The State of Broadband Advocacy Targets

June 2025

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Table of contents

List of figures and insights

List of figures

List of insights

Introduction

The ITU/UNESCO Broadband Commission for Sustainable Development was established in 2010, in the wake of the 2007/8 financial crisis and the importance given to broadband infrastructure and services in many national stimulus plans. Governments were convinced that broadband could play a vital role in economic recovery and in helping promote citizen-centric services to achieve development goals and economic progress.

Fifteen years on, this belief has been broadly justified. Communication services, infrastructure providers and operators have enabled, and helped deliver, fifteen years of reasonably consistent economic growth across different countries and economies. Many of the largest companies in the world (by revenues and market capitalization) are currently digital, tech or semiconductor companies. Broadband infrastructure has proved versatile, delivering broadband Internet as well as the new services and applications, such as distributed computing and Artificial Intelligence (AI) services that run over broadband infrastructure.

And yet, even as gaps in access narrow, the digital divide is taking on new forms. Digital technologies are expanding in scope, scale and influence. Policy-making and regulation have moved on from questions of basic access to telecommunications and Internet to recognize different types of digital divides, such as age and/or gender digital divides, and their implications for access to education, healthcare, e-government services, employment opportunities and participation in the digital economy.

This report finds that policy-making has evolved to include new and emerging topics such as digital transformation and AI. There has been strong progress in affordability, with the target for mobile broadband affordability having been achieved at the global level. There has been progress towards the target for fixed broadband affordability, but this target has not yet been achieved. Over two-thirds of all people now go online regularly, with digital skills broadly continuing to expand, as more people venture online.

Digital financial inclusion has been growing among some sections of the online population, particularly youth, at the global level. Among firms and businesses, connectivity and digital capabilities vary significantly by size of enterprise, although significant data limitations make it difficult to assess enterprise connectivity in some regions of the world. However, based on the survey data available, connectivity and the digital capabilities of Micro-, Small- and Medium-sized Enterprises (MSMEs) are broadly improving over time. The gender digital divide is narrowing in terms of absolute numbers of men and women online. Gender parity has increased from 0.90 in 2019 to 0.94 in 2024 indicating that the gender digital divide is narrowing overall.

After fifteen years of dedicated policy and statistical analysis, the ITU/UNESCO Broadband Commission for Sustainable Development continues to believe that broadband stakeholders are well-positioned to deliver on the promise and opportunities of broadband for improving development outcomes. The Commission hopes that its work continues to raise awareness of the importance of broadband for bringing more people online and for improving people's lives.

1 Overview

The digital economy is continuing to expand, entering into all aspects of our lives. Digital technologies are continuing to evolve, while becoming more pervasive and less visible. Growth in the number of Internet users needed to achieve digital inclusion continues, with the online population adding an additional 280 million people over 2023 to reach 5.5 billion people regularly online by end-2024, equivalent to just over two-thirds or 68% of the total global population (Figure 1).

However, this still leaves some 2.6 billion people offline, around 32% or one-third of the global population[1]. This gap in the number of Internet users can be distinguished from the "usage gap" of people living within mobile broadband coverage but not using it (estimated at 38% of the global population in 2022), as well as the coverage gap (estimated at around 5% of people, living in areas still not covered by mobile broadband[2]). Today, offline populations and communities risk being excluded from opportunities created by the digital economy, as well as many citizen services (e.g. in e-government, health and education). Indeed, the expansion of mobile broadband across different verticals such as manufacturing, finance, construction and communications is a bedrock for fresh growth in the digital economy.

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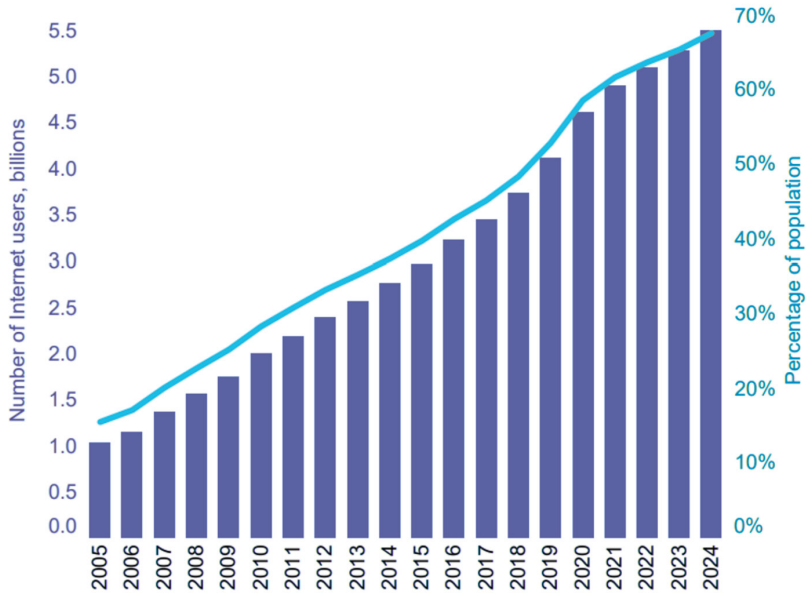
1 ITU Facts & Figures 2024, available at: www.itu.int/hub/publication/D-IND-ICT_MDD-2024-4/

2 https://www.gsma.com/r/wp-content/uploads/2023/10/The-State-of-Mobile-Internet-Connectivity-Report-2023.pdf

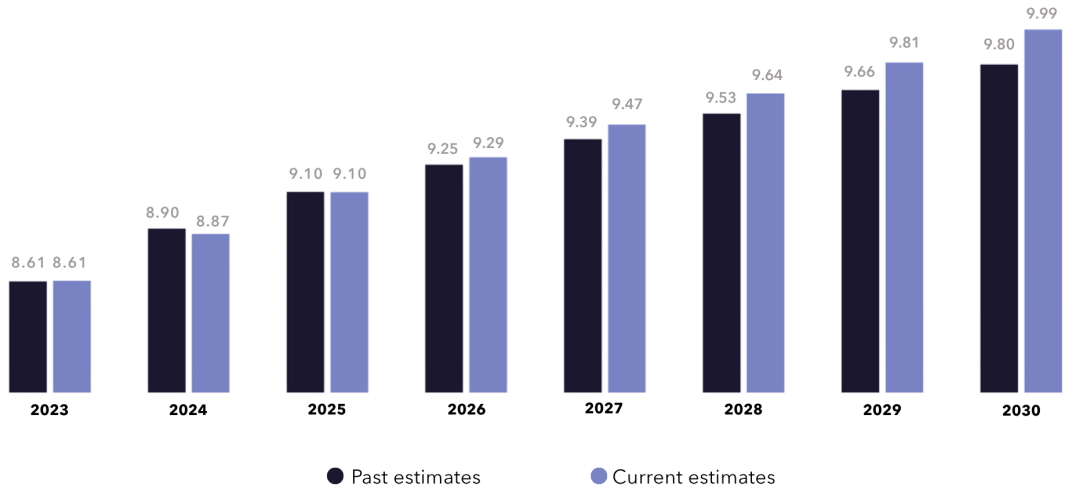
Figure 1: Individuals using the Internet, 2005-2024



Source: ITU Facts & Figures 2024, available at: www.itu.int/hub/publication/D-IND-ICT_MDD-2024-4/

Mobile communications is also continuing to grow steadily. The GSMA estimates that globally, there were 8.87 billion mobile connections by the end of 2024, projected to reach 9.99 billion mobile connections in 2030 (Figure 2). Ericsson's projections for total mobile subscriptions are consistently lower than GSMA's estimates for connections, with only 8.7 billion subscriptions at the end of 2024, and 9.5 billion subscriptions by 2030 (Figure 3, left graph).

Figure 2: Growth in Global Mobile Connections, 2023-2030



Source: Dark blue bars indicate previous forecasts; light blue bars show current forecasts. GSMA Global Mobile Forecasts, Q3 2024 Review: capturing the changes, discussing the drivers.

GSMA expected the total number of 4G mobile connections to peak at 5.11 billion in 2024, with 4G set to decline from this year onwards, as 5G takes off. 5G will become the dominant

mobile access technology before the end of 2029. The GSMA estimated that there were some 2.1 billion 5G mobile connections in 2024, projected to reach 5.6 billion by 2030. Ericsson records 5G's rapid growth, with 5G expected to surpass 2 billion connections in 2024, more than doubling to 3.7 billion connections by 2027 and climbing to around 6 billion connections by 2030 (Figure 3, left graph).

The number of 5G base stations in China amounted to 3.92 million by June 2024, equivalent to a third or 33% of the total number of mobile base stations in China[3]. The number of 5G mobile subscribers exceeded 927 million in June 2024 (52.4% of total mobile subscribers in China) and was expected to surpass one billion 5G subscriptions by the end of 2024[4]. The Ericsson Mobility Report estimated that 5G subscriptions in India reached over 270 million by the end of 2024, accounting for 23% of the total mobile subscriptions in India, projected to reach around 970 million by the end of 2030, accounting for 74% of mobile subscriptions[5].

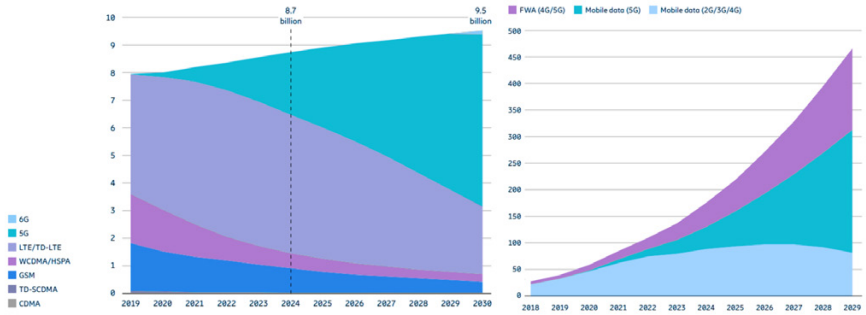
Meanwhile, growth in connected devices and demands on networks (including from fixed wireless access solutions) is fuelling massive traffic growth. Total mobile data traffic is estimated to treble between 2023 and 2029. Total mobile network traffic was estimated at around 170 EB per month at the end of 2024, rising to over 450 EB per month by the end of 2029 (Figure 3, right graph). Ericsson predicts that 5G will account for around three-quarters of total mobile data traffic by 2029.

At the same time, the nature of the expectations and demands placed on networks, by users, applications, and use cases is changing. In 5G's programmable networks, developers using network APIs, are dynamically calling or leverage individual network capabilities, such as high peak data rates, or ultra-low latencies, into a new generation of applications and use cases. This both unlocks fresh innovation across private and public sectors, whilst also adding a further dimension to the digital divide.

