GIGA EUROPE

POSITION PAPER

Investment Certainty, Regulatory Clarity, and Operational Efficiency:

GIGAEurope's Insights on the Future of Digital Networks

February 2024

GIGAEurope welcomes the European Commission's forthcoming White Paper on a new EU regulatory framework for digital infrastructure. Our modern connectivity ecosystem is critical to preserving EU fundamental values, fostering greater resilience among Member States, and advancing European interests.

Representing private actors that build, operate, and invest in Gigabit and 5G communications networks across Europe, our Association values this opportunity to have a balanced and inclusive discussion about the future regulatory options for Europe's connectivity sector.

We advocate for investment-friendly policies that provide businesses in the digital ecosystem with certainty, clarity, and efficiency.

Building on GIGAEurope's reply to the Commission's future of connectivity consultation and its Vision for the 2024-2029 EU Mandate, we frame our members' priorities for this critical workstream around three central themes, as follows:

1. **European competitiveness** is tied to successful digital transformations across the EU 27.

2. **Europe's green transition** is only possible through greater investment and innovation in the telecommunications sector, fostering greater resilience across the EU.

3. **A digitally-engaged EU culture** relies on ambitious digital skills initiatives across the continent.

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European Competitiveness Empowered by a Digital Single Market

Advanced Gigabit and 5G connectivity are inextricably linked to Europe's successful digital transition and competitiveness in the global digital economy. The Commission's report on the long-term competitiveness of the EU emphasises the profound effect of digitalisation on the EU economy as it boosts efficiency and innovation.[1]

In a global economy, one of the EU's greatest assets is its single market. Future connectivity policy frameworks should prioritise a predictable regulatory environment for cross-border services and reduce current barriers to a true Digital Single Market.

The following aspects of the EU regulatory framework need to be prioritised to accelerate pan-European network deployment plans:

- **A harmonised and investment-friendly approach to spectrum management**

  Operators need effective and consistent spectrum licensing practices across Member States. Furthermore, these practices need to promote sustainable long-term investment in mobile networks at scale. In practice, this means:

  - ✓ ensuring **availability** of new harmonised spectrum across low, mid and high bands to deliver widespread coverage and support a wide variety of use cases;
  - ✓ providing licensing terms that support investment and network deployment objectives, such as **avoiding over-inflated spectrum prices** and setting annual spectrum fees consistently across Europe at a (minimum) level that does not undermine investment incentives;
  - ✓ licensing only the number of players that are **viable in the market long term**;
  - ✓ facilitating an efficient market for **trading of spectrum**; and
  - ✓ having clear **spectrum roadmaps and tacitly renewable spectrum licences** over the long term.

- **A holistic and up-to-date evaluation of consolidation initiatives**

  At odds with the increasing EU policy focus on competitiveness, **dynamic factors** have long received insufficient attention in EU telecoms merger assessments.[2] A primacy of static price effects over dynamic impacts risks an incomplete approach that neglects to take all parameters of competition into account.[3] Other dimensions of consumer wellbeing, such as **network availability, quality and resilience**, also assume relevance in a digital context.

  Furthermore, a recent economics paper suggests that four-to-three mergers have in fact had **little impact on prices**, typically having no effect at all, or increasing prices for some customers for a short period only.[4] This report shows that, with limited effect on prices, but better quality, the four-to-three mergers since 2010 appear to have provided customers with lower quality-adjusted prices and better value for money.

[1] European Commission, Long-term competitiveness of the EU looking beyond 2030, 2023. For example, an OECD reference quoted therein notes that the productivity of companies investing in data-driven innovation and data analytics grows 5-10% faster than that of companies not investing.
[2] Brattle, Efficiencies in Telecommunications Network Cooperations and Mergers, 2022 (prepared for ETNO).
[3] CERRE, Evaluating market consolidation in mobile communications, 2015.
[4] Compass Lexecon, Do four-to-three mobile mergers harm consumers?, November 2023.

