



Playbook

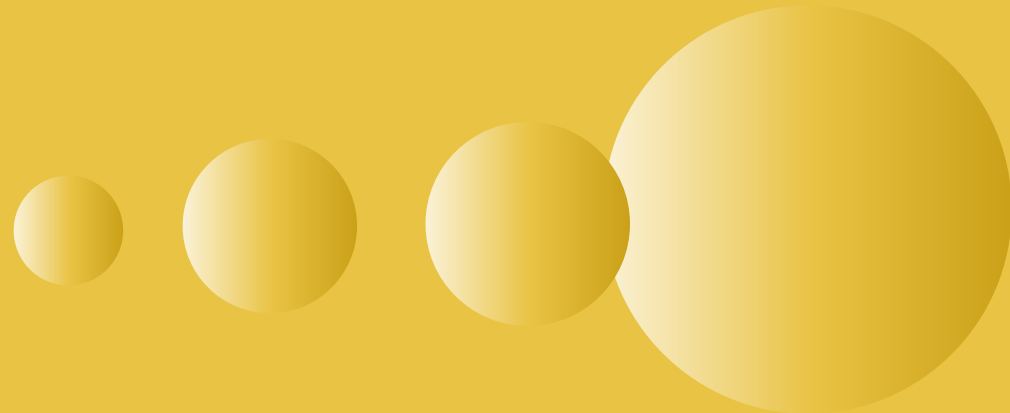
Sustainability and Inclusion

2025

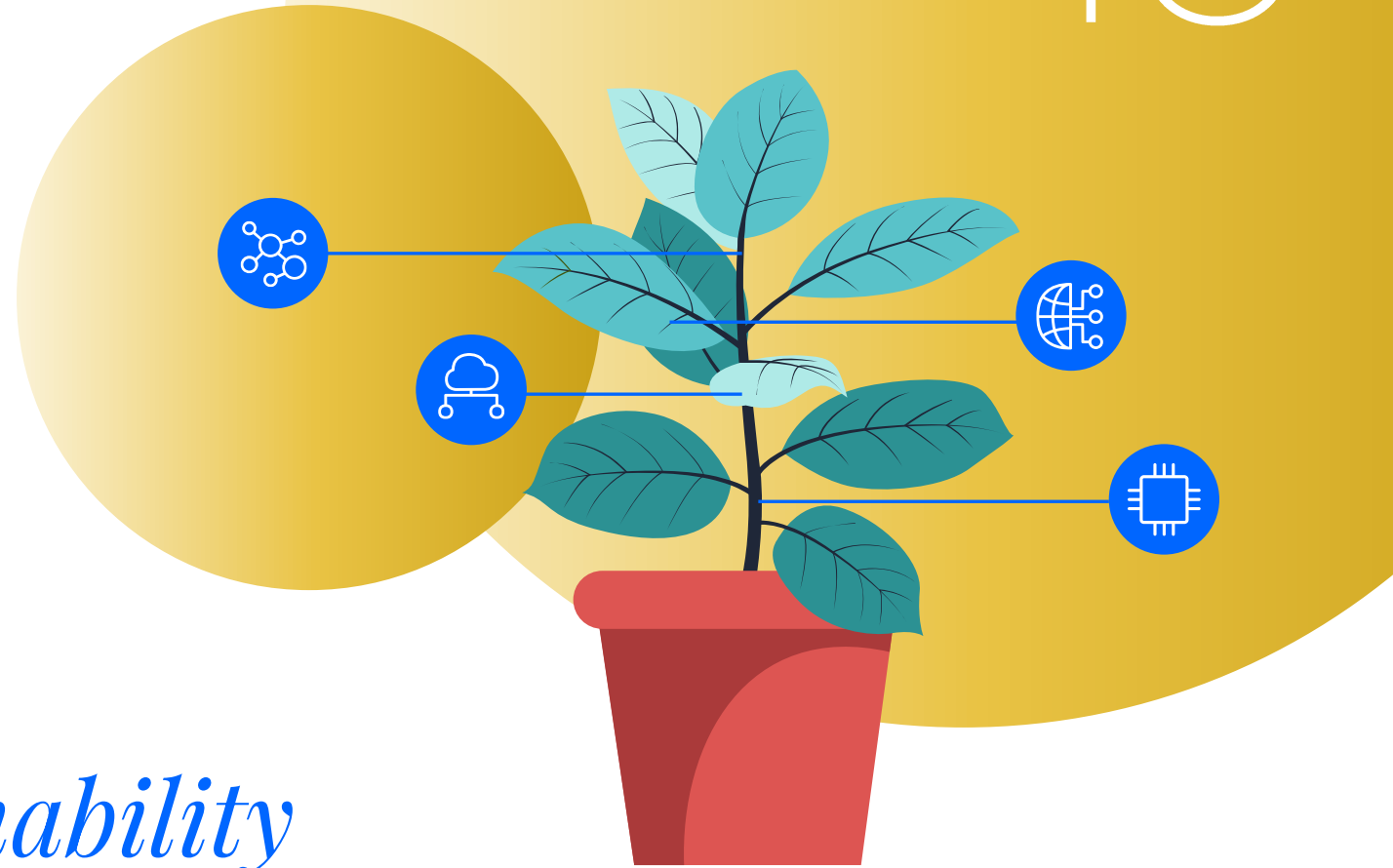
Sustainability and Inclusion

Sustainability and digital inclusion are essential for a resilient and prosperous future for all. Sustainable development and the well-being of people require strategies that address and anticipate challenges without compromising future generations.

At Telefónica, we are firmly committed to this vision and believe that the digital and green transformation of our societies only makes sense when people are put at the centre.



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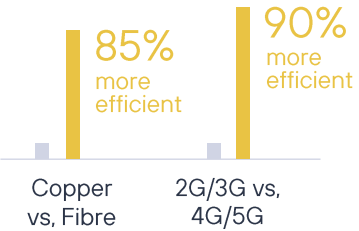
A Competitive Sustainability Driven by Digitalisation



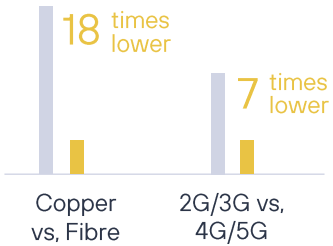
The Role of Networks in Sustainable Development

Sustainability of telecommunications networks

Energy efficiency^{1y2}



Lower environmental impact³



Renewable consumption²

100% renewable by 2030
 Telefónica plans to achieve 100% renewable electricity in all its markets by 2030

The enabling effect of the telecommunications sector⁴

Water

Enable more efficient use of water and maintenance of infrastructure to avoid leakage

Industry 4.0

Improving supply chain traceability, helping to detect inefficiencies and reduce waste