Figure 3: Growth in Global Mobile Subscriptions and data traffic, 2019-2030

Total number of mobile subscriptions, billions (left graph)

Data traffic in Exabytes per month (right graph)

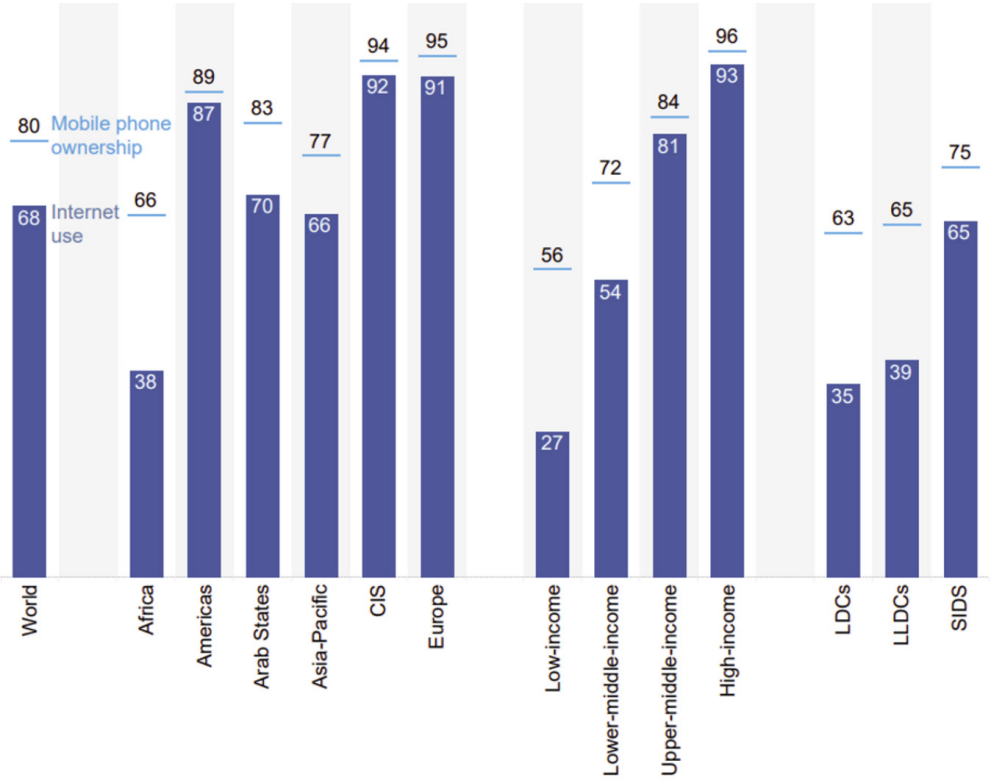


Source: Ericsson Mobility Report, November 2024: https://www.ericsson.com/4ad0df/assets/local/reports-papers/mobility-report/documents/2024/ericsson-mobility-report-november-2024.pdf

[3] https://english.www.gov.cn/archive/statistics/202407/23/content_WS669f8be0c6d0868f4e8e9625.html
[4] www.rcrwireless.com/20240627/5g/china-reach-1-billion-5g-subscriptions-end-2024-gsma
[5] https://economictimes.indiatimes.com/industry/telecom/telecom-news/number-of-5g-subscribers-in-india-may-triple-to-970-mn-by-2030-report/articleshow/115691585.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

According to ITU's most recent data (Figure 4), four out of five individuals aged 10 years-old or over own a mobile phone. In terms of where these subscribers are located, phone ownership exceeds 90% of the population in high-income countries (96%), Europe (95%) and CIS (94%). The lowest phone ownership rates are in low-income countries (56%), LDCs (63%) and LLDCs (65%).

Figure 4: Percentage of individuals owning a mobile phone and using the Internet, 2024



Source**:** ITU ICT Facts and Figures 2024, available at: www.itu.int/hub/publication/D-IND-ICT_MDD-2024-4/

In the meantime, digital technologies are evolving and diversifying, and encompassing developments such as Artificial Intelligence (AI). AI is no single technology, but instead comprises multiple different services, types of models, and the connection of "many different data sources", often distributed across hybrid IT infrastructure[6]. AI is increasingly managing network complexity and orchestrating network demands, which is essential in the new era of programmable networks. In turn, AI-infused networks are better able to meet the diverse demands of AI use cases that enterprises, governments and consumers place on networks.

[6] Feature: Nvidia, HPE chiefs address A... - Mobile World Live

Insight 1: Universal and Meaningful Internet Connectivity by 2030

The Broadband Commission's mission to achieve universal and meaningful Internet connectivity by 2030 could not be more urgent. We stand on the brink of a future that will be significantly shaped by AI, which holds immense potential to accelerate progress across the SDGs. However, such benefits risk being distributed unevenly – most notably, in the Global South – if our global community does not immediately and concertedly shape its trajectory at this critical stage, focusing on four key components.

First, from advancing access to healthcare and education to driving climate action, AI is already transforming lives. However, to ensure that these benefits reach everyone, it is crucial to strengthen countries' Digital Public Infrastructure (DPI), which will lay the groundwork for AI's positive impact to flow widely and equitably. This involves efforts like the UN Secretary-General's High Impact Initiative on DPI, co-led by UNDP and ITU, which will catalyze the collective action necessary to support 100 countries globally to build or strengthen their DPI by 2030.

Second, AI must be developed and deployed inclusively. AI systems are often trained on datasets sourced mainly from the Global North, creating information asymmetry and an imbalance in data representation. This often results in AI models with low local relevance and benefit. AI must be specifically designed to reflect the needs, challenges, and opportunities of developing countries. UNDP is actively addressing this gap in key areas, including supporting new local-language AI systems and local data ecosystems.

Third, tailored support at the country-level is needed to ensure that AI is harnessed to its maximum potential for inclusive development. To this end, UNDP is offering a range of AI capacity-building support to countries to develop robust local AI ecosystems with appropriate safeguards and protections in place. For example, UNDP has conducted an AI Landscape Assessment (AILA) in Sri Lanka, and the results are now informing the country's first-ever national AI strategy. UNDP has also assisted a range of countries including Kenya and Moldova in developing data governance frameworks to promote the responsible and equitable use of data in policymaking.

Finally, UNDP is increasingly focusing on building the coalitions and multi-stakeholder platforms needed to drive systemic change, including sharing AI solutions as global public goods. This is reflected in UNDP's new AI Hub for Sustainable Development, established in cooperation with Italy's G7 Presidency, with a strong focus on accelerating AI across Africa. Forging new strategic partnerships, notably with the private sector, the hub's unique value lies in its holistic approach, encompassing the entire AI value chain. That includes democratizing green, high-performance computing; generating inclusive, high-quality datasets; and nurturing local AI talent.

We possess the means to ensure that the AI revolution does not become yet another driver of inequality. That involves ensuring that human intelligence leads the way as we thoughtfully integrate a properly governed AI into our lives, and 'coding' our AI strategies to safeguard human rights and incorporate all perspectives from across the globe. That will mean that AI can genuinely pave the way for a sustainable future that benefits all.

Source: Achim Steiner, Administrator, United Nations Development Programme (UNDP).

Insight 2: AI for Achieving the SDGs

Accelerating digitalization with AI is crucial to improving our chances of meeting the Sustainable Development Goals (SDGs). Modern connectivity plays a foundational role in digitalization: AI makes that role greater. For instance, 5G acts as a platform for connected technologies and solutions to flourish, enabling societal benefits that contribute to the SDGs. Today's AI enhancements, including in network performance and operational efficiency, give more potency to the 5G platform.

Looking ahead, new technologies are being architected to enable networks to self-heal, self-organize, and self-configure, helping them manage the increasingly complex demands of digitalization. The pace of AI-infused innovation within and on top of the network is rapid and necessary to close the gap toward the SDGs. Rapid advancement requires regulation which enables innovation.

A broad approach to regulating AI technology should be avoided, otherwise it risks stifling needed investment and innovation. As always, continuous dialogue between industry, policy-makers, and other stakeholders is essential. Building trust around AI usage and development is key. No less important is the need to safeguard interoperability to help provide affordable, scalable, and modern connectivity.

Source: Erik Ekudden, Senior Vice-President, CTO and Head of Group Function Technology, Ericsson.

Insight 3: The Impact of Emerging Technologies in the Telecom Sector

The evolving regulatory landscape suggests a shift from prioritizing speed to emphasizing service robustness and financial and socio-economic sustainability. Emerging technologies present significant opportunities for the telecom sector. AI can dramatically improve network management through predictive analytics, enabling more efficient traffic handling and fault management, which in turn can reduce operational costs and environmental impacts. These technologies also facilitate smarter and greener development initiatives, contributing directly to reduced carbon footprints.

However, the integration of these technologies also introduces complex challenges and risks. The financial implications of adopting high-end AI solutions pose considerable challenges, particularly for operators in developing regions where investment in such technologies may not be feasible without supportive regulatory frameworks and financial models. Cybersecurity remains a paramount concern, as more intelligent networks are potentially more vulnerable to sophisticated cyber-attacks. Ensuring the security of these systems is critical, especially as they become integral to delivering essential services, including healthcare.

Moreover, the deployment of AI could inadvertently exacerbate the digital divide, with less developed regions struggling to keep pace with the rapid technological advancements seen in more developed markets. This necessitates a balanced approach in regulatory frameworks that not only encourages innovation but also ensures equitable access to technology. SAMENA Council advocates for financially, socio-economically, and environmentally sustainable broadband models that accommodate the fast-evolving digital landscape, while ensuring that advancements lead to societal benefits, including connectivity, service reliability, and environmental sustainability.

Source: Mr. Bocar Ba, CEO, SAMENA Telecommunications Council.

Insight 4: The Vital Role of Digital Cooperation in Advancing AI

Emerging technologies, particularly AI, offer transformative potential to enhance connectivity, promote sustainable development, and bridge digital divides. Generative AI (GenAI), an innovative field within the broader realm of AI, has the capability to generate and understand high-quality text, images, audio, videos, and various other forms of content. GenAI offers unprecedented opportunities to revolutionize how we live, work, and connect with one another. Leveraging these technologies in positive and constructive ways, can make significant strides in bridging the digital divide. Adopting human-centric and responsible AI and GenAI-based tools is vital to boost the global digital economy.

AI is central to the agenda of the Digital Cooperation Organization (DCO). The DCO envisions AI, and GenAI as a key driver in advancing AI-powered digital governance, accelerating sustainability, including environmental sustainability, and fostering the growth of the digital economy. This growth is projected to reach $207 billion by 2030, highlighting the significant impact AI can have on shaping the future of the global digital landscape. GenAI can be deployed at all levels of society and even assist policymakers in drafting and refining broadband strategies, and policies.

GenAI can generate insights and predictive models to ensure policies are effectively implemented and assisting service providers to optimize broadband network for reliable connections. Moreover, AI-driven predictive maintenance can enhance broadband infrastructure, improve broadband customers experience by ensuring more reliable and widespread access while AI-powered virtual assistants and chatbots can provide 24/7 support, helping users navigate digital services and access vital information.

Despite these benefits, deploying GenAI comes with challenges, particularly concerning data security, accountability, transparency, job displacement, trust, and privacy. The DCO emphasizes the importance of establishing robust measures for secure, responsible, and sustainable AI applications. Additionally, the lack of ethical guidelines, a holistic regulatory framework and inadequate national digital strategies for GenAI can impede its effective deployment. The risks associated with GenAI, such as increased inequality, non-availability of complete, and quality data, copyright infringements, and embedded biases, highlights the need for careful monitoring and iterative improvements. Ensuring GenAI systems are trained on diverse and representative quality datasets is crucial to mitigating these risks.

