# EU 2024-2029:
# Forging a *competitive* path
## Digital by innovation, green by design

Digital Public Policy, Regulation and Competition

**2024**

Telefónica

# Foreword

## It is time for the European Union to commit to a Competitiveness Deal

The Maastricht Treaty in 1993 marked the birth of the European Union and the beginning of political integration beyond the economic sphere, coinciding with the fall of the Iron Curtain and the end of the Cold War, at a time of geopolitical change and European consolidation.

European leaders made the European Union a reality. Today it is a prosperous region of 27 countries, thanks to its political stability, single market, cohesion, development and enlargement policies, innovation, and education. The euro is one of the world's strongest currencies. Values such as inclusiveness, tolerance, justice and solidarity guarantee rights and freedoms, and ensure a high standard of living for its citizens.

Thirty years on, the European Union faces **major transitions in the digital, environmental, and geopolitical spheres**, as well as in its own governance with enlargement and further integration of its markets. This comes at a time of accelerated evolution towards a new world order, with increasing polarisation and rapid technological progress, amid global uncertainty. These dynamics challenge the region's competitiveness, the employability of its citizens, and its social and economic model, based on fair competition, free trade, and international cooperation.

The year 1993 marked the beginning of a new era in the economic and social history of the European Union, but 2024 is also a crucial year. It is the beginning of a new European institutional and political cycle for the period 2024-2029, and it is the European Union's opportunity to act with determination to promote a more cohesive, digital, sustainable, and competitive European Union.

Now is the time to step up and decide where Europe wants to be in ten years' time. A strong EU competitiveness deal is a strategy for the well-being of its citizens and businesses. In a global economy driven by **digitalisation** and **technology**, this deal must focus on Europe's digital leadership, and recognise the **key role of the telecoms sector**, with its infrastructures, digital services, and reach, **in boosting productivity**, economic growth, job creation and prosperity.

It is time to create the right incentives and align them with the needs of businesses. Fostering a favourable environment for investment and innovation and generating wealth that is distributed in a balanced way, is the only way for European society to thrive. In this sense, the **Digital Networks Act** is the opportunity for the European Union to strengthen the competitiveness and sustainability of the telecommunications sector, and its commitment to the development of innovative digital connectivity infrastructures, for the benefit of European citizens, economy, defence and security. Given the geopolitical relevance of digital leadership and the urgency of revitalising competitiveness, this law should be a clear legislative priority of the new cycle.

An EU competitiveness deal must be based on cooperation with the private sector around common goals. It is time to make 2024 a new turning point in the history of the prosperity and well-being of European society.

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# Index


## 1

**The competitiveness challenge for the European Union**

The challenge of European competitiveness

The opportunity of the new European cycle to boost competitiveness

## 2

**Strategy for a competitive European Union**

**A.** An enabling environment for businesses to grow and compete

**B.** A telecommunications sector as the backbone of competitiveness

**C.** Digital and green transition: Competitiveness "digital by innovation, green by design"

**D.** Geopolitical transition: Enhancing the EU's relevance on the global stage

## 3

**An EU competitiveness deal**

## 4

**References**

# 1. The competitiveness challenge for the *European Union*

Thirty years after the Maastricht Treaty, the European Union (EU) has established itself as a global economic powerhouse, with world-class industrial and service sectors, a skilled workforce and significant investment in innovation[1].

However, the overall weight of the European economy has declined in recent decades and the region faces major challenges in the digital and green transitions, and in its governance model, as it faces the integration of new Member States and the greater integration of its markets. All this in an increasingly fragmented, uncertain, and complex global context that challenges the competitiveness and stability of European society.

## The challenge of European competitiveness

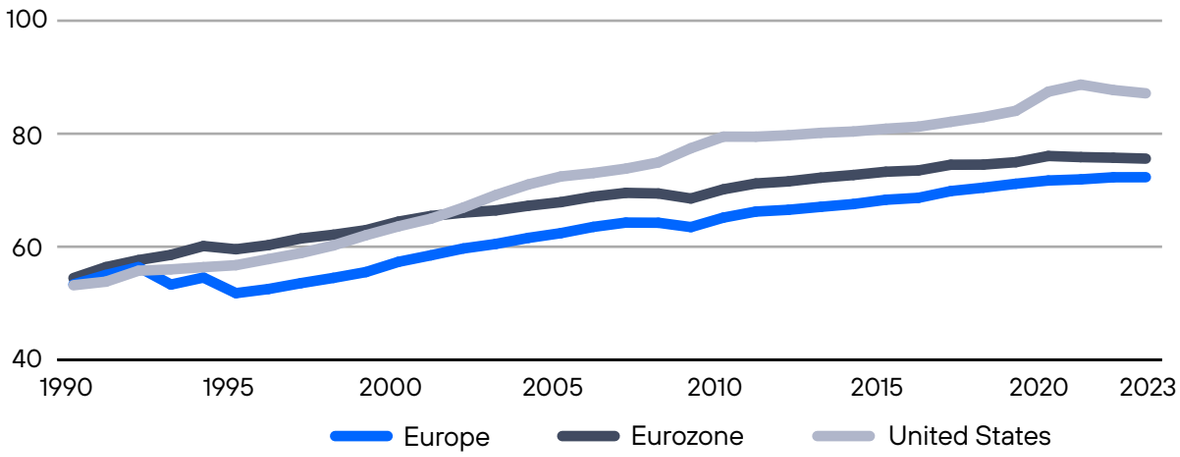
In this scenario, the EU's competitiveness challenge becomes more acute, especially when considering the slow productivity growth, which is not keeping pace with other regions (see Figure 1a)[2]. This slowdown points to possible shortcomings in areas such as investment in technology, human capital, and infrastructure, which undermine the EU's capacity to innovate and compete.

The economic slowdown is reflected in macroeconomic indicators, but above all in the loss of competitiveness of European companies[3] and their capacity to invest[4] and innovate. In just three decades, the EU's share of world GDP has fallen sharply from almost 23% to 14%,[5] losing ground to countries such as China or the United States (see Figure 1b)[6].