Energy

Improving the distribution and consumption of renewable energy with Smart Grids

Automotive

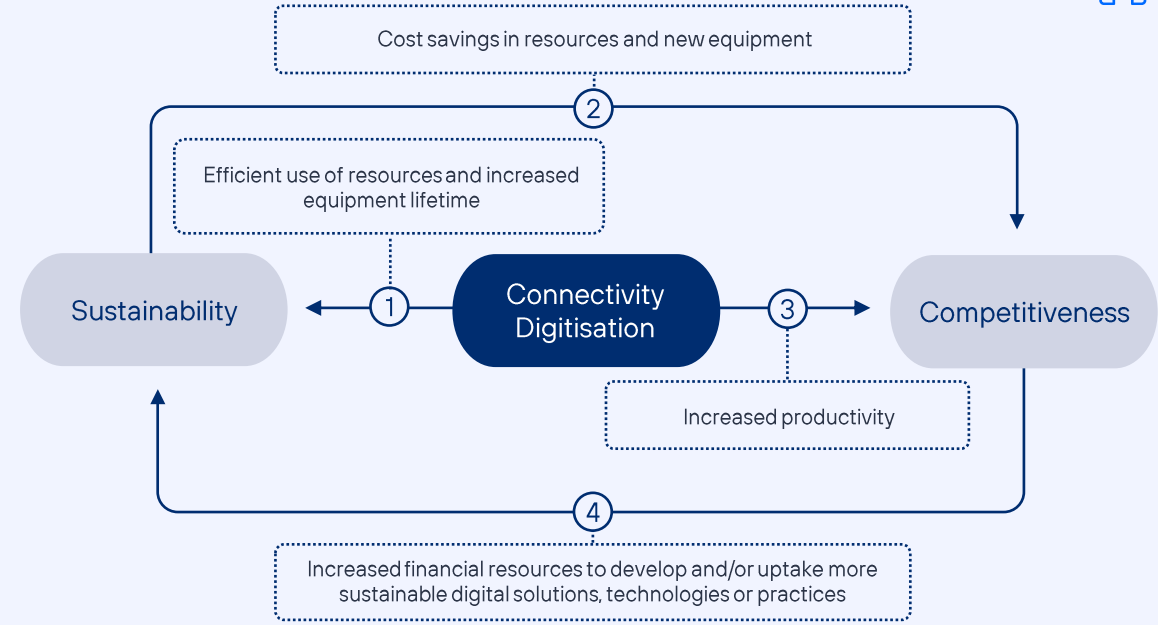
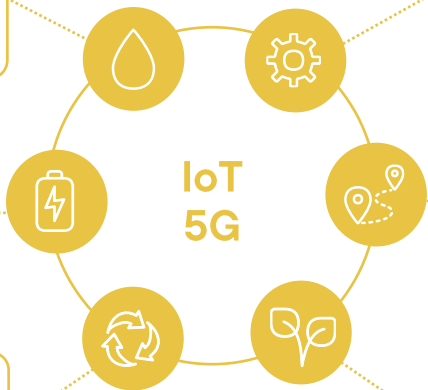
Optimising dynamics and facilitate predictive vehicle maintainanc.

Circularity

Extending equipment life and limiting electronic waste through predictive maintenance

Agricultura

Enabling precision techniques to optimise irrigation and fertiliser use, improving crop yields



Towards a Sustainable and Competitive Digital Environment

Evolution towards more digital, sustainable and competitive business models



Lack of perception of digitalisation as an enabler of competitive sustainability



Resistance to change



Lack of financial resources

Evolution towards more efficient telecommunications networks



Investment gap for the deployment of more efficient next-generation networks such as fibre and 5G



Difficulties in shutting down legacy networks



Enhance synergies between digital solutions, sustainability and competitiveness, relying on more efficient next-generation networks

1

Incentivise the adoption of digital solutions across all economic sectors



Encourage the adoption of "green digital solutions" by public institutions, businesses and industries to advance their decarbonisation and circularity, for instance, through subsidies or easier financing.

2

Boost the deployment of more efficient next-generation networks through sustainable financing



Consider high-capacity and energy-efficient telecommunications networks as taxonomic investments to accelerate their deployment, thus enhancing the decarbonisation effect of networks.

3

Facilitate legacy networks shutdown



Reduce regulatory pressure on legacy technologies to facilitate migration to energy-efficient next generation networks.

4

Promote Power Purchase Agreements



Promote agreements between a commercial energy consumer, such as a telecom operator, and independent power producer for the purchase of renewable energy.

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Context

The latest data from agencies such as Copernicus show that global temperatures continue to rise, bringing us dangerously close to the 1.5°C increase limit with respect to pre-industrial levels set in the Paris Agreement. As the average global temperature increases, so does the intensity of weather phenomena and climate events, with devastating and unexpected scenarios of floods, droughts or hurricanes, among others, becoming increasingly frequent. The consequences have a negative impact on the well-being and economy of countries, destroying infrastructures, paralysing productive systems and forcing entire populations to migrate.

In response, more and more countries and companies have been recognising the urgency to act, prioritising policies and driving innovation to move towards a more resilient, decarbonised and circular economy.

At the same time, we are at the dawn of the digital era, which will be characterised by the softwarisation of digital infrastructure and the enhanced integration of new technologies, such as Artificial Intelligence, which will require the expansion or construction of data centres. These data storage and processing spaces are highly energy and water intensive.

In terms of energy, the increasing size or number of data centres translates into pressures to raise the energy production capacity of countries, especially renewables to be in line with sustainability objectives. In this sense, the telecommunications sector is an ally that promotes energy efficiency, both in its activity and in other sectors, to help reduce these pressures. On the one hand, the telecom sector continues to innovate and invest in more efficient next generation networks. On the other hand, it offers digital connectivity-based solutions that contribute to the sustainability of other sectors through more efficient use of resources, including energy efficiency solutions.

Challenges

The twin transition, digital and green, is a key lever for competitive sustainability. The aim is to foster a smarter and more competitive business environment, where optimising the use of resources allows companies to reduce their environmental impact, improve their productivity by generating efficiencies, allocate more resources to innovation and strengthen their market position while boosting welfare. To achieve this, it is necessary to accelerate the adoption of green digital solutions and boost the efficiency of telecommunications infrastructures. However, moving in this direction is not without its challenges.

Firstly, moving towards more digitised business models implies transforming traditional processes and increasing investment. This may pose barriers for those organisations that are more reluctant to change or that do not perceive digitalisation as an enabler of competitive sustainability, which be due to a lack of a culture of sustainability or understanding of its impact on generating efficiencies. In addition, there are companies that, although aware of the potential benefits, lack sufficient financial resources to drive the adoption of "green digital solutions".

Secondly, the rapid digital evolution and development of new technologies accentuates the need to evolve networks towards more sustainable networks capable of supporting the digitisation of sectors through lower latency, higher speed and higher capacity for processing and storing large volumes of data. From this perspective, the challenge is twofold. First, this evolution will require the promotion of a regulatory environment that encourages investment and the redirection of financial resources to accelerate the deployment of more efficient, next-generation networks such as fibre or 5G. Second, it will require encouraging the switch-off of legacy networks, such as the fixed copper network and 2G/3G mobile networks.

Recommendations

Digital solutions and new technologies are a key lever to unleash the synergies between sustainability and competitiveness. In order to release the full potential of digitalisation, we need more efficient new generation networks. It is therefore recommended:

- 1 **Incentivise the adoption of digital solutions in sectors.** Encourage the adoption of "green digital solutions" by public institutions, businesses and industries to advance their decarbonisation and circularity, through subsidies or easier financing.
- 2 **Boost the deployment of more efficient next generation networks through an appropriate sustainable financing scheme.** Consider high-capacity and energy-efficient telecommunications networks as taxonomic investments in order to accelerate their deployment and enhance the decarbonisation of networks.
- 3 **Facilitate the switch-off of legacy networks.** Reduce regulatory pressure on legacy technologies to facilitate migration to new generation networks that are more efficient in terms of energy consumption and spectrum use.
- 4 **Encourage long-term renewable energy purchase agreements.** Promote agreements between a commercial energy consumer, such as a mobile operator, and independent power producer for long-term purchase agreements (PPAs) for renewable energy.