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A dynamic perspective also implies taking **realistic investment cycles** into account. This means evaluating potential market boundaries, competitive constraints and efficiencies related to investment capacity, network roll-out and innovation against a time horizon that is consistent with a typical investment profile for a capital-intensive sector.[5] While this may entail engaging with shifting market boundaries/dynamics over time, the OECD has noted how a purely static analysis can also result in enforcement errors. Increased focus on analytical techniques and metrics to support the assessment of dynamic considerations can help to **improve the overall precision of merger control**. Indeed, the OECD found that, while static effects remain a central component of merger assessment, dynamic effects on innovation and investment can be even more important for consumers in the long-term, therefore deserving proper consideration.[6] In this evolving policy context, GIGAEurope thus calls for:

- ✓ An up-to-date and balanced **assessment of both price and non-price variables** in telecoms mergers to ensure that all aspects of the user experience are given due consideration.

- **Clear and adaptable regulations to support investment and innovation**

Connectivity providers are heavily investing in rolling out Gigabit networks – fixed and mobile. However, networks are subject to large economies of scope and density such that in any geographic market only very few may reach the minimum economic scale needed to earn a reasonable profit – efficient investment is recognized in the European Electronic Communications Code as an objective for regulatory intervention.

Given the objective of efficient investment that allows firms to earn a reasonable return on their capital, it may be necessary for regulators and competition authorities to accept a more concentrated market than they would prefer. Decisions that force a market structure designed around short-term demand-side outcomes may produce long-term results that are harmful to consumers if firms cannot earn a reasonable return and so exit the market.

Connectivity providers participate in a tightly regulated market. As the digital ecosystem widens, it is crucial that connectivity providers have the **legal certainty and flexibility to explore new business models** to support future investment, such as network-as-a-service and tailored offerings for businesses.

A recent external study prepared for BEREC underlines how cloudification, virtualisation and softwarisation trends are reshaping the industry and blurring the "line between telecom operators, software vendors, and hyperscalers", which act as both partners and competitors.[7] At the same time, economies of scale and the trend to multinational solutions in virtualised networks may lead to new sources of market power. Absent flexibility for connectivity providers to respond, this risks a greater concentrated digital ecosystem emerging overall.

As key enablers of the digital transition, it is crucial for connectivity providers to have flexibility to explore new modes of offering services and new commercial partnerships to create future possibilities of income and innovation. This implies a need to move away from a historically

[5] As noted in the Brattle Report (see footnote 2 above), the EC's practice in merger assessment deviates from its regulatory practice for commitments in the context of co-investment projects in Article 79(3) of the European Electronic Communications Code, which requires national regulatory authorities to make commitments binding for a period of "minimum seven years".
[6] OECD, Merger Control in Dynamic Markets, 2020.
[7] Plum Consulting & Stratix, Study on the trends & cloudification, virtualisation & softwarisation in telecommunications, December 2023.

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siloed policy approach to digital markets and for regulators to take a more **dynamic ecosystem-level perspective**.

For example, legal ambiguities regarding the ability to offer differentiation in quality, such as 5G network slicing, to support new applications risk stifling important innovations. In this regard, the Commission has also acknowledged a need for greater **legal certainty regarding new high-performance services**.[8]

The principle of **proportionate regulation** also assumes greater relevance in a dynamic context. A key founding principle of the EU regulatory framework is the need to roll back regulation progressively as competition develops. The current regulatory framework risks limiting connectivity providers' ability to compete on the merits with other entities in the digital ecosystem that are not bound by similar rules.

In this dynamic digital context, an innovation-friendly regulatory environment means:

- ✓ An **ecosystem-level perspective** to ensure balanced regulatory conditions and flexibility to compete across the entire digital value chain;
- ✓ Ensuring **clear regulatory guidance** to warrant stable and predictable conditions for long-term investment and innovation;
- ✓ Supporting incentives for **commercially-negotiated solutions** to foster operational efficiencies; and
- ✓ Prioritising the **easing of regulatory burdens** to accelerate 5G and Gigabit network rollout.

- **Leveraging infrastructure competition via technology neutrality**

The principle of technology neutrality is a key building block in the EU regulatory framework for electronic communications, with its relevance re-confirmed in the European Electronic Communications Code and the Digital Decade Policy Programme.