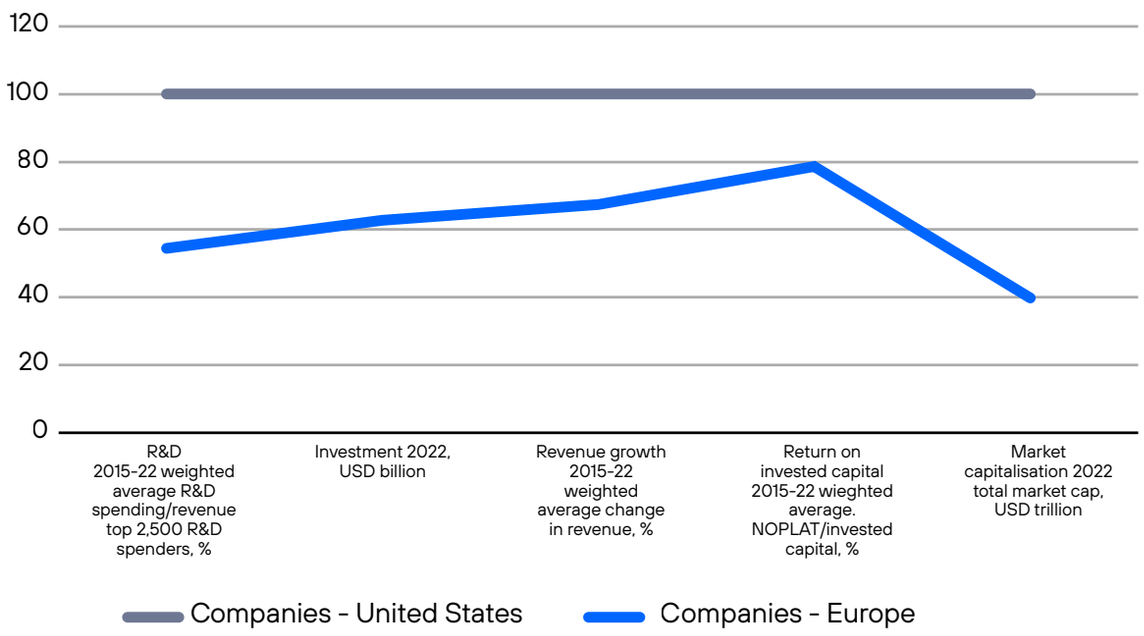
## Figure 1. European companies lose competitiveness and need to gain scale

### 1a. Labour productivity per hour worked

(2022 International Dollars, converted by PPP)




### 1b. Listed companies with revenues >$1 billion in Europe vs. United States (US companies = Base 100)




**Source:** Telefónica based on *The Conference Board and McKinsey Global Institute, Accelerating Europe's economic competitiveness*, 2023, https://www.mckinsey.com/mgi/our-research/accelerating-europe-competitiveness-for-a-new-era

The EU's competitiveness gap is particularly pronounced in key growth areas such as new technologies, in an environment of ever shorter innovation cycles. For example, in 2023, private investment in generative AI in Europe was considerably lower than in the US, $1.7 billion versus $23 billion respectively, reflecting a lack of momentum in technological innovation[7].

The region faces a significant gap in innovation, development and adoption of cross-cutting technologies, such as artificial intelligence (AI), cloud, industrial robotics or cybersecurity, as well as in deep-tech fields such as quantum computing or green technologies, compared to the US or China[8]. In the digital domain, the EU's share of global ICT market revenues has declined dramatically over the last decade: from 21.8% in 2013 to 11.3% in 2022, while the US share has increased from 26.8% to 36%[9].

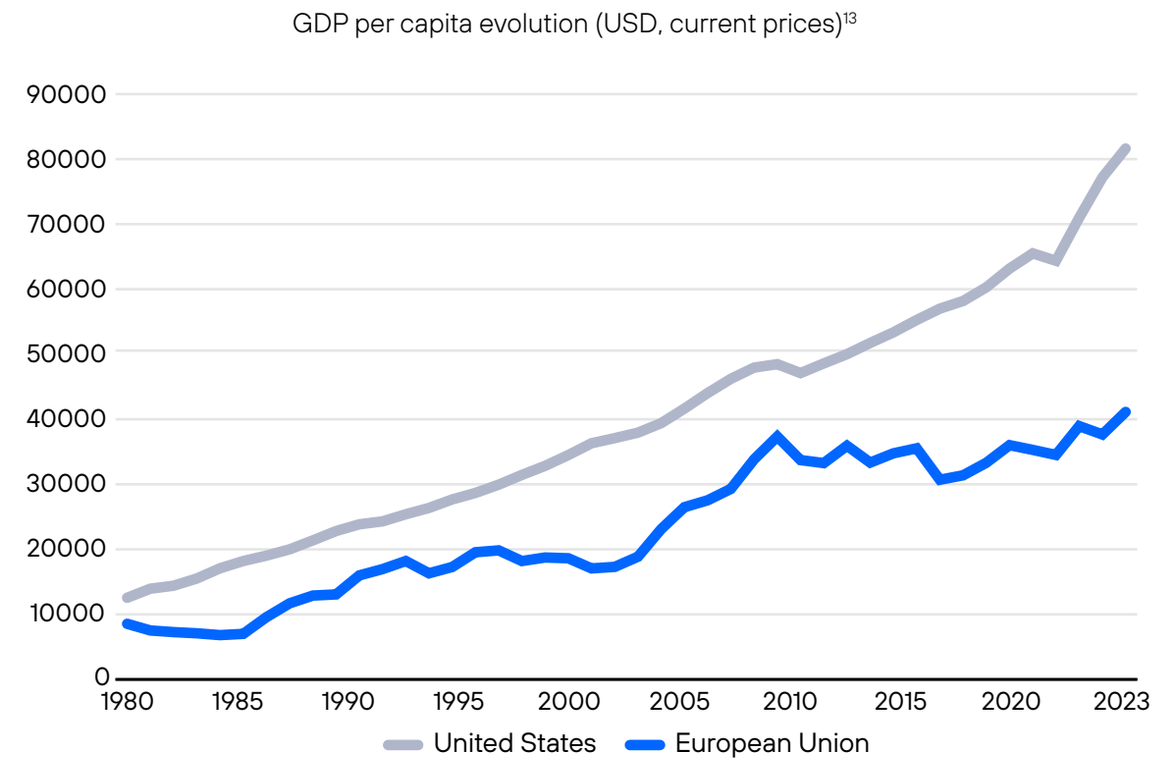
The transformative impact of these technologies on the innovation and productivity of industries rapidly generates competitive advantages, amplified by the global dimension of digital markets and *winner-takes-all* dynamics. This competitiveness factor affects the economy, but also global geopolitics, where leadership in these areas has become a strategic objective and its absence an unacceptable vulnerability for economic security.