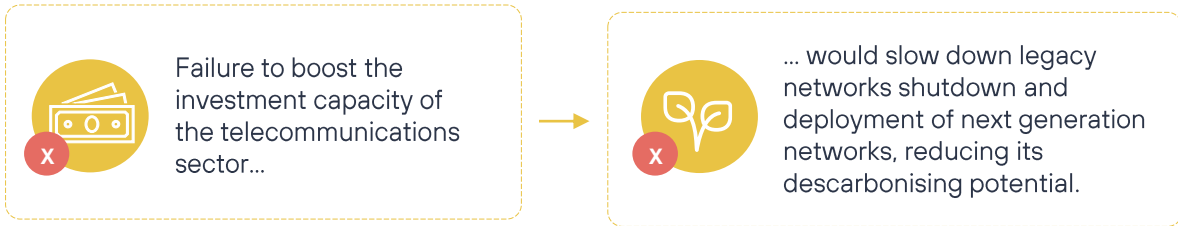
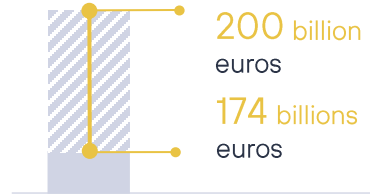
European Taxonomy of Sustainable Activities





Boosting Sustainable Financing

There is an estimated investment gap of between 174 billion and 200 billion euros for the deployment of next generation networks, in line with the objectives of the Digital Decade 2030.¹



To address the investment gap, sustainable financing plays a key role

To promote the redirection of private capital to activities aligned with European green objectives, the European Commission adopted the Taxonomy Regulation. Thus:



Helping the EU to increase sustainable investments



Mitigating market fragmentation



Combating greenwashing

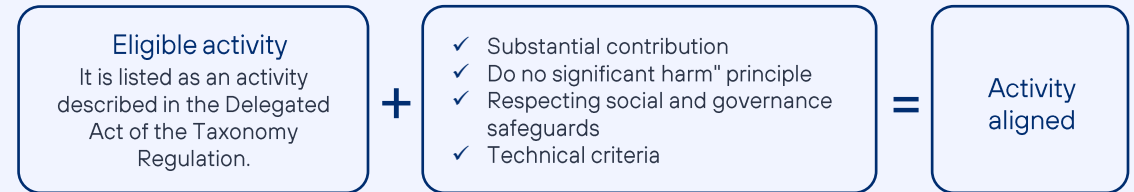


Creating certainty for investors



The EU Taxonomy does not fully reflect the key role of the ICT sector in sustainability, especially as regards telecommunications networks. This makes it difficult to align the sector with the EU's sustainable financing objectives.

From Theory to Practice: The Complexity of Taxonomy



Reporting is highly complex, resource-intensive and the results are unrepresentative.



Ambiguous legal text, giving rise to different interpretations



Lack of concept of financial materiality



Lack of homogeneous reporting criteria



Inability or difficulty in meeting certain technical criteria

Reporting difficulties cause both eligibility and alignment with the Taxonomy to reflect low financial numbers that do not represent the environmental impact of the telecom sector on climate change mitigation. In addition, the reporting results do not adequately reflect the sector's positive environmental impact on climate change mitigation.



Create a new activity in the Taxonomy for telecommunication networks to guide investments in digital technologies aligned with climate objectives

1

Develop a new activity including telecommunications networks



Include the proposed new activity in the next revision of the Taxonomy Climate Delegated Act. For this activity, the technical criteria should be based on the key performance indicators to be included in the future Code of Conduct for the sustainability of EU telecommunication networks.

2

Establish a science-based technical criteria



Adopt a technical criteria that allows for the inclusion of new network activity as a matter of urgency until the role of the future Code of Conduct in the Taxonomy is resolved. The technical criteria proposed by industry should follow the indicators used by industry to demonstrate network efficiency and/or reports such as the one published in 2024 by the Joint Research Centre (JRC) on environmental indicators in telecommunications networks.

3

Boost investment in green digital solutions



Promote funding lines for the uptake of green digital solutions would leverage the benefits of digitalisation in Europe's decarbonisation and circularity objectives. This would allow the digital and green transformations to be developed and implemented in a unified way and be reflected in European funds or other green finance initiatives. Furthermore, encouraging all types of companies to report their green digitisation activities under activity 8.2 would also allow for the identification of green digitisation investments being made in sectors relevant to the European economy.

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Context

Next generation networks are crucial for the EU to achieve its climate neutrality and digital leadership goals.

According to the report published by the European Commission "Investment and funding needs for the Digital Decade connectivity targets", it is estimated that there is an investment gap of between 174 billion and 200 billion euros in European telecoms infrastructure to achieve the Digital Decade 2030 target of 100% coverage with gigabit and 5G networks. This is also reflected in Draghi's "The Future of European Competitiveness" report. In this scenario, not boosting the investment capacity of the telecoms sector would reduce the decarbonisation potential of the transition to more efficient next generation networks (from copper and 2G/3G, to fibre and 5G).

To address this investment gap, sustainable financing plays a key role. Telefónica has been working for years on its internal transformation to align the financing model with ESG (environmental, social and governance) criteria. Telefónica is a pioneer in sustainable financing within the capital markets and stands among the global telecommunications industry leaders in terms of issuance volume and diversification of financing instruments (senior bonds, hybrid instruments, etc.).

The European Commission, recognising the need to mobilise private capital for activities aligned to European green objectives, adopted the Taxonomy Regulation in 2020. It aims to help the EU increase sustainable investments by creating certainty for investors, protecting them from greenwashing, helping companies become more climate-friendly and mitigating market fragmentation.

With this European framework, Telefónica seeks to align its activity with the EU's harmonised criteria for sustainable financing.

Challenges

Although the Taxonomy aspires to be an essential tool for achieving the EU's environmental objectives, it still faces some challenges in its implementation.

As far as the telecommunications sector is concerned, the regulation partially recognises the ICT sector in activities 8.1 (Data processing, hosting and related activities) and 8.2 (Data-driven solutions to reduce greenhouse gas emissions). However, it does not fully capture the enabling role of connectivity. Furthermore, the text creates legal uncertainty and reporting is highly complex.

First, the text of activity 8.2 mentions 5G solutions as an example of ICT solutions that contribute to the reduction of greenhouse emissions. However, the Commission subsequently clarified in a Draft Notice on the interpretation and implementation of the regulation that electronic communications networks as such are not included as an activity in the current scope of the Climate Delegated Act of the Taxonomy, but rather specific aspects such as the use of connectivity infrastructure for communication between devices (machine-to-machine) or infrastructure upgrades to support the connectivity needs of the digital solution. In this sense, telecommunications networks are seen as a divisible element, when in fact they are not. The network is an indivisible technology that needs all its components for data transmission.

Secondly, the regulation does not provide a clear and explicit definition of what is considered to be ICT solutions. Moreover, the text of activity 8.2 mentions that "economic activities in this category could be associated with several NACE codes, in particular J61, J62 and J63.11". This is relevant because NACE code J61 covers fixed and mobile telecommunications networks. However, as mentioned above, the Commission confirmed that they were not included in the activity.

