EUROPE 2030
A SHARED AMBITION FOR DIGITAL LEADERSHIP

European Telecommunications Network Operators' Association

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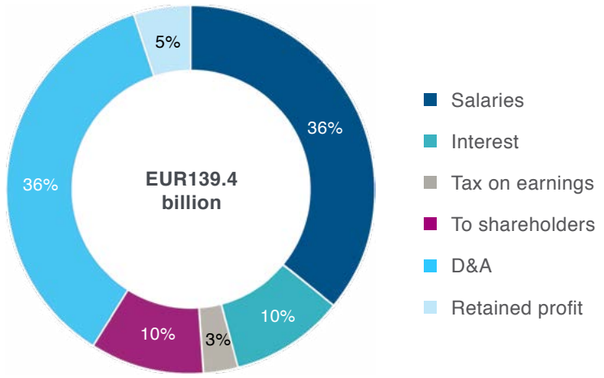
Let's set the ambition: Europe, in 2030, must be a global leader in new digital technologies

EUROPE 2030: A SHARED AMBITION FOR DIGITAL LEADERSHIP

European citizens enjoy a unique way of life, built on a rich set of common values. Today, our lives increasingly thrive and depend on technological innovation. Connectivity and digital services are at the forefront: from the app economy to social networks, from the transition to 5G and fibre networks to new services enabled by Artificial Intelligence and blockchain.

How do we ensure that Europeans are able to see their values reflected in their new digital way of life? While the EU must remain firmly open to global competition, it is high time to pull forces together and work on building European digital leadership. Together, we can work towards achieving the most ambitious of the goals: **Europe, in 2030, must be a global leader in new digital technologies, shift from consumer to exporter of digital services and be able to provide a European choice to its 'digital' citizens.**

Figure 1: European Economy: value added of leading EU telcos



Source: Analysys Mason for ETNO, State of Digital Communications, 2019

The risk we want to avoid is clear: the EU and its Member States cannot become followers in digital technology. **We must avoid a scenario in which we are only recipients of non-European technology, business models and governing principles for the digital economy.** While standards and regulation can mitigate some of these risks, only digital leadership can tackle them in a structural way.

The opportunity we want to grasp is exceptional: **deep socio-economic digitalisation, supported by robust public policies, will help Europe to tackle many of today's societal challenges:** climate change, transition to new job markets, sustainable economic growth and social inclusion – just to name a few. The good news is: many of the fundamentals are there, but a major leap forward in European tech innovation and investment is required.

ETNO, throughout 2019, has consulted with its Members, Observer Members and with a broad range of key stakeholders. Leading telecom companies, representatives from traditional industries, civil society, policymakers, users and consumer groups, creative industries, tech companies. **All of us, together, should collaborate to achieve European Digital Leadership. None of us, alone, will be able to realise this goal.**

ETNO proposes to the European Commission (EC), the European Parliament (EP) and to the Council of the European Union (CoEU) that we work together on building the **3 essential pillars of European Digital Leadership:**

1

World-Class Connectivity:

A cutting-edge innovation ecosystem must be supported by world-class connectivity powered by fibre and 5G. Europe must roll out ubiquitous infrastructure that is secure and sustainable, in the context of an investment-inducing environment that minimises barriers to network roll-out.

2

European Leadership in Technologies and Services:

In areas of strategic importance, we should promote the creation and the uptake of Europe-made services, technologies and models, by supporting industrial collaboration and strengthening EU's industrial capabilities, enabling European companies to take full part in the growing data economy, and leveraging trust as a competitive differentiator.

3

Citizens at the centre:

Digital leadership is not only an economic imperative, but it also requires that we put digitalisation at the service of European citizens. The EU and the digital sector should promote citizen-centricity by strengthening skill development and equality, by stimulating demand in European digital services that have a high value for individuals and society and by ensuring digitisation of public services across the board.

Chapter 1

WORLD CLASS CONNECTIVITY

Chapter 2

European Leadership in Technologies and Services

Chapter 3

Citizens at the Centre

BOOSTING EFFORTS ON DIGITAL NETWORKS

High-speed broadband connectivity and next generation Internet access have been amongst the top priorities of the past Digital Single Market Strategy (DSMS). The latest data from the European Commission's Digital Economy and Society Index (DESI) 2019 report states that fast broadband (>30 Mbps) covers 83% of homes, while ultrafast broadband (>100 Mbps) reaches 60% of homes. While broadband coverage in the EU has been constantly improving over the years, we are lagging behind in reaching the DSMS targets to achieve speeds of at least 30 Mbps for all citizens and take-up of 100 Mbps by 50% of households by 2020.

This would indicate that regulatory measures and policies supporting investments are delivering some of the desired outcomes, but that the work on the supply-side is far from being achieved. Similarly, work on the demand-side of the digital story requires us to at least double our efforts. The EC laid out ambitious targets for fast and ultra-fast broadband coverage and for 5G roll-out in its strategy for Connectivity for a European Gigabit Society in 2016. The so-called Gigabit Society targets, to be achieved by 2020 and 2025, are expected to remain the goalposts for connectivity also in the new term. In parallel, the EU regulatory framework has been revised and billions of Euros made available through EU funds to enable and accelerate the development of connectivity infrastructure and related services.