As a result, there is growing competition from countries such as the United States, which are focusing on attracting private sector investment to boost their local competitiveness[10], while the EU is seeking greater strategic autonomy to avoid asymmetric technological dependencies, partly due to a lack of leadership in this area, which could weaken its global position[11]. Faced with the leadership and ambition of China and the United States, the EU runs the risk of gradually consolidating a "follower" position, because of its tendency to adopt technology mostly from outside the EU, rather than developing its own technological capabilities.

In this scenario, the geopolitical relevance of digital leadership highlights the critical role of European telecom operators. However, despite being key players in the digital and green transition, and in the development of digital infrastructure and technologies, their investment capacity, performance, and investment attractiveness are lower than those of operators in other regions. As a result, Europe is lagging behind in building the key infrastructures for the connectivity of the future, such as 5G[12]. These high-capacity infrastructures are essential for European citizens and businesses to benefit from advanced digital experiences and technological innovation in the future.

This shows that loss of competitiveness has not only economic, but also geopolitical and social implications. Lower economic growth has a negative impact on job creation and social welfare. The gap in GDP per capita between the EU and the US has widened by 68 percentage points since 2008, reaching 98% in 2023 (see Figure 2)[13]. In addition, the EU's ability to defend its strategic interests in the international arena is diminished as a result of a weakening economy and greater dependence on third parties, which affects its strategic autonomy.

**Figura 2. Growing disparity since 2008 in the level of wealth and well-being of the EU compared to the US**



These economic developments also have an impact on Europe's ability to achieve the twin digital and green transitions. This is fragile in the context of price volatility and vulnerability to critical resource and technology dependencies, as well as the financial challenges of achieving the goals of the Green Deal and the Digital Decade 2030 after the end of the Recovery Fund cycle. Failure to complete this double transition would prevent businesses from using resources more efficiently, and from reducing operating costs or boosting their long-term sustainability.

An EU competitiveness Deal must therefore find an intersection where competitiveness drives economic growth and prosperity, ensuring the well-being of European citizens. In the context of digital, green and geopolitical transitions, it is essential that the EU 2024-2029 cycle ensures that the benefits of this triple transition are shared fairly and equitably among all European citizens and businesses.

### The opportunity of the new European cycle to boost competitiveness

In this context, the new European cycle (2024-2029) offers the EU institutions the opportunity to set strategic priorities and appropriate measures to strengthen the region's competitiveness and cohesion, where speed of implementation is crucial.

Competitiveness is the major challenge for the EU in this new cycle, The Single Market, conceived as a barrier-free space for the movement of goods, services, capital, and citizens between Member States, would be the cornerstone of the competitiveness strategy. In line with these priorities, the reports by Enrico Letta[14] and Mario Draghi, on deepening the Single Market and boosting competitiveness respectively, will provide guidance for building a more competitive and resilient EU.

But beyond diagnosis, the EU needs to act and commit to a Competitiveness Deal. It is time to promote a favourable environment for investment and innovation, that recognises the role of European companies in building a prosperous future and responds to the demands of society.

From this perspective, Telefónica calls on policy makers to articulate a **strategy for a more competitive EU** based on four axes:

1. Fostering an **environment** in which businesses can grow and compete.
2. Strengthening the **telecommunications sector** as the backbone of competitiveness.
3. Boosting the **digital and green transition** for a "digital by innovation, green by design" competitiveness.
4. Managing **geopolitical transition** for a stronger EU on the world stage.

In this strategy, the development of a business-friendly environment and a strong telecommunications sector must be the necessary foundation to ensure the success of the triple transition: digital, green, and geopolitical.

# EU2024-2029: Forging a competitive path

## Strategy for a more competitive European Union

Fostering an environment in which businesses can grow and compete

Strengthening the telecommunications sector as the backbone of competitiveness

Boosting the digital and green transition for a "digital by innovation, green by design" competitiveness

Managing geopolitical transition for a stronger EU on the world stage

# 2. Strategy for a competitive *European Union*

## A. An enabling environment for businesses to grow and compete

There is a general perception in the European private sector that a "regulatory tsunami" has become one of the main obstacles to their competitiveness over the last decade. This perception is supported by 86% of the members of the *European Round Table* (ERT), who argue that a complex, difficult to understand and inconsistent regulatory environment undermines the competitiveness of their companies[15].

Excessive regulatory complexity results in administrative, legal, and political barriers that make it difficult for companies to operate with agility and to take decisions on their development in the local or international market, with negative effects on their investment and innovation, which is also observed in the telecommunications sector[16].

This situation translates into a scale gap, whether in terms of revenue, company size or geographical scope, compared to companies located in regions with more flexible and favourable regulatory frameworks for investment and innovation, allowing them to grow and compete[17].

In addition, regulatory rigidity risks not only the relocation of investment, but also the relocation of business decision-making centres in search of more favourable and flexible environments for their operations, to the detriment of the EU's strategic autonomy. Similarly, it also hampers innovation capacity in areas such as AI, potentially putting Europe behind, for example, China and the US in this field.

There is also the challenge of globalisation and digitalisation. European companies face the challenge of losing market share both globally and in their local markets due to competition from new international players, some of which are not subject to the same regulations as established companies.

## Public policies for a favourable environment for competitiveness

It is imperative to **transform regulation from an obstacle to a competitive advantage**, by promoting a favourable environment for investment and innovation and strengthening a resilient single market. This is necessary because without investment, innovation is not possible, and therefore competitiveness cannot be improved. It is therefore recommended to:

1. **Promote a competition policy** that also includes among its objectives a vision of competitiveness, that makes it easier for companies to compete and achieve scale in their domestic markets. In particular, the Merger Control Regulation needs to be updated, including a review of the thresholds and an alignment with the objectives of competitiveness, digitalisation, and the green agenda.