In response to these challenges, the DCO advocates for a collaborative approach involving governments, businesses, civil society, and other stakeholders to address these challenges. In fact, the DCO Member States have demonstrated their commitment to responsible AI adoption by signing the Riyadh AI Call for Action Declaration (RAICA), reaffirming their shared desire to harness AI's potential to improve lives worldwide. The DCO is developing several AI initiatives, including an AI toolkit to assist Member States in assessing AI readiness and integrating AI, including GenAI, into business systems to enhance productivity, service quality, and efficiency. This includes creating controlled testing environments with flexible AI regulatory frameworks, enhancing global cooperation on AI governance, and encouraging investments in AI digital skills and requisite infrastructure.

By promoting cooperation through joint research and shared service platforms, stakeholders can balance AI innovation with regulatory measures. While GenAI offers many opportunities to enhance connectivity and sustainable development, the DCO recognizes the importance of addressing associated challenges and risks through collaboration and comprehensive co-created digital strategies. By leveraging GenAI responsibly, we can make significant strides toward achieving the Broadband Commission's Advocacy Targets and building a more inclusive, sustainable and connected global digital economy.

Source: Deemah AlYahya, Secretary-General, Digital Cooperation Organization (DCO).

2

Mapping Connectivity Gaps – Broadband as key Digital Infrastructure

Targets can play a key role in informing, influencing and shaping policy priorities at the national, regional and global levels. The Broadband Commission Advocacy Targets assess progress in broadband access and identify remaining gaps.

Advocacy Target 1: Make broadband policy universal

Rationale and Status

This target states that, by 2025, all countries should have a funded National Broadband Plan (NBP) or strategy in place or include broadband in their Universal Access and Service (UAS) Definition. A sound policy approach should also promote action to enhance broadband access and/or when broadband is included in countries' Universal Access/Service (UAS) definitions.

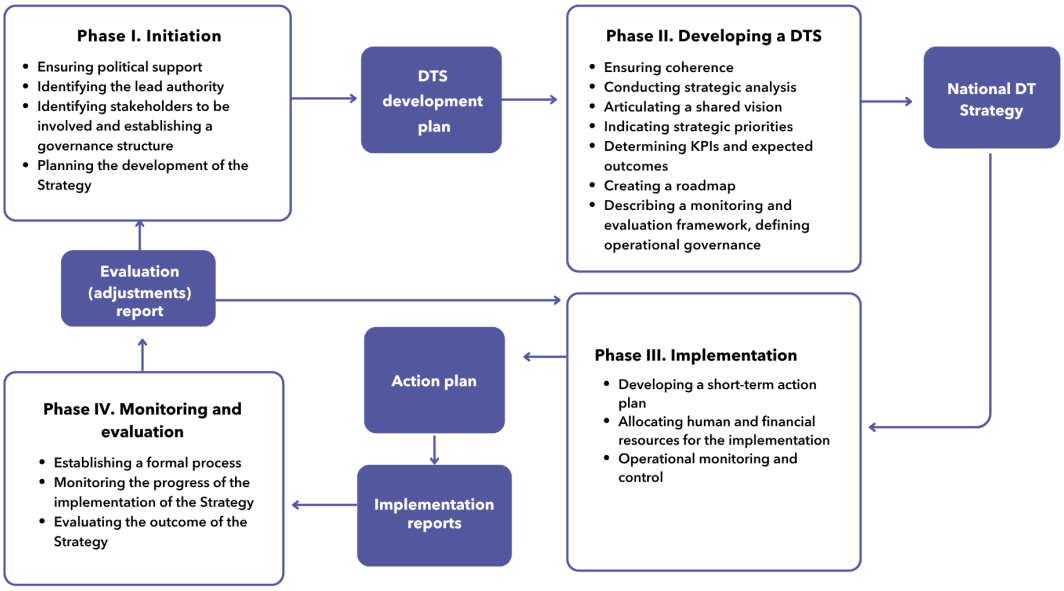
Research suggests that this target will not be achieved. Despite increases in broadband coverage globally, a number of National Plans have expired and not been renewed (ITU, 2023). In 2024, 167 countries had a national broadband plan or other strategic document emphasizing broadband, marginally down from 170 in 2022. Figure 5 depicts the national strategy planning process.

Today, digital transformation is the new focus of policy-making, as countries seek to address the far-reaching ramifications of digital policy. National digital infrastructure is recognized as just one building block of strategies for digital transformation. The era of discrete Plans for the telecom or broadband sector are broadly over. Today, Digital Agendas, National Visions or National Strategies on AI are increasingly the focus of policy-makers' attention.

Broadband infrastructure planning is expensive, complex and needs constant revision (Figure 5). Governments do not just produce a plethora of policy documents, but need to work in conjunction with the private sector, where

much of the investment capital and expertise in relation to broadband and digital services now resides.

Figure 5: The national strategy planning process



Source: https://digitalregulation.org/national-digital-transformation-strategy-mapping-the-digital-journey/

Further, it is now necessary to integrate and include the impact of AI on health sectors (e-Health strategies), transport and housing (Smart City Plans), Education (e-learning and edtech, school strategies) and security (cybersecurity and national defence). Important regional and sectoral strategies are being developed – for example, Europe's General Data Protection Regulation (GDPR) or the African Union's AI Strategy Roadmap or in Europe's Digital Health Action Plan[1], coordinated by the World Health Organization (WHO).

For example, Figure 6 shows all the areas that Australia is taking into account in planning its digital economy strategy, which builds on and incorporates its Data Strategy, Cybersecurity Strategy, Blueprint for Critical Technologies, Digital Government Strategy and National Blockchain Roadmap.

[1] WHO Press Release, 13 September 2022, www.who.int/europe/news/item/13-09-2022-countries-in-the-european-region-adopt-first-ever-digital-health-action-plan

Figure 6: Putting Australia's Digital Economy Strategy into Context

Source: Australia's Digital Economy Strategy, foreword. https://digitalregulation.org/national-digital-transformation-strategy-mapping-the-digital-journey/

Recent examples of Digital Strategies include Belize's National Digital Agenda for 2022-2025, Qatar's Digital Agenda 2030 adopted in March 2024, Guyana's efforts to advance its national digital agenda and Uganda's National Digital Agenda Strategy, launched in August 2024.

Case Study – Developing a National Digital Agenda Strategy for Uganda

Uganda's National Digital Agenda Strategy was launched in August 2024, as the result of research and collaboration since 2020, designed to propel Uganda towards a future of greater innovation and equity.

It highlights the role of education in Uganda's development to nurture the country's youthful population, which makes up over 70% of the total 46 million citizens as an innovative and productive workforce. It also emphasizes the role of the Technical and Vocational Education and Training sector in providing employment opportunities for young Ugandans. The Islamic Development Bank has financed the expansion of TVET infrastructure. Nine technical institutes across Uganda are targeted for expansion, including Minakulu, Moyo and Kabale. ICTs and the Internet offer robust tools to deliver education throughout Uganda.

UNICEF is also contributing to the Strategy's implementation, through its collaboration with private sector partners, including Airtel Africa in the aim of expanding digital education and skills to 400,000 teachers, children, and adolescents across Uganda.

The strategy reflects Uganda's commitment to leveraging digital technologies for improved education outcomes, as well as future challenges and disruptions – for example, the recent COVID-19 pandemic. The Digital Agenda Strategy should help ensure that Uganda is better positioned to navigate future challenges, including pandemics. Cybersecurity also plays a vital role in the implementation of the Digital Agenda Strategy, with a strong need to protect learners and educators from harmful online content.

The Strategy encourages collaboration across government, private sector, academia, and civil society to support the implementation of the Digital Agenda Strategy and unlock Uganda's full potential. It is hoped that Uganda can take advantage of digital technologies and innovation to build a brighter future.

Source: www.media.gcic.go.ug/education-ministry-launched-ugandas-digital-agenda-strategy-alongside-the-expansion-of-nine-technical-institutes/ and https://nilepost.co.ug/news/213076/govt-launches-digital-agenda-strategy-expands-technical-institutes

Case Study – Assessing Digital Readiness in Guyana

On 1 November 2024, Guyana launched a survey for Digital Readiness Assessment (DRA) in collaboration with UNDP. The assessment will provide key insights and recommendations enabling the Government to understand the needs and readiness of Guyanese communities in the digital era.

ICT experts and representatives including from the National Data Management Authority, public and private sectors and civil society organizations attended a workshop to share perspectives and inform analysis of Guyana's digital strengths and weaknesses. The results will provide key insights for the Government of Guyana as it advances the country's digital agenda.

The DRA provides an overview of national digital readiness across six pillars – connectivity, government, regulation, business, digital public infrastructure and people – for a whole-of-society analysis with the goal of contributing to an inclusive digital transformation in which no one is left behind and all parts of society can benefit from digital solutions and technologies.

This assessment is part of a broader public policy approach by the Government of Guyana and will support efforts to digitize processes and integrate technology in social and economic sustainable development. The insights gathered will also help guide current investments in digital infrastructure development and capacity-building.

Source: UNDP, www.undp.org/guyana/press-releases/national-digital-readiness-assessment-launched

Advocacy Target 2: Make broadband more affordable

Rationale and Status

This Advocacy Target specifies that by 2025, entry-level broadband services should be made more affordable in low- and middle-income countries (LMICs). Making broadband more affordable is key to achieving universal and meaningful connectivity. This target specifies that prices for entry-level broadband services should be below 2% of monthly GNI per capita in developing countries by 2025. It is important that the total cost of ownership and use of broadband devices and connectivity is considered.

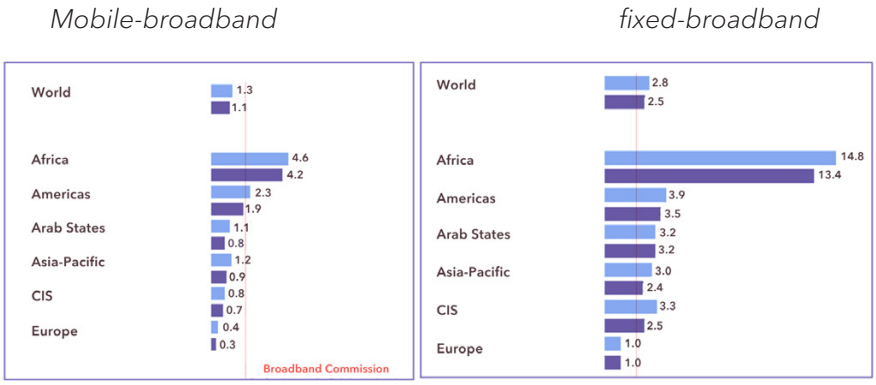
According to ITU's 2024 Facts and Figures report, fixed and mobile-broadband services continued to become more affordable in 2024, costing less as a proportion of income per capita in 2024, than in 2023 (Figure 7). The data-only mobile-broadband basket and the fixed-broadband basket became more affordable in all regions and for all income groups.

Globally, the world has achieved the affordability target for mobile data-only broadband. For mobile data-only broadband, Latin America achieved the 2% target in 2024, meaning that all world regions have now achieved this target, except the African region. However, the fixed data-only broadband target has not yet been achieved, where Europe is the only region to have achieved the affordability target, although Asia-Pacific and the CIS region are approaching the target.

Similarly, in terms of income levels, a wide gap persists between high-income economies and the rest of the world. High-income countries are the only group of countries to have achieved the affordability target in both mobile and fixed broadband. Upper middle-income countries have achieved the affordability target in terms of mobile-broadband, but not fixed broadband.