While significant progress has been made over the past five years, Europe must continue to focus on the roll-out of ultrafast broadband, **Very High Capacity Networks (VHCN) and 5G infrastructure** to strengthen the European industrial capabilities, to foster the growing data economy and to allow all European citizens to benefit from a new generation of high-value services. Achieving continent-wide world class connectivity – that is ubiquitous, secure and sustainable – should remain on top of the EU policy agenda and a key target for National Regulatory Authorities.

With the **European Electronic Communications Code (EECC)** now in place, the main levers to achieve ubiquitous connectivity lie in its implementation and in well-judged use of other policy tools. A harmonised and timely implementation of the EECC that creates an investment-inducing environment is essential to minimise the cost of deployment. This should in particular include spectrum awarding processes and policies that are compatible with significantly higher and timely investment in VHCN and 5G networks.

Tech neutrality and operators' flexibility to apply different business models and to establish network sharing and partnership agreements should be the underlying principles of the implementation, as they promote innovation and investment today and in the future.

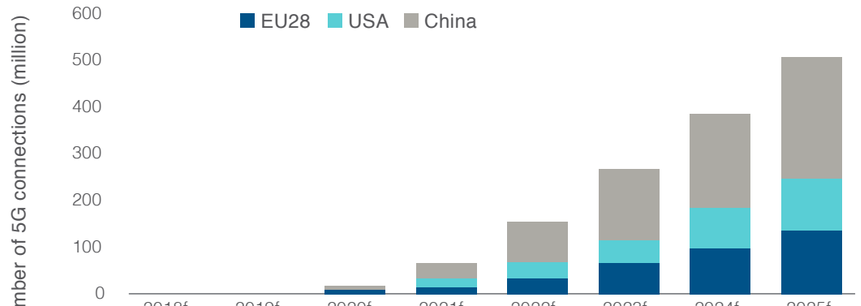
Regulatory practices in Member States cannot contradict the agreed objectives to support private investment in VHCN and the long-term socio-economic value of spectrum. Spectrum needs to be made available under fair conditions that do not distort competition. National authorities should ease the deployment of new infrastructures by removing barriers at national level. Many aspects of rolling out new infrastructure rely on decisions at local level, which can be a source of unexpected delays, for example when it comes to permits for the roll-out of 5G network elements - including masts and small cells. An increased harmonising effort is critical to bringing down costs and speeding up deployment.

The EU state aid rules and funding programmes, as they relate to broadband, are another important element in the effort to provide high-speed broadband to European citizens and businesses. While public aid can be instrumental in addressing clear market failure areas, public funding for Next Generation Access (NGA) networks should remain complementary to private investments. Governmental involvement in network deployment that may crowd out private investment must be avoided, as this risks wasting taxpayers' money and driving away private investors.

Finally, working on supply is not enough to boost digitisation across different sectors of society and to stimulate uptake of new services. For this reason, Europe also needs **strong demand-side policy initiatives** to support the take-up of high-quality services and to encourage further investments in new infrastructure. The EC's DESI report shows that 41% of European homes have a subscription of at least 30 Mbps and only 20% of homes subscribe to ultrafast broadband. The third chapter of this document will examine the demand issues and citizen-centric approaches in more detail.

