

Digital *Inclusion*

Digital divide: from the coverage to the usage gap

Telefónica Policy Lab

2024



Index

1



Summary

2



From the coverage to the usage gap

3



Moving towards meaningful connectivity

A. Connectivity targets and infrastructure investment

B. Innovative strategies to close coverage gaps

- Infrastructure sharing and innovative partnerships
- Creating a favorable investment environment
- Public support for Broadband rollout and Universal Service Funds
- Technological innovation
- Regulatory modernisation

C. Proposals for progress in closing the connectivity gap

4



Breaking down barriers to digital inclusion: digital adoption

A. Strategies to pave the way for digital adoption

- Digital skills
- Affordability as a turning point
- Availability of relevant content and accessible services for all
- Building digital trust

B. Proposals to boost digital adoption

5



Digital Inclusion compass

Preface

In the dynamic chessboard of the digital revolution, digital inclusion is emerging as an inescapable mandate for Telefónica, transcending the boundaries of the business sphere to become a real priority. We are facing a challenging scenario, both in Latin America and in Europe, where advances in the expansion of telecommunication networks coexist with challenges in the use of connectivity that require immediate attention.

For us, Digital Inclusion is not just an end goal, but rather the engine that drives the economy, increases employability, and fosters innovation. The challenge is therefore not just to connect, but to empower communities to take full advantage of the opportunities that technology offers.

An example of Telefónica's commitment to making progress in closing the digital divide is its global leadership position in the Digital Inclusion Benchmark¹. Once again, Telefónica has been ranked first in the World Benchmarking Alliance (WBA) ranking, which analyses how the most influential technology companies are contributing to promoting a more inclusive digital economy and society.

More than two years ago, Telefónica launched its Rural Manifest² for Latin America, a proposal to develop inclusive and sustainable rural networks. With concrete examples, such as the successful "Internet for All" model implemented in Peru, the company has developed a clear roadmap towards digital inclusion. Recognising that extending connectivity is only the first step towards true digital inclusion, Telefónica promotes public-private

reflection and collaboration. This commitment was reflected in the 1st Meeting for Digital Inclusion in Lima³, which highlighted the effectiveness of public-private partnerships in expanding connectivity. This event was not just a meeting, it was also a space to explore innovative models and public policies, and to highlight the importance of education to empower communities, especially rural ones, in the digital age.

Despite the vibrant connectivity landscape in Europe, there are still coverage gaps that require urgent attention, especially in rural areas. Telefónica sees digital inclusion as a strategic priority, and we recognise that connectivity alone is not enough. Innovation, investment in emerging technologies, partnerships, digital literacy and skills programmes, alongside public-private collaboration to close the usage gap demonstrate our clear commitment to a connected and inclusive future. ●



The challenge is not just to connect, but to enable communities to take full advantage of the opportunities offered by technology

1. *Digital Inclusion Benchmark*, World Benchmarking Alliance, 2023.

2. *The Rural Manifesto*, Telefónica, 2022.

3. *First Meeting for Digital Inclusion: Integral Development of Latin America*.



1. Summary

A shift in paradigm: from the coverage to the usage gap.

The digital divide has traditionally been seen as a problem of access. However, over the last decade, thanks to the investment efforts of telecommunications companies and the implementation of appropriate public policies, the global connectivity map shows an extraordinary expansion of fixed and mobile networks. Nevertheless, there are still coverage gaps in rural and remote areas.

This progress has not been matched by a corresponding increase in the use of services. As a result, a new challenge is emerging: people with Internet access are not taking advantage of the opportunities that connectivity offers. In fact, while 95% of the world's population has access to mobile broadband networks, 38%⁴ of those with coverage do not use them.

The usage gap implies a paradigm shift, and the need to refocus public policies to facilitate the adoption of services and promote greater digital inclusion.

It is no longer just about coverage, but about meaningful connectivity.

Connectivity is now an essential pillar to drive the digital transformation of society and of the economy. An efficient, resilient and sustainable digital infrastructure must be a priority to ensure that no one is left behind by the digital revolution and so everyone can fully benefit from the opportunities of the digital age.

Innovative strategies that break down barriers in the deployment of telecommunications infrastructure.

The projections of investment needed to achieve the connectivity targets set by different countries and regions are substantial. In Europe alone, the

4. *The State of Mobile Internet Connectivity Report 2023*, GSMA, 2023.

European Commission estimates that at least 174 billion euros will be needed to achieve gigabyte connectivity for all its citizens. This amount, which is higher in other regions with less developed infrastructure, cannot be sourced from the telecoms sector alone, as the challenge of profitability heavily limits its ability to invest. As a result, telecommunications operators are adopting innovative investment strategies through business models, financing and the integration of new technologies. In turn, political and institutional decision-makers need to promote regulatory changes to attract public and private investment to achieve a meaningful connectivity and digital targets.

The usage gap is becoming more relevant. It is necessary to identify the levers for promoting digital inclusion and implement concrete actions to activate them.

The usage gap mainly affects the most vulnerable groups. Failure to address this gap will make it impossible to achieve full digital inclusion, and will make it difficult for people to exercise their fundamental human rights such as freedom of expression, the right to education and the right to work. Four key factors have been identified to make progress in closing the usage gap: the acquisition of digital skills, the affor-

ability of devices and services to meet the needs of different population groups, the promotion of digital confidence and the availability of relevant content and use cases.



Key factors

To make progress in closing the usage gap, four key factors have been identified

1. The acquisition of digital skills.
2. The affordability of services and devices to suit the needs of different sectors of the population.
3. The promotion of digital confidence.
4. The availability of relevant content and accessible services for all.





2. From the *coverage* to the usage gap

The year 2020 marked a turning point in the digital transformation. The Covid-19 lockdowns highlighted the critical role of connectivity and digital technologies for the continuity of economic activity and the well-being of citizens. Having these tools meant the difference between having or not the ability to access education or health services, stay informed, continue working, stay in touch with loved ones, buy food and basic necessities and more. The digital divide has become the most important social divide in terms of inclusion.

Digital Inclusion means⁵ facilitating access to digital technologies and services for those who would otherwise not have access, regardless of their age, geographical location, or ability. It implies not only access to digital tools, but also the development of the skills needed to use them.

To achieve full digital inclusion, the private and public sectors initially focused on closing the coverage gap, working to ensure that everyone has the opportu-

nity to access the Internet through fixed or mobile infrastructure. This is an important goal, as connectivity is now one of the critical factors in promoting equal opportunities.



**Connectivity enables
people to exercise
other fundamental rights such
as the right to information,
communication and security**

5. [What is e-inclusion and what are its benefits, Telefónica.](#)

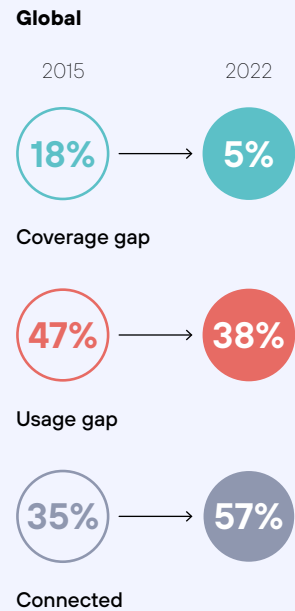
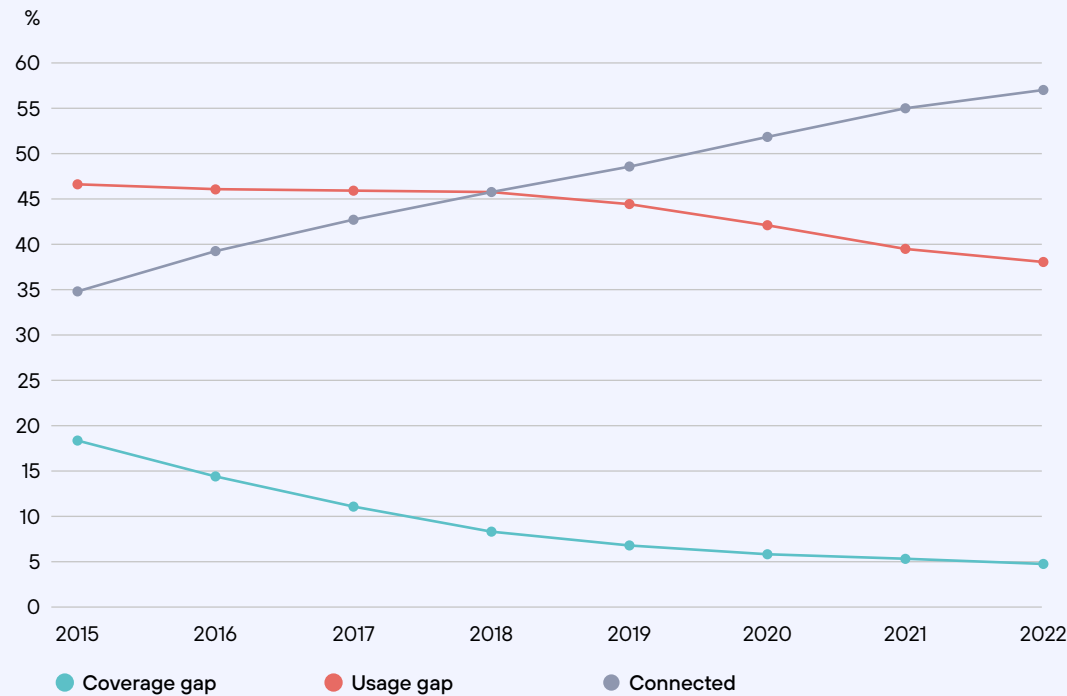
Connectivity also enables people to exercise other fundamental rights such as the right to information, communication and security, among others. **Telefónica's due diligence** process includes digital inclusion in its activities. At the same time, a lack of connectivity exacerbates inequality, which is particularly relevant in areas such as Latin America, one of the most unequal regions in the world. Connectivity reduces the gap and inequality that exists between urban and rural areas. It also empowers the most disadvantaged people, such as women, ethnic minorities and youths.

Time has shown that, in practice, achieving digital inclusion means working on different fronts and combining public and private efforts. Although internet penetration varies widely from country to country, the International Telecommunication Union (ITU)

estimates that by 2023 around 5.4 billion people, or 67% of the world's population, will have access to the Internet. This represents an increase of 45% from 2018. This represents that, approximately, 1.7 billion people went online during this period⁶. Moreover, global growth in mobile internet adoption continues to be driven by low- and middle-income countries, as highlighted by the United Nations Development Programme (UNDP).