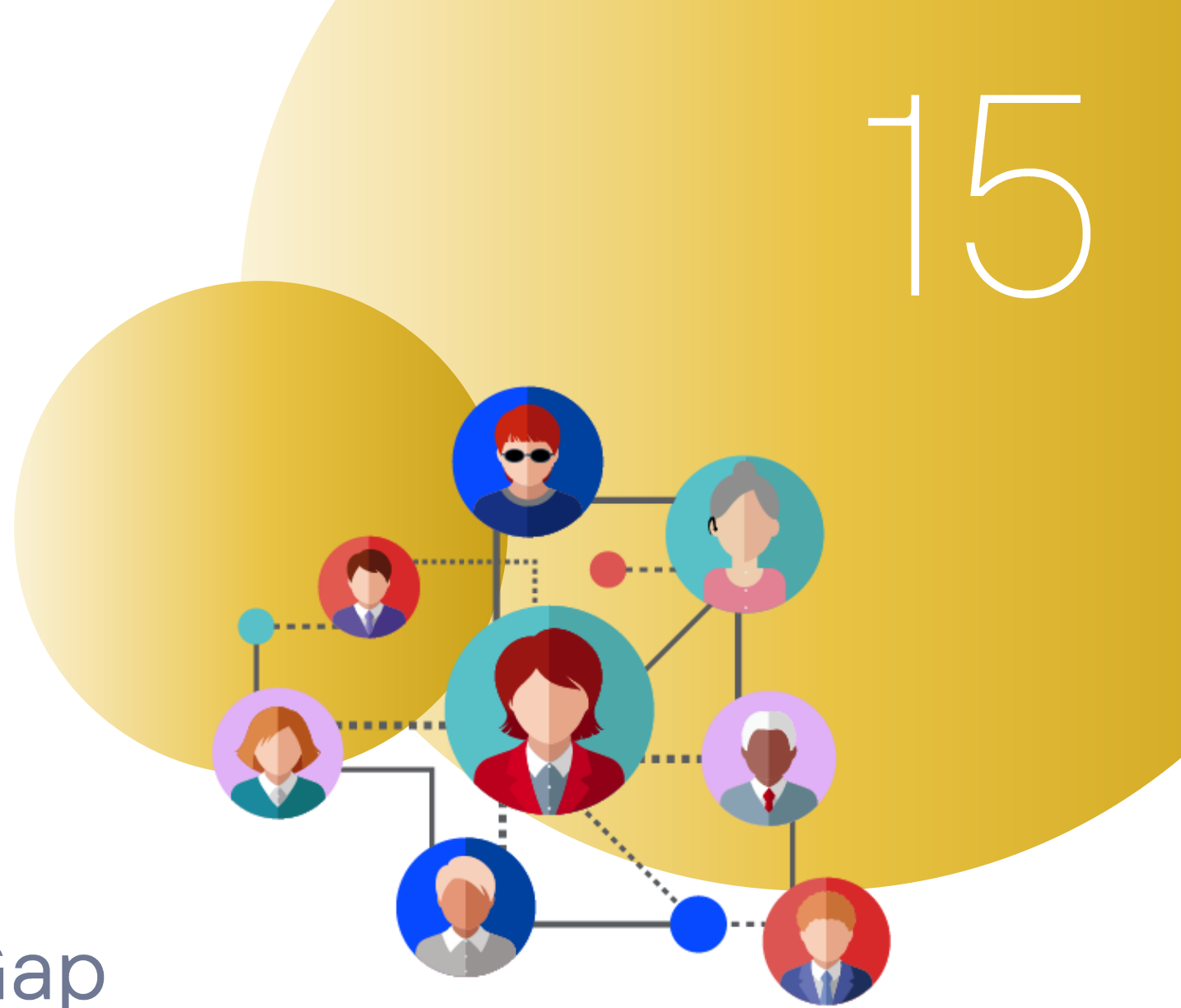
Finally, the reporting of the Taxonomy is complex due to ambiguity in the activity description and technical selection criteria for activities 8.1 and 8.2

Recommendations

It is essential to develop a new activity in the Taxonomy for telecommunication networks to steer investments towards digital technologies aligned with climate objectives. It is therefore recommended:

- 1 **Develop a new activity including telecommunication networks.** Include the new activity in the next revision of the Taxonomy Climate Delegated Act.
- 2 **Establish a science-based technical criteria.** Adopt a technical criteria that allows for the inclusion of new network activity as a matter of urgency until is resolved the role of the future Code of Conduct in Taxonomy. The technical criteria proposed by industry should follow the indicators used by industry to demonstrate network efficiency and/or reports such as the one published in 2024 by the Joint Research Centre (JRC) on environmental indicators in telecommunications networks.
- 3 **Boost investment in green digital solutions.** Promote funding lines for the uptake of green digital solutions would leverage the benefits of digitalisation in Europe's decarbonisation and circularity objectives. This would allow the digital and green transformations to be developed and implemented in a unified way and be reflected in European funds or other green finance initiatives. Furthermore, encouraging all types of companies to report their green digitalisation activities under activity 8.2 would also allow for the identification of green digitalisation investments being made in sectors relevant to the European economy.

Digital Inclusion:
From the Coverage Gap
to the Usage Gap





Connectivity and new technologies have transformed people's lives. However, many still cannot enjoy these benefits.

Therefore, advancing digital inclusion and making it a priority is essential.

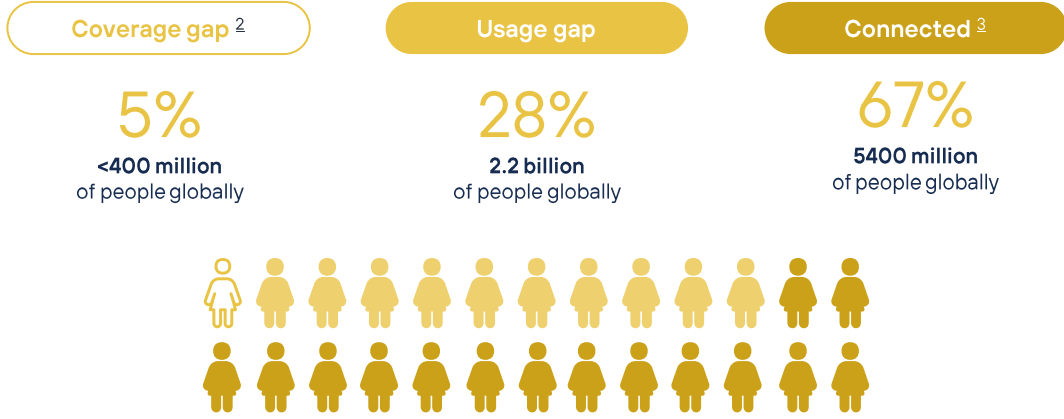


Bridging the Coverage Gap

Traditionally, bridging the digital divide has been seen as a problem of Internet access.¹

Telecommunications operators have invested heavily in extending coverage to the entire population.

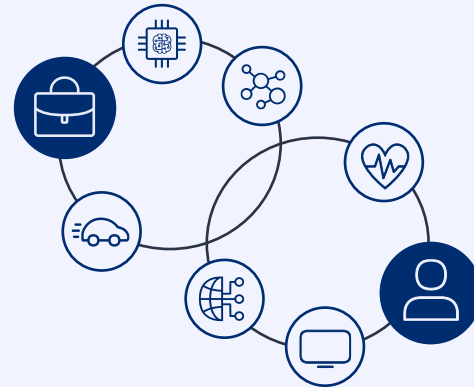
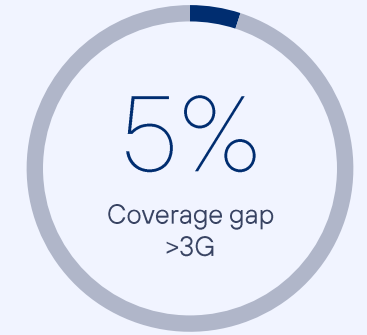
This effort has enabled **95% of the global population**² to be covered by at least one 3G mobile network by 2023.



Today's Challenges of Digital Inclusion

5% of the global population is not covered

Despite great progress in deployment, areas with complicated topology or remote areas with small populations remain a challenge. Therefore, innovative and collaborative approaches are being developed between different actors in the digital ecosystem.

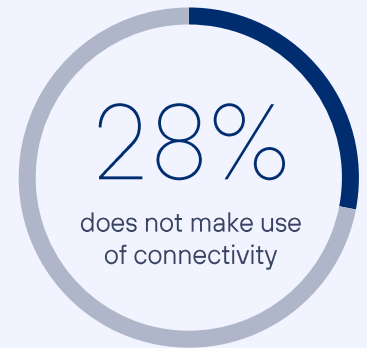


The digital era needs effective connectivity

Rapid technological advances in recent years have led to new digital products and services for the benefit of citizens and businesses. These advances require an effective connectivity.