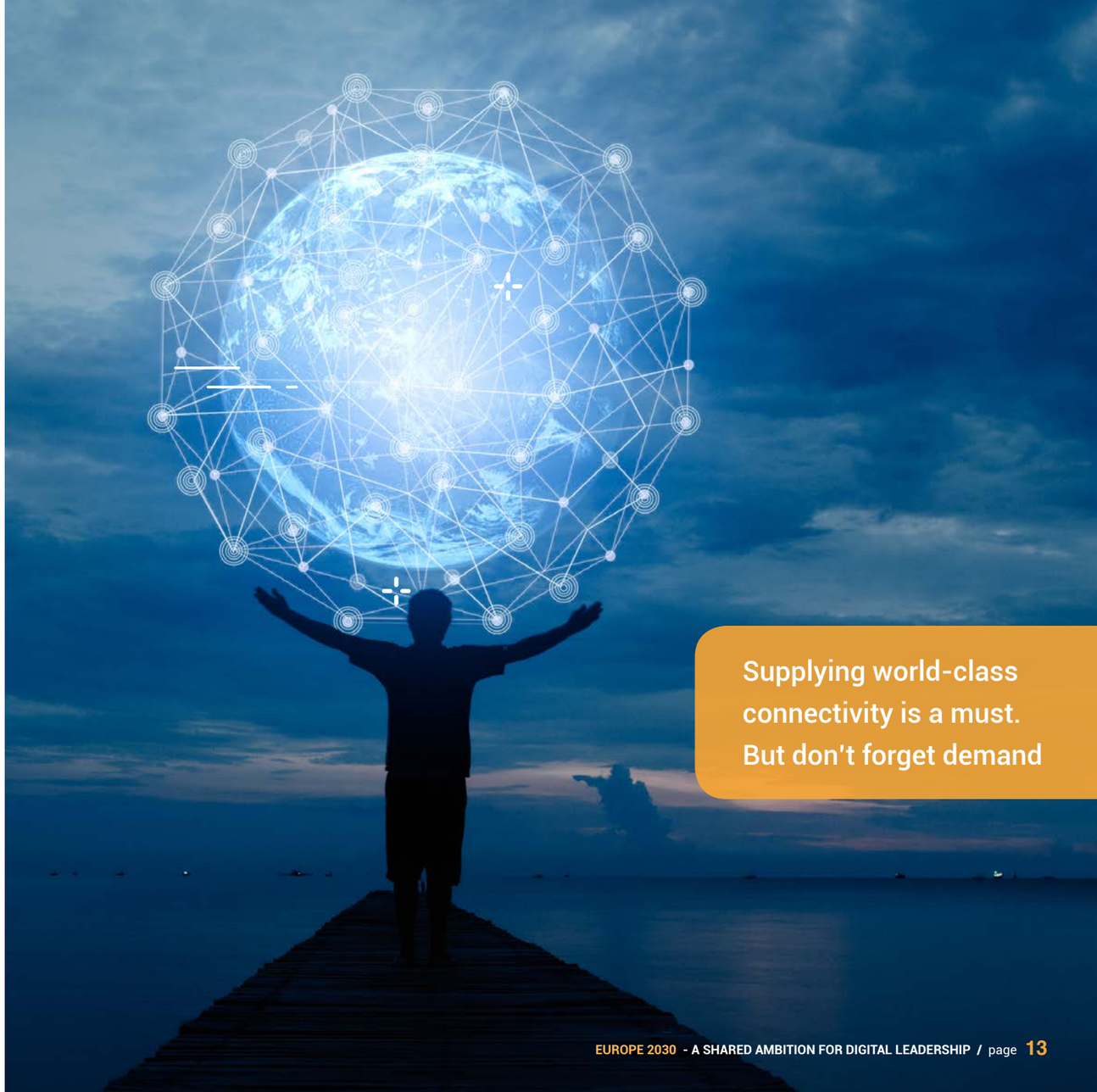
Alongside availability, security and sustainability have emerged as key characteristics for connectivity infrastructure in Europe. Security is an integral part of digital networks that needs to be addressed by different actors in the connectivity value chain. A sustainable approach to digitalisation is essential to reach wider economic and societal goals and to reduce the environmental impact where possible.

Figure 2: 5G connections: forecast 2018-2025



	2018f	2019f	2020f	2021f	2022f	2023f	2024f	2025f
China	-	1.4	7.1	28.2	80.2	147.1	208.4	265.5
EU28	-	0.2	4.7	15.7	32.3	52.3	78.2	104.7
USA	-	0.1	3.3	14.6	36.6	67.5	102.3	138.0

Source: Analysys Mason for ETNO, State of Digital Communications, 2019



Supplying world-class connectivity is a must. But don't forget demand

Chapter 1

KEEPING NETWORKS RESILIENT AND SECURE

World-class connectivity also requires world-class **resilience and security**. As the backbone of the digital economy, telecommunications networks are the vital infrastructure of the societies of tomorrow that are bracing for the 5G paradigm shift.

The telecoms sector puts security first since our ability to serve customers and retain them depends on trust, which is built on very high security standards. According to reports, over 70% of telcos apply the strictest ISO security standards and regulation. The 5G ecosystem will offer additional opportunities to secure their networks, thanks to network slicing, network virtualisation, enhanced authentication and encryption.

But this is not enough. With 5G, networks will become platforms and will be characterised by a higher degree of openness that enables an intense collaboration with verticals and with the broader ecosystem. 5G is poised to boost the Internet of Things (IoT): by 2020, over 20 billion devices will be connected to the Internet, globally; and by 2025, this number could surpass a trillion (Cisco, 2017). The IoT and its connected devices may increase exposure to cyberattacks and put digital networks under tremendous stress.

As 5G brings more openness and participation to the connectivity infrastructure, network security should also increasingly become a shared responsibility where all actors throughout the entire value chain have a role to play in coping with vulnerabilities and preventing cyberattacks thanks to a robust security-by-design principle, so that European networks will be ready to embrace the IoT and AI revolution. Responsibilities should be attributed according to a risk-based approach, including relevant sectorial initiatives, that look at the implications for the safety and privacy of users of different products and their application.

Measures to safeguard the security of networks should also be carefully evaluated against their wider impact, including on ambitious 5G roll-out objectives. Security and competitiveness are two strategic interests for Europe on the global stage that must be complementary, not in contradiction: guaranteeing that all components of telecom networks do not pose a threat to European citizens should not go to the expense of preserving the competitive environment in the emerging 5G market.