In this context, telecom operators' investment efforts have reduced the global coverage gap to 5% thanks to their investment efforts⁷. By 2022, the coverage gap was 2% in Europe and 6% in Latin America⁸. That same year, the usage gap was 17% out of 79% of those living in areas with connectivity in Europe and Central Asia, while in Latin America and the Caribbean the usage gap rises to 32% out of 62%.

From the coverage gap to the usage gap



Source GSMA, "The State of Connectivity 2023".

6. Statistic, ITU, 2023.

7. "State of Mobile Connectivity 2023", GSMA.

8. "State of Mobile Connectivity 2023", GSMA.

For Telefónica, digital inclusion is a broad concept⁹ that is not limited to solely connectivity, but rather goes beyond it to include digital adoption which is an essential element to close the usage gap, allowing people to develop the skills necessary to reap the full benefits of digitalization . Only in this way will connectivity translate into a better quality of life for the people to which services are extended. With this document we aim to provide analysis and proposals that will serve as a compass to achieve the essential goal of digital inclusion.



Digital Inclusion Benchmark¹¹

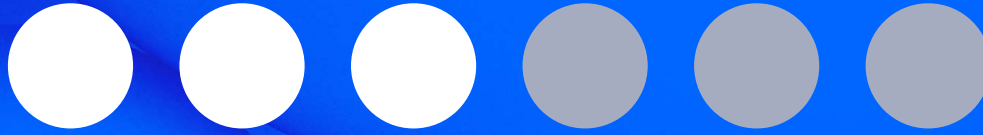
Telefónica reinforces its global leadership position in digital inclusion as per the Digital Inclusion Benchmark (DIB), once again taking first place in the World Benchmarking Alliance (WBA) ranking which analyses how the most influential technology companies are helping to promote a more inclusive digital economy and society.



9. Manifiesto Rural, Telefónica, 2023.

10. First Meeting for Digital Inclusion: Integral Development of Latin America.

11. Digital Inclusion Benchmark, World Benchmarking Alliance, 2023.



3. Moving towards *meaningful* connectivity

A. Connectivity targets and infrastructure investment

B. Innovative strategies to close coverage gaps

C. Proposals for progress in closing the connectivity gap

A. Connectivity targets and infrastructure investment

In contrast to other essential infrastructure, the development of telecommunications infrastructures has seen extraordinary progress in recent years. Global coverage of 3G or higher mobile technologies has increased globally between 2015 and 2022 from 78% to 95%¹². According to GSMA

data, 90% of this coverage is 4G. In contrast, electricity network deployment between 2015 and 2021 has increased from 87% to 91% and remains at 84% in rural areas. Other infrastructure, such as access to basic sanitation, has yet to reach 60% of the world's population¹³.

12. [Statistic](#), UIT, 2023.

13. [Indicators](#), Worldbank, 2023.

Total coverage by type of technology



Coverage

89% - 2017
92% - 2018
93% - 2019
94% - 2020
95% - 2021
95% - 2022



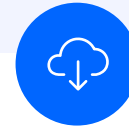
Coverage

71% - 2017
80% - 2018
84% - 2019
86% - 2020
89% - 2021
90% - 2022



Coverage

0% - 2017
0% - 2018
4% - 2019
16% - 2020
25% - 2021
32% - 2022



Average download speeds

12.0 Mbp - 2017
14.3 Mbp - 2018
16.8 Mbp - 2019
20.7 Mbp - 2020
27.2 Mbp - 2021
33.9 Mbp - 2022

Source: GSMA, "The State of Connectivity 2023".

The positive trend in access coverage is explained by the telecommunication sector's significant investment effort in the roll-out of mobile and fixed networks. In Europe alone, these efforts resulted in an investment of 56.3 billion euros¹⁴ in 2021.

In Latin America, the number of people connected to the Internet via mobile networks rose from 220 million in 2014 to almost 400 million in 2021¹⁵. However, there are still 230 million citizens who are not connected. There is still a long way to go to gradually close the coverage gap. Additionally, there are major differences between rural and urban areas, as "in countries with higher levels of connectivity, penetration in rural areas reaches 40% and/or 50% of the population, while in less digitally developed countries penetration (in rural areas) averages 10% of the population"¹⁶.

14. [The State of Digital Communications 2022](#), ETNO, 2023.

15. [Connectivity gaps in Latin America](#), GSMA, 2023.

16. [Las oportunidades de la digitalización en América Latina frente al Covid](#), CEPAL, 2020.



In Europe, it has been estimated that the investment needed to achieve the connectivity targets set in the Digital Decade 2030 would be of at least €174 billion, including gigabit networks and connectivity equivalent to 5G capabilities for the entire population¹⁷. These figures clearly show the investment required to meet the connectivity targets. The challenge is enormous as there is a

significant investment gap arising from the difference between the targets and the actual investment capacity of operators to deploy new digital infrastructure or to expand and upgrade existing infrastructure. Closing this investment gap will require a combination of public and private efforts, in addition to innovative measures across many different areas.



17. [Investment and funding needs for the Digital Decade connectivity targets](#), European Commission.

Towards meaningful connectivity

In this context, Telefónica has contributed significantly to closing the coverage gap in the regions where it operates. Today, the company is a leader in the deployment of ultra-broadband, with 168 million homes to be passed by 2022 (28 million in Spain), and has reached 99% 4G coverage in Europe and 87% in Latin America, as well as leading 5G coverage in Spain (85% of the population).

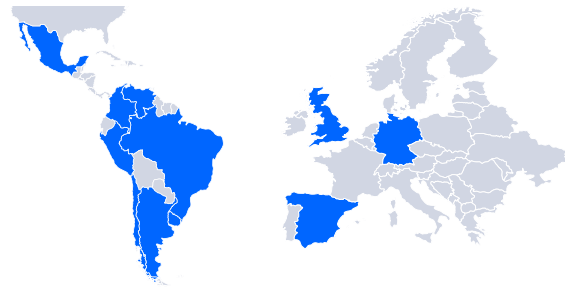
However, our commitment goes beyond coverage expansion. We want to achieve meaningful connectivity by improving the capacity and quality of existing networks. In this way, the network, as a catalyst for digital transformation, will facilitate the application of new technologies and digital services in our daily lives, making it possible to increase the well-being of citizens and the competitiveness of companies.

One example would be the complete digitization of public administration, which would simplify and speed up procedures for both citizens and businesses. Another example would be the introduction of connected vehicles, which would prevent accidents and reduce travel time and associated GHG emissions. Finally, smart cities or smart industries would optimize the use of resources such as water or electricity, reducing costs and environmental impact.



Fibre deployment

168 million homes with fibre across all the markets in which we operate



Deployment of mobile networks

99% 4G coverage in Europe
85% 5G coverage in Spain



87% 4G coverage in Latin America



B. Innovative strategies to close coverage gaps

Connectivity goals in Europe and Latin America are different by nature. They share, however, the ambition of closing coverage gaps and moving towards greater digital adoption. Innovative strategies will therefore need to be adapted to the characteristics of each country. New approaches are needed to achieve a common goal: closing the connectivity gap in rural, remote or hard-to-reach areas. In addition to this, there is a need to simultaneously deploy high-capacity next-generation networks in a process of accelerated digital transformation of societies and economies.

Telecommunications operators play a critical role in this challenge, which has important social and economic implications. The coverage gap poses a challenge to the viability and sustainability of the necessary investments¹⁸. PwC's latest report "Global Telecom Outlook 2023-2027"¹⁹ forecasts that operators will experience moderate revenue growth and will have fewer opportunities to increase efficiency and optimise processes, meaning that the return on investment will be lower.

These expectations present an unfavourable scenario for investment in fixed or mobile networks, which, in turn, increases the challenge of meeting connectivity targets to ensure that no one is left behind in the digital transition. As a result, telecommunications operators are pursuing innovative strategies by cooperating with third parties, including the public sector. These strategies include new business models, the diversification of sources of funding,

technological innovation and working with governments and regulators to align regulation and policies with connectivity goals.



New approaches are needed to achieve a common goal: closing the coverage gap in rural, remote or hard-to-reach areas



18. [Investment-friendly market structures in the telecommunications sector](#), Telefónica, 2023.

19. [Global Telecom Outlook 2023-2027](#), PWC, 2023.



STRATEGIES

● Infrastructure sharing and innovative partnerships

Infrastructure sharing and partnership models are no longer a novelty, but a trend. These new business models make it possible to meet the needs of deployments, closing the coverage gap while improving the sustainability conditions of investments. It is therefore important to create efficiencies in investments for sustainability through new business and operational models. In this context, it is crucial to promote alternative models of innovative partnerships, infrastructure sharing, spectrum sharing and network sharing.

The most successful models are infrastructure sharing agreements, and private or public-private partnerships to create companies specialized in the deployment of telecommunications infrastructure, especially fibre optic networks.

In Latin America, Telefónica is a regional leader in the development of innovative partnership models. In recent years, we have made progress in different collaborative models with partners such as AT&T in Mexico and KKR in Chile and Colombia²⁰. Sharing schemes and collaboration are the way forward for the industry: they improve the sustainability of projects by granting the ability to extend coverage to more people more quickly and play a relevant social role in terms of digital inclusion.

For the deployment of new infrastructure, in particular fibre networks, operators have explored the use of partnerships to create companies specialised

in the deployment of fibre networks which would act as a neutral network, offering wholesale services to other operators. These models not only accelerate the deployment and modernisation of fixed and mobile networks, but also address the issue of investment sustainability and the need to attract new investments.

Cooperation is the future and despite the variety of formats, the objective pursued is the same: to achieve effective, sustainable, and accessible connectivity for the entire population, by uniting efforts in order to accelerate the deployment of new networks that bring the possibilities of digital life closer to citizens and businesses.



20. [Alliances to connect Latin America: the future lies in cooperation](#), Telefónica.



The result of the new models of alliances: the reduction of the coverage gap

Mexico: Telefónica and AT&T

In 2019, Telefónica signed an agreement with AT&T Mexico to provide its infrastructure services.

Peru: internet for all

In 2019, Telefónica began its partnership with Meta, IDB Invest and CAF to expand mobile internet access in rural areas through an open technology and shared infrastructure model.

PangeaCo

In 2020, Telefónica created PangeaCo to be a vehicle for fibre deployment in the country. The aim was to create a wholesale neutral network. In 2023, Telefónica forged an alliance with KKR and Entel to accelerate deployments.