The usage gap is the main barrier to digital adoption

Progress in closing the coverage gap has brought a new challenge to the forefront; the usage gap. Despite having broadband network coverage, many people do not make use of the Internet.





Refocus public policies and public-private initiatives to address the various barriers hindering the achievement of full digital inclusion

- 1** Promote models of public-private partnerships and cooperation  Encourage infrastructure sharing agreements and partnerships to accelerate deployment. Also, encourage public-private collaboration to support innovative projects.
- 2** Innovate network funding mechanisms  Promote innovative financing mechanisms such as green financing, broadening the base of contributors to Universal Service Funds and/or increased public support.
- 3** Move towards simpler and more flexible regulation  Update current regulation to reduce network deployment costs and remove barriers to infrastructure and spectrum sharing.
- 4** Promote public-private partnerships for the acquisition of digital skills  Incorporate digital skills into the education system to reduce the usage gap.
- 5** Ensure affordability of devices and accessibility  Reduce the tax burden on devices, as well as consider direct subsidy mechanisms to promote affordability.
- 6** Promote the production of relevant content and accessible services  Encourage the creation of content and services adapted to local culture and needs, as well as to people with disabilities.
- 7** Promote an accountable and reliable governance model  Include fundamental rights, privacy and security of individuals as pillars of this model.

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Context

The opportunities for economic growth and social well-being enabled by connectivity and digital technologies make digital transformation a priority objective in all countries. In this scenario, achieving full digital inclusion is key to ensure an effective digitisation process that leaves no one behind.

Technological advances in recent years have had a positive impact on people's quality of life and well-being. Today, people conduct both their personal and professional lives in the digital space. This ranges from day-to-day activities, such as shopping online or carrying out administrative procedures, to accessing medical services and educational or professional activities such as online training or remote working. As a result, connectivity and new digital technologies have taken on a new dimension in the role they play in digital inclusion.

Closing the digital divide has traditionally been seen as a problem of access to connectivity. In this sense, telecoms operators have made a great investment effort to extend broadband coverage to the entire population. This effort has made it possible to connect 95% of the global population. However, closing the coverage gap is not sufficient to address the challenge of digital inclusion.

This challenge is not just about coverage, but to empower communities and individuals to use and take full advantage of the opportunities offered by technology. Therefore, there are other factors that, even where coverage exists, inhibit usage and act as barriers to bridging the digital divide.

Challenges

Three main challenges to achieving full digital inclusion are identified: connecting remote or hard-to-reach areas, digital adoption and promoting meaningful connectivity.

Firstly, 5% of the global population remains unconnected. This percentage is largely due to the difficulties of deploying networks in areas with a complicated topology or remote areas with a small population. In this scenario, innovative and collaborative approaches have been explored between different actors in the digital ecosystem. One example is Telefónica Peru's 'Internet For All' initiative, which has provided 4G connectivity to more than 3.6 million people living in remote areas in Peru as of March 2024. Another example of cooperation is the alliance of Telefónica and KKR, in Chile and Colombia, to create ONNET Fibra, an open and neutral network that can be used by all operators.

Secondly, closing the coverage gap has brought a new challenge to the forefront; the usage gap. Despite having broadband coverage, many people do not connect to the internet. This is due to factors such as the level of digital skills, the affordability of devices, access to content of interest and/or the availability of digital services and technologies adapted to people with disabilities. Therefore, this gap goes beyond skills, and will require different approaches to reduce it, depending on its typology (rural-urban, generational, gender or disability gaps), or degree of intensity.

Thirdly, rapid technological advances in recent years have led to new digital products and services for the benefit of citizens and businesses that require a meaningful connectivity. For example, at the level of people's well-being and safety, e-Health systems and applications need real-time data processing and high-speed connectivity to function properly. Similarly, for business competitiveness and efficiency, Smart transformation requires 5G-enabled IoT connectivity to optimise processes and make efficient use of resources. However, because of the usage gap, not everyone can take advantage of connectivity opportunities.

Recommendations

Refocus public policies and public-private initiatives to address the various barriers hindering the achievement of full digital inclusion. It is therefore recommended to:

- 1 **Encourage public-private partnerships and cooperation models.** Encourage infrastructure sharing agreements and partnerships to accelerate deployment. It is also key to foster public-private collaboration to support technologically innovative projects.
- 2 **Innovate in network financing mechanisms.** Promote new financing models such as green financing, broadening the base of contributors to Universal Service Funds and/or increased public support.
- 3 **Move towards simpler and more flexible regulation.** Update current regulation to reduce network deployment costs and remove barriers to infrastructure and spectrum sharing.
- 4 **Promote public-private partnerships for the acquisition of digital skills.** Incorporate digital skills into the education system to reduce the usage gap.
- 5 **Ensure affordability of devices and access.** Reduce the tax burden on devices, as well as consider direct subsidy mechanisms to facilitate affordability.
- 6 **Promote the production of relevant content and accessible services.** Encourage the creation of content and services adapted to local culture and needs, and to people with disabilities.
- 7 **Promote an accountable and trustworthy governance model.** Include fundamental rights, privacy and security of individuals as pillars of this model.

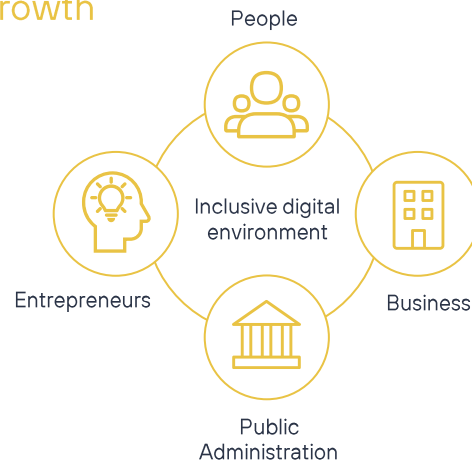
*Digital Inclusion
for Prosperity,* Innovation
and Sustainable Growth





Driver of Prosperity, Innovation and Growth

Effective digital inclusion requires the promotion of an inclusive digital environment that enables individuals, businesses, entrepreneurs and public administrations to take full advantage of the economic and social opportunities of the digital age.



A digitalised society driven by digital innovation...



1

... fostering an environment for digital innovation and its adoption, empowering the digital transformation of society



5

An inclusive digital environment creates a virtuous circle of prosperity, innovation and sustainable growth in which the interaction between actors in society is mutually reinforcing

2



... drives the digitalisation of enterprises (large and SMEs)...

3



... and the digitalisation of the public Administration...

4

... facilitating the interaction between actors in society, promoting their digital inclusion in a reciprocal way...



Towards an Inclusive Digital Environment



Digital progress and adoption are concentrated in large companies and countries with more advanced digital innovation ecosystems, widening the economic and social divides, i.e. the prosperity gap.

Challenges in Promoting an Inclusive Digital Environment



Inclusive digital innovation

Need for favourable environments for digital innovation and access to finance, as well as a culture of entrepreneurship, innovation and collaboration between companies, research institutions and startups.

+



Digital inclusion of enterprises

Difficulties in accessing finance and lack of digital skills. Risk of exclusion from opportunities in regional, national and international markets and potential polarisation of innovation.

+



Digitalisation for an inclusive public Administration

Lack of digital infrastructure, data security, digital skills, interoperability between public entities and/or resistance to change.

+



Skilled human capital in the age of digital innovation

Increasing productivity and competitiveness, as well as promoting social inclusion and resilience in the digital economy, requires a greater focus on the digitalisation of production factors, including the workforce.