While telecom operators have vetting measures in place when acquiring network components and independent security audits are commonplace in many European countries, a coordinated EU approach to network supply chain security would harmonise the level of infrastructure resilience in the internal market and bring more certainty to 5G investment plans.

Security spending:

↑+11.8%

After governments, **telecoms will be the biggest spender in security-related hardware, software and services** in the period 2019-2022.

Source: Worldwide Security Spending Guide, IDC, 2019

CONNECTING EUROPE IN A SUSTAINABLE WAY

Sustainability, to the telecoms community, means that our products, services and networks have a sustainable impact on societies. However, it also means that – through telecoms technology – we should help tackling broader societal issues. In this context, digital access reveals its full potential when assessed in terms of its value and impact on economy, society and environment. When it comes to digital networks and services, sustainability considerations encompass various aspects ranging from climate change to health and safety. **The sustainability element is essential in the EU connectivity agenda,** as we know that digital access is strongly correlated with improvements at the societal, economic and environmental level. Reports show that 11 out of 17 Sustainable Development Goals have a strong positive correlation with digital access (GeSI/ Accenture, 2018). If we are to maximize the impact of digital transformation, we need proactive policies that promote not only access to digital services, but also their uptake across different functions and services of society.

Climate change is today a top concern for citizens, businesses and policy-makers alike. For both politicians and businesses, the time of "greenwashing" is over. Stakeholders are increasingly converging on the need to take speedy and effective action. Already today, many telecom companies have taken decisive action by incorporating environmental goals in their strategies, including for deployment and operation of digital networks. ETNO member Telefónica was the first telco in the world to issue a call for green bonds, a crucial financial tool to speed up transition towards becoming a lower carbon company. Similarly, several ETNO members have undertaken leading initiatives in this field. Among others: Orange and its comprehensive environmental policy to optimise energy consumption, Telia Company and Deutsche Telekom with their bold environmental goals. Energy efficiency has clearly emerged as the top priority for all telecom companies,

Carbon emissions:

↓-1.3%

Expected adoption of **digital technologies will reduce global emissions by 1.3%** in 2030, equivalent to 668 Mt CO2e.

Source: Deloitte for GeSI, Digital with Purpose, 2019

as it allows to meet ambitious climate targets while lowering the costs of running new networks. These voluntary initiatives are on track to deliver significant results, with telcos starting to announce target dates by which they will be able to fully switch to renewable energy sources.

As more and more data are produced and stored globally, public policies must support efforts towards further greening the digital economy, including the telecoms sector. At the same time, digitalisation of traditional industries, such as energy and transport , should be strongly incentivised also through proactive policy targets.

However, being sustainable also implies meeting the broader societal expectation for businesses to be aligned with the aspirations of the communities they empower. In this context, we must not ignore that there are concerns as to the possible health implications of Electromagnetic Fields (EMF), with the ongoing 5G roll-out across EU regions. Based on current scientific consensus and guidance of public health authorities (e.g. WHO), the mobile industry is rolling out new networks in accordance with the highest safety standards. It remains the duty of public institutions to provide independent, scientific and fact-based responses to legitimate health-related questions from the public.

Taking Action, Together: World Class Connectivity

01 **Complement the Gigabit Society targets with strong demand-side targets** to ensure a pervasive and transformational adoption of new connectivity technologies, including policy targets for digitalising traditional industrial sectors such as transports, automotive or manufacturing.

02 **Streamline the EECC implementation towards real achievement of increased private investment** in VHC networks in order to speed up availability and uptake of ubiquitous high-speed connectivity and services in a timely fashion across Member States.

03 **Promote effective regulatory and policy approaches to bring down the cost of mobile and fixed roll-out**, including fair conditions for spectrum awards, flexibility for business models, and sharing agreements.

04 **Invest in the spectrum peer-review** to promote best practices in spectrum awards and real coordination on spectrum policy, and to request the input of the industry in the peer-review process.

05 **Launch a EU green-tech policy:** support ICT companies taking a sustainable and green approach across the digital ecosystem and launch policy goals to speed up the adoption of digital technologies for achieving climate goals in critical industries (eg. logistics and energy).

06 **Apply high cybersecurity standards established in the EU to the whole supply chain,** particularly to software and hardware manufacturers.

07 **Proceed expeditiously with the development of a EU-wide approach to 5G security** that could include measures in relation to equipment testing and certification, taking into account existing international standards and schemes, as well as national best practices.

08 **EU institutions should promote further independent, scientific research and provide fact-based responses to legitimate health and safety-related questions on EMF,** aimed at promoting an objective and harmonised approach on the issue.

09 **State aid and public funding** should be used as tools to incentivise private investment and to cover funding gaps only in clearly defined market failure areas in order not to crowd out private investment.

Technology empowers societies. That's why Europe should lead

Chapter 1

World Class Connectivity

Chapter 2

EUROPEAN LEADERSHIP IN TECHNOLOGIES AND SERVICES

Chapter 3

Citizens at the Centre

THE NEED FOR A POLICY FOR INDUSTRIAL LEADERSHIP IN DIGITAL TECHNOLOGY SERVICES

The European Union is a thriving market for digital services, with over 500 million potential users and widespread connectivity, offering a strong growth potential for innovation in digital services.