2. **Deepen the Single Market** by moving from the usual vision of a single market based on regulatory harmonisation to one based on the removal of legal, administrative and political barriers to the free movement of resources.

3. **Encourage better co-governance and public-private dialogue to develop "good regulation"**, which is targeted and tailored to the needs of businesses, creating the right incentives for investment and innovation, while ensuring the protection of citizens/consumers rights and safety. It is imperative to limit regulatory output and the misconception that becoming the global prescriber of regulation (the so-called "Brussels effect") gives European companies a competitive advantage.

4. **Adapt and align competition policy, State aid and the regulatory framework with the objectives of future competitiveness**, ensuring a level playing field between different players and between Member States, paying particular attention to the *interplay* (*interaction*) between regulations and applications of European rules. It is essential to make progress in the harmonisation, interpretation, and application of criteria between the different units of the European Commission to facilitate scale and innovation.

5. **Implement a *competitiveness check*** on new regulations through a cost-benefit analysis in terms of competitiveness and assess the effectiveness of public policies implemented from this perspective. Similarly, review existing regulations and, where they are found to be a barrier to investment or innovation, promote their removal.

6. **Ensure a level playing field in the European market**, in particular in the digital area, where today there are dominant positions that harm the competitiveness of European companies and reduce the choice of European consumers. It is essential to allow European companies to compete on a level playing field, through sectoral deregulation, within timeframes appropriate to market developments.

## B. A telecommunications sector as the backbone of competitiveness

At the heart of the EU's drive for digital leadership are the telecoms companies, which are leading the development of the digital infrastructure and services that underpin the digital economy. Without high-capacity fixed and mobile networks, it will not be possible to move at the speed demanded by business and society.

With this in mind, European operators have made an extraordinary investment effort. Over the last decade, the European telecoms sector has invested an average of EUR 50 billion per year[18]. This commitment to innovation has made it possible to modernise and adapt network capacity to anticipate and meet the growing demand for broadband intensive digital services. But it has also enabled the development of improved products and services and opened new opportunities for technological innovation in all sectors of the economy.

The next wave of digital innovation with digital services based on technologies such as 5G, IoT, web3, edge-cloud computing or artificial intelligence (AI) will create new applications and economic opportunities. To realise their full potential, enhanced network capabilities, such as increased data processing/computing power or different latency levels, will be required.

Open Gateway is the next revolution in industry networks that will drive digital innovation. By standardising network capabilities, telecom infrastructures become programmable networks that act as digital platforms. This revolution will create a digital innovation environment accessible to every developer in the EU, creating new economic opportunities and driving digital take-up.

In the area of digital services, spectrum also plays an essential role in the development and delivery of a wide range of digital services, from connectivity to advanced applications and technologies such as IoT, virtual reality and AI. Its efficient allocation and management are critical to ensure equitable and sustainable access to these services across the EU.

However, Enrico Letta's report highlights the need to increase the scale of the telecoms sector in the markets where they deploy their networks. In this sector, the lack of scale is due to the high degree of fragmentation within each national market, which makes it difficult for them to achieve the necessary take-up to be viable. This fragmentation is fostered by a regulatory and price competition approach that encourages the creation of new artificial competition through regulatory privileges.

This approach, which was valid when the sector was liberalised at the end of the 20th century, does not reflect the reality of today's markets. On the contrary, it hinders the viability of the sector[19] and its ability to invest at a critical time when the EU needs to stimulate investment to achieve the connectivity goals of the Digital Decade 2030, for which it estimates an investment gap of more than EUR 200 billion[20]. A new paradigm is therefore needed, based on the removal of ex-ante regulation in already competitive markets.

## Public policies to boost the telecommunications sector as the backbone of competitiveness

**European public policies should encourage investment in the roll-out of ultra-broadband networks**[21] by creating a framework that incentivises investment, innovation, and job creation, and by reducing barriers to the deployment of connectivity infrastructure. It is therefore recommended to:

1. **Promote sustainable market structures,** i.e., less fragmented markets at the national level that allow for adequate return on investment. This would create incentives for investment and encourage the sector's ability to innovate. Similarly, the creation of market exit barriers by imposing conditions that create artificial competition should be avoided.

2. **Foster an investment-friendly spectrum policy**. Increase certainty about future spectrum availability by renewing current licences, increasing the supply of harmonised spectrum in the low and mid-bands for terrestrial mobile networks, and ensuring fair assignment with the aim of maximising its value for end-users. It is essential to avoid using assignment procedures as means to maximise state revenues from the sale of spectrum usage rights.

3. **Urgently develop the Digital Networks Act (DNA)** to strengthen digital leadership with advanced connectivity, based on fibre and 5G networks, recognising the importance of the telecoms sector. This law is the EU's opportunity to boost the sector's competitiveness. Given the geopolitical relevance of digital leadership and the urgency of reviving competitiveness, this Act should be a clear priority in the legislative agenda of the new cycle.

4. **Promote a level playing field in the digital ecosystem:**

   - Eliminate asymmetries with **horizontal regulatory frameworks** covering aspects such as competition law, taxation, consumer protection, content production and use, access to emergency services, etc., eliminating purely sectoral approaches.

   - **Provide additional guidance on network neutrality rules** to accommodate innovative use cases such as those enabled by the 5G network slicing feature and create a level playing field where users' rights are respected throughout the value chain.

## C. Digital and green transition: Competitiveness "digital by innovation, green by design"

The challenge of competitiveness and sustainable growth, in a context of constant technological change, which is rapidly widening competitiveness gaps, requires an accelerated twin digital and green transition towards more digital, innovative, and sustainable production models. In this context, it is necessary to promote measures to boost European digital innovation and to ensure that the value created by the digital and green transition remains in the EU, to the benefit of businesses, citizens and European society as a whole.

### 1. A "digital by innovation" competitiveness

Digital innovation, both in terms of technological development and digital adoption and transition, plays a key role in competitiveness, wealth creation and well-being. From the emergence of the internet to the development and adoption of technologies such as AI, IoT, cloud, augmented reality and cybersecurity, digital innovation has driven significant advances in all areas of society.