Essentially, it means that legislation should define the objectives (or the experience) to be achieved and should neither impose nor discriminate in favour of a particular type of technology to achieve these objectives. In other words, when applying the framework, authorities should refrain from regulatory choices that steer the market in a certain direction.[9]

The most effective path to full Gigabit coverage is to leverage the innovation dynamics of market-based competition between all Gigabit technologies (i.e. fibre, Hybrid Fibre Coax/DOCSIS 3.1, 4.0 and 5G). Infrastructure competition remains a key driver of VHCN investment in Europe and technology neutrality allows for optimal connectivity solutions to be found and tailored to the variety of local infrastructure situations across the EU. It supports a cost and time efficient path to achieving the Digital Decade targets.

Overbuilding existing gigabit-ready networks through misallocation of state aid and/or impeding access to buildings would devaluate infrastructure investments, crowd out future investment and misdirect public resources that should be used to deliver additional Gigabit coverage in remote and rural areas.

- ✓ As a prerequisite to effective infrastructure-based competition and to reaching the 2030 targets, GIGAEurope calls on the Commission to recognise the **continued**

[8] See section 5.2 of the Commission's report on the implementation of the open internet regulation.
[9] It aims to allow the market to decide the success or failure of given technologies or providers, and not to pre-empt those dynamic market outcomes via static regulatory choices, please see regulatory framework.

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relevance of technology neutrality in current legislation and future connectivity initiatives.

Europe's Green Transition & Resilience

- **Enabling and scaling the green transition**

  The proximity of irreversible climate-tipping points is reinforcing the urgency of the digital transition.

  The connectivity sector has made significant strides in energy efficiency and carbon reduction, particularly with the advent of 5G networks. The evolution of connectivity technologies encompasses significant sustainability enhancements. The transition to 5G technology brings about a remarkable 90% increase in energy efficiency when compared to earlier generations of mobile networks.[10]

  In addition to direct energy efficiency gains, 5G and Gigabit connectivity are key to enabling mass uptake of smart digital solutions that reduce global emissions. Digital technologies hold the potential to reduce global greenhouse gas emissions by 9% by 2030[11]. For example, 5G-enabled precision farming techniques has the potential to reduce the overall volume of pesticides used by 80%.[12] Gigabit and 5G networks provide quicker and more scalable and reliable connectivity that **enables a multiplicity of energy-efficient, carbon-reducing solutions**, such as smart buildings, smart manufacturing, remote working and smart travel.[13] Research shows that the ICT sector could deliver emissions savings estimated at seven times the growth in its own carbon footprint between 2019 and 2030[14] and could even reduce global emissions by up to 15%.[15]

  As a critical enabler of the green transition, ongoing digital investment, innovation and standardisation are crucial for a sustainable future. Faced with a rapidly accelerating climate crisis, the carbon-reducing potential of digitalisation calls into sharp focus the urgency of:

  - ✓ Inclusion of the connectivity sector within the **EU taxonomy for sustainable activities**;
  - ✓ **National strategic roadmaps and multi-country projects** that are fit for the purpose of delivering on the Digital Decade targets in practice;
  - ✓ **Must-have connectivity initiatives** to encourage fast deployment of Gigabit networks; and
  - ✓ **A technology neutral approach** to leverage all available Gigabit technologies (as discussed above).

- **Ensuring a secure and resilient digital transition**

[10] EY/Liberty Global, Connecting a Sustainable Future, 2022.
[11] Ibid.
[12] Ibid.
[13] Ibid.
[14] GeSI and Deloitte, Digital with Purpose: Delivering a SMARTer 2030, 2019.
[15] European Commission, Supporting the Green Transition, 2020.