The EU's DSMS had a clear vision: remove regulatory, economic and technical barriers to achieve a truly integrated market that allow all innovators to benefit from economies of scale and that give all citizens more choice for better services.

One of the biggest challenges of the recent EU digital strategy has been to make progress in establishing the rules of the game for all service providers, be they European or foreign, to compete on equal footing in Europe. Has that worked to lay the ground for a successful European digital service industry that can thrive on the global market?

Investment effort:

↑€47bn/year

Telecoms investment in Europe

Source: Analysis Mason for ETNO (2019), IDATE for ETNO (2018)

EBIT lost:

↓ €100m/day

Daily telco EBIT lost to digital disruptors over the past decade

Source: Accenture Strategy for ETNO, 2017

The effects of public policies typically take several years to unfold, and they are influenced by multiple factors. However, some figures hint at the huge gap that needs filling: out of the Forbes "Digital 100" ranking of the top 100 public companies shaping the worldwide digital economy, only 13 are from the EU-28. Europe also hosts some 12% of the world's unicorns, five times less than the US and 2,5 times less than China.

When looking at the creation, patenting and roll-out of new technologies such as Artificial Intelligence and blockchain, this divide is widening. To counter this trend, Europe needs **an ambitious policy for industrial leadership** that puts the digital economy at its center and that addresses all segments of the digital value chain and all solutions: we need an integrated digital competitiveness agenda that leverages the strengths of the European digital sector, including the telecommunication industry. Innovation-friendly regulation, funding, tax policy, and other instruments should be regarded as complementary to fostering the EU digital industry capabilities and to encouraging cooperation among industrial actors so that Europe can build scale, especially when it comes to IoT and data-enabled business models.

The EU policy for industrial leadership should also leverage the continent's economic specificities, focusing for instance on digitalising the services sector, which accounts for over 70% of GDP and jobs in the Union, and its still robust manufacturing sector, which accounts for 17% of value added and makes the EU the world's biggest exporter of manufactured goods, with strong output in machinery, transport equipment and food products.

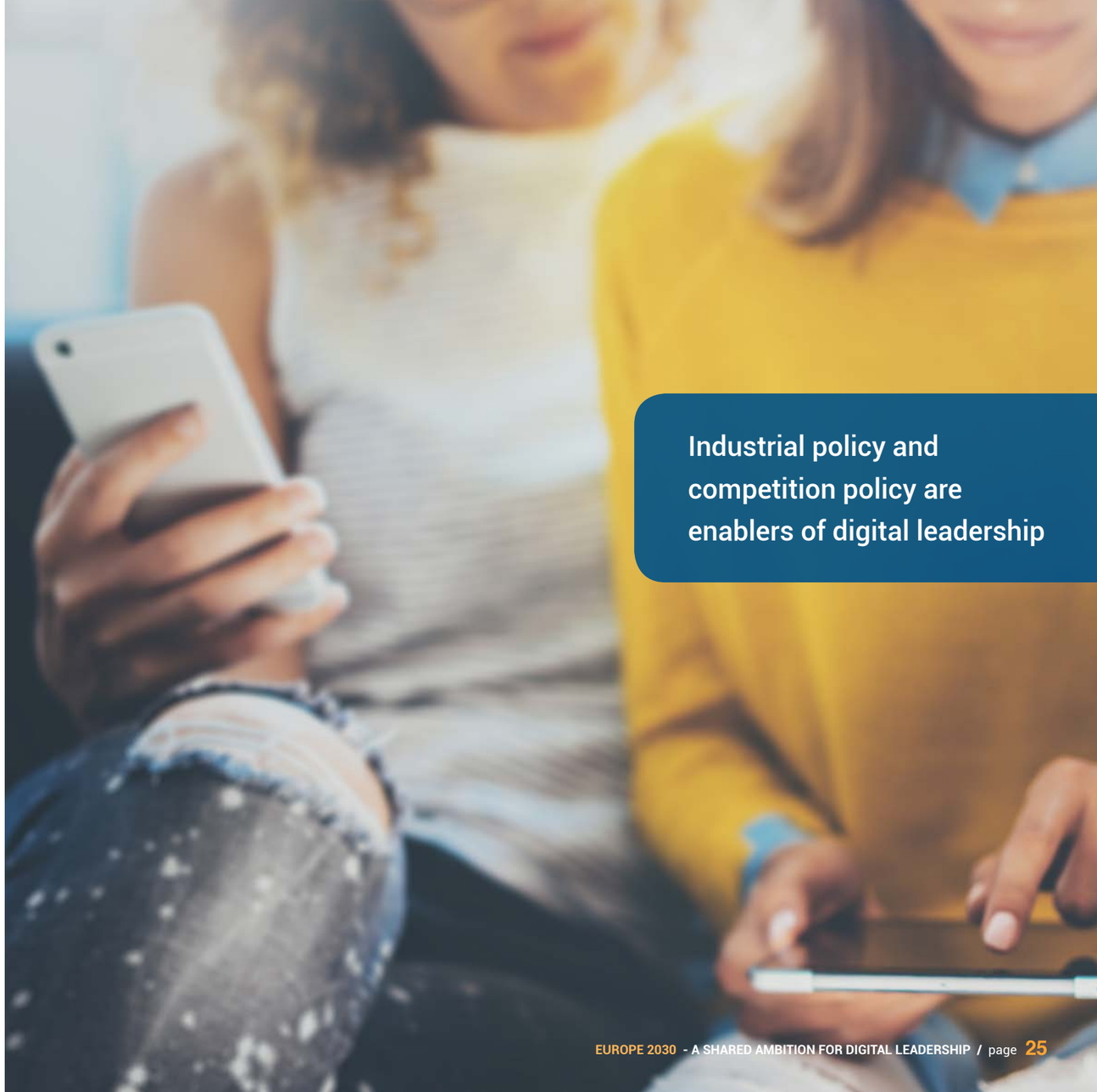
Another strategic goal of this ambitious policy would be to increase Europe's supply of crucial technologies, products or services that underpin the whole digital economy and have a strategic role for society. In the cloud market, for example, there is space for and need of more European players, as non-European cloud infrastructure providers currently account for about 80% of the global market. Europe's policy for industrial leadership should identify the key market segments where the EU digital sector would benefit from less reliance on few, large providers and use all the instruments to promote diversification, including through European solutions.

