79% of the population in LMICs.

Survey methodology

In all countries, a nationally representative sample of around 1,000 adults aged 18 years old and above was surveyed – with the exception of India and China,[30] where the sample was around 2,000, and Ethiopia, where a full nationally representative sample was not achievable due to local conflict and security concerns.[31] The sampling frame was predominantly based on data from national statistics offices, including census data where possible and a range of other sources. Sampling points where interviews were conducted were distributed proportionately between urban and rural areas in accordance with census data and national statistics offices. To ensure wide geographical coverage and reduce the effects of clustering, a minimum of 100 sampling points were used in each country (200 in India). However, very remote areas or those with security concerns were excluded.

The research used a mix of purposive and random sampling approaches. Depending on the country, sampling points were either randomly distributed – with an administrative area's probability of selection proportionate to the size of its population (random sampling) – or selected to reflect the linguistic, cultural and economic variations of each country (purposive sampling). Local experts and national statistics offices checked the sampling frames to ensure they were valid and representative.

Survey interviews were conducted under the direction of Ipsos with individuals in their local language(s) by both male and female interviewers. Data was collected using computer-assisted personal interviewing (CAPI). In more remote rural areas in countries such as Bangladesh, India and Pakistan, local teams tried to ensure female interviewers conducted the survey for female respondents, where practical. Interviews were conducted at respondents' homes. Within sampling points, systematic random routes were used for residence selection.

Weights were applied to the data using a random iterative method (RIM) whereby several non-interlocking quotas were applied in an iterative sequence and repeated as many times as needed for the quotas to converge. This corrected any imbalances in the profiles, although weightings (and the resulting impact on effective sample sizes) were minimised as much as possible by controlling key quota variables over the course of the fieldwork.

30 China was included in the 2017 and 2018 Consumer Surveys.

31 No interviews were conducted in the Amhara region, Western Tigray, Metekel-Zone (Benishangul Gumz), Zone 2 (Afar) and Guji-Zone (Oromia) due to local conflict and security concerns. These areas represent 27% of the population in Ethiopia, so the sample was representative of the remaining 73% who live outside these areas.

Question on mobile internet use

Survey respondents were asked, **"Have you ever used the internet on a mobile phone?"** and to select from one of the following answers:

- Yes, I have used the internet on a mobile phone in the last three months
- Yes, I have used the internet on a mobile phone longer than three months ago
- No, I have never used the internet on a mobile phone
- Don't know

In this report, a respondent to the GSMA Consumer Survey is considered a mobile internet user if they have used the internet on a mobile phone in the last three months.

To identify regular users of mobile internet, these mobile internet users were then asked, **"How frequently do you use the internet on a mobile phone?"** and to select from one of the following answers:

- At least once a day
- At least once a week
- At least once a month
- Less than once a month

In this report, a respondent to the GSMA Consumer Survey is considered a regular mobile internet user if they use the internet on a mobile phone at least once a day.

Question on smartphone ownership

Survey respondents were asked **"Do you have a mobile phone that you have the sole or main use of? This may be a handset that you carry with you most days"**.

They were then asked a follow-up question, **"What type of mobile phone is that?"** and to select from one of the following answers:

- A basic mobile phone
- A feature mobile phone
- A smartphone

Prompts were provided to help identify the handset according to these three categories. In this report, a respondent to the GSMA Consumer Survey is considered a smartphone owner if they have a smartphone that they have sole or main use of.

APPENDIX 2: GLOSSARY

Connected	'The connected' or 'connected population' refers to people who use mobile internet. 'The unconnected' refers to those who do not use mobile internet.
Coverage	'Population coverage' is the share of the population that lives in an area where the signal provided by a mobile network is strong enough to use telecoms services (voice, SMS, data).[32] The coverage levels provided by 2G, 3G or 4G networks are independent from each other.
Coverage gap	Populations who do not live within the footprint of a mobile broadband network.
Device	A device that is used to access the internet. This can include a mobile phone, tablet, laptop or PC. In this report, the term device generally refers to a mobile phone, given the vast majority of internet users in LMICs are accessing it through a mobile phone and the vast majority of users in high-income countries also do so (often in addition to other devices such as tablets, laptops and PCs).
Feature phone	A mobile handset that allows basic access to internet-based services but on a closed platform that does not support a broad range of applications. The handset supports additional features such as a camera and the ability to play multimedia files such as music and video.
Landlocked developing country (LLDC)	A country classified as landlocked and developing by the UN.[33]
Least developed country (LDC)	A country classified as low-income that is facing severe structural impediments to sustainable development. It is highly vulnerable to economic and environmental shocks and has low levels of human assets.
Low- and middle-income country (LMIC)	A country classified as low income, lower-middle income and upper-middle income by the World Bank Country and Lending Groups.
Mobile broadband	3G, 4G or 5G technologies.
Mobile connection	A unique SIM card (or phone number, where SIM cards are not used) that has been registered on a mobile network. Connections differ from subscribers in that a unique subscriber can have multiple connections.

32 For further details on different technologies, see ITU-R FAQ on International Telecommunications (IMT), ITU, 2022.
33 https://www.un.org/ohrlls/content/list-lldcs

Mobile internet subscriber	Individuals who use mobile internet on a device they own or have primary use of. This is distinct from connections as an individual or a 'unique subscriber' can have multiple connections or SIM cards. To estimate the number of unique subscribers by country, we leverage mobile connections data reported by mobile operators and national regulators along with the annual GSMA Consumer Survey as well as other third-party ICT surveys. These are analysed to calculate mobile subscriber, mobile internet and smartphone penetration. We then use the GSMA Consumer Survey as a benchmark for different regions around the world, taking into account macroeconomic indicators and growth potential, and current mobile use cases.
Mobile internet user	A person who uses internet services on a mobile device. Mobile internet services are defined as any activities that use mobile data. Additional mobile internet user refers to individuals who use mobile internet on a device they do not own or have primary use of.
Mobile (phone) owner/ subscriber	A person who subscribes to a mobile service. They do not necessarily use mobile internet.
Small island developing state (SIDS)	A country classified as a small island and developing state by the UN.[34]
Smartphone	A mobile handset enabling advanced access to internet-based services and other digital functions. Smartphone platforms, such as Android and iOS, support a broad range of applications created by third-party developers.
Usage gap	Populations who live within the footprint of a mobile broadband network but do not use mobile internet.

34 https://www.un.org/ohrlls/content/list-sids

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