In 2024, 114 economies out of 188 met the affordability target for at least the data-only mobile broadband or the fixed broadband basket, nine economies more than in 2023. However, among the low-income and middle-income economies, only 65 or around one-half of countries have met the Broadband Commission's affordability target for at least one of the two baskets. Given recent trends in ICT prices and income levels, it looks increasingly inevitable that most of the remaining 66 economies in that income group will miss the 2025 objective, even for entry-level broadband access.

Figure 7: Data-only broadband (2GB) basket prices as % GNI per capita, 2023-2024



Source: ITU Facts and Figures 2024, www.itu.int/hub/publication/D-IND-ICT_MDD-2024-4/
Pale blue bars are figures for 2023; dark blue bars present 2024 figures.

Case Study – Reducing the Costs of Handsets

In 2020, nearly 2.5 billion people lived in countries where the cost of the cheapest available smartphone was a quarter or more of the average monthly income, according to a 2020 survey of 70 countries by the Alliance for Affordable Internet (A4AI), equivalent to the share of monthly income that a typical European household spends on housing & utilities.

In some countries, devices were even less affordable still. In Sierra Leone, the average person needs to save six months' salary to buy the cheapest available smartphone. In India, where almost 18% of the global population now lives, the price of the cheapest smartphone from leading operator Jio was 206% of average monthly income. This is striking in a country that has some of the lowest-priced Internet data in the world.

There is a stark divide between countries for handset affordability. Botswana topped the survey for most-affordable devices, with a low-cost smartphone priced at just 4% of average monthly income, with Jamaica (5%), Mexico (5.7%) and Costa Rica (6%) following closely behind. While these countries are outliers at either end of the price spectrum, there is also wide disparity among regions. In Africa, devices were least affordable at 62.8% of average monthly income compared with 11.7% in the Americas and 16.2% in Asia-Pacific (excluding India). With India included, the Asia-Pacific figure jumps to 87.4% owing to India's role as an outlier with a very large population and relatively high costs.

A4AI makes the following recommendations:

(1) Reduce taxes on low-cost handsets.
(2) Support the use of Universal Service & Access Funds (USAFs) to subsidize devices.
(3) Support financing plans to help low-income consumers spread the cost of devices over time.

Source: Alliance for Affordable Internet (A4AI), 2020, available at : https://a4ai.org/report/from-luxury-to-lifeline-reducing-the-cost-of-mobile-devices-to-reach-universal-internet-access/

Case Study – Mobile Pricing Strategies in a High-Inflation Context

Analysis Mason notes that soaring industry costs and inflationary pressures are forcing many operators to revise their price strategies. For example, Dialog Sri Lanka announced a 20% price increase for mobile and fixed services in September 2022. The increase was approved by the telecom regulator as an emergency measure to help operators cope with high inflation rates, and was also applied by other operators.

Other operators are engaging in more-for-more price increases try to balance a tariff increase with a service upgrade, generally in the form of bigger data allowances or faster service speeds. 'More-for-more' price increases are flexible and can take many forms depending on the market context and competitive environment. For example, Airtel India raised the price of its entry-level voice and data prepaid bundle by 57% to INR155 in November 2022. The increase, which follows a similar one implemented a year earlier, came with a significant upgrade in terms of voice and data allowances, as well as free access to Airtel's music streaming app Wynk Music. However, it may be difficult to sustain such 'more-for-more' pricing strategies over the long-term – both for the operators and in terms of customers' expectations, who may expect the value of their plan to continue to increase.

A few operators have also engaged in price locks over the short-term as an ad-hoc measure to reinforce their position in the market and to prompt a response from competitors. For example, in Mexico, the dominant operator Telcel decided not to raise prices during 2022. There were limited price responses from smaller competitors, which were unable to raise prices, despite high levels of inflation (CPI) of 7.8% in 2022.

Source: Analysys Mason (2023), Mobile pricing strategies in a high-inflation context: Insights for Operators.

Advocacy Target 3: Get everyone online

Rationale and Status

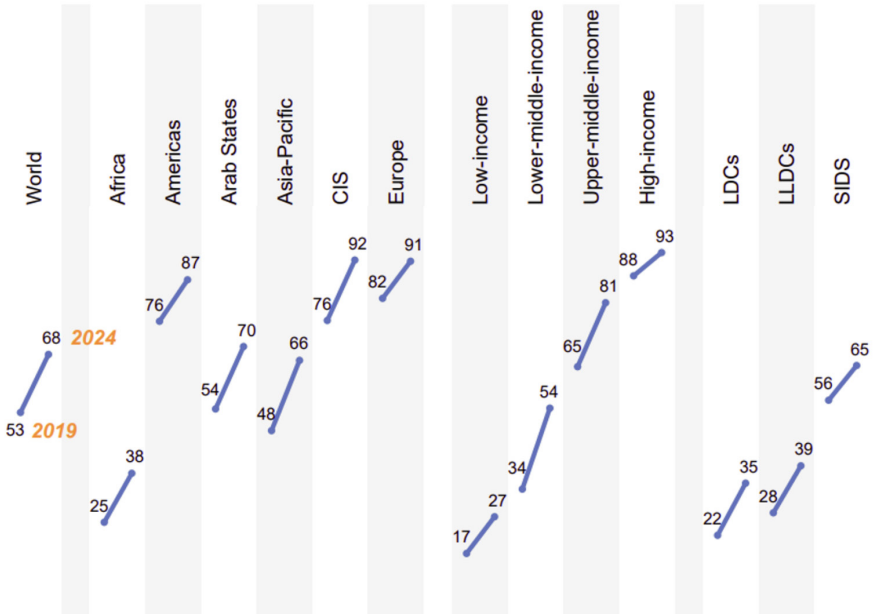
This Advocacy Target aims that broadband-Internet user penetration should reach: i) 75% worldwide; ii) 65% in low- and middle-income countries; and iii) 35% in least developed countries, by 2025. Internet access is a priority because access to broadband Internet is fundamental to inclusive and sustainable development. Today, the Internet and broadband are increasingly vital for work, education, business, entertainment and global connection.

In 2024, there was around 5.5 billion people online (approximately 2.8 billion male and 2.7 billion female Internet users), with another 2.6 billion offline. Internet use grew to an estimated 68% of the total global population in 2024 (Figure 8), up from 53% in 2019. There is still much to be done to achieve universal and meaningful connectivity. In 2024, Internet use was 93% in high-income countries, 54% in LMICs but just 35% in the LDCs (according to the most recent ITU estimates[2]).

However, there are also the first indications of 'digital disconnection'. For example, one survey suggests that the penetration of Internet users online in the UK actually fell for the first time[3]. The causes of this 'digital disconnection' are as yet poorly understood, but they may include factors as diverse as increases in the cost-of-living, disenchantment with the digital world (e.g. some parents are now giving children feature phones, rather than smartphones to try and limit screentime) and ageing populations in a growing number of countries. Separately, there are attempts by either parents or regulators and schools to deal with digital addiction or digital harms – for example, the recent ban on social media enacted for under 16 year-olds in Australia, or attempts by schools to limit, reduce or ban mobile phones in Australia, France and Switzerland.

[2] Measuring digital development - Facts and Figures 2024 - ITU
[3] Lloyds Consumer Digital Index 2023 report, available at: 231122-lloyds-consumer-digital-index-2023-report.pdf

Figure 8: Percentage of individuals using the Internet by region, 2019 and 2024



Source: ITU Facts and Figures 2024, https://www.itu.int/hub/publication/D-IND-ICT_MDD-2024-4/

Case Study – How Vodacom is using AI to expand its services in African countries

Vodacom Group is a leading pan-African telco that provides an array of services from traditional products to financial services to over 200 million people in Africa. In addition to deploying various cloud-based digital platforms, products and tools across its footprint, Vodacom has deployed various AI tools (including machine learning and big data) to provide better services to customers in line with their needs, including mobile financial services products and loans.

One example of customers benefitting from AI is through an offer deployed in South Africa in 2017 and in the Democratic Rep. of Congo, Lesotho, Mozambique and Tanzania as of 2019, called 'Just 4 You'. It provides affordable, tailor-made bundles, created using machine learning and big data to design bespoke deals for each customer. Today, this package delivers great value to over 40 million customers in Africa, and it has evolved to offer smart discounts on fintech services and third-party offerings, as well as regional offers on voice and data bundles and some third-party services. In particular, it has become popular among customers on low incomes, as a best value deal.

Vodacom has also deployed various health and IoT solutions across Africa, and implemented process improvements across numerous areas, including in its call centres. Vodacom implements these innovations ethically and responsibly, taking various factors into account including each country's specific consumer protection laws and human rights laws.

Source: Vodacom.

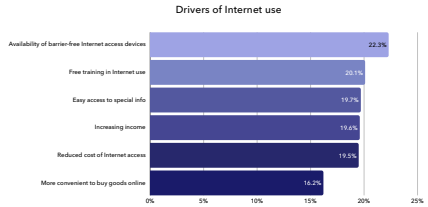
Looking beyond the international digital divide, various digital divides persist at the national level, including in high-income countries. While overall Internet use is increasing, some marginalized groups are being left behind, such as the elderly, women & girls, people living in rural areas and people with disabilities.

In terms of new markets where Internet users are being added, China added 7.4 million new Internet users over 2024. In China, communication with family is still the main reason why offline individuals wish to go online (Figure 9), followed by the availability of Internet devices and free training in how to use the Internet.

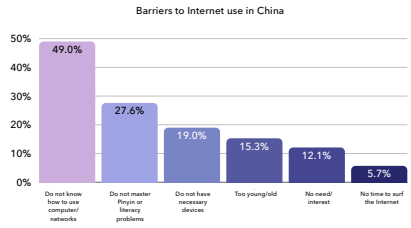
Elderly individuals aged 60+ accounted for 62% of the total offline non-user population in China in June 2024. Lack of knowledge about how to use the Internet is perceived as the biggest barrier (49% of non-netizens), followed by lack of literacy in Pinyin or other literacy limitations (27.6%). Digital accessibility for the elderly and disabled groups is a significant driver in helping bridge the digital divide. By the end of June 2024, 2,792 websites and apps closely related to the lives of the elderly and people with disabilities were updated for accessibility. People aged 60+ accounted for 20.8% of new Internet users in the first half of 2024.

Figure 9: Factors Driving Decisions to go Online or Not in China, 2024

Primary factors driving non-netizens to use the Internet (left graph)



Reasons why non-netizens do not use the Internet (right graph)



Source: Pages 19, 20, CNNIC Statistical Survey on Internet Development, June 2024, available at: https://www.cnnic.com.cn/IDR/ReportDownloads/202411/P020241101318428715781.pdf

Singapore is another country dealing with a significant digital divide for the elderly. The following case study illustrates how Singapore is helping promote digital inclusion for seniors.

Case Study – How Singapore is promoting digital inclusion for seniors

Singapore regularly monitors Internet access and digital skills. Due to its urbanization and technologically savvy population, Internet access is available at home to 99% of all households. Senior-only households of people aged 60 years+ have:

- A 7% percentage point gap in terms of households with Internet access (93%) due to a perceived lack of need, skills, knowledge and confidence of seniors to use the Internet (up from 55% in 2017).
- Only 64% of senior households own a computer, due to a perceived lack of need or interest to own or learn to use computers (compared to 90% of all households and 98% of households with children).
- 89% of seniors aged 60+ own a smartphone (compared with 100% for all resident households).