In this context, **EU competition policy should be considered as complementary, not opposed to, the EU industrial policy.** Defining markets in a dynamic way, providing more flexibility for horizontal cooperation among industrial players and stressing the innovation focus are all essential to adapting the current framework.

World-class connectivity in 5G and fibre, as outlined in the first chapter, will be a key enabler of Europe's digital economy and of the increasing digitisation of services and industrial processes, cutting costs and increasing efficiencies. 5G will enable the rapid growth of the IoT: the number of mobile IoT connections in Western Europe is set to grow from 78.6 million in 2017 to 433.9 million by 2023. IoT will have a huge impact on automotive, industry, retail and smart building equipment.

The large trove of data generated by IoT connections and devices will create fresh resources for growing data analytics and Artificial Intelligence in Europe, which will give another boost to the competitiveness of the EU economy. In the telecommunications sector alone, AI will make connectivity "intelligent" with functionalities like network optimisation and predictive maintenance.

5G will then drive IoT, and IoT will in turn fuel European AI, which will empower intelligent 5G connectivity. Together they can form a truly powerful virtuous circle. It is at the intersection between the IoT and AI, empowered by 5G, that we can create a new promise for globally competitive European industries.



Industrial policy and competition policy are enablers of digital leadership

A EUROPEAN WAY FOR THE DATA ECONOMY

The success of this virtuous circle rests on the availability of a crucial “raw immaterial”: data. If Europe is to scale and compete globally in AI, new sources of large streams of data coming from millions of sensors connected over 5G will need to be exploited. Therefore, **boosting the data economy** should be a cornerstone of Europe’s policy for industrial leadership.

Any further steps in this direction should nonetheless take into account that the General Data Protection Regulation (GDPR) sufficiently supports the free and safe flow of personal data, whereas the sharing of industrial and machine-generated data between businesses and with public authorities should continue to be based on contractual freedom in order to foster continuous investment and innovation in data-based solutions.

While data is a key factor for success in the digital economy, it can also be used to exert dominance and raise barriers to competition by major digital gatekeepers. Established market failures could demand targeted and proportionate intervention in sectors where data access could become crucial for competition, including through the instruments offered by competition policy that should be adapted to the new digital challenges. Blanket obligations to share privacy-held data with public authorities or other businesses would undercut the value of the data and have a chilling effect on a largely well-functioning and evolving data market. Technology neutrality, proportionality and freedom to contract should again be the guiding principles of a horizontal framework that encourages voluntary cooperation in data-based innovation.

Control your data: telecom providers have taken steps to **go beyond regulatory obligations to put their customers more in control of the data they share** across the services they use.

Source: Assembly Research for ETNO, 2019

TRUST AS A COMPETITIVE ADVANTAGE FOR THE EU

A fundamental issue for the success of the data economy is trust. The protection of personal data remains an important concern for European citizens: only 14% of them feel they have complete control of the information they provide online, and many are concerned about their data being misused. Recent large-scale data breaches and the rise of online misinformation could bring about, in the long run, a real “crisis of trust” among users of digital services.

Europe has a role and a responsibility in preventing a “techlash” that could hold back the development of the EU’s digital economy. If we are able to develop and propose products and services in accordance with the European values, which use personal data based on European security and privacy standards, we can respond to the urgent demand for trusted services. A forward-looking strategy for industrial leadership should establish **trust as a competitive differentiator** and make sure that European values, principles and regulations do facilitate European innovators to tap into this market, in the Union and worldwide.