In business, digital innovation has enabled the creation of more agile and efficient business models. Companies have adopted new technologies to optimise processes, products and services, improve the customer experience and explore new markets. From startups to large corporations, the ability to adapt and take advantage of digital innovation has become a critical factor in the competitiveness and the transformation of services such as healthcare, justice and education.

Digital innovation has also enabled the development of digital solutions that have allowed for more efficient management of industry (*Industry 4.0*), agriculture (*agrosmart*), cities (*smartcities*) and the environment (*smartgrid*), boosting productivity, sustainability, job creation and higher quality services.

The dynamism of digital innovation is enhanced by the convergence of a regulatory environment conducive to innovation from inception to adoption, high-quality digital infrastructures, the right skills and a collaborative ecosystem where companies, public institutions and research centres interact to seize the opportunities of digitalisation.

Finally, in the digital domain, the Letta report underlines that existing sector-specific regulation has created significant regulatory asymmetries between telecom operators and large gatekeepers in many relevant digital markets. This has led to imbalances in the relationships between the various players, which call into question the level playing field. On the other hand, recent digital regulations such as the Artificial Intelligence Act, the Digital Services Act, the Digital Markets Act or the Data Act will require ensuring a level playing field for their implementation.

## Public policies to boost a "digital by innovation" competitiveness

It is important that the new European cycle promotes a balanced and fair digital ecosystem, creating the right environment to foster the development of digital services *made in Europe*, better adapted to the preferences of European citizens and businesses. In order to **strengthen the EU's digital innovation capacity**, it is therefore recommended to:

1. **Promote a balanced ecosystem conducive to digital innovation** to boost the competitiveness of European companies against the dominance of large platforms, through transparency, neutrality, consumer protection and competition measures, international cooperation, and continuous monitoring, under the Digital Markets Act and the Digital Services Act, for a fairer and more dynamic digital environment.

2. **Encourage emerging and cross-cutting technologies in both their development and adoption** by providing resources to support an effective EU standardisation strategy and through fiscal incentives and support programmes for emerging and cross-cutting technologies, such as connectivity (fibre and 5G), AI, biotechnology, clean energy, cybersecurity or cloud. This may include the creation of specific funds, including for R&D or standardisation, *testbeds* or deployment, and the promotion of best practices and early adoption.

3. **Facilitate access to finance for the growth of technology start-ups and innovative companies** through investment funds (and venture capital), accelerator programmes and simplification of administrative procedures for setting up companies, promoting public-private cooperation.

4. **Invest in training and digital skills** through programmes targeted at workers, students, and citizens in general, to increase their employability and the productivity of companies.

## 2. A "green by design" competitiveness

The EU recognises the dual transition, digital and green, as a key driver for sustainable competitiveness. This is crucial in the context of resource price volatility and policies such as the US Inflation Reduction Act, which challenge the EU's goal of being a hub for green technology investment and producing 40% of clean technologies domestically.

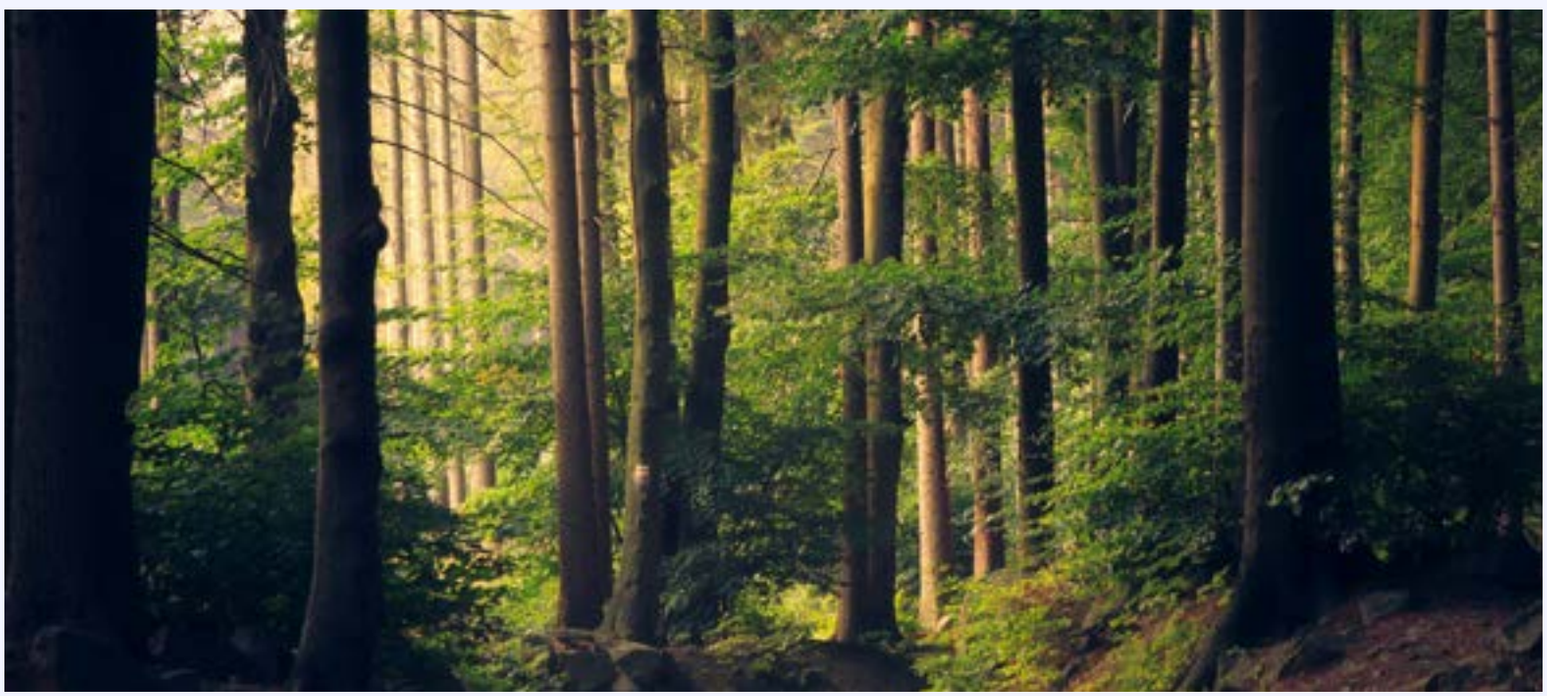
The European institutions seek to foster a smarter and more competitive business environment, where optimising resources enables companies to reduce their environmental impact, improve their productivity and strengthen their market position.