Promote effective digital inclusion through a holistic approach that creates an inclusive digital environment, that enables individuals, businesses, entrepreneurs and public institutions to take full advantage of the economic and social opportunities of the digital age

1

Foster inclusive digital innovation



Provide incentives and support for entrepreneurs. Promote high-impact entrepreneurship and the use of accessible, sustainable technologies, particularly in vulnerable areas.

Facilitate entrepreneurship through regulatory simplification and access to finance, while fostering innovation ecosystems through collaboration between businesses, research institutions, and startups (e.g. innovation labs).

2

Facilitate digital inclusion for businesses (large and SMEs)



Provide tax incentives and funding to support the adoption of infrastructure and emerging technologies, fostering the adaptability and involvement of large companies in digital innovation.

Enhance access to finance, support, training, and open technology standards to enable the inclusion of SMEs in digital value chains.

3

Boost digital innovation for an inclusive public Administration



Establish an appropriate regulatory framework to promote e-Government and interoperability between administrations. Encourage the adoption of key digital technologies such as cloud, Artificial Intelligence and data analysis and processing capabilities.

Promote the acquisition of digital skills among public employees.

4

Improve digital skills



Coordinate efforts between the public and private sectors to define key digital skills, offer ongoing training in new technologies for workers, and provide digital literacy programmes for citizens and businesses, with a focus on vulnerable sectors.

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Context

Prosperity is the great challenge of the 21st century and goes beyond mere economic growth. It is the result of the interaction between technological progress, innovation and digital inclusion. To achieve real prosperity, it is essential to promote inclusive and sustainable growth, integrating technological and environmental aspects with economic and social progress and all actors in society.

Digital inclusion is essential for prosperity in the digital age, enabling citizens, workers, businesses and governments to develop new skills and participate fully in the digital economy.

An inclusive digital environment fosters sustainable and balanced growth, ensuring that its benefits reach all, especially the most vulnerable, while promoting a cohesive, locally and globally connected society with greater well-being.

Effective digital inclusion creates a virtuous circle between supply and demand, where the digitalisation of businesses and public administrations increases the digital literacy of employees, customers and citizens. Similarly, the digitisation of consumption drives the inclusion of more businesses and institutions, thereby stimulating innovation and wider digital adoption. As a result, the smooth functioning of this cycle ensures the full inclusion of society in the digital economy.

This process requires a holistic approach that synchronises digitalisation across the public, private, consumer and citizen sectors, bridging digital divides and fostering inclusive digital innovation. This will ensure that all actors in society can fully participate in the digital economy and benefit from its opportunities.

Challenges

The key challenge in creating an inclusive digital environment is to implement policies that reduce digital divides and benefit all actors in society, promoting inclusive economic development and greater participation in the national or global digital economy.

However, in a context where digital innovation is advancing rapidly, there is a risk that its benefits will not be distributed equitably and at the required pace. Indeed, digital development and adoption is uneven, concentrated in large companies and countries with more developed digital ecosystems, widening economic and social divides (i.e. the prosperity gap).

Those actors that do not accelerate their digitalisation may hold back the digital inclusion of the rest of society, excluding them from relevant markets and welfare-enhancing opportunities.

Digitalisation is key to improving the productivity, competitiveness and job creation of enterprises, especially SMEs. However, they face barriers such as resistance to change, limited access to finance, infrastructure or appropriate technology, and a lack of digital skills, which make it difficult to adapt their processes and services to new market demands.

Public institutions also play a crucial role in promoting digital inclusion by digitalising their services. However, they face technological challenges such as data security, lack of next-generation digital infrastructure, automation of processes hampered by bureaucracy and the need for physical presence, updated data and digital skills.

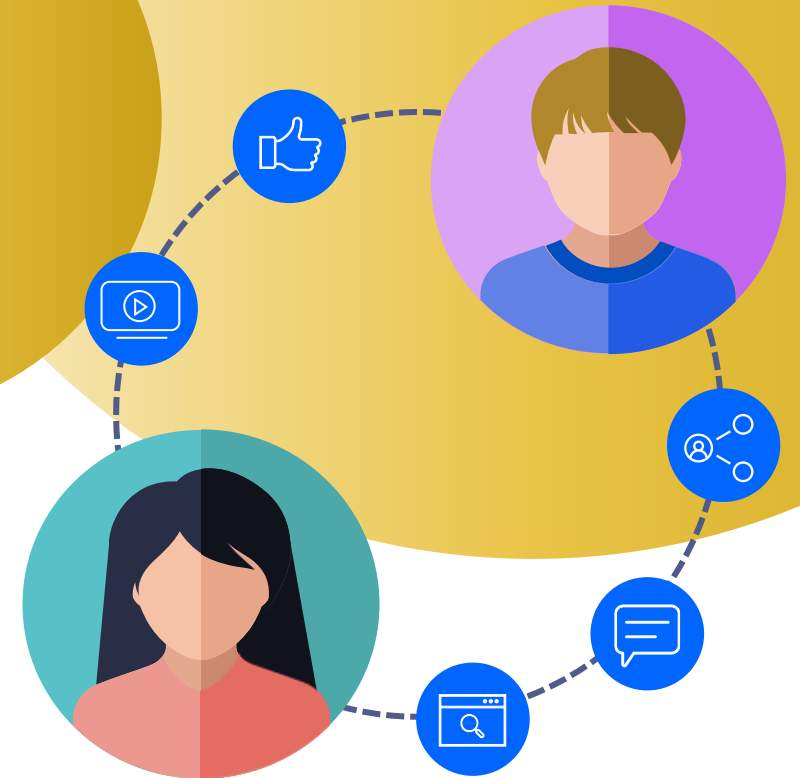
Finally, the development of inclusive digital innovation depends on policy approaches, talent and collaboration between companies, research centres and entrepreneurs to generate transformative initiatives that boost the economy and employment. All this, in a context that requires constant updating of digital skills.

Recommendations

There is a need to promote effective digital inclusion through a holistic approach that creates an inclusive digital environment, enabling individuals, businesses, entrepreneurs and public institutions to take full advantage of the economic and social opportunities of the digital age. It is therefore recommended to:

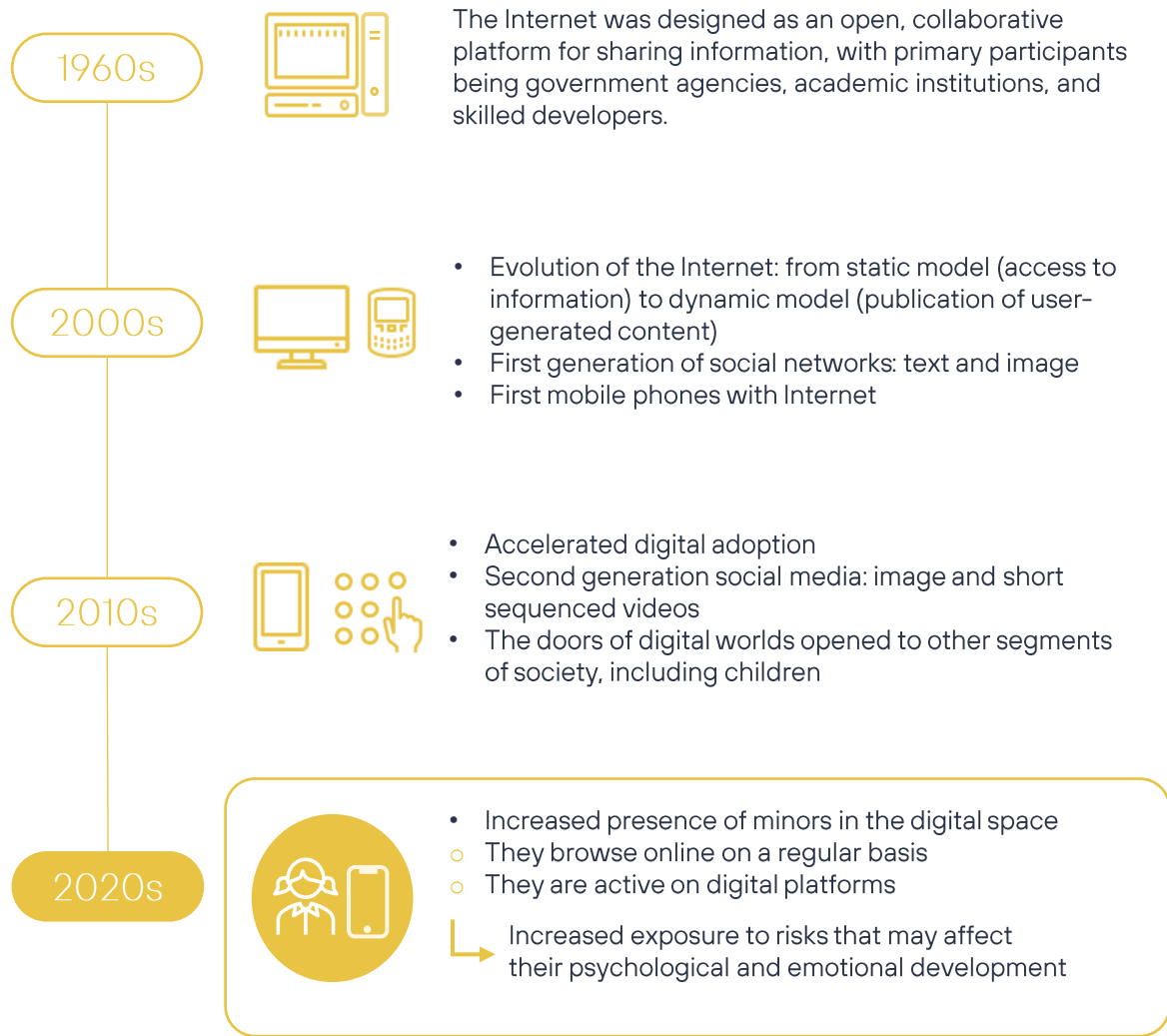
- 1 **Foster inclusive digital innovation.** Create incentives and support for entrepreneurs. Promote high-impact entrepreneurship and the use of accessible and sustainable technologies, especially in vulnerable areas. Facilitate entrepreneurship through regulatory simplification and access to finance, as well as promote robust innovation ecosystems by encouraging collaborative innovation between companies, research centres, and startups (e.g. innovation labs).
- 2 **Facilitate the digital inclusion of businesses (large and SMEs).** Promote tax incentives and funding for the deployment of infrastructures and adoption of emerging technologies, encouraging large companies' adaptability and participation in digital innovation. Enhance access to finance, support, training and open technology standards to enable the inclusion of SMEs in digital value chains.
- 3 **Boost digital innovation for an inclusive public Administration.** Establish an appropriate regulatory framework that promotes e-Government and interoperability between administrations, as well as fostering the adoption of key digital technologies such as cloud, Artificial Intelligence or data analysis and processing capabilities. Promote the digital skills of public employees.
- 4 **Improve digital skills.** Coordinate efforts between the public and private sectors to define key digital skills, offer ongoing training in new technologies for workers, and provide digital literacy programmes for citizens and businesses, with a focus on vulnerable sectors.

Protection of Minors: Towards Responsible Design and Use

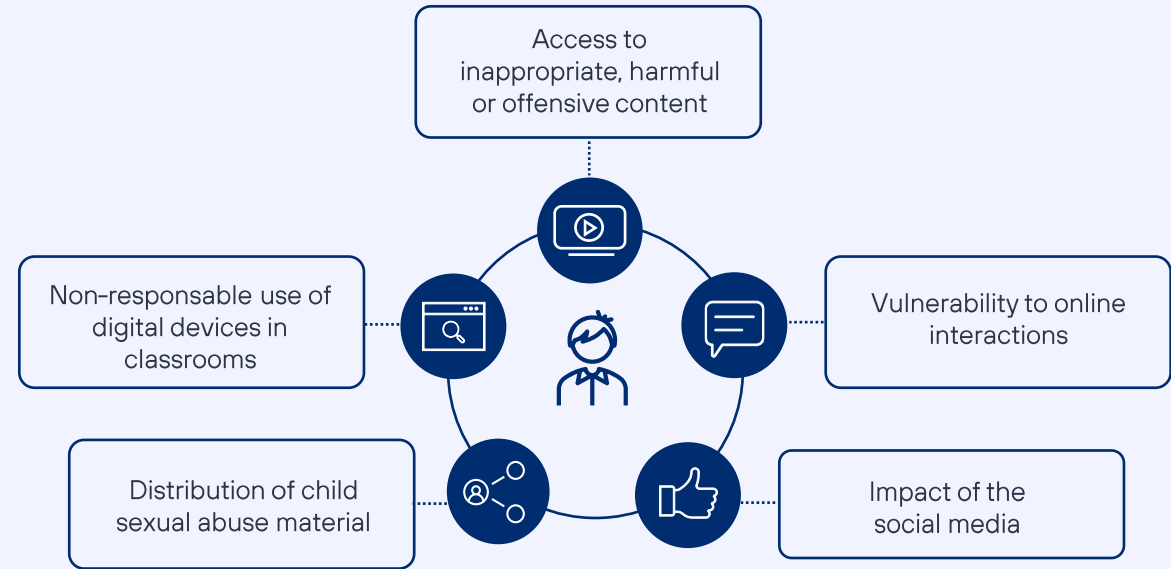




The Digital Environment was not Designed with Minors in mind



Risks Faced by Children in the Digital Environment



To achieve a safe digital space for minors, it is necessary to ensure

Responsible design	Responsible use
Digital platforms should promote good practices such as age verification, categorisation of content, or time warnings, among others, to mitigate the risks to which minors are exposed.	Digital technologies can enhance social welfare. However, misuse can hinder their benefits. Awareness-raising and training for children, families, and teachers is crucial.



Promote a balanced approach between regulation that advocates for responsible design, considering the risks children face in the digital environment, and education that encourages responsible use of technology

1

Ensure that each agent of the digital value chain takes its responsibility



Target obligations to those actors who can make the protection of minors online more effective and efficient. Operators have no control over the content that circulates on their networks. Imposing obligations in this sense would be incompatible with a fair distribution of responsibilities.

2

Avoid further asymmetries between actors in the audiovisual and digital ecosystem



Acknowledge the compliance of operators who also act as content providers with existing regulations. For example, in Europe, this type of operators already adhere to the Audiovisual Media Services Directive and the Digital Services Act. Therefore, imposing additional obligations beyond their current scope would create greater regulatory imbalances among the players in the digital ecosystem.

3

Implement an age verification system



Integrate age verification solutions to prevent minors from accessing inappropriate, offensive or harmful content that is posted and shared across digital platforms.

4

Promote the adoption of a Code of Conduct



Encourage the creation of a voluntary Code of Conduct for digital platforms to enhance their commitment to protecting minors. This Code should include good practices to address risks such as the generation of addictive behaviour, inappropriate contact between adults and minors, and damage to mental health due to comments or content viewed that is unsuitable for minors, among others.

5

Offer awareness-raising campaigns, training and tools for responsible use



Convey the importance of responsible use of digital devices and services to minors, as well as provide the necessary tools to minors, family members and teachers

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Context

Minors are active users of a digital space that was not originally designed for them.