The respect of confidentiality of communications shall remain a key component of trusted services and should apply in a technology-neutral manner. This is all the more imperative with the emergence of AI systems and virtual assistants, which blur the boundaries between online and offline and give rise to new risks. Thorough assessment should be given to how the GDPR applies to these systems and how it can best protect confidentiality of immersive communications.

Taking Action, Together: European Leadership in Technologies and Services

01 **Build an ambitious policy for industrial leadership** that puts the EU digital economy at its center as a driver of competitiveness. An integrated policy should include at least the following key components:

- **A sound and reliable regulatory framework for digital services,** including platforms, that ensures legal certainty, trust and fair, transparent competition in the market for everyone. Objectives should include harmonisation, openness, and transparency. The approach should be targeted to specific problems where harm occurs and be risk-based. It should also be inspired by the principle of technology neutrality.

- **An ambitious budget for the development of digital infrastructure and services** such as IoT and AI, with bold and coordinated funding from the Horizon Europe, Digital Europe and Connecting Europe Facility programmes. These instruments should promote open innovation and standardisation of European solutions and technologies, helping their supply worldwide.

- **Measures that promote diversification and European solutions for key segments** of the digital value chain where market concentration leads to high dependency on few, big foreign players. More incentives for horizontal and vertical cooperation among industry players could help increase innovation and offer in key markets.

02 **Update the tools and methodologies of EU competition policy** in light of the new digital environment, in order to support industry collaboration across silos and to enable European companies to innovate and compete in a data-driven economy.

03 **Achieve a European Data Economy:**

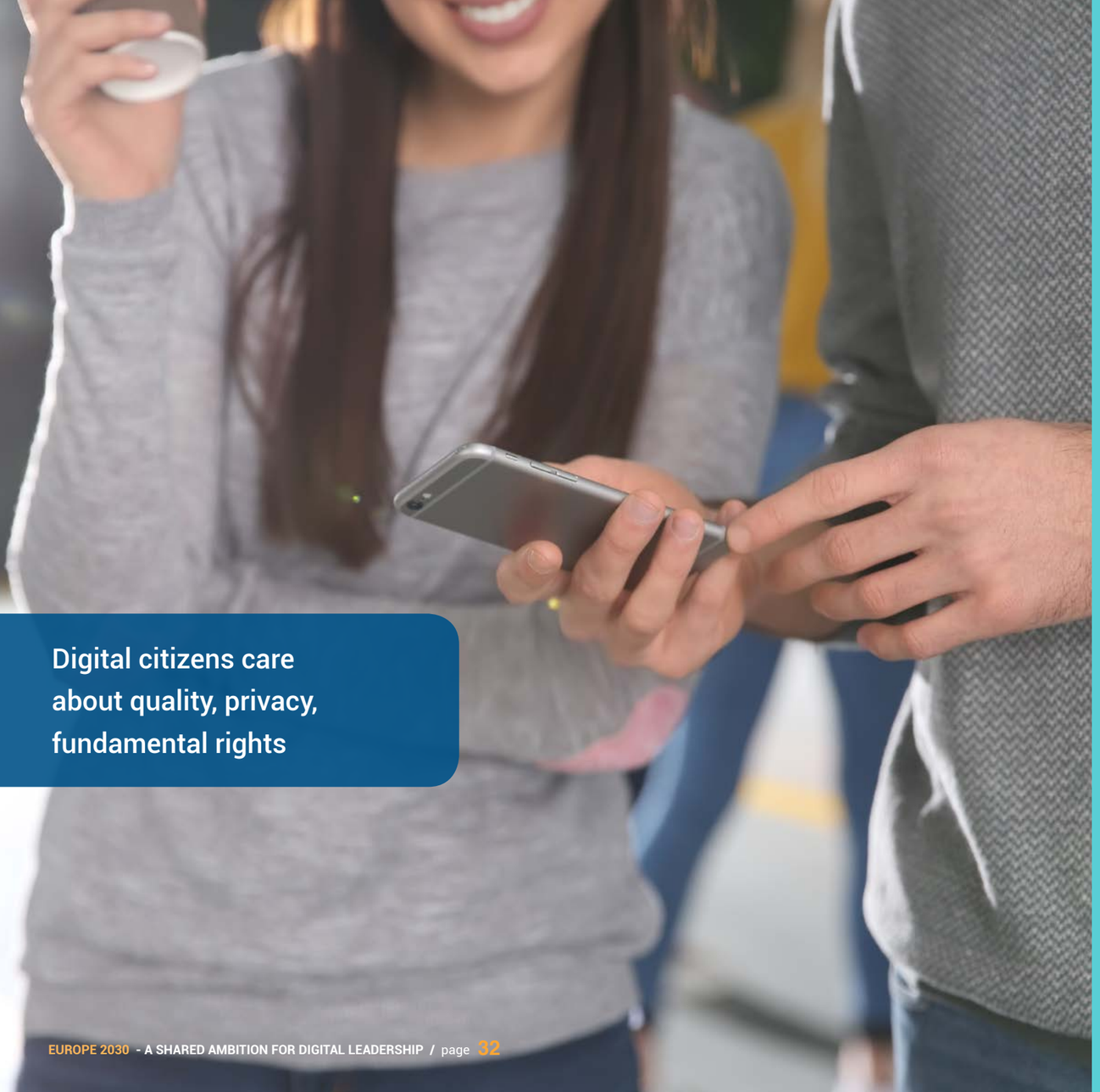
- **Facilitate market-based, voluntary sharing and pooling of data for innovation,** especially industrial IoT data, also by promoting industry-led data marketplaces.