With more time spent online, it is vital to ensure that citizens have the necessary knowledge and skills to protect themselves from online risks (e.g., scams, misinformation, harmful online content). The Government is building on existing efforts to:

- Highlight the need for all residents to keep their **digital devices up-to-date** (e.g., downloading and installing software patches, or upgrades) to reduce exposure to online risks.

- **Help Singaporeans stay safe and alert** online by teaching important cybersecurity skills, such as enabling two-factor authentication (2FA) and security checks when transacting online.
- **Improve Singaporeans' information literacy**. As the Internet has become the primary source of information for many people, we will continue efforts to help Singaporeans be informed and discerning consumers of information via initiatives such as the National Library Board (NLB)'s Source, Understand, Research, Evaluate (S.U.R.E) programme. SINGAPORE DIGITAL SOCIETY REPORT 2023 2
- Provide people with a **better understanding of online harms** that they may be exposed while connected. There are encouraging improvements in seniors' digital skills in various areas (e.g., communicating online, searching for information, transacting online).

The Infocomm Media Development Authority (IMDA) regularly monitors statistics for Internet connectivity by age. In 2023, only 45% of seniors are generally willing to try out new technologies, compared with 65% of Singaporeans aged 15 to 59 (IMDA, 2023). IMDA's ***Seniors Go Digital programme*** was launched in 2020 to help seniors embrace the benefits of going digital and equip them with knowledge and digital skills. Notably, seniors are becoming more comfortable with digital transactions. For instance, the percentage of seniors using online payments has more than doubled from 38% in 2018 to 78% in 2022. Also, more seniors are using the Singpass app in 2022 (67%), compared to 2020 (41%).

Sources: singapore-digital-society-report-2023.pdf; www.channelnewsasia.com/commentary/singapore-elderly-tech-digital-isolation-social-lonely-4694131

Advocacy Target 4: Promote Digital skills development

Rationale and Status

Digital literacy is often identified as one of the main causes of digital exclusion and often among the top answers when people are surveyed about why they do not use the Internet. Digital skills are vital for leveraging ICTs for economic prosperity, human rights, peace and social well-being, as well as acquiring other knowledge and skills (e.g. the use of online platforms such as Duolingo and Babbel for language learning). This Advocacy Target calls for 60% of youth and adults to have achieved at least a minimum level of proficiency in sustainable digital skills by 2025.

This is a target beset with measurement problems. Initial frameworks sought to distinguish between basic, intermediate and advanced skills. More recently, frameworks seek to evaluate ICT skills based on competencies and capabilities and whether individuals can perform certain activities with different types of digital skills: communication & collaboration; problem-solving; safety; content creation; and information & data literacy:

- ***Communication/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.
- ***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.
- ***Safety*** refers to changing privacy settings and setting up effective security measures.
- ***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.
- ***Information/data literacy*** refers to verifying the reliability of information e.g. getting information about goods or services, reading or browsing newspapers, seeking health-related information.

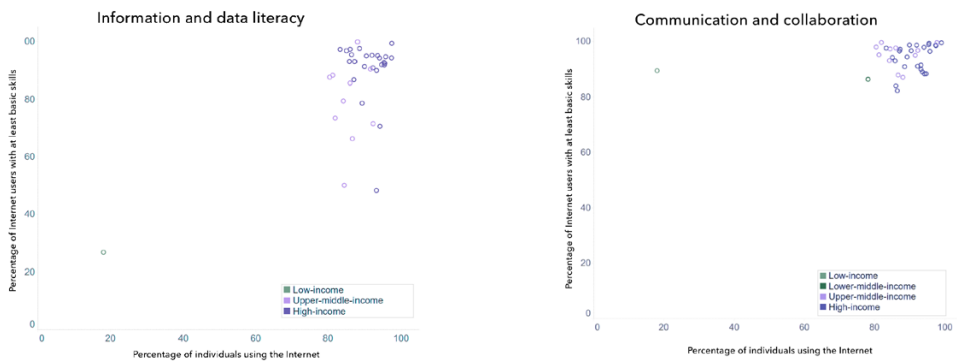
Source: ITU.

However, competencies can generally only be measured by in-depth surveys at the local or national level, making comparisons between countries at the international level very difficult. Such local and national surveys are costly and expensive to carry out, meaning that they are mainly confined to high-income countries and regions. Relatively few countries therefore provide data for digital skills, and rarely for all skill areas, due to the cost and difficulty involved.

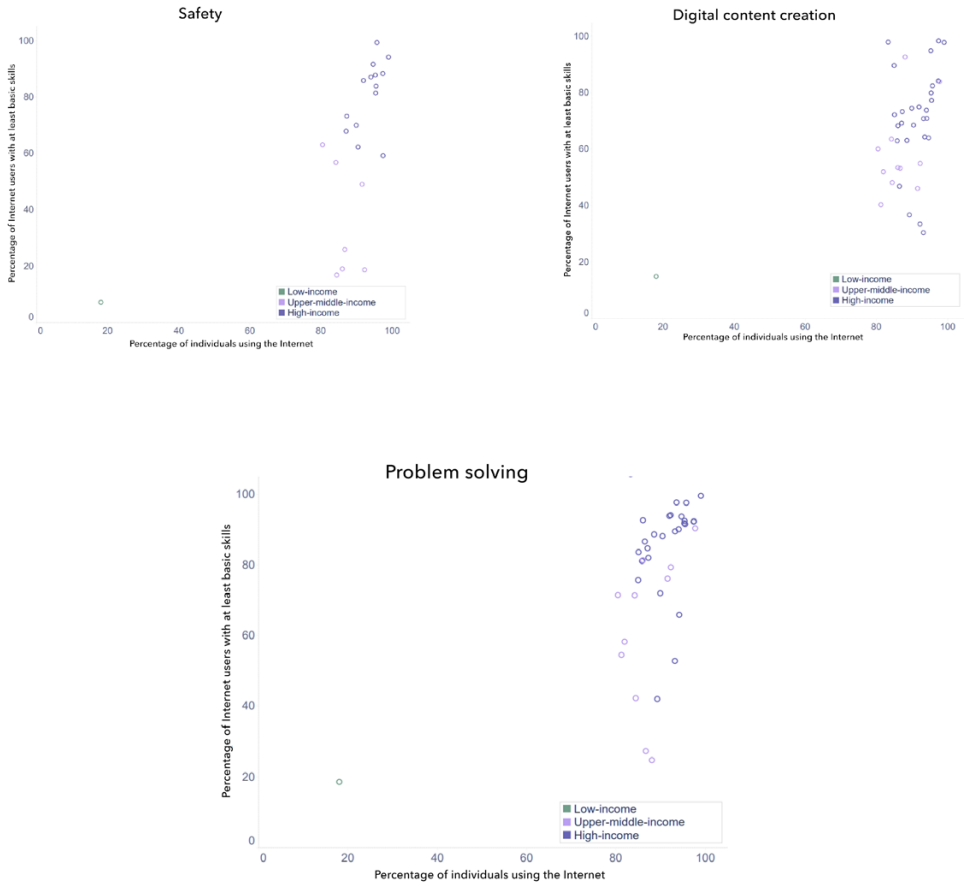
Further, when digital skills are measured by online surveys, a sample self-selection problem may arise (whereby people without the digital skills to go online or respond to survey are de fact excluded from the survey in the first place). Self-reporting of ICT skills is also very subjective (e.g. some people with strong digital skills may be modest about their achievements, compared to arrogant people who may over-report their paltry digital skills). Figure 10 shows the data available, with 38 countries for communication/collaboration, 39 countries for problem-solving, 22 countries for safety, 39 countries for content creation, and 36 countries for information/data literacy.

Perhaps not surprisingly, communication/collaboration scores the highest across all countries for which data are available, followed by information/data literacy. Upper middle-income countries score lowest for safety and problem-solving.

Figure 10: Percentage of Internet users with basic skills vs Internet users, by skill area, 2023



(continued)



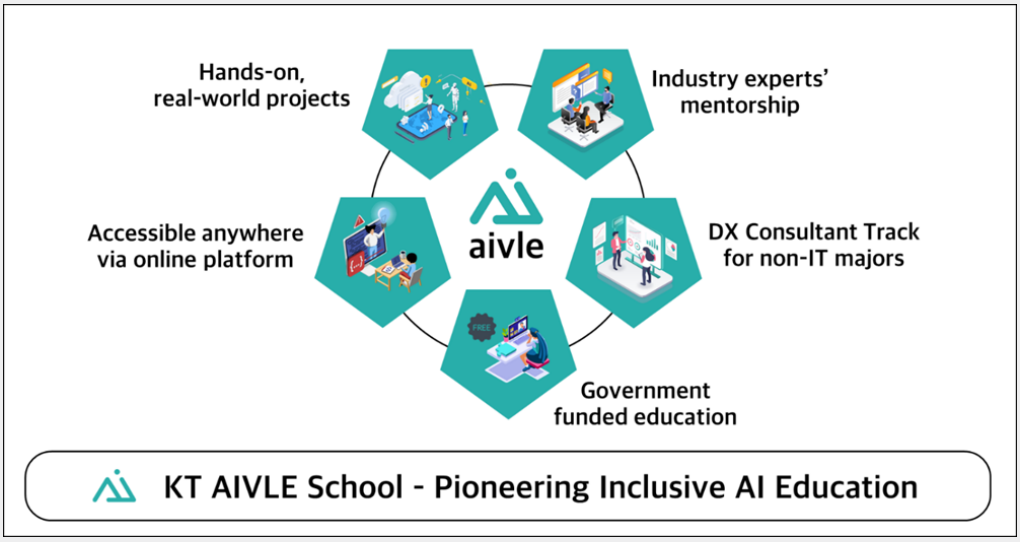
Source: ITU Facts & Figures 2024, Measuring digital development - Facts and Figures 2024 - ITU.

Another interesting development is the involvement of the private sector in boosting and promoting digital skills in different aspects of life. Insight 5 presents the experience of KT's AIVLE School in promoting digital skills and pioneering AI education.

Case Study – Pioneering Inclusive AI Education in Korea

Insight 5: KT's AIVLE School - Pioneering Inclusive AI Education

In an era defined by rapid technological advancements, the need for accessible and inclusive education in artificial intelligence (AI) has never been greater. KT's AIVLE **(AIVLE means 'AI + Vision + abLE')** School emerged in response to this rising demand, and the program was designed to have participants engage in real-world projects, receive mentorship from industry experts, and gain exposure to AI applications across various domains. It has demonstrated significant impact over the past three years. With approximately 1,800 trainees enrolled, it has a successful employment rate of around 60%, showcasing its effectiveness in preparing participants for the workforce.



The programme aims to be inclusive through its platform-based approach, allowing access to high-quality education from anywhere with Internet and a laptop. It also offers a consultant track, that addresses the market's need for non-IT/humanities majors to participate, and this approach helps ensure individuals from diverse academic backgrounds can contribute to the burgeoning field of AI. Through collaboration with the government, KT AIVLE School provides free education, ensuring accessibility regardless of income. By bridging the gap in access to AI education and job opportunities, KT's AIVLE School is spearheading a movement towards a more equitable and empowered workforce in the Republic of Korea.

Source: Korea Telecom (KT).