United Kingdom: NexFibre

In 2022, Telefónica, Liberty Global and the InfraVia Capital Partners created the NexFibre joint venture to offer a wholesale fibre access network to telecommunications service providers.

Shared Rural Network

Virgin Media O2 is one of four UK operators participating in the government's Shared Rural Network project.

Colombia: ON*NET Fibra

In 2022, Telefónica formed a new alliance with KKR to create ON*NET Fibra.

ON*NET Fibra is a wholesale neutral network that serves other companies in the industry to accelerate fibre deployment.

Chile: ON*NET Fibra

In 2021, Telefónica and KKR created ON*NET Fibra in Chile to serve the same purpose as in Colombia and Peru: the deployment of a wholesale neutral network to accelerate fibre deployment.

Brasil: FiBrasil

In 2021, Telefónica and CDPQ FiBrasil to provide access to a neutral high-speed fibre network through a wholesale model. FiBrasil enables its customers to reach their users with reduced capital requirements and shorter time to market.

Germany: Telefónica and Allianz

In 2020, Telefónica entered into a joint venture with Allianz for the deployment of fibre-to-the-home (FTTH) in Germany.

Spain: Bluevía

In 2022, Telefónica, Crédit Agricole Assurances and Vauban Infrastructure Partners created Bluevía to bring ultra-fast fibre broadband access.



Alliances for people's well-being and development

Brazil. By 2021, FiBrasil had connected more than 2 million homes with fibre. By 2025, it expects to reach 6 million homes and businesses, covering more than 250 cities in the country.

Chile. InfraCo has reached around 3.5 million households in Chile, giving them the possibility to contract fibre services.

Colombia. ON*NET Fibra has enabled fibre access to more than 2 million homes in Colombia.

Spain. Bluevía reached more than 4 million households in 2023 and hopes to exceed 5 million by the end of 2024.

Peru. Internet For All has provided 4G connectivity to remote areas where more than 3 million people live.

United Kingdom. The Shared Rural Network aims to extend 4G coverage to 95% of the UK by 2025.



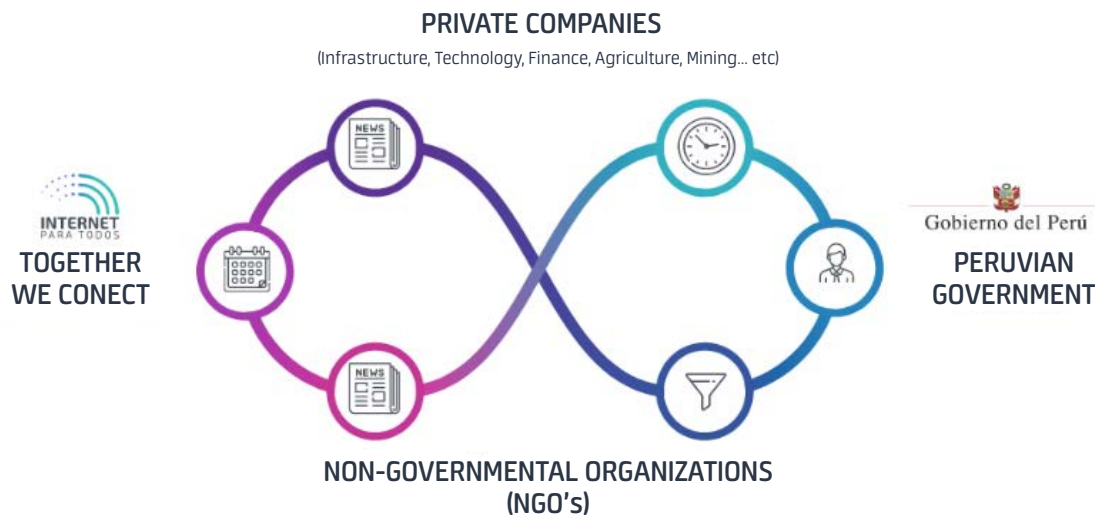
Internet for all: an innovative model to reach rural and remote areas

How do you bring connectivity to remote areas where the deployment of traditional telecommunications infrastructure is not financially viable? In February 2019, Telefónica, Meta (Facebook) and development banks IDB Invest and CAF announced the creation of a new company: Internet para Todos Perú ("Internet for All"), a wholesale mobile infrastructure operator in rural areas. Its target regions: the rural areas of Peru. Its aim: to bridge the digital divide.

The basis of the company's success lies in the combination of three elements: innovation, cooperation and sustainability. Innovation is present across all levels of the project, from technological innovation to commercial and business innovation. Cooperation between different actors, both public and private, has proved to be the best guarantee of its development and scale to extend coverage to rural areas. Finally, social and financial sustainability will ensure the continuity of the service and technological development in the long term²¹.

By the end of October 2023, more than 17,000 rural population centres were connected to 4G, providing high-speed mobile internet access in areas of Peru where more than 3.3 million people live. This experience has provided Telefónica with important know-how on how to innovate in order to connect the unconnected.

With the aim of making progress in reducing the digital divide, Juntos Conectamos ("Together We Connect")²² was created, a public-private partnership programme that aims to create synergies between public entities, civil society and private companies. This programme aims to co-finance projects for connectivity, skills and digital platforms in the most remote rural areas. In total, more than 25,000 people in 85 rural communities in Peru have already benefited from 4G high-speed internet services through the installation of 23 telecommunications stations. As a result, "Juntos Conectamos" has secured more than USD 1.7 million in funding to continue expanding mobile coverage and bring connectivity to Peru's hardest to reach areas.



21. Internet para Todos (IPT) cumple cuatro años transformando la vida de los peruanos de las zonas rurales del Perú, Telefonica.

22. Juntos conectamos, Telefónica.

● Creating a favorable investment environment

One major challenge is how to increase investment in digital infrastructure, which has led telecommunications operators and governments to explore new ways of financing or to redesign existing instruments.



Sustainable financing: a new driver for deployment

Sustainable finance is an interesting avenue being explored in Europe and Latin America, including in the area of rural network deployment. Digitalisation is an enabler of the green transition, and state-of-the-art telecommunications networks play a key role.

Studies show that fibre networks are 85% more energy efficient than copper networks, and that 5G networks are up to 90% more efficient than outdated technologies. Investing in the deployment of more efficient next-generation networks contributes to the achievement of environmental, social and governance objectives by providing investors with the assurance that they are making a positive impact in the long term.

Telefónica is a leader in sustainable financing²³, pioneering the issuance of green and hybrid bonds. By 2024, Telefónica aims for 40% of its total financing to be linked to environmental, social and governance (ESG) criteria²⁴. The company is using this new financing model to accelerate the closing of the coverage gap while advancing with its sustainability goals²⁵.

2022

Sustainable financing with positive environmental and social impact exceeded **27%** of total financing

2024

Telefónica aims for sustainable financing to represent over **40%** of the total

23. [Sustainable financing](#), Telefónica.

24. **ESG** (environmental, social and corporate governance) criteria are an approach to assess the extent to which a corporation works on behalf of social objectives that go beyond the role of a corporation to maximise profits on behalf of the corporation's shareholders.

25. [Telefónica's Sustainable Senior Bond](#), 2023.



Sustainable market structures conducive to investment

Fragmentation at national level is one of the fundamental characteristics of the telecommunications sector in Europe. Its origin lies in the regulation that led to the sector's liberalisation process. Following the initial success of the liberalisation process, the reluctance to update policies that no longer reflect the current state of the sector has led to artificial competition based on asymmetric preferential treatment for new entrants. This has led to diminishing returns on investment, jeopardising the sustainability of the sector and the confidence of new investors.

In Latin America, the telecommunications sector faces a problem of legal certainty, which weakens incentives to close the investment gap. It is essential to improve legal certainty, without which investors do not have the long-term stability to ensure a return on investments. In addition, countries' regulatory frameworks need to be reviewed to eliminate outdated regulations, encourage investments, and facilitate infrastructure deployment. Enabling regulatory frameworks are key to encourage investments and ensure that the impact of investments is maximized.



The merger of Oi with Claro, TIM and VIVO

Oi's merger with Claro, TIM and Vivo was one of the most significant developments in the Brazilian mobile market in 2022. Analysts highlighted the transaction as very positive for users and for the Brazilian telecommunications sector. Bank of America noted that "CADE'S approval is very positive for the Telecom space and for customers, as competition will continue among the three major telcos (...)"

Following the merger and migration to the new networks, users saw improvements in speed, network availability

and quality of experience²⁶: they enjoyed faster average download speeds(4.6 Mbps) and upload speeds (1.9 Mbps) and gave higher scores for video, gaming and voice application experience metrics. The merger also led to improved coverage with coverage outages reduced by a sixth; in three months users experienced an impressive one-quarter increase in connection time to 4G and 5G services; additional spectrum transferred from Oi is helping to offset network traffic from the influx of migrated users, as is the rapid improvement in Brazil's 5G network experience driven by deployments in the 3.5 GHz band.

26. Oi users enjoyed better mobile network experience post-migration, Open Signal.

● Public aid for Broadband rollout and Universal Service Funds



Public-private cooperation for infrastructure deployment

Some governments support companies with subsidy programmes to encourage and accelerate the deployment of fixed and mobile networks in areas that they consider to be priorities or in line with their connectivity objectives. Public-private cooperation in rural, remote or hard-to-reach areas are particularly beneficial to the citizens living there, becoming in some cases is the most efficient way to close the coverage gap.



UNICO programme in Spain

In Spain, the UNICO-broadband programme promotes the universalisation of access to ultra-fast broadband and the deployment of 5G in line with the objectives of the Recovery, Transformation and Resilience Plan and the Spanish Digital Agenda. This programme is divided into thirteen action areas that will receive state aid, including public services, industry, SMEs, rural areas or 6G R&D, among others²⁷. As of 2023, the Spanish government has contributed to the development and improvement of digital infrastructure with investments totaling more than 1.4 billion euros²⁸.



Brazil's 5G auction

Brazil's 5G auction stands out globally as a success story with benefits for government, industry and users. Three key lessons emerge from this process:

- 1. Teamwork for successful allocations:** This was the result of years of collaboration between regulators, operators, Internet providers and academics. Coordination was essential to align costs and conditions with realities of the country, operator capacity and to ensure efficient allocation.
- 2. Focus on digital inclusion and innovation, not just revenue:** Success was based on maximising digital inclusion and innovation, with only around 5% of the price going to tax revenues. This

approach avoids auctions with no participants, encourages investment and mitigates negative impacts on services.