In the 1960s, the Internet was conceived as an open, collaborative platform for information exchange, primarily involving government institutions, academia, and developers. It wasn't until the late 1990s and early 2000s that the Internet rapidly expanded, unlocking new opportunities for broader segments of society.

The Internet evolved from a static model focused on accessing information with minimal interaction to a dynamic platform driven by user-generated content. This shift laid the foundation for the emergence of social networking platforms. Meanwhile, digital devices like computers and mobile phones became increasingly accessible to the general population.

In the last decade, rapid digital adoption and innovation in digital devices, such as smartphones and tablets, have led to a new revolution in which anyone, anytime, anywhere can access the Internet. This has significantly increased the well-being of society, allowing them to stay connected to their loved ones, have better access to education or healthcare, boost productivity, develop new business models, energise the labour market, foster people's autonomy and promote sustainable development. However, this revolution has also brought new challenges, especially for vulnerable groups such as children.

As barriers to accessing the Internet and digital devices have decreased, so has the age of users. Today, children are prominent in the digital space, regularly browsing websites and maintaining profiles on various social media platforms. However, the design of both the web and digital platforms has not kept pace with the presence of minors, leaving them vulnerable to various risks.

Challenges

Five critical areas have been identified around the minors online protection debate: access to inappropriate, offensive and harmful content, vulnerability to third party interactions, the impact of social media, the distribution of child sexual abuse material and the non-responsible use of digital devices in the classroom.

First, although regulatory frameworks have evolved to try to curb the dissemination of inappropriate, harmful or offensive content, digital platforms still do not have robust prevention measures in place to ensure that minors do not have access to this type of content.

Second, because of the developmental stage of young people's search for acceptance, recognition and popularity, it is common for minors to post or send content that is subject to comments or sharing with other users, as well as to have strangers in their community with whom they interact.

Third, social networks have become a fundamental element of minors' social life. However, because of the design and functioning of these platforms, they have developed addictive behaviours and unrealistic expectations of life and image that may affect their development and mental health.

Fourth, in the last decade, reports of online child sexual extortion have increased by a factor of 200 worldwide. Although there are no forecasts, it can be anticipated that these numbers will continue to rise, driven by advances in new technologies, such as Artificial Intelligence.

Fifth, introducing digital devices in classrooms without focus on responsible use could limit opportunities for digital development and skills acquisition. On the other hand, "de-digitizing" classrooms may hinder innovation and the ability to adapt to a rapidly evolving environment.

Recommendations

To address this challenge, a balance is needed between regulation that advocates responsible design, considering the risks faced by minors in the digital space, and education that encourages responsible use of technologies. It is therefore recommended that:

- 1 **Ensure that each link in the value chain of digital services takes responsibility.** Target obligations to those actors who can make the protection of minors on the Internet more effective and efficient. Operators have no control over the content that circulates on their networks; imposing obligations in this respect would therefore be incompatible with a fair sharing of responsibilities.
- 2 **Avoid further asymmetries between actors in the audiovisual and digital ecosystem.** Acknowledge the compliance of operators who also act as content providers with existing regulations. For example, in Europe, this type of operators already adhere to the Audiovisual Media Services Directive and the Digital Services Act. Therefore, imposing additional obligations beyond their current scope would create greater regulatory imbalances among the players in the digital ecosystem.
- 3 **Implement an age verification system.** Integrate age verification solutions to prevent minors from accessing inappropriate, offensive or harmful content that is posted and shared across digital platforms.
- 4 **Promote the adoption of a Code of Conduct.** Encourage the creation of a voluntary Code of Conduct for digital platforms to enhance their commitment to protecting minors. This Code should include good practices to address risks such as the generation of addictive behaviour, inappropriate contact between adults and minors, and damage to mental health due to comments or content viewed that is unsuitable for minors, among others..
- 5 **Offer awareness-raising actions, training and tools for responsible use.** Convey the importance of responsible use of digital devices and services to minors, as well as provide the necessary tools to minors, family members, and teachers.



References : Sustainability and Inclusion

13 A *Competitive Sustainability* Driven by Digitalisation

- (1) Nokia (2020). Nokia confirms 5G as 90 percent more energy efficient Available at: <https://climate.copernicus.eu/copernicus-2023-hottest-year-record>
- (2) Telefónica (2022). Climate Action Plan. Available at: <https://www.telefonica.com/en/wp-content/uploads/sites/5/2022/03/climate-action-plan-telefonica.pdf>
- (3) Telefónica (2022). Connectivity solutions' Life Cycle Assessment. Available at: <https://www.telefonica.com/en/wp-content/uploads/sites/5/2022/03/connectivity-solutions-life-cycle-assessment.pdf>
- (4) Telefónica Tech. Environmental commitment: helping to build a more sustainable world. Available at: [Environmental commitment | Telefónica Tech](#)
- (5) Telefónica (2023). The green factor: digitalisation for the green transition. Available at: <https://www.telefonica.com/en/wp-content/uploads/sites/5/2023/06/The-green-factor-digitisation-for-the-green-transition-Position-Paper-2023.pdf>
- (6) Telefónica. #sustainability. Available at: <https://www.telefonica.com/en/tag/green-transition/>

14 European *Taxonomy* of Sustainable Activities

- (1) European Commission (2024). White Paper How to master Europe's digital infrastructure needs? Available at: <https://ec.europa.eu/newsroom/dae/redirection/document/102533>
- (2) Telefónica (2024). Green finance as a tool to boost sustainability. Available at: [Green financing as a tool to boost sustainability - Telefónica](#)
- (3) Telefónica (2024). Taxonomy has forgotten (for now) about teleco networks. Available at: [Taxonomy has \(for now\) overlooked telecom networks - Telefónica](#)

15 *Digital Inclusion*: from the Coverage Gap to the Usage Gap

- (1) ITU (2023). Mobile Network Coverage Facts And Figures. Available at: <https://www.itu.int/itu-d/reports/statistics/2023/10/10/ff23-mobile-network-coverage/>
- (2) ITU (2024). Population Coverage by mobile network technology. Available at: <https://datahub.itu.int/data/?c=701&i=100095&s=430>
- (3) ITU (2024). Individuals using the Internet. Available at: <https://datahub.itu.int/data/?c=701&i=11624>
- (4) Telefónica (2024). From the coverage gap to the usage gap. Available at: <https://www.telefonica.com/en/wp-content/uploads/sites/5/2024/03/public-policies-digital-gap-position-paper-2024.pdf>
- (5) Telefónica (2025). Digital Inclusion as a driver of prosperity: innovation and sustainability growth. Available at: <https://www.telefonica.com/en/wp-content/uploads/sites/5/2025/01/Digital-Inclusion-as-a-driver-of-prosperity.-Position-Paper-2025.pdf>
- (6) Telefónica. #Digital inclusion. Available at: <https://www.telefonica.com/en/tag/digital-inclusion/>

16 *Digital Inclusion for Prosperity*, Innovation and Sustainable Growth

- (1) Telefónica (2025). Digital Inclusion as a driver of prosperity: innovation and sustainability growth. Available at: <https://www.telefonica.com/en/wp-content/uploads/sites/5/2025/01/Digital-Inclusion-as-a-driver-of-prosperity.-Position-Paper-2025.pdf>
- (2) Telefónica. #Digital inclusion. Available at: <https://www.telefonica.com/en/tag/digital-inclusion/>

17 *Protection of Minors*: Towards Responsible Design and Use

- (1) Telefónica (2025). Building a safe digital environment for minors. Towards responsible design and use of digital devices and services. Available at: <https://www.telefonica.com/en/wp-content/uploads/sites/5/2025/01/Building-a-safe-digital-environment-for-minors.-Position-Paper-2025.pdf>
- (2) Telefónica. #Protection of Minors. Available at: <https://www.telefonica.com/en/tag/protection-minors/>



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