Case Study – Mzansi Digital Learning in South Africa

Mzansi Digital Learning, an educational platform co-developed by Vodacom and Microsoft, is dedicated to bridging the digital skills gap in South Africa. It offers a broad spectrum of free, zero-rated courses, ranging from basic digital literacy to advanced topics like cybersecurity and generative AI, designed to democratize education and empower all South Africans.

The platform's comprehensive curriculum caters to various levels, ensuring continuous skill advancement in line with individual ambitions. It has made significant strides since its inception, with over 100,000 registered learners, many of whom have successfully completed courses and obtained internationally recognized certifications. This initiative extends its impact beyond

individual learners, by fostering a digitally skilled population and contributing to broader societal goals of digital inclusion. A digitally literate society is better equipped to participate in the economy, drive innovation, and address social challenges.

Through Mzansi Digital Learning, Vodacom is contributing to the creation of a digitally proficient and competitive society. The platform's success in advancing digital literacy aligns with the national agenda of reducing unemployment and promoting economic growth through education and skill-building, making it a transformative force in South Africa's journey towards a digitally inclusive future.

Sources: Vodacom, based on www.mzansidigitallearning.co.za/; https://cioafrica.co/vodacom-microsoft-partner-to-combat-unemployement-in-sa/; www.itnewsafrica.com/2024/03/empowering-youth-vodacom-microsofts-digital-skills-initiative/

Advocacy Target 5: Increase use of digital financial services

Rationale and Status

This target aims for "40% of the world's population to be using digital financial services by 2025". Digital financial services hold immense potential to transform financial inclusion and allow the most vulnerable within society to access basic financial services including savings accounts, payments, and credit. They also enhance financial resilience allowing households to better weather unexpected expenses or income fluctuations. They can extend access to the social and economic benefits of digital resources.

The nature of digital financial services continues to evolve –traditional banking services are supplemented and, in some cases, replaced by mobile money services, cryptocurrency transactions and, increasingly, e-wallet services. For example, in China, Chinese residents can now pay for shop transactions by scanning their face, while overseas mobile phone numbers can be used to register Alipay, WeChat Pay, and to make payments either from overseas bank cards, mobile wallets or for some regions, overseas e-wallet for payments by scanning codes.

According to the World Bank, in 2018, 2 billion adults did not have access to a bank account. There is a huge potential for e-finance access, and with this, access to economic empowerment. The World Bank's Findex survey is the largest international survey of digital finance. According to its latest data (Findex survey 2022), 64% of people aged 15 years and older made and/or received digital payments in 2021. This figure exceeds the global target of 40% on a global basis, but many low-income, lower-middle income countries have not yet reached this target. Unfortunately, this survey has not been updated more recently than 2022.

The GSMA recorded a total of 1.75 billion registered mobile money accounts worldwide in 2023, processing US$1.4 trillion a year (equivalent to US$2.7 million a minute)[4], up 12% on 2022, although they register "a slowdown in registered and active account growth in 2023".

[4] GSMA State of the Industry Report 2024, https://www.gsma.com/sotir/wp-content/uploads/2024/03/GSMA-SOTIR-2024_Report.pdf

The GSMA finds international remittances and merchant payments were among the fastest-growing mobile money use cases in 2023, driven in part by the consequences of the COVID-19 pandemic.

One example of DFI is the Ericsson Wallet Platform, a fintech platform that enables telecom operators and financial service providers to offer fast, secure, personalized, and easy-to-use mobile financial services to their customers. With some 530 million+ registered mobile wallets, the platform drives financial inclusion and wellbeing by enabling all consumers, banked or unbanked, to transfer, pay, save, grow, receive, and borrow money[5].

Demand for mobile financial services is likely to remain high among unbanked and often marginalized populations. Among registered mobile money account holders, some 1 billion people are still not active regularly on a monthly basis, a big opportunity for the industry to deepen financial inclusion and economic participation.

Beyond infrastructure, increasing use of digital financial services relies on changing people's attitudes and preferences for these services. It also needs financial literacy and awareness, and successful partnerships among the government, financial institutions, and technology providers to provide the training necessary to use digital financial services effectively and safely. The following two case studies explore the adoption and uptake of digital skills and financial capabilities in the UK and digital financial inclusion in Jamaica.

Case Study – Digital Skills and Digital Financial Capabilities in the UK

In conjunction with a number of partners, Lloyds Bank (2024) runs an annual survey into digital and financial capabilities of UK consumers. The results provide evidence that financial and digital capabilities have different profiles, although they are linked. For example, financial capabilities remain broadly the same among the UK population, independent of age (prudent and less responsible financial behaviour in terms of spending and/or savings habits are relatively independent of age). However, digital capabilities clearly diminish with age (Figure 11).

Financial and digital capabilities are still linked in some senses, however. Lloyds Bank finds that, for those in the high digital capabilities segment, shopping around for cheaper deals online has helped people to save money during the cost-of-living crisis. The Internet can provide individuals (for 30% of those surveyed) with cheaper deals that can help them with the cost of living. Comparison shopping is not the only way being online can help individuals to save money and manage their finances more effectively. Using budgeting tips (12%) and looking at spending analytics via an app (12%) have also helped people save money. The Internet can enable consumers to manage their finances more effectively.

Along with opportunities come risks, however. People with low digital capabilities might seem more likely targets for some scams, but in fact, time online and exposure are bigger factors in being targeted online. Those with the highest digital capability are more than 11 times more likely to be scammed than those with the lowest digital capability. Looking at victims who have actually been scammed, 50% were in the Very High digital segment, while 4% were in the 'Very Low' segment. Length of exposure to online risks through time online may effectively outweigh any degree of digital capabilities.

[5] https://www.ericsson.com/en/mobile-financial-services

Figure 11: Financial and digital capability in the UK by age, 2023

Source: P.23, Lloyds Consumer Digital Index 2023 report, at: 231122-lloyds-consumer-digital-index-2023-report.pdf

Case Study – Digital Financial Inclusion in Jamaica

There has been a steady increase in the number of individuals and businesses in Jamaica using digital payment platforms, including mobile payments, online banking and electronic payments. According to one survey in 2022, 69% of people had some form of account – 10% had a credit union account, 58% had a bank account, and 1% a mobile money account.

On the supply side, a few pilot platforms were tested prior to 2022, but did not prove successful. In 2022, the Bank of Jamaica introduced the Lynk digital wallet, as well as Jamaica's first digital currency, JAM-DEX. At least two banks and one telecom service provider have developed plans to introduce digital wallets, including one mobile wallet (a type of digital wallet based solely on mobile devices, including phones or smart watches). These developments enabled the Jamaican Ministry of Labour and Social Security (MLSS) and World Food Programme (WFP) to deliver cash transfers to vulnerable populations affected by COVID-19 via a digital payment provider, WiPay.

Cash transfers totalling USD $940,000 were delivered to 26,000 beneficiaries not part of the government's social protection programmes. Some beneficiaries experienced challenges in redeeming their assistance, including information on accessing payments, inaccuracies

in personal information and difficulties accessing distribution points for persons in rural areas. Through collaboration among the MLSS, WFP and WiPay, adjustments were made to programme delivery, including a dashboard to track distribution and redemption of cash. This dashboard included real-time updates on uptake per location, which then facilitated swift decision-making in deploying mobile payment units in hard-to-reach communities. WiPay also increased its network of agents from 25 agents at the end of 2021 to over one hundred by April 2022.

Problems identified among potential users included a distrust of digital financial services, a fear of being scammed, and a clear age gap in knowledge of and use of digital financial products and services, for both men and women. Among retailers, a digital readiness survey found that retailers had limited knowledge and use of digital payments. 60% of retailers indicated that people in their community do not use digital wallets, while another 34% did not know if their customers used digital wallets.

Source: "Digital Financial Inclusion in Jamaica: Insights and Opportunities", at: www.wfp.org/publications/digital-financial-inclusion-insights-and-opportunities-caribbean

Advocacy Target 6: Get MSMEs online

Rationale and Status

According to the United Nations, Micro-, Small- and Medium-sized Enterprises (MSMEs), both formal and informal, make up over 90% of companies worldwide, accounting for 70% of total employment and up to 50% of global Gross Domestic Product (GDP). Broadband connectivity can enable MSMEs to reach new markets, increase their competitiveness and enable them to participate in global market. Broadband connectivity is increasingly vital for accessing digital financial services and e-government services.

The UN Broadband Commission's Advocacy Target 6 focuses on improving the sectoral connectivity of MSMEs by 50% over the time period 2018 to 2025, which is relatively ambitious. For example, a sector in which MSMEs are 60% unconnected in 2018, will have only 30% unconnected by 2025. However, data availability for MSMEs globally is very sparse – where data exists, data mostly describes large firms and multinationals, making it difficult to assess this target for SMEs.

MSMEs face considerable and numerous challenges in broadband adoption, including the availability of technologies and suitable apps and services; the ability of SMEs to plan, finance, implement and optimize transformation through digital skills. For a start, adopting digital technologies is often costly. Large firms are generally more resilient, and have greater opportunities to access finance, and can spread these investments over either consumers or different years. In contrast, small businesses may have reduced access to finance, and are less able to pass on the costs to customers.

Many entrepreneurs and firm owners worry about cybersecurity and data privacy, as well as other risks. As a result, MSMEs are less likely to have a strategy to deploy ICT, and are more likely to view ICT training as a 'luxury item' beyond their budget, instead of an investment to

save time and costs. Limited budgets, lack of skills and expertise, and concerns about safety and compliance can hinder the ability of small firms to fully embrace digital transformation. As a result, small businesses may risk falling behind their larger counterparts, and face difficulties in competing effectively in an increasingly digital and an increasingly global marketplace. Digital technologies are often cited as opening up access by firms to foreign markets, but this is a two-way street, and depending on local regulation, digital technologies may also permit foreign firms to enter previously relatively protected markets.

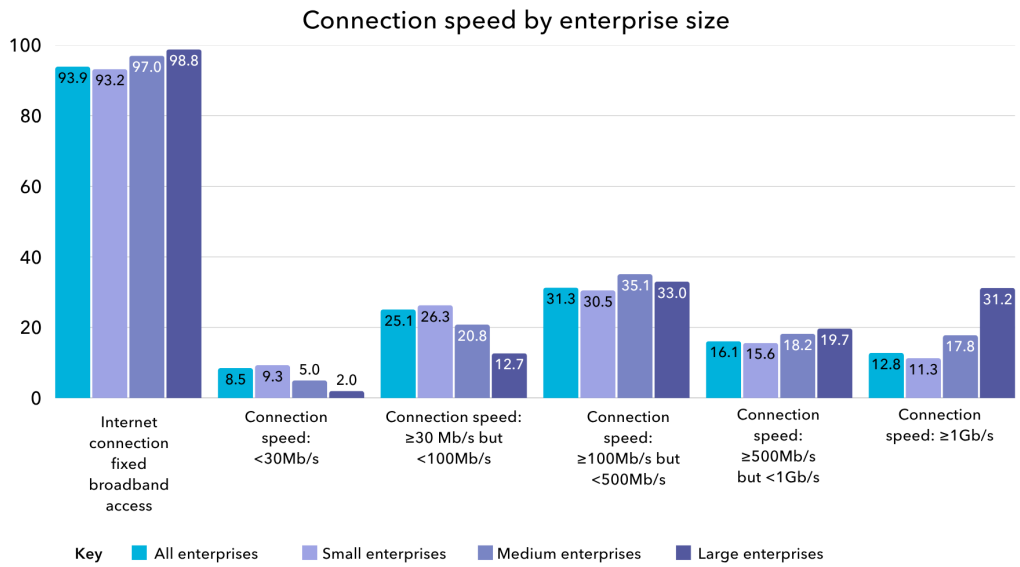
To address these challenges, as well as data availability, the Broadband Commission Working Group on Connectivity for MSMEs, co-chaired by the GSMA and the International Trade Centre (ITC), researched and released the Making Digital Connectivity Work for MSMEs report, which outlines barriers and opportunities to MSME connectivity.