As the essential aspects of our daily lives become more digitalised and connected, new vulnerabilities arise. An increased attack surface, due to the proliferation of devices, IoT intensification, transition to remote working, cloud-based digitalisation of business operations and increasingly interconnected supply chains, is resulting in new security vulnerabilities and risks. As noted by Gartner, "[h]ybrid work and digital business processes in the cloud have introduced new risks. At the same time, sophisticated ransomware, attacks on the digital supply chain and deeply embedded vulnerabilities have exposed technology gaps and skills shortages". EIB has further estimated a gap in EU investments in cybersecurity companies at up to €1.3 billion per year.[16]

Building cybersecurity competencies and ensuring harmonised incidence and risk management measures is central to a resilient EU economy. The ability of attackers to identify and exploit weaknesses in less well-defended networks (and their ecosystem of suppliers) creates risks for all operators. Therefore, **efforts to improve cybersecurity and network resilience should be European in scope**. Moreover, cybersecurity obligations should be holistic in nature, requiring all relevant regulated entities to take steps to mitigate risks not just for themselves, but also for other networks, services and end-users.

An evolving risk landscape calls for a joined-up EU strategy anchored on robust pillars:

- ✓ facilitating **upscaling** of connectivity providers to support the necessary investments;
- ✓ ensuring a **consistent and holistic approach** to security of critical infrastructure that covers all actors in the supply chain; and
- ✓ more harmonised incident and vulnerability assessment and risk management measures to increase **common response capabilities** across the EU to threats such as cyberattacks, natural disasters or energy blackouts.

A User-Centric, Digitally-Engaged EU Culture

EU businesses and citizens are at the heart of the digital ecosystem. Promoting a virtuous circle between digital services and infrastructure on the one hand and business and end user take-up on the other relies on all of the links in the value chain being strong, so they collectively reinforce each other. Demand and supply-side initiatives need to go hand in hand. This means maintaining a growth mindset on key policy initiatives that drive **digital adoption**, such as digital literacy and inclusion initiatives, incentives for digital usage, as well as building talent pools of ICT specialists and supporting a creative environment here in Europe.

- **Accelerating the digitalisation of EU businesses**

  The Digital Decade Programme sets a 75% target for technology uptake by enterprises. Recent EU projections for 2030 in the State of the Digital Decade Report suggest that only 66% of businesses will adopt cloud services, 34% will engage with big data, and 20% will implement AI. The Commission estimates that, in the future, up to 90% of jobs will require digital skills. Currently, one-third of Europeans lack the digital skills required in most jobs, and over 70% of companies report a shortage of staff with adequate digital skills as an obstacle to investment. In practice, this underlines the need for:

[16] EIB, European Cybersecurity Investment Platform, 2022.

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- ✓ Clearer and more ambitious roadmaps and more public-private collaboration initiatives, with **incentives to foster the uptake of digital technologies** by businesses.

- **Upskilling to foster a digitally-engaged EU culture**

  Basic digital skills are still lagging. As reflected in the State of the Digital Decade Report, 46% of Europeans, particularly older people, still do not have basic digital skills, hampering their use of digital technologies for everyday tasks and exposing them to harmful online practices. Based on current trends, only 59% of the population would have at least basic digital skills by 2030, significantly lower than the 80% target.

  Europe also faces a shortage of digital experts who can develop cutting-edge technologies for the benefit of all citizens, with the State of the Digital Decade Report revealing a significant lack of progress in the EU target for ICT specialists. Under a business-as-usual scenario, the number of ICT specialists in the EU will be close to 12 million (instead of the targeted 20 million) by 2030. Furthermore, in 2021, 81% of employed ICT specialists were male revealing a critical gender gap in this field of expertise. This calls for ambitious and inclusive EU policies to attract, build and retain ICT talent pools and to support a creative environment here in Europe. It is also essential that the next generation has the skills to participate in a jobs market where advanced digital skills are increasingly required.

  With digital adoption as an absolute pre-requisite to a successful green and digital transition, GIGAEurope calls for:

  - ✓ A multi-dimensional and inclusive action plan that builds on momentum from the Year of Skills and the Commission's recent Communication on Virtual Worlds with **scaled digital literacy initiatives** and dynamic mechanisms for tracking progress.

The Digital Networks Act offers a unique opportunity to future-proof EU connectivity policy. Recognising the sector's dynamic nature and central enabling role in the digital value chain, regulatory predictability and simplification are key to boosting its potential for investment and innovation. A future-oriented ecosystem-based perspective is best positioned to deliver greatest value for European consumers and businesses in support of the EU's overarching ambitions: technology leadership, competitiveness, climate neutrality and resilience.

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