- 3. Comprehensive planning for successful allocations:** Resulted from a long-term plan with modernized regulatory policies that address not only spectrum, but also the need to speed up infrastructure deployment, ensure regulatory certainty and coordinate across sectors. Currently, the global variation in 5G spectrum allocation and prices paid has a direct impact on socio-economic benefits and competitiveness. It is crucial that policymakers seriously consider the design of effective auctions and take steps to ensure a successful transition to the 5G era.

27. [UNICO Broadband Programme](#), Government of Spain.

28. [Recovery Plan](#), Government of Spain, 2023.

29. [Brazil's multi-band auction: one of the largest in the history of mobile communications](#), GSMA, 2022; [5G auctions: 3 Brazilian hits to watch in the region](#), GSMA, 2023.



Universal Service Funds and the broadening of the contributor base

Universal Service Funds (USFs) have been used by governments in both European and Latin American and Caribbean (LAC) countries to channel resources and address gaps in access to telecommunications services. Although the funds and obligations were initially designed to ensure the provision of fixed voice telephony and services, today, in most countries, the concept of universalisation has now evolved from fixed telephony to broadband and internet access.

In some cases, the financing of universal service has been linked to public funds, but in most countries, it is the telecommunications operators who contribute to the funds for the provision of the service.

As needs have evolved from voice services to meaningful connectivity, the necessary funding has also increased.

New requirements have raised the need for more public funding, and a redefinition of universal service fund models. Several countries in the European Union are considering broadening the base of contributors to digital infrastructure by reforming USFs, which currently are mainly financed by telecommunications companies. More specifically, steps in this direction are being taken in the form of a new “White Paper” proposal to improve the funding environment for the telecoms sector through the possible introduction of a new contribution mechanism.

The need to provide effective connectivity is driving new approaches to network financing. This is evidenced by the introduction of a bill in the US Congress to require large technology companies, as the main financial beneficiaries of the Internet, to pay part of the cost of broadband³⁰. This initiative would represent the first major reform of the USF in a generation.

The idea of broadening the base of contributors to the USF reflects the fundamental principles of economics, equity and sustainability. It assumes that by sharing the responsibility for financial contributions, the Internet will be more available and affordable for the most vulnerable groups. In any case, there are concerns about the sustainability of network investment and about who will pay for the subsidies to enable the poorest segments of the population or those living in remote regions to access quality services.



The need to provide effective connectivity means that new approaches to financing networks are being considered

In Latin America, many countries have USFs to which telecommunications operators are required to contribute a portion of their revenues. In general, these USFs have been characterised by a poor management of the available resources, limited effective use of these resources and a lack of evaluation of the actual results of the projects implemented. Several organisations have raised the need to review the usefulness of these USFs, given that the contributions made by operators have a negative impact on their ability to invest, and the need to move towards more efficient and effective schemes for the use of resources, including direct demand-side subsidy schemes for the most disadvantaged sectors, which would allow them to effectively access telecommunications services³¹.

30. US Congress releases bipartisan bill to make Big Tech shoulder some consumer broadband costs, first major USF reform in a generation. Fair Share Update, Strand Consult, 2023

31. Rural Manifest, Telefónica, 2023.

● Technological innovation

Technological innovation has the capacity to provide innovative solutions to close the coverage gap, both in terms of bringing connectivity to remote, hard-to-reach areas and in terms of achieving more efficient telecommunications networks, reducing the cost of infrastructure deployment and thereby contributing to the sustainability of business models in order to connect the unconnected.



Open RAN to reduce deployment costs

Telecom operators are experimenting with and using new deployment strategies and new network structures. The application of Open RAN (or Open Radio Access Network) has the potential to reduce network deployment costs through hardware and software unbundling, virtualisation of the RAN and the network core and network automation. Open RAN enables the deployment of a more open network structure in the segment that connects users and devices to the core of the telecommunications network. This is made possible by the interoperability of RAN components, which creates the ability to choose between different vendors.

The company Internet para Todos (IpT, according to its acronym in Spanish, or "Internet for All") carried out the first Open RAN deployments in Latin America, which enabled a more affordable and competitive deployment, the development of a network that can be easily upgraded and allowing the extension of coverage and availability of the new networks to be extended³².



Satellite services to connect the unconnected in rural and remote areas

Satellite connectivity can be an alternative technological solution to connect people who do not have access to terrestrial connectivity in remote areas, thus facilitating connectivity in these areas. A key aspect is the affordability of these satellite solutions so that they can be considered a real alternative for the provision of services in rural areas. Telefónica is developing partnerships and agreements with several companies in the space market focused on the development and operation of new satellite systems, in order to strengthen its service offer in remote areas of Europe and Latin America.



32. Rural Manifest, Telefónica, 2023.

● Regulatory modernisation

Regulatory modernisation, simplification and flexibility are essential allies in meeting the challenges of connectivity, without which the investments needed to achieve the connectivity objectives will not materialise. Given the acceleration of digitalisation and the pace of technological innovation, it is equally important to put in place mechanisms for continuous regulatory improvement in order to assess and measure the evolution of the policies implemented and the achievement of the objectives set.

In the European Union, regulatory modernisation is closely linked to the sustainability of the telecommunications operators' sector, which will favour their investment capacity and the deployment of higher capacity and quality infrastructure.



Regulatory modernisation is closely linked to the sustainability of the telecommunications operators' sector

In some Latin American countries, it is essential to move towards greater legal certainty, with regulatory frameworks that provide long-term predictability for investment. In addition, it is necessary to move forward on other aspects of regulatory modernisation, with four main axes: removing outdated regulations that create unnecessary regulatory burdens; promoting innovative regulatory models such as regulatory sandboxes or bubbles, removing regulatory asymmetries in order to promote fair and balanced competition, and finally, moving towards a focus on continuous improvement in regulatory oversight with a more cooperative regulation between regulators and regulated parties that facilitate regulatory fluidity.

Operators have consistently asked policymakers for greater flexibility and simplification of obligations in order to achieve faster deployment. This model has been implemented in Spain to accelerate fibre deployment in rural areas. In other cases, regulatory innovation is even necessary, with the creation of ad-hoc arrangements appropriate to the technology and the nature of the cooperation between different parties. This is the case of Internet for All in Peru with the figure of the Rural Mobile Infrastructure Operator, a specific figure in the Peruvian regulatory framework, which allows these wholesale infrastructure operators in rural areas to offer their services to mobile operators to provide end services to their customer³³.

Moreover, in a context of high investment requirements, it is essential that operators have predictable conditions that have been defined well in advance. The cost of deployment is a relevant factor when it comes to closing coverage gaps. The aim is to provide certainty for investment decision-making and to prioritise the public policy objective of extending the network to provide coverage and services to people.



In a context of high investment requirements, it is essential that operators have predictable conditions

Spectrum pricing can and should be conducive to infrastructure investment and business sustainability. The vision should be to consider spectrum as a public good and as a key element in the development of connectivity. A people-centred spectrum and the bridging of the digital divide should be the first step towards full digital inclusion.

33. Rural Manifest, Telefónica, 2023.

C. 3. Proposals for progress in closing the coverage gap

1. Encourage public-private partnerships and collaborative models

Public policies should encourage infrastructure sharing agreements and partnerships to accelerate network deployment. It is also important to encourage public-private partnerships to support new projects that are technologically innovative and have a purpose that benefits society.

2. Innovation in network funding mechanisms

Telecommunications operators and public policy-makers should look for new or redesigned ways to facilitate network financing. These include green financing, broadening the base of contributors to Universal Service Funds, and increasing public support for the deployment of telecommunications networks.

3. Towards simpler and more flexible regulation

Regulation should continue to reduce network roll-out costs and remove barriers to infrastructure and spectrum sharing. Sector-specific taxes should be aligned and ensure that other actors benefiting from infrastructure investments contribute to financing its deployment and use. Spectrum should be made available in adequate quantities and at reasonable prices and conditions. At the same time, competition policy should be updated to promote a sustainable market structure and foster legal certainty to encourage investment.

Proposals for progress in closing the coverage gap

PUBLIC-PRIVATE PARTNERSHIPS



INNOVATIVE NETWORK FINANCING



SIMPLE AND FLEXIBLE REGULATION





4. Breaking down barriers to digital inclusion: *digital* adoption

A. Strategies to pave the way for digital adoption

B. Proposals to boost digital adoption

Providing access to the internet and promoting the closing of connectivity gaps is the first step in deepening digital inclusion. But it is also necessary to ensure that people have the skills and capabilities, as well as the opportunities, to take advantage of all that the digital world has to offer. Social projects based on technology and connectivity can be strengthened through this approach, as well as other education, digital employability, and volunteering programmes such as those run by Telefónica Movistar Foundation deploys in Latin America³⁴.

The GSMA's annual report³⁵ on the state of mobile internet connectivity shows that 95% of the world's population now lives in areas covered by mobile broadband connectivity and that, because of this coverage, 55% of the world's population is connected to the mobile internet. Covering the remaining 5% (the "coverage gap") remains a major challenge. However, the biggest problem is the 304 billion people, or 38% of the world's population, who have broadband access but face barriers that prevent them from connecting (the "usage gap"). In Latin America, around 190 million people live in areas covered by mobile internet networks but do not have access to the internet³⁶.

34. Rural Manifest, Telefónica, 2023.

35. "State of Mobile Connectivity 2023", GSMA.