Digitalisation is particularly relevant in this context. According to Ericsson, although the carbon footprint of ICT solutions is around 1.4% of global emissions, ICT has the potential to reduce global greenhouse gas emissions by 15-30% by 2030[22].

These solutions are enabled by digital infrastructures, highlighting the role of telecom operators. This sector is evolving towards high-quality connectivity based on fixed and mobile networks, such as fibre and 5G. These networks consume less energy and manage data transport and processing in the network system more efficiently, being up to 85% and 90% more energy efficient, respectively, than previous generations of networks[23].

In addition, operators have been innovating with new in-network software features, such as *Power Savings Features* (PSF), to increase the energy efficiency of networks. For example, Telefónica implemented six new PSF features in its 4G and 5G networks in 2023, enabling it to reduce energy consumption by up to 30% during off-peak hours without compromising quality of service. In Germany, AI platforms were used to achieve additional savings on top of the 4G/5G PSFs already active in the network, with additional savings of up to 5%[24]. Finally, thanks to the transformation of its digital infrastructure, Telefónica has reduced its CO2 emissions by 51% in eight years[25].

The sector also offers *ecosmart* digital solutions that, based on 5G connectivity, IoT, cloud, big data and AI technologies, contribute to a more efficient management of resources, generating efficiencies



and reducing environmental impact. Examples of the optimisations generated by these solutions include the transport, agriculture, energy, industry and buildings sectors[26]. In particular, Telefónica's Eco Smart digital solutions have helped customers avoid the emission of more than 86.1 million tonnes of CO2 in 2023[27].

The European Commission (EC) recognises that the deployment of more efficient networks, such as fibre and 5G, contributes to decarbonisation and generates efficiency gains. However, tools are needed to encourage investment in more sustainable networks.

Recognising the need to mobilise and redirect investment towards economic activities in line with Europe's environmental sustainability goals, the EC adopted the 2020 Taxonomy Regulation. This was followed by the publication of the Delegated Act, which sets out the eligible economic activities and the technical criteria for considering them to be aligned with the Taxonomy. Although the Taxonomy includes some activities in the ICT sector, it does not properly recognise the role of next generation telecommunications networks in the EU's climate neutrality objectives, limiting the receipt of investment in energy efficient networks that drive decarbonisation.

## Public policies to boost a "green by design" competitiveness

Connectivity contributes to achieving key European goals: decarbonisation, the transition to a circular economy or the transformation of the energy industry, as well as creating efficiencies that boost productivity. However, it is crucial to fully **recognise the potential of telecommunication networks** to make significant progress in the **EU's green digital transition**. It is therefore recommended to:

1. **Include telecommunications networks as an eligible activity in the Taxonomy**. This initiative should recognise the role of telecom networks as a key technology for achieving the objectives of the Green Deal and encourage the redirection of investment flows towards the deployment of more efficient networks.

2. **Encourage the digital transition of economic sectors to improve their decarbonisation and circularity.** Implementing digital solutions requires up-front investment, which is a challenge for many companies, especially small and medium-sized enterprises. The EU should provide incentives for the implementation of *ecosmart* digital solutions.

## D. Geopolitical transition: enhancing the EU's relevance on the global stage

Alongside the digital and green transitions, the geopolitical transition is the third transition challenging the EU. The world is moving towards a new global order characterised by increasing fragmentation and polarisation. In this context, international cooperation to ensure competitiveness, economic security, and fair competition for the benefit of all European citizens and businesses takes on a strategic dimension.

### The role of technology companies in geopolitics

Geopolitics and the relevance of technological leadership are intertwined in today's global scenario. Technology companies have emerged as key players in geopolitics, extending their influence beyond geographical borders. Their influence encompasses the economic, cultural and governance aspects of emerging technologies. Their involvement is key to the implementation of digital regulations and the adoption of codes of conduct to protect people's rights and security. The accumulation of data, the development of algorithms and the construction of global digital infrastructures give them unprecedented influence on world markets and public opinion, turning their economic power into geopolitical influence.

The market dominance of these companies allows them to shape business patterns, influence regulation, and public opinion, and even pressure governments to align with their interests. Social media, in particular, play a crucial role in shaping the global narrative and can undermine democratic processes through disinformation, foreign influence and propaganda campaigns.

This has led to debates on issues such as strategic autonomy, fair competition, taxation, data privacy, or the defence of values, with policymakers struggling to strike a balance between fostering innovation and ensuring social welfare.

The US and the EU have different approaches to technology companies because of their different values, legal traditions, political priorities, and technological leadership. The US has adopted a minimal government intervention approach, which has allowed technology companies to innovate and thrive. In contrast, the EU has adopted regulation to address the excesses of mostly non-European technology companies and to protect consumer rights. Initiatives such as the General Data Protection Regulation (GDPR), the Digital Services Act, the Digital Markets Act or the Artificial Intelligence Act seek to establish comprehensive framework for the protection of individual rights, the rule of law and democracy, as well as measures against monopolistic and anti-competitive practices.

In any case, the US and the EU face common challenges in navigating the complex interplay between technology and geopolitics. The rapid pace of technological progress is outpacing the ability of traditional governance structures to adapt and respond effectively.

## Defence and cybersecurity for resilience and future competitiveness

In an increasingly complex geopolitical landscape, hybrid strategies, cyber-attacks, and disinformation campaigns, among other threats, increasingly rely on emerging and sophisticated technologies. These developments pose significant challenges, in particular to the protection of individual rights, the business fabric, the functioning of democracy or Europe's fundamental values.

Europeans have common interests in areas such as defence and cybersecurity. Other regions are already actively developing policies to improve their competitive position in these areas. These are strategic assets with high spill-over effects on the economy and society, which require better coordination and the means to fund and develop them effectively are needed. The sophistication of cyber-attacks and the continuous advances in technologies such as artificial intelligence, quantum computing and encryption, multiply the challenges and benefits of investing in the European development of these aspects.