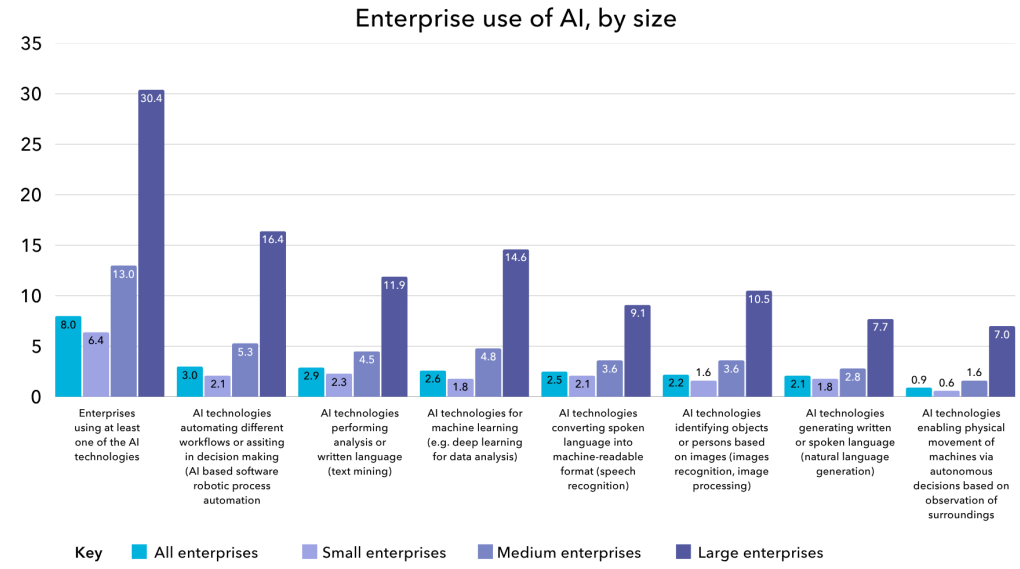
Connectivity data disaggregated by enterprise size is generally available for high-income nations, although not always for micro-enterprises. For most low- and middle-income countries, aggregated data on enterprises with Internet access is rarely available. The nature of Internet connectivity also matters – a single person micro-enterprise might find having a smartphone with wireless access sufficient to carry out most operations.

Europe has good SME data availability, due to Eurostat's regular surveys. In 2023, a vast majority (94%) of all EU enterprises[6] used a fixed broadband Internet connection, while 78% had a website, 61% used social media, 50% used e-business applications and 22% made e-commerce sales. These broadband connectivity stats were sharply defined by business size, however (Figure 12, top graph). For example, in 2023, 99% used a fixed broadband connection, including 93% of small enterprises and 97% of medium-sized enterprises with broadband access[7]. In 2023, 45% of all EU enterprises used cloud computing services and 61% used social media. Large enterprises enjoyed significant advantages over all other sizes of firms in terms of access to cloud computing (between 10 and 20 percentage points higher), use of social media, e-commerce and AI (between 1 and 15 percentage points higher) – Figure 12, bottom graph.

[6] Defined as companies with at least 10 employees and self-employed people.
[7] Digital economy and society statistics - enterprises - Statistics Explained

Figure 12: Enterprises with fixed broadband connection in the EU and using AI technologies, 2023 (% enterprises)





Source: Digital economy and society statistics - enterprises - Statistics Explained.

By comparison, an IFC/World Bank survey of 3,325 microenterprises enterprises in seven African countries found low levels of smartphone and computer use. Use of the Internet for business purposes was around 7% on average[8], ranging from 24% in South Africa to 1% in Rwanda. Computer ownership is also low with over 90% of businesses surveyed in Ghana, Kenya, Mozambique, Nigeria, Rwanda, Tanzania and Uganda reporting not having one. Most cited not having a need for Internet access or computers in their business. A UNDP survey focusing on MSMEs in Kenya revealed that they were adversely affected by the pandemic,

[8] https://www.ifc.org/en/insights-reports/2023/digital-technologies-in-africa

with one out of every 10 enterprises surveyed indicating a shutdown of their businesses due to the pandemic.

Case Study – One-stop digital platform for smallholder farmers in Ethiopia

Lersha is a one-stop digital platform developed by Green Agro Solution PLC, offering a range of services to smallholder farmers, including: farm inputs and mechanization; output aggregation; agro-climate advisory; and access to finance through its mobile app and network of Lersha Agents in five regions of Ethiopia.

Lersha's main objective is to establish a more sustainable agriculture value chain through a range of services. Lersha works with public and private sector to address the challenges faced by Ethiopia's agricultural sector, including supply disruptions, rising food prices, and increased costs of agricultural production, helping smallholder farmers that might otherwise be more at risk from weather, climate change, natural hazards or fluctuations in seasonal income.

The Lersha platform aggregates resources (including largescale farm machinery) to help smallholder farmers benefit from access to resources which would be too expensive for any single farmer to buy or use. Lersha compiles agro-advisory recommendations in its API and translates this advice into four local languages, sent out to its agents via its mobile app. Using the Lersha Mobile App, Lersha agents create digital farmer profiles with farm locations to provide location-specific fertilizer recommendations via SMS, voice blasts, and follow-up calls from the call center. Some 837 farmers (724 men and 113 women) received location-specific fertilizer recommendations, which they say helped increase yields.

Lersha also bundles agricultural advice with insurance and credit services to provide better access to funding for smallholder farmers. This agro-advisory system has been piloted in two regions, namely Oromia (Hetosa, Digelu Tijo, Munnesa Woredas, and Gadab Asasa Woreda) and Amhara (Moretena Jiru Woreda, Wonberma Woreda, and Gozamine Woreda). 725 farmers (615 men and 110 women) are enrolled for area yield index agriculture insurance from Oromia and Abay Insurance via the Lersha platform. 42 of the 725 farmers were able to access micro-loans for buying farm supplies.

Source: https://lersha.medium.com/unlocking-access-to-finance-through-bundling-of-nextgen-advisory-with-agriculture-services-9b7d01a2e88e.

Advocacy Target 7: Bridge the gender digital divide

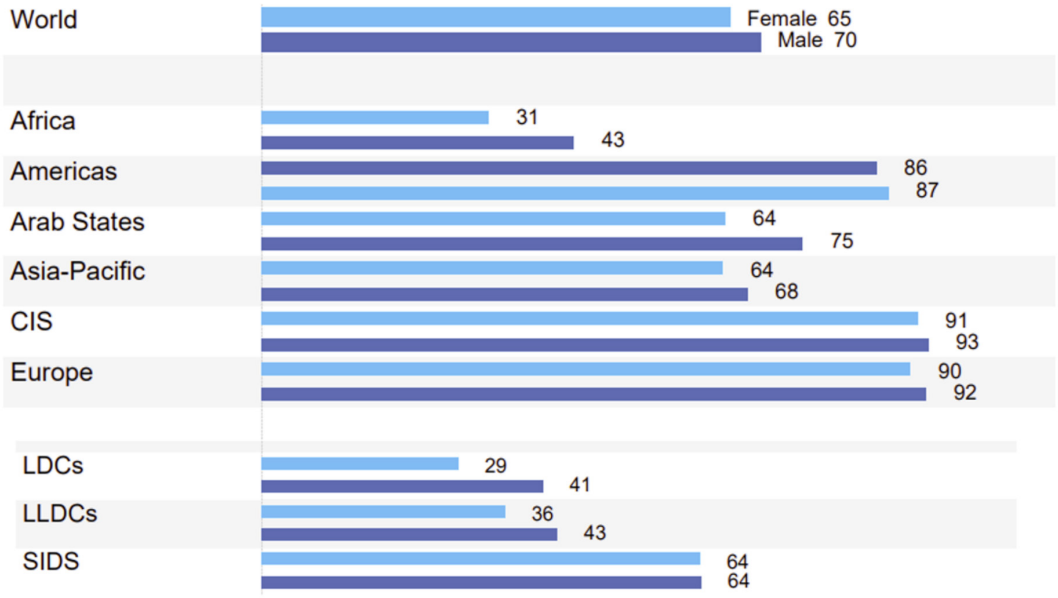
Rationale and Status

This target states that, by 2025, gender equality should be achieved across all the other targets. This target aims to ensure that the benefits of broadband Internet can reach everyone, regardless of gender.

According to the latest ITU estimates, in 2024, 70% of all men used the Internet in 2024, compared to 65% of all women (Figure 13). These proportions have increased marginally from 2022, when 69% of all men were using the Internet, compared to 63% of all women.

Globally, 189 million more men than women used the Internet regularly in 2024 (compared with 244 million in 2023 and 277 million in 2021). The number of women online is therefore 'catching up' with the number of men online. Gender parity increased from 0.90 in 2019 to 0.92 in 2023, and 0.94 in 2024 indicating that the gender digital divide is narrowing overall. This improvement is also reflected at the level of regions and country groups, with one notable exception – in the group of LDCs, gender parity actually decreased from 0.74 in 2019 to 0.70 in 2024.

Figure 13: Percentage of female and male population using the Internet, 2024

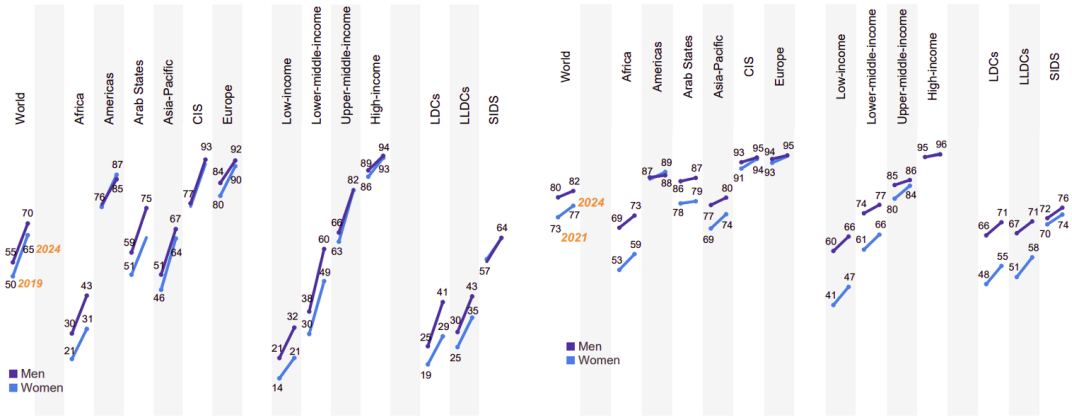


Source: ITU Facts & Figures 2024, Measuring digital development - Facts and Figures 2024 - ITU

Generally, the regions and income groups with the highest Internet use also have the highest gender parity scores (Figure 14, left graph), including high-income countries, SIDS, the Americas, CIS countries and Upper Middle-Income Countries (UMICs). In contrast, in the group of Least Developing Countries (LDCs), gender parity has actually decreased, from 0.74 in 2019 to 0.70 in 2024 (shown as diverging gradient between the male and female increases in Figure 14, left graph). Meanwhile, LLDCs have shown only limited progress towards gender parity since 2019.