36. Connectivity gaps in Latin America, GSMA, 2023.



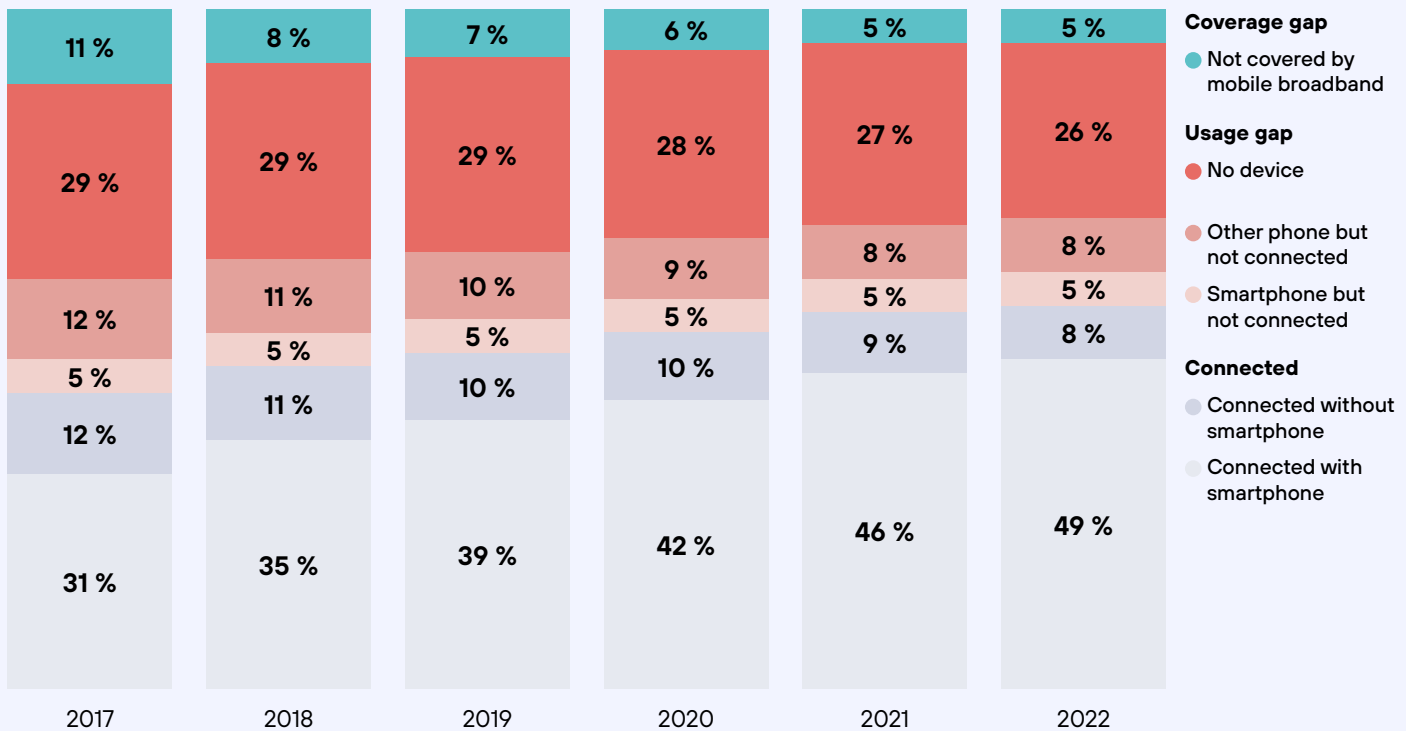
These barriers include

- Lack of digital literacy and skills
- Affordability of services and devices
- Availability of relevant content and accessible services for all
- Digital trust

The “State of Mobile Internet Connectivity 2023” report³⁷, found that in Europe and Central Asia in 2022 19% of the 79% connected had a usage gap. In Latin America and the Caribbean, the usage gap is 32% of the 62% of the connected population in the same year.

In Latin America, around 190 million people live in areas covered by mobile internet networks but do not have access to the internet³⁸. The coverage and usage gaps widen for vulnerable groups such as women, children, older adults, people with disabilities, indigenous ethnic groups, especially those living in rural areas.

From the Coverage Gap to the different types of Usage Gaps



Fuente: GSMA, “The State of Connectivity 2023”

37. The state of Mobile Internet connectivity, Report 2023, GSMA, 2023.

38. Connectivity Gaps in Latin America, GSMA, 2023

Which groups benefit least from connectivity?

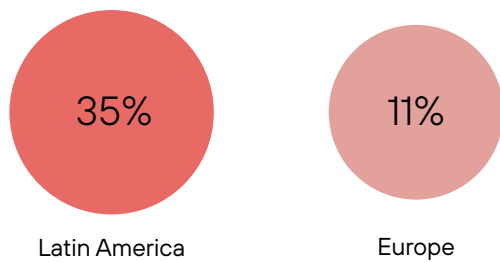
The different usage gaps

The usage gap has multiple edges that require different approaches depending on their typology and intensity. In general, there are four types of usage gap: rural-urban, generational, gender and capability.

Rural-urban Divide

Access to connectivity in rural areas has been slower than in urban areas, and this has had a negative impact in terms of lower use of connectivity and technology.

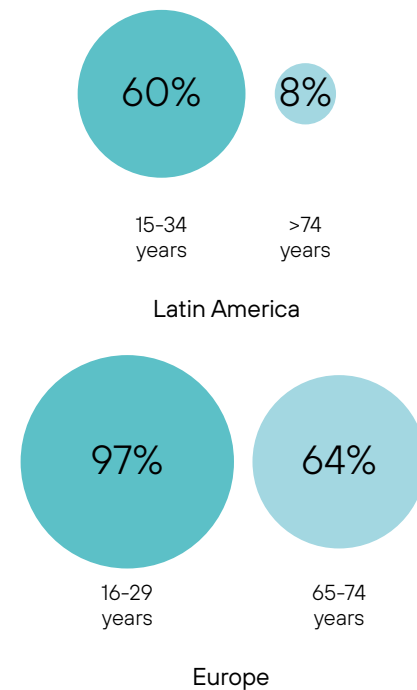
By 2020, around 65% of the rural population in Latin America used regularly the Internet, an increase of 16% since 2017. Meanwhile, in Europe, 89% of the rural population will use the Internet by 2023³⁹.



Generation Gap

There is a very relevant generation gap between digital natives⁴⁰, who have grown up with the digital transformation, and older people. We can expect the usage gap to close slowly in Europe than in Latin America due to the inverted population pyramid.

In Latin America⁴¹, in 2020, only 8% of people aged 74+ used the internet, compared to more than 60% of people aged 15-34. In Europe⁴², in 2022, 64.3% of people aged 65-74 used the internet frequently, compared to 97.3% of the population aged 16-29.



39. Individual internet use, Eurostat, 2023.

40. Renacer Digital, Telefónica Volunteers.

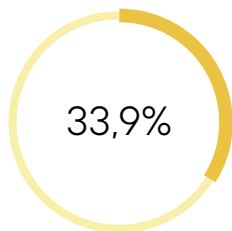
41. Latin American Economic Outlook 2020, ECLAC, 2020.

42. Individuals - frequency of internet use, Eurostat, 2023.

People with disabilities

People with disabilities face specific difficulties that can be overcome through the use of new technologies. For instance, artificial intelligence can describe the environment and read text using voice assistants, provide real-time subtitles for the hearing impaired or help people with disabilities to understand certain situations.

The percentage of people with disabilities is 14.7%⁴³ in Latin America and 24% in Europe⁴⁴. Among the European population with a limited or severe disability, 33.9%⁴⁵ do not use the Internet frequently.

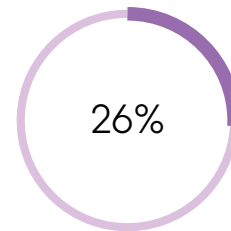


people with disabilities in **Europe** do not use the Internet frequently

Gender Divide

The gender digital divide perpetuates inequalities by limiting women's access and career development in technology, contributing to stereotypes and exclusion. Addressing this issue means promoting inclusion in STEM (science, technology, engineering and mathematics), participation in industry, and harnessing women's potential in innovation and social progress.

In Latin America 74%⁴⁶ of women choose non-STEM careers. In Europe, one in three STEM graduates is a woman⁴⁷. Similarly, only 19% of ICT specialists are women, compared to 81% of men.



of Latin American women
choose STEM careers
Latin America



1 in 3

European STEM
graduates are women
Europe

43. [Breaking Barriers - Inclusion of Persons with Disabilities in Latin America and the Caribbean](#), World Bank, 2020.

44. [Prepared for the European Disability Expertise \(EDE\)](#), Eurostat, 2018.

45. [Individuals - frequency of internet use](#), Eurostat, 2023.

46. [Changing Perceptions of Women and Girls in Science](#), BID, 2020.

47. [Women in the digital sector](#), European Parliament, 2023.

A. Strategies to pave the way for digital adoption

Internet access is the first step for people to enter the digital age. While usage gaps are diverse and require measures tailored to their typology and intensity, there are four key levers to address the different usage gaps in a cross-cutting and effective way: digital skills, affordability, digital trust and availability of relevant digital content and services.

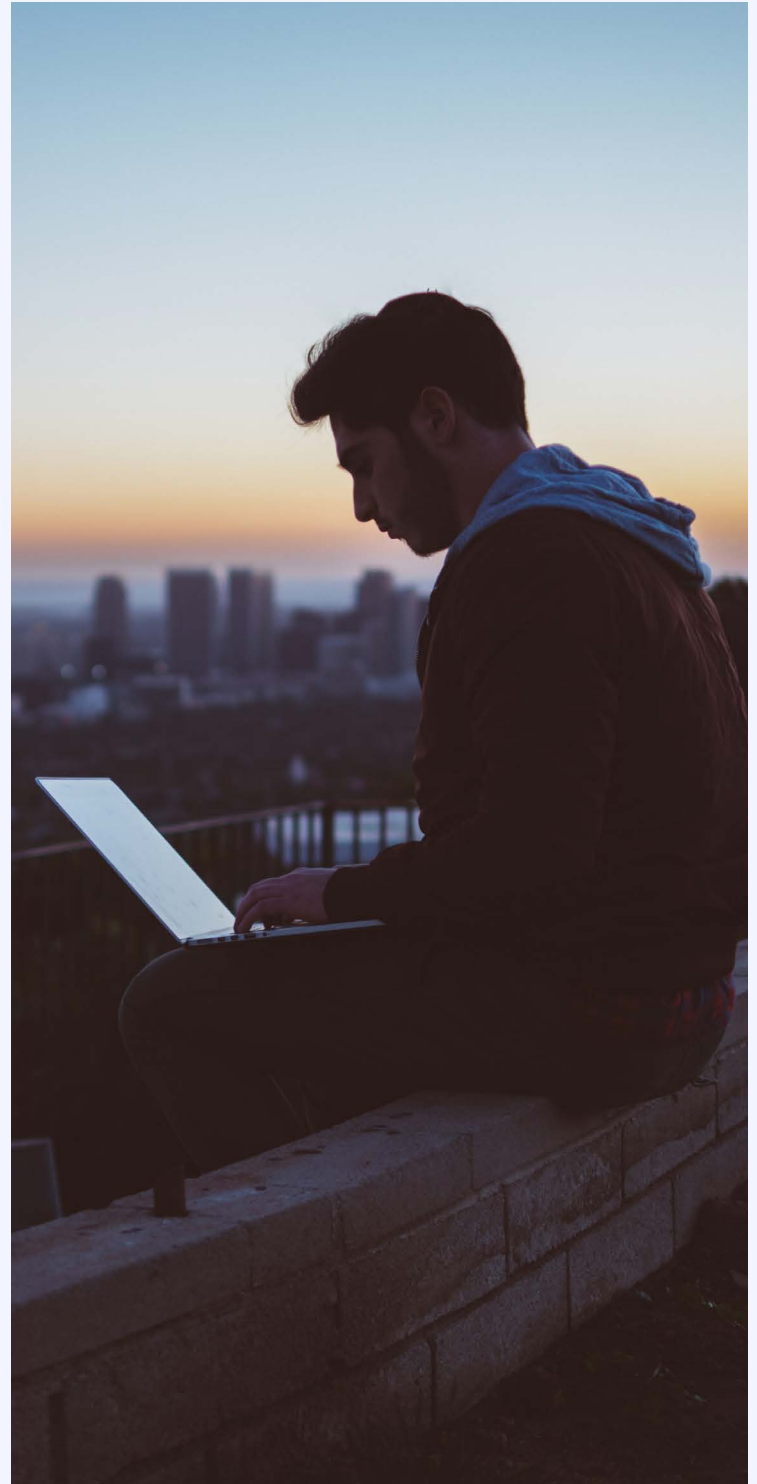


STRATEGIES

● Digital skills

As our societies have become increasingly digital, the level of demand for the digital skills needed to fully participate in the digital age has risen. In Europe, 53.9%⁴⁸ of the population aged 16-74 will have basic digital skills in 2023. In Latin America this percentage drops to 30%⁴⁹ of the population aged 15 in 2020.