Telecommunications operators play a crucial role in cyber security and cyber defence, not only because of their capabilities and their responsibility for the infrastructures that underpin most digital communications and services, but also for the proper functioning of the connectivity ecosystem that benefits all sectors of the economy and society. This ecosystem comprises a wide range of interconnected and interoperable elements: devices, fixed and mobile networks, satellites, data centres and submarine cables, as well as platforms and applications. This ecosystem not only facilitates communications, digital services and technological development, but also strengthens a country's cyber security and cyber defence capabilities. This enables the protection of critical infrastructure as well as real-time monitoring, prevention, and effective response to threats. In this context, the development of strong and sustainable companies in the telecoms sector is crucial.

## Leadership in standards and evolution towards 6G

In addition, leadership in technology standards has great potential, and Europe is lagging behind other regions that have resources and specialised bodies, such as the *National Institute of Standards and Technology* (NIST) in the United States or Chinese bodies. Standardisation has become a key element in guiding new technology proposals for the future, fostering innovation, reducing fragmentation caused by different regional or national requirements, and supporting product deployment.

Standards make technology work and provide the confidence needed for markets to develop. And while international technology standards continue to be developed largely through cooperation between private companies or national standardisation bodies, the provision of resources is essential to ensure a level playing field with other regions.

In this context, the EU has the capacity and responsibility to be a key player in international organizations, including global technical standardisation bodies. Regaining leadership in these areas is essential to ensure the development of coherent regulation and governance based on the principles of openness, transparency and fairness, while promoting the protection of the interests of the region and its citizens.

## Avoiding fragmentation at the global level and promoting transatlantic cooperation

In an increasingly interconnected and polarised world, it is crucial to avoid fragmentation in the regulation and governance of emerging technologies. Fragmentation can significantly hamper growth and innovation, by creating artificial barriers between markets and technologies, slowing the flow of ideas, resources, and talent.

In this context, the EU-US Trade and Technology Council (TTC) provides a strategic platform to foster transatlantic cooperation on trade, policy, and technology issues. At the same time, the TTC can play a significant role in strengthening ties between EU and US companies, to address common challenges and explore opportunities for cooperation.

In addition, transatlantic cooperation can be aligned with initiatives in other regions, such as the Global Gateway or the EU-Latin America and Caribbean (LAC) Digital Alliance, to promote collaborative innovation on a global scale and provide a roadmap for sustainable and equitable development in the digital age.

The Global Gateway in Latin America can serve as an inspiring example of how to foster regional cooperation on regulatory issues, governance of emerging technologies and technological innovation. By building strategic partnerships with Latin American countries, the EU can contribute to the economic and social development of the region, while strengthening its own bilateral and multilateral relations on the international stage.

## Public policies to foster public-private cooperation on a global scale

Avoiding global fragmentation and fostering transatlantic cooperation are key challenges in the digital age. The EU must **strengthen its cooperation** with the private sector and work towards a **common approach to the regulation and governance of emerging technologies** for the benefit of European citizens and businesses. It is therefore recommended to:

1. **Recognise the growing role of business in geopolitical transition.** In an evolving world where technology plays a fundamental role in global geopolitics, business is a key player. The EU must recognise their importance in promoting its values on a global scale by creating economic value.

2. **Promote cooperation between governments and business** to develop agile governance frameworks that foster innovation and competitiveness while protecting fundamental rights and mitigating risks associated with emerging technologies, in line with democratic values and the rule of law.

3. **Improve Europe's cyber resilience:** strengthening cooperation against cybercrime; harmonising and coordinating regulations and their implementations (*interplay*); defining and monitoring new indicators on investment and specialised personnel; exploring new funding mechanisms and fiscal incentives; improving quality of cybersecurity rating agencies (or *cyberrating*) by regulating them in a similar way to credit rating agencies; and strengthening capacity building to address the shortage of cyber-professionals.

4. **Develop and resource an effective and coherent European standardisation strategy** to ensure the development of high-quality standards and to promote Europe's place in international standardisation.

5. **Foster transatlantic digital multilateral cooperation.** Promoting digital economic diplomacy is essential to avoid global fragmentation and strengthen transatlantic cooperation on the regulation of emerging technologies. The EU should work with like-minded partners such as the US and Latin America to develop a common approach, by intensifying dialogue and cooperation in critical areas such as standardisation and interoperability, building on platforms such as the TTC and Global Gateway.

# 3. A *European Union* competitiveness deal

In a global economy characterised by digitalisation and new technologies, a strong EU Competitiveness Deal must focus on digital leadership and recognise the key role of the telecommunications sector with its infrastructure, digital services and reach in driving productivity, economic growth, job creation and social welfare.

# An EU Competitiveness Deal

## An environment that enables businesses to grow and compete

1. **Update competition policy and merger regulation** to facilitate business scalability.
2. **Deepen the Single Market** by removing legal, administrative and political barriers to the free movement of resources.
3. **Encourage better co-governance and public-private dialogue** to foster "good regulation" to incentivise investment and innovation.
4. **Align competition policy, State Aid and regulatory frameworks with future competitiveness objectives**, ensuring fairness between players and Member States and the interplay between European regulations.
5. **Implement a competitiveness check on new rules** and remove regulations that hinder investment or innovation.
6. **Ensure a level playing field in the European market** for European companies to compete fairly through sectoral deregulation.

## A telecommunications sector as the backbone of competitiveness

1. **Promote sustainable** and less fragmented **market structures** at national level, encouraging investment and innovation.
2. **Foster an investment-friendly spectrum policy**, increasing its supply and certainty about its future availability and ensuring a fair allocation that maximises value for users.
3. **Urgent development of Digital Networks Act** to strengthen digital leadership with cutting-edge connectivity.
4. **Promote a level playing field in the digital ecosystem:**
   - **Eliminate asymmetries through horizontal regulatory frameworks** covering competition, taxation, consumer protection, content production and exploitation, access to emergency services, avoiding sectoral approaches.
   - **Provide additional guidance on net neutrality** to allow for innovative uses such as Open Gateway, establishing a *level playing field* and respecting users' rights.