Gender parity scores are generally lower in terms of mobile phone ownership with larger and more persistent gender disparities in terms of ownership (Figure 14, left graph).

Figure 14: Percentage of individuals using the Internet by gender, 2019 and 2024, & percentage of individuals owning a mobile phone by gender, 2021 and 2024

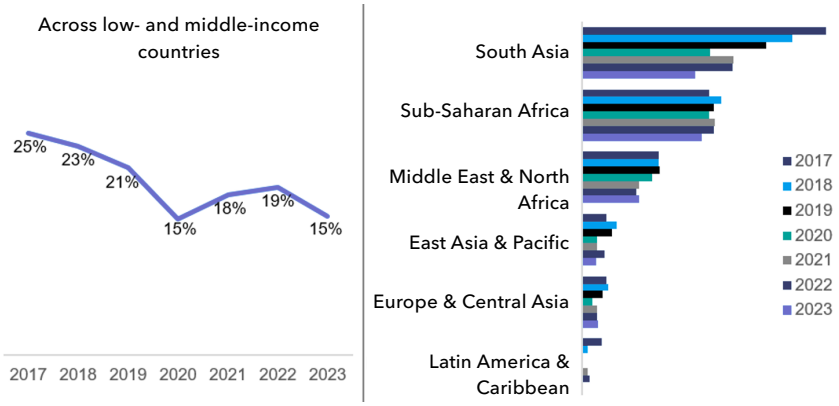


Source: ITU Facts & Figures 2024, Measuring digital development - Facts and Figures 2024 - ITU

Notable gender gaps in mobile Internet access persist in LMICs. The GSMA's Mobile Gender Gap Report 2024[9] found more women in LMICs are using mobile Internet than ever before, but adoption is slowing and a significant gender gap remains. In 2024, women are 15% less likely than men to use mobile Internet (Figure 15, left graph), compared to 19% in 2023, which means there were 265 million fewer women than men using mobile Internet in these countries.

Mobile gender gaps are widest in Sub-Saharan Africa and South Asia, where over 60% of the 785 million unconnected women in LMICs live. Although the gender gap was widest in South Asia, this gender gap has been reducing fastest (Figure 15, right graph), from 41% to 31%, driven primarily by India where women's adoption increased while men's remained unchanged. The gender gap in mobile Internet narrowed slightly in Sub-Saharan Africa between 2022 and 2023 (from 36% to 32%), but Sub-Saharan Africa's gender gap is still stubbornly similar to what it was in 2017 (34%). The report offers detailed recommendations for operators, Internet companies, policy-makers and regulators and the development community, concluding that concerted action is needed by all stakeholders to close the mobile gender gap.

Figure 15: Gender gap in mobile internet adoption across LMICs, and by region, 2017-2023



Source: GSMA Gender Gap Report 2024, from www.gsma.com/r/gender-gap/

[9] https://www.gsma.com/r/gender-gap/

Today, gender equality debates are becoming more nuanced and have moved far beyond device ownership and access and towards female participation in Science, Technology, Engineering, Arts and Mathematics (STEAM). Some argue that digital technologies may be less relevant, less functional and ultimately, less helpful for women and girls, unless women are actively involved in designing, developing and deploying technologies. For example, Insight 6 details UNICEF's Game Changers Coalition programme, which seeks to promote digital skills development and help bridge the gender digital divide.

Insight 6: UNICEF's Game Changers Coalition Programme

UNICEF is contributing to the advancement of Broadband Commission Advocacy Targets through a variety of initiatives. UNICEF's Game Changers Coalition programme specifically promotes digital skills development and bridging the gender digital divide in 7 countries (Armenia, Brazil, Cambodia, India, Kazakhstan, Morocco and South Africa), reaching 100,000 girls and teachers to date.

Supported by the Ministry of Foreign Affairs in Sweden, and co-designed with leading gaming industry partners, the programme infuses innovation into traditional Science, Technology, Engineering, Arts, Maths (STEAM) programming through game development, with a specific purpose of closing gender gaps in STEAM learning and experiences. Adolescent girls participating in this programme learn how to design, code and present their own games, learning digital and tech skills that are essential in the 21st century economy, including high-growth and high-income jobs in gaming and wider tech industries. On average, a participant receives 100+ hours of hybrid instruction to learn coding, design, storytelling for game creation, she will work in a team of peers to develop a game using her imagination and creativity, and participate in a 2-day game creation hackathon "Game Jam.

In Cambodia, the Ministry of Education, Youth and Sport have scaled the teacher curriculum on the national teacher training platform; in Armenia, the regional government of Syunik opened three Innovation Labs, where game creation is taught along with other digital skills; in Kazakhstan, IT Hubs from all over the country are embedding some programme components to attract more females to STEAM careers and further grow the tech industry in the country.

In addition to skills building and experiences for girls, the Game Changers Coalition aims to convene a bold and transformative industry movement in alignment with like-minded companies in the gaming and tech industry, and other shared-purpose public and private partners. Partners who have been engaged in the process to date include the likes of Electronic Arts, Microsoft, Sony Entertainment, Roblox, Ubisoft and Lego Group. Activities include joint co-creation of policies and practices for the industry to enhance Diversity Equity and Inclusion (DEI) efforts and thought leadership demonstrating what the future of tech looks like, as an empowering, inclusive and safe space for all children and adolescents.

Source: UNICEF.

And gender-based discrimination may not just be about entry and access to STEM jobs. In September 2024, the IMF published a report about how women may lose out on STEM jobs, while the European Social Survey found that tech may create additional work for women, in addition to their jobs, as they take on more of the tasks involved in 'social connectedness', compared with male patents, guardians or care-givers.

Gender equality arguments are also evident in debates about online content, discrimination and bias in analysis. Some generative AI models replicate and amplify existing gender biases inherent in the data e.g. in recruitment and selection of CVs; images chosen to represent

careers based on prompts; gendered words in translation models or text surrounding LLMs. According to some sources, social media algorithms effectively promote different types of content for boys and girls, according to their gender[10].

According to one CNN survey in July 2024[11], objectification and sexualization are fairly common experiences for women and girls online, and abuse through cyberflashing and the non-consensual release of photos, forged images and deepfakes is becoming more common. 44% of survey respondents reported seeing sexual images online, while 37% reported receiving inappropriate sexual messages or comments online. However, not all online harms are sexual – other digital harms experienced on a regular basis include dubious money-making schemes (43%), targeted hate messages (42%), discrimination or hate speech (25%), cyberbullying or online harassment (19%), online stalking or unwanted attention (15%), discussions of ways to self-harm (29%) and ways to stay thin through eating disorders (28%). The survey authors conclude that girls face unequal – and typically more sexualized – types of threats, compared to boys. For example, a 2020 study conducted by the International Justice Mission (IJM) into the online sexual exploitation of children in the Philippines found 86% of victims of abuse were girls[12].

Artificial Intelligence (AI) has also been used to generate deepfake naked videos and porn. For example, in Spain, 15 schoolboys aged 13-15 were sentenced to a year's probation for creating and spreading AI-generated fake naked images of their female classmates on WhatsApp groups. In Melbourne, Australia, a teenage boy was arrested and questioned about generating deepfake porn of around 50 schoolgirls attending a co-educational school on the outskirts of Melbourne in Australia. The Australian government has introduced legislation to criminalize the distribution of deepfake pornography nationwide, with up to 7 years in prison for sharing non-consensual sexually explicit deepfake material. The Philippines has introduced legislation specifically targeting online child exploitation. The Malawi Communications Regulatory Authority (MACRA) appointed its first child protection ambassador[13] and aims to provide training for schoolteachers, children's NGOs and other civil society stakeholders about digital safety as part of a strategy for protecting children online.

Case Study – Vodacom's Code Like a Girl

The Vodacom Code Like a Girl Programme, initiated in South Africa in 2017, aims to bridge the gender gap in ICT by equipping underprivileged young girls with STEM skills through a structured ICT training. The programme fosters problem-solving, sequential thinking, creativity, and design skills via coding. Open to females aged 14-18, it requires no prior school subject knowledge. Offered in a hybrid format, the programme includes:

- A virtual self-paced learning environment for those with computer and Internet access, spanning a month with IT support.
- A weeklong boot-camp for those without such access, hosted at universities, Vodacom Foundation computer labs, and schools nationwide.

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10 See also 'The Anxious Generation' (2024) book by Jonathan Haidt, which asserts that social media are used by boys and girls differently, and may have a different impact according to gender.

11 https://edition.cnn.com/interactive/2024/07/business/online-sexual-harassment-girls-survey-as-equals-intl-cmd/

12 https://ijmstoragelive.blob.core.windows.net/ijmna/documents/studies/Final_OSEC-Public-Summary_05_20_2020_2021-02-05-055202.pdf

13 MACRA Names Malawi's First Lady Child Online Protection Ambassador | MACRA Website

The curriculum spans Level 1 to Level 5, starting with basic ICT and programming skills, such as web-page design, and advancing to more complex topics. Accredited by the Sector Education and Training Authority, the programme has benefited over 6000 South African students in enhancing their coding and ICT skills. Internationally, the programme has been implemented across Vodacom's markets in Lesotho, Mozambique, DRC, Tanzania, Vodafone Egypt, and Safaricom's markets in Kenya and Ethiopia, with over 16,000 girls having now graduated from the programme.

Source: Vodacom, Code like a Girl | Our purpose | Vodacom Group; www.vodacom.com/news-article.php?articleID=13448.

3

Conclusions

Since its inception in 2010, the Broadband Commission for Sustainable Development has united leaders from industry, policy circles and academia in a mission to connect the world with broadband. Fifteen years on, the importance of broadband Internet for sustainable development remains clear, as our societies continue to grow and develop, and more and more key services either move online or embed digital services.

Targets can play a key role in informing, influencing and shaping policy priorities at the national, regional and global levels. Despite progress in some areas, the Broadband Commission's targets have not yet been achieved:

- The number of countries with national broadband plans has stabilized under Target 1, but Plans continue to become more comprehensive and extend beyond broadband and connectivity issues into holistic Digital Agendas.
- Target 2 is close to being achieved for mobile broadband affordability, but not for fixed broadband.
- There has been strong progress in access to the Internet, but Internet access is often concentrated in urban areas, and is far from universal. The age digital divide is now a divide prevalent in many high-income countries (e.g. the UK, Singapore) or among the unconnected, offline populations (e.g. China).
- Promising new applications in digital financial services are being developed, but data at the global level are relatively outdated.
- There has been some progress in digital skills (Target 4) and getting MSMEs online (Target 6), but problems with data availability mean that progress at the global level is difficult to measure.
- Target 7 for gender equality in access to broadband has been achieved by a few individual countries, although this target has not been achieved at the global level.

After fifteen years of dedicated policy and statistical analysis, the ITU/UNESCO Broadband Commission for Sustainable Development continues to believe that broadband stakeholders are well-positioned to deliver on the promise and opportunities of broadband for improving development outcomes. The Commission hopes that its work continues to raise awareness of the importance of broadband for bringing more people online and for improving people's lives.

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