Although digital skills are essential for participation and development in the digital age, not everyone has them. Socio-economic inequalities affect on opportunities to develop digital skills, widening the usage gap.



48. [Shaping Europe's digital future](#), European Commission.

49. [Digital Skills in Latin America and the Caribbean: key factors for regional development](#), Asiet, 2022.



Telefónica and the elderly

In 2012, Telefónica O2 Germany launched the initiative “Digital Mobile in Old Age” (Digital Mobil im Alter), a social programme that aims to guide older people without basic digital skills into the digital age. Through dialogue and exchange with various stakeholders from politics, business and the media, O2 is also helping to raise awareness of the issue of digitalisation and older people.

Although this initiative was created primarily set up to teach older people how to use mobile devices, in recent years it has evolved in recent years in response to a more digitised society and the wider use of new technologies. It no longer focuses solely on providing training and tablets, but also on demonstrating innovative ways of using digital media and educating on more challenging and topical socio-political issues, such as fake news, data protection, artificial intelligence and cybersecurity.

2012



+ 300 senior citizens' centres in Germany work with Digital mobil im Alter



+ 5,500 elderly people have attended training courses in these centres, especially those regarding the use of devices



+ 330,000 elderly people have benefited from the many workshops and tools provided by Digital mobil im Alter

2023



Connect Employment

To promote digital inclusion, it is necessary to develop the skills of the population to reap the benefits of digitalisation. This objective is very well reflected in “Connect Employment” (Conecta Empleo)⁵⁰, a free digital training programme promoted by the

Fundación Telefónica since 2016. It is being developed in Spain and eight Latin American countries. It aims to improve the digital skills of both unemployed people and those who want to improve their training or employability.

50. Conecta Empleo, Fundación Telefónica.



Profuturo

+ 165 million
euros for digital devices and training

ProFuturo is a digital education programme launched by Telefónica Foundation and La Caixa Foundation whose mission is to reduce the world's education gap by providing quality digital education to students and teachers in vulnerable environments with low purchasing power in Latin America, Africa and Asia. The initiative has already reached 45 countries with an investment of more than 165 million euros between 2017 and 2022. The programme provides technological equipment, a digital platform with educational resources, training for teachers to develop their digital skills and ongoing support from local social organisations to help improve education in vulnerable places.

With the following benefiting directly

2017 ————— 2022



+ 4.1 million children



+ 1.4 million teachers



In turn, through teacher training, the following have indirectly benefited

+ 24.1 million children





Telefónica and the gender gap

Promoting digital inclusion means closing the access gaps that exist in them and promoting inclusive development. In addition, on its way to closing the digital divide, Telefónica is firmly committed to bridging other transcendental gaps in society, on its way to closing the digital divide. To quantify the impact of the gender gap specifically in the field of technology, Telefónica and ClosinGap jointly developed the report “The opportunity cost of the gender gap in digital professions”, thus promoting the debate in society. According to this study, this opportunity cost will amount, in Spain alone, to 71,700 million euros in 2053, which is equivalent to more than 6% of the current GDP.

To reduce, and eventually close this type of gap, we encourage women to pursue STEM and entrepreneurship careers through a wide range of programmes and initiatives in all the countries where we operate. Some examples are Mujeres4Tech, Girls Love Tech or the STEAM Alliance for Female Talent, which is promoted by the Spanish Ministry of Education and Vocational Training.

Another example would be “Connect to Grow” (Conectarse para Crecer or CpC, according to its acronym in Spanish), a Telefónica programme that recognises and strengthens technology-based rural entrepreneurship⁵¹. CpC in its category of rural entrepreneurial, recognises and gives visibility to rural women in Peru, Colombia and Ecuador who have found in technology, telecommunications and digital tools, a means to improve the quality of life of their communities, especially in rural areas, by implementing solutions that contribute to the well-being and skills development through the use of ICT.

Telefónica also support projects that address the closing of gender gap with initiatives such as:

“Women in Network” (Mujeres en Red), a project that promotes the employability and training of women in technical work in telecommunications, a largely male-dominated sector. It was launched in Peru in 2020 and was replicated in Colombia in 2021. In both countries, more than 1070 technicians have been hired by Telefónica Movistar’s collaborating companies, and more than 7000 people have been trained on topics such as female empowerment, new masculinities and unconscious bias. This project is also possible thanks to partnerships with government and educational institutions.

Women in Network

1.070 technicians
hired in Peru and
Colombia



51. Rural Manifest, Telefónica, 2023.

● Affordability as a game changer

Affordability is a critical factor in ensuring that all people, regardless of their socio-economic status, can benefit from the opportunities offered by the digital world. This applies to all levels of the digital value chain, from the price of the service to access to electronic devices. It also applies to access to training for users.

One of the main barriers to affordability is the availability of electronic devices. A device with basic functionality that allows users to function in the digital world is not always affordable for the entire population. For low-income groups, access to the device represents significant investment. In addition, the existence of special taxes or tariffs on the import of technologi-

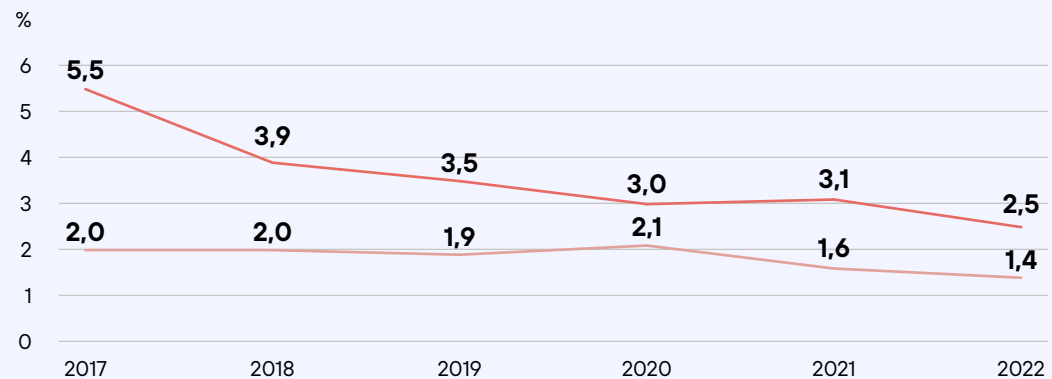
cal products has a negative impact on affordability. Coordinated action between the different actors involved in the digital ecosystem, including governments, is essential to overcome this barrier to access to digital services.

As regards the affordability of internet access, in general, a higher percentage of the population considers that it has improved compared to 2021. Specifically, there has been a 7% increase from 2021 to 2022, with 37% of respondents now stating that affordability has improved, up from 30%⁵². These perceptions are reflected in data collected by the GSMA on the monthly cost of 1GB and 5GB, as well as the cost of cheaper mobile devices that enable internet access (see Figure 4).

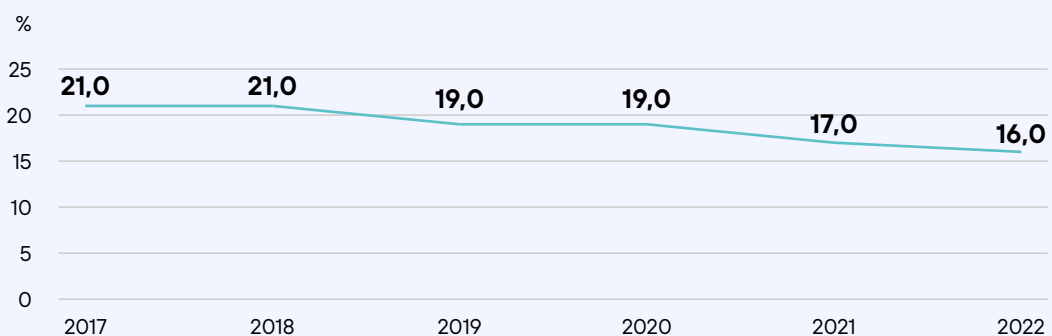
Cost of mobile data and digital devices

Cost of 1GB and 5GB of data as % of monthly GDP per capita

— 1GB
— 5GB



Cost of cheapest internet-enabled handset as % of monthly GDP per capita



Source GSMA "The State of Mobile Internet Connectivity Report 2023".

52. The Inclusive Internet Index 2022, The Economist, 2022.

However, it is important to consider affordability not only in terms of the price of the service, but also in terms of people's income. In Latin America, a significant part of the population has a very low-income level, making it difficult to achieve the UN target of a broadband price below 2% of GNI. For these popu-

lations demand-side subsidy mechanism would need to be put in place to ensure affordability of services. In addition, the taxation of telecommunications services in Latin America is similar to that applied of luxury goods, which affects the affordability of these services.