## Competitiveness that is "digital by innovation, green by design"

1. **Promote a balanced ecosystem conducive to digital innovation** through transparency, neutrality, consumer protection and competition, and international cooperation.
2. **Encourage the development and adoption of emerging and cross-cutting networks and technologies** through tax incentives and support programmes.
3. **Facilitate the growth of technology startups and innovative companies** through investment funds, acceleration programmes, simplification of procedures and public-private cooperation.
4. **Invest in digital training and skills** for workers, students and citizens, to improve employability and productivity.
5. **Include telecommunications networks in the Taxonomy** to recognise their key role in the Green Deal and to direct investments towards more efficient networks.
6. **Support the digital transition of economic sectors** to promote their decarbonisation and circularity.

## A stronger European Union on the global stage

1. **Recognise the role of business in geopolitical transition** and its contribution to EU values and competitiveness.
2. **Promote cooperation between governments and business to develop governance** that promotes innovation and competitiveness, while protecting fundamental rights.
3. **Improve Europe's cyber resilience** by strengthening cooperation against cybercrime, coordinating regulation and enforcement and exploring new funding mechanisms.
4. **Develop, and resource**, an effective and coherent **European standardisation strategy** to ensure the development of high quality standards and promote Europe in standardisation.
5. **Foster transatlantic multilateral digital cooperation**, with partners such as the US and Latin America, by intensifying dialogue and cooperation, building on the TTC and Global Gateway.

# 4. References

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**4.** Global Infrastructure Outlook (2024). Available at: https://outlook.gihub.org/region/Europe

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**8.** Australian Strategic Policy Institute (2024): *Critical Technology Tracker*. Available at: https://www.aspi.org.au/report/critical-technology-tracker

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**11.** The EU is responding with approaches that enhance open strategic autonomy, i.e. that reduce the risks arising from asymmetries in economic interdependencies and strengthen its strategic position in the future, without relinquishing its open economy model. Boosting open strategic autonomy has led the EU to respond with proposals to boost the production of "green" chips, materials and technologies. In the latter area, the EU's ambition is for 40 per cent of key technology to combat climate change to be built within its borders by 2030. According to data from the International Monetary Fund, Europe is 30% and 70% more open than the United States and China, respectively, and has 30% and 20% fewer trade restrictions. https://www.mckinsey.com/mgi/our-research/accelerating-europe-competitiveness-for-a-new-era; https://www.consilium.europa.eu/en/policies/eu-industrial-policy/

**12.** Recent trends show that the European telecommunications sector is losing size and global competitiveness. The declining path of the revenue market over the last decade (-33% vs. +18% in the US) is substantially reducing the availability of financial resources for investment. This translates into lower investment capacity in Europe (€109.1/per capita vs. €240/per capita in the US) and a consequent slower pace of network rollout, as well as higher financial leverage in an environment of uncertain inflation and interest rates. In relation to 5G, according to Analysys

Mason in 2023, 23% of mobile connections in the European Union are 5G (24% if the UK is included), while in the US this figure reaches 55.6%, Japan 39%, South Korea 57% or China 79.9% (Analysys Mason, data consulted in January 2024). Source: Omdia, Communications Provider Revenue and Capex Tracker 3Q2023; The State of Digital Communications, 2024, ETNO. As an example of these lags in advanced connectivity from a production and adoption point of view, key to future industrial competitiveness, Gigabit-capable access networks cover 79.4% of Europeans compared to 89.6% of the US population. Europe's 5G coverage (80%) is still far from its 2030 digital target (100% coverage) and is lower than all its peers, in particular the US (98%). As a result, average speeds are about half those of the US. https://etno.eu/library/reports/117-state-of-digital-2024.html

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**19.** ETNO (2024): *The State of Digital Communications, 2024*. Available at: https://etno.eu/library/reports/117-state-of-digital-2024.html

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**21.** Telefónica (2024): https://www.telefonica.com/en/communication-room/blog/eurobarometer-european-citizens-want-the-best-telecommunications-network/

**22.** ETNO (2021): *Connectivity & Beyond: How Telcos Can Accelerate a Digital Future for All*. Available at: https://etno.eu//downloads/reports/connectivity%20and%20beyond.pdf#page=46

**23.** According to Telefónica's analysis, the environmental impact per petabyte of its fibre network has been shown to be 18 times lower than that of the copper network, while the impact of 4G/5G technologies has been shown to be 7 times lower than that of 2G/3G. Telefónica (2022): *Connectivity solutions life cycle assessment*. Available at: https://www.telefonica.com/en/communication-room/reports/life-cycle-assessment/

**24.** https://www.telefonica.com/en/wp-content/uploads/sites/5/2024/03/building-greener-future-2023.pdf#page=22

**25.** https://www.telefonica.com/en/wp-content/uploads/sites/5/2022/03/climate-action-plan-telefonica.pdf

**26.** Transport: Connected vehicles, both to each other and to the environment, have the ability to optimise routes, avoid traffic jams and promote multimodal mobility; Agriculture: Precision farming and smart irrigation management solutions enable climate and soil monitoring, as well as more efficient use of land and water; Energy: The installation of smart meters enables the decentralisation of the electricity system and monitoring of the electrical behaviour of each device connected to the electricity grid; Industry: The integration of sensors into industrial equipment and machinery facilitates predictive maintenance of equipment: The installation of smart meters allows decentralisation of the electricity system and monitoring of the electrical behaviour of every appliance connected to the grid; Industry: The integration of sensors into industrial equipment and machinery facilitates predictive maintenance of equipment, real-time production adjustments and efficient use of resources; Buildings: Smart Buildings, through integrated smart management, optimise energy consumption by adjusting parameters such as temperature or humidity.

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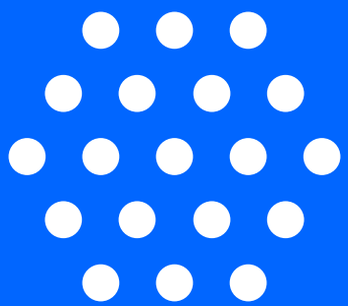
# EU 2024-2029:
# Forging a *competitive* path
## Digital by innovation, green by design



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