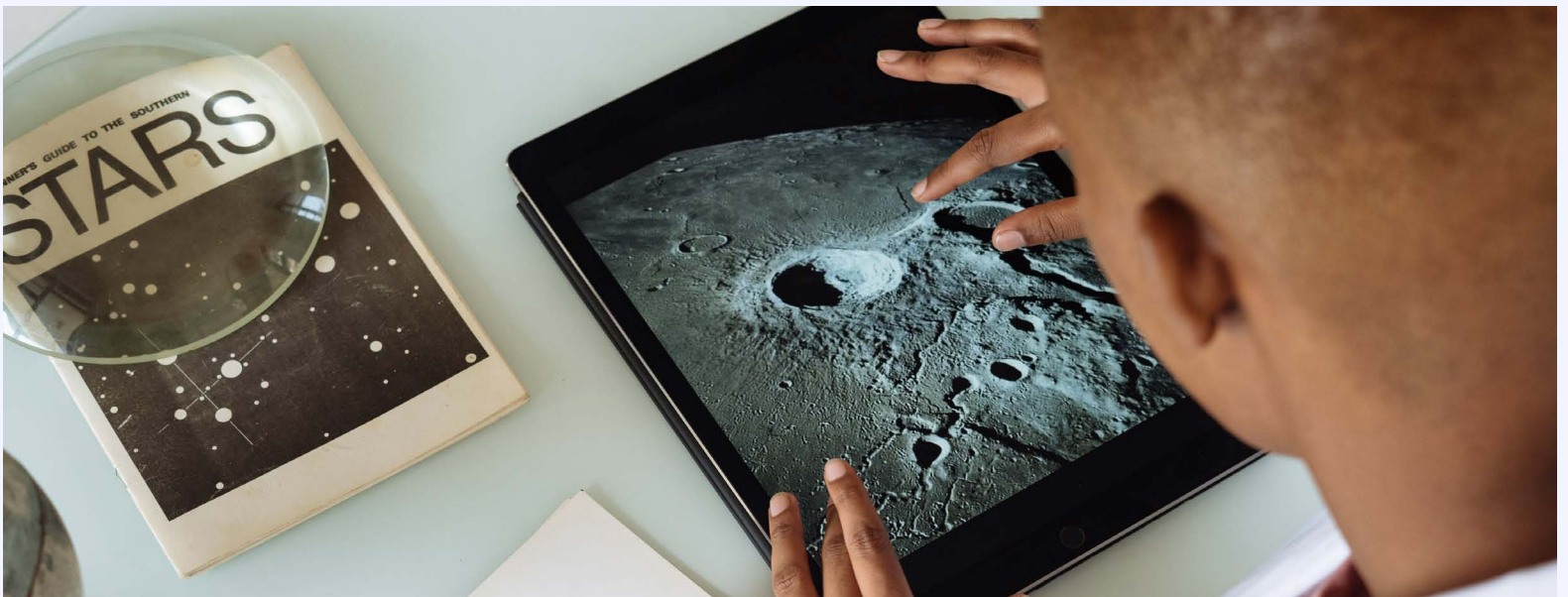


Social Pass

As a result of our designation as the operator in charge of providing the Universal Service during 2023 and 2024, we have expanded our social subscription offers. The main new feature compared to the previous year was the incorporation of Internet browsing, as well as unlimited calls to national landlines and a 50-minute monthly voucher for calls from landlines to national mobiles.

The social subscription is a facility offered by Movistar for retirees and pensioners, when contracting a fixed telephone line or a fixed line with Internet connection, as long as they meet certain requirements:

- Being a pensioner/pensioner, or receiving a private pension recognised by a court ruling.
- The total income of the family unit may not exceed 10,080 €.
- The telephone installation address will coincide with the registration address of the holder, who may not have another line with this classification.



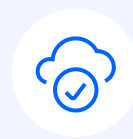
● Availability of relevant content and accessible services for all

The lack of availability, diversity, or adaptation of digital content and services to the needs of people, communities, or a country's culture and language can lead to disinterest in the use of new technologies within a society. Without relevant content and clear use cases, the decision to go online is a difficult and costly first step for many people. In Latin America, for example, 20%⁵³ of unconnected households indicate no interest or need for the Internet, suggesting a lack of awareness of the potential benefits of connectivity.



Traditionally, the entertainment industry has been globally controlled by the United States, which has been able to export its culture and language around the world. In recent years, greater diversification of content and the promotion of domestic have changed the landscape of the entertainment industry. However, the production of national content continues to be marginal, which can lead to a certain lack of interest on the part of a national audiences.

Just as the United States has had a significant impact on the entertainment industry, in the field of technology, the language of programming and computing is mainly English. Spain has promoted the use of Spanish in technology through the New Language Economy Strategic Project for Economic Recovery and Transformation (PERTE Nueva Economía de la Lengua⁵⁴, one of the main objectives of which is to include Spanish as one of the co-official languages of artificial intelligence. This focus on developing of technology and AI in local languages can help democratise access to these technologies and allow greater participation of Spanish-speaking communities at the forefront of technological innovation.



Spain has promoted the use of Spanish in technology and artificial intelligence, through PERTE New Economy of the Language

In terms of online services and products, uneven access to and penetration of global e-commerce platforms leads to uneven supply and demand for goods and services, which can negatively affect opportunities for SMEs or local producers. Compared to the pandemic year, the value of online trade falls from 90% in 2020 to 88% in 2022.

53. *Latin America and the Caribbean Economic Review, October 2023 - Wired: Digital Connectivity for Inclusion and Growth*, Worldbank, 2023.

54. *PERTE Nueva economía de la lengua*, Plan de recuperación, Government of Spain.

It is important to recognise the key role of the public sector in creating value in the digital world. By digitising public administration, governments can bring valuable information closer to citizens and streamline administrative processes. This modernisation not only improves the efficiency of the public sector, but also makes it easier for the population to access to secure online services and resources, thus promoting digital inclusion and the benefits of the digital age for a greater number of people. Telefónica Tech contributes to this process with its experience in cybersecurity, protecting systems and data to prevent information leaks and guarantee the continuity of public services.

Digital technologies have surged with strength, creating new opportunities to significantly enhance the quality of life for people, particularly those with disabilities. These technologies provide greater autonomy and dismantle traditional physical barriers.

Nevertheless, individuals with disabilities encounter specific challenges that can be overcome through the adoption of new technologies. Currently, many people with disabilities still face difficulties accessing the advantages of the increasingly prevalent digital world, including digital commerce, financial solutions, health services, entertainment, and more. Therefore, technology must be developed and deployed with an accessibility perspective, recognizing its potential to dismantle barriers and facilitate the social and economic integration of people with disabilities.



Movistar Plus +

Telefónica supports the Spanish film industry with the production of around 30 titles per year. It is a commitment to national talent and language that gives visibility and highlights the uniqueness of Spanish culture. It also offers its users alternative content to the American *mainstreams*.

On the other hand, this is the world's first private television that allows access with triple accessibility (audio description, subtitles, and sign language) to an extensive catalog of content through the 5S functionality, active since 2016. The platform offers more than 3,700 accessible contents in its catalog, of which over 1,200 feature triple accessibility.

56. Europeans' attitudes towards cyber security (cybercrime), Eurobarometer, 2019.

● Building digital trust

The mistrust generated by the lack of security and privacy when accessing and using the Internet is another factor influencing the usage gap. Online fraud, phishing and hacking have a negative impact on users' use of the Internet. Lack of knowledge about how online applications and services work, concerns about how their data is processed by digital platforms and misinformation also discourage the use of electronic devices and the Internet.

In Europe, although 78% of people who are confident in their ability to stay safe online, Europeans believe that the risk of cyber-attack is high. Similarly, 46% are concerned that their data could be misused by third parties. As for the trustworthiness of content and information, 32% believe that the current framework is not sufficient to protect them⁵⁶.

Mistrust is more pronounced in Latin America. Lower level of digital literacy exposes citizens to new and sophisticated methods of online deception, making them more vulnerable to cybercrime. This is compounded by an immature regulatory environment for cybersecurity⁵⁷. As a result, 76.8% believe that there are more risks than benefits to sharing their data online⁵⁸.



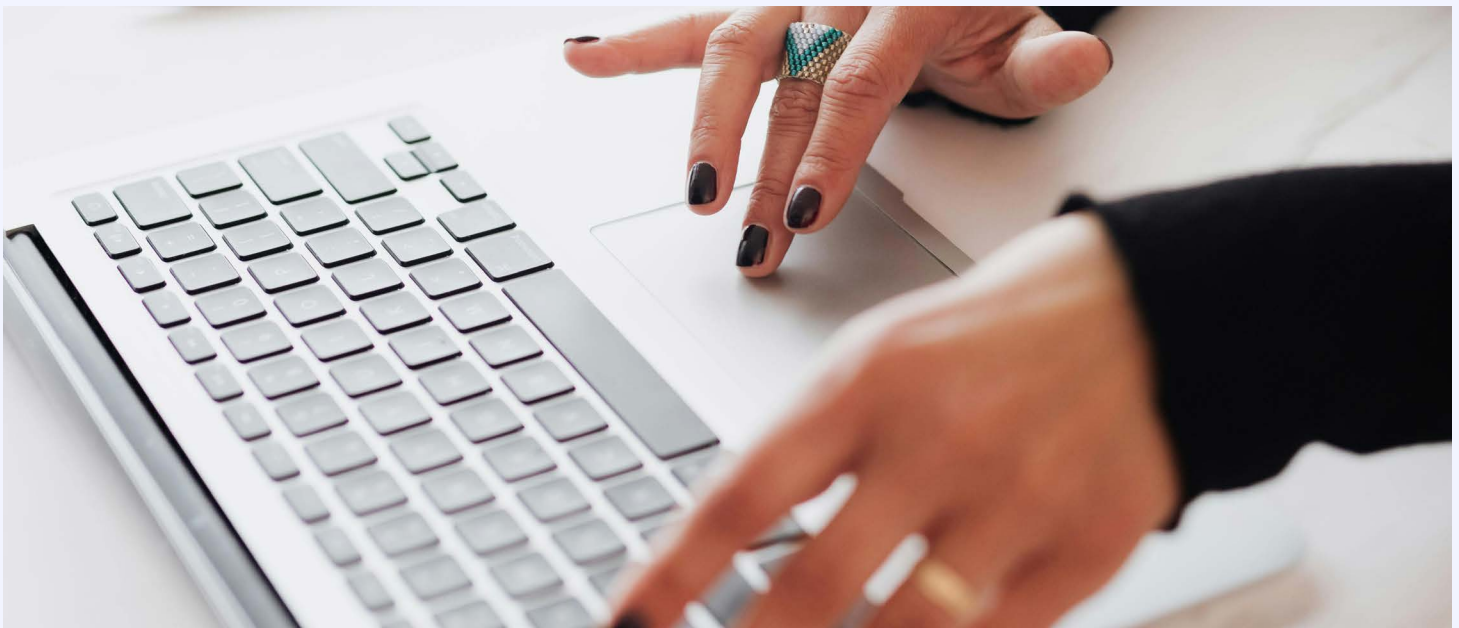
76 %

believe that sharing your data on the internet is risky



46 %

are concerned about the use of your data



57. [El sector de ciberseguridad en América Latina: apuntes para leer un mapa del Estado en construcción](#), Instituto Real Elcano, 2023.

58. [Una mirada desde américa latina al uso responsable de las nuevas tecnologías](#), Digital Public Affairs, 2023.

B. Proposals to encourage digital adoption

1. Promote public-private collaboration to accelerate digital literacy and digital skills for equal access to the opportunities offered by the digital world.

Particular attention should be paid to addressing skills gaps, embedding the necessary skills in education systems and promoting lifelong learning, to enhance employability.

2. Ensure affordability of devices and access.

In the digital age, the use of devices and access to connectivity are essential. It is very important to put in place mechanisms to facilitate the affordability of internet access services and devices. Taxation can be a relevant element to support affordability by reducing the tax burden on services and devices, but it is also necessary to consider mechanisms to directly subsidise the demand for services and devices, especially for lower income sectors.

3. Promote the availability of relevant content and accessible services for all.

To encourage people to make use of connectivity, it is important to promote the creation of local content and services tailored to the country's culture, as well as ensuring their accessibility to foster the inclusion of people with disabilities in the digital era.

4. Promote an accountable and trustworthy governance model.

In the process of digitisation, society must be able to rely on a governance model based on fundamental rights, privacy and security of the individual. To harness the transformative power of technology, policies must be developed that move towards an inclusive digital future, prioritising empowerment and with special attention to vulnerable communities so that no one is left behind. Digital literacy is the foundation for a safer online world.

Proposals for digital adoption

PUBLIC-PRIVATE
COLLABORATION



AFFORDABLE
DEVICES AND
ACCESS

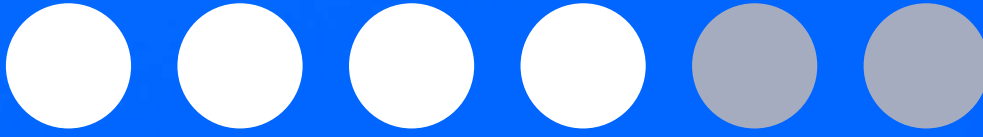


LOCAL
CONTENT AND
DIGITAL SERVICES

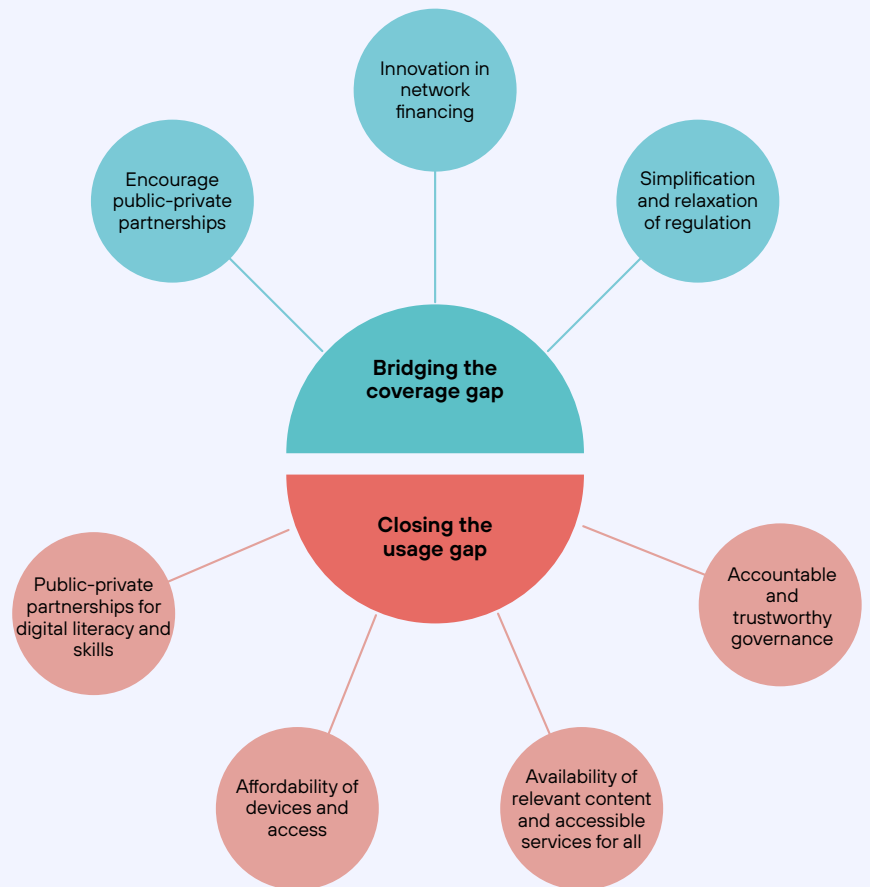


ACCOUNTABLE
AND TRUSTWORTHY
GOVERNANCE





5. Digital *inclusion* compass



Bridging the coverage gap

Encourage public-private partnerships

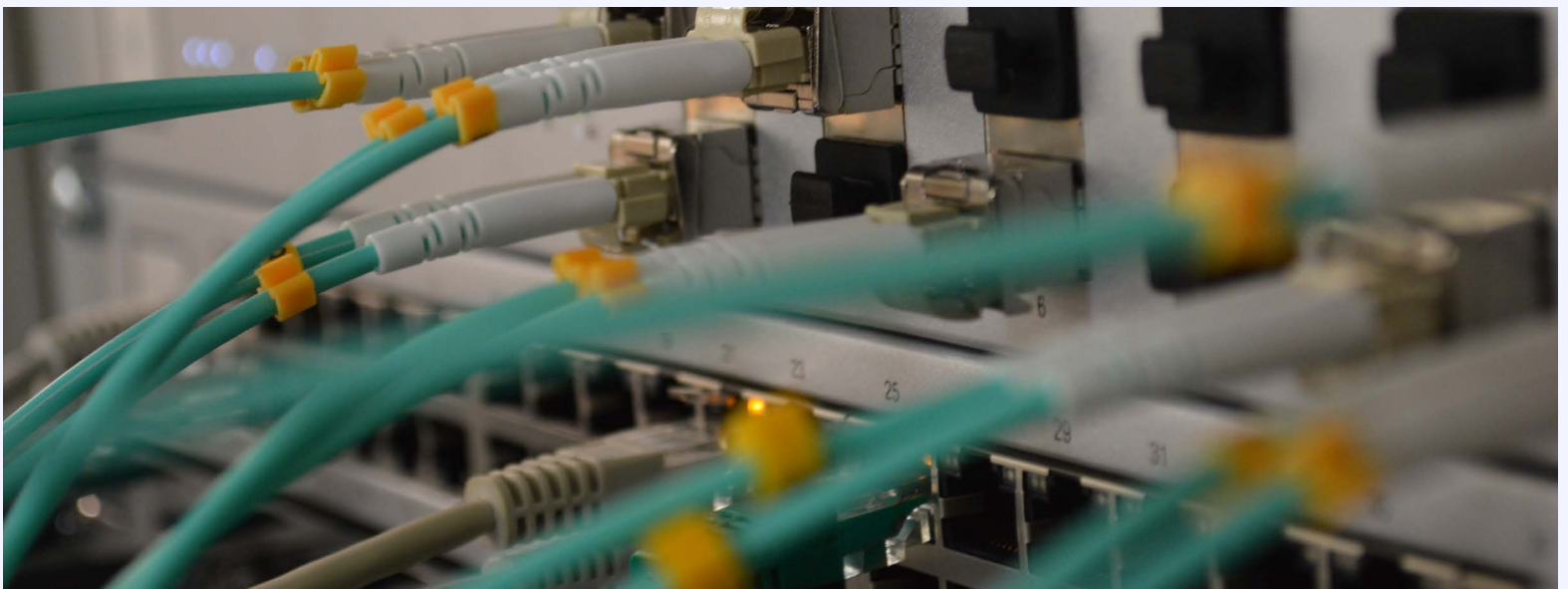
- Promote infrastructure sharing agreements.
- Encourage partnerships to accelerate network deployment, especially in rural areas.
- Collaborate on technologically innovative projects with a social purpose.

Innovation in network financing

- Seek for new formulas or redesign existing ones.
- Explore green finance.
- Broaden the base of contributors to Universal Service Funds.
- Provide public support for the deployment of telecommunications networks.

Simplification and relaxation of regulation

- Reduce network roll-out costs.
- Remove barriers to infrastructure and spectrum sharing.
- Adapt sector-specific taxes.
- Ensure the contribution of other beneficiaries.
- Adequate availability and reasonable conditions for spectrum
- Update competition policy to promote a sustainable market structure.
- Promote legal certainty for investment promotion.
- Reduce the regulatory burden associated with the provision of telecommunications services.



Closing the usage gap

Public-private partnerships for digital literacy and skills

- Encourage public-private partnerships to accelerate digital literacy.
- Address skills gaps by embedding digital skills in education systems.
- Promote lifelong learning to boost employability in the digital environment.

Availability of relevant content and accessible services for all

- Encourage the digitisation of companies and public services.
- Encourage the implementation of digital content and services initiatives and projects.
- Promote communication and training campaigns for the use of local digital content and services.
- Promote accessibility.

Affordability of devices and access

- Establish mechanisms to facilitate the affordability of internet access services and devices.
- Use taxation to reduce the tax burden on services and devices.
- Consider direct demand-side subsidies for services and devices, especially for lower income groups.

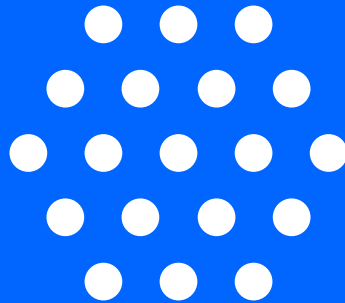
Accountable and trustworthy governance

- Establish a governance model based on fundamental rights, privacy, and security.
- Promote digital literacy as a basis for a safer online world.
- Develop policies for an inclusive digital future, prioritising empowerment and considering vulnerable communities.
- Implement quality assurance initiatives for digital services.
- Public-private cooperation in educational initiatives to raise awareness of risks and best practices to prevent cyber-attacks.



Digital *Inclusion*

Digital divide: from the coverage
to the usage gap



Follow the conversation on:
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