- **Bring down the existing barriers to developing EU data-based services,** ensuring that European innovators do not meet unnecessary barriers. These include avoiding sectorial regulation that prevents EU companies from competing in the data economy on equal footing with other competitors.

04 **Make trust Europe's competitive advantage:**

- **Guarantee the privacy and confidentiality of all communications in the EU,** no matter what the technology or the platform is chosen by the users. Privacy is a factor of global competitiveness.

- **Look at the EU data economy in its entirety,** avoiding as much as possible sectorial initiatives that would create a piecemeal approach and that bear the risk of intensifying the current imbalances in the market, rather than addressing them.



Digital citizens care about quality, privacy, fundamental rights

Chapter 3

CITIZENS AT THE CENTRE

FROM MARKETS TO CITIZENSHIP

A true policy for digital leadership is not just a mere economic exercise. Too often, EU public policies have focused narrowly on strictly econometric goals. The EU is not only an economic Union, but also a political and cultural one. Therefore, we should better integrate broader cultural and societal objectives into our common action. We should continue to liberalise, integrate national markets and promote competition, but we should also deepen our focus on European citizens from a broader perspective.

In the digital field, policymakers have often addressed European citizens mainly as economic agents: consumers, users, workers. Benefits to individuals have typically been measured against relative wealth, in terms of spending and choice. A certain disregard for the social dimension of public policies and for the long-term impact of economic measures has led to a diffused short-sightedness, whereby short- or medium-term objectives have obfuscated their wider impact – actual or perceived – on citizens' life in the long run.

Putting citizens at the centre of our digital policies means putting consumers first, but also tackling other crucial aspects of the individuals' lives in the digital space, where quality, privacy and fundamental rights play an equally important role in the technological choices made by Europeans.

CITIZEN-CENTRIC POLICIES FOR CONSUMERS

Electronic communication services and connectivity underpin people's digital lives and consumer behaviors. The centrality of telecom services entails a high level of responsibility towards customers in assuring their digital experience. Industry is thus striving for a continuous improvement of choice and quality of their services and of customer relationship with investments in online portals, AI and chatbots that enable consumers to interact more easily with operators and get assistance at any time of the day.

However, as markets and technologies converge, connectivity becomes increasingly embedded in wider consumer propositions and larger ecosystems. And digital ecosystems themselves have become more complex and multi-layered, with the ever-critical role of online intermediaries like search engines, operating systems and voice assistants in shaping consumers' relationship with digital services.

Table 1: Transparency tools for consumers

Country	Operator	Tools provided
Belgium	Proximus	• Mobile coverage map • Speed test
Bulgaria	Vivacom	• Mobile coverage map
France	Orange	• Fibre coverage map • Mobile coverage map
Germany	Deutsche Telekom	• Fixed and mobile coverage maps • Speed test
Italy	TIM	• Coverage maps for mobile • Speed Test
The Netherlands	KPN	• Coverage for mobile networks • Speed Test
Poland	Orange	• Coverage for fixed and mobile services • Speed Test
Portugal	Altice Portugal	• Coverage for 3G and 4G, by municipality, on a scale of three levels ('reduced', 'partial', 'good')
Romania	T-Mobile	• Mobile coverage
Spain	Telefónica	• Coverage maps for 2G, 3G, 4G • Speed test in the dedicated mobile app
The UK	BT	• Coverage checker • Speed test

Source: Assembly Research for ETNO, 2019

This calls for a comprehensive approach to citizens of digital societies that should also encompass a coherent **consumer policy** that keeps protecting and empowering people in an effective manner along with technological developments, but that also recognises the dynamic and evolving approach and expectations of consumers towards digital services and the value they attach to those services.

Transparency and fairness should be granted to users irrespective of the technology used and of the price they pay for the service. Monetary price should not be a criterion for the level of protection afforded to consumers, considering the growing relevance of "free" services in the digital economy, where the price paid is user data and attention that fuel huge revenues. Furthermore, consumers should always have effective and easy redress, where proximity is of essence. No service provider should be able to abuse asymmetries of resources and information with its customers.

Harmonisation of consumer protection law across EU markets is crucial not only to give consumers the certainty that their rights are equally protected regardless of where they are located, but also to enable the development and spread of homegrown innovative services in the European internal market.

SKILLS AND DEMAND AS ANCHORS FOR THE DIGITAL ECONOMY

Digital transformation is changing production, business models, service delivery and consumption, which inevitably impacts the way in which European citizens work and conduct their everyday lives. Equipping citizens with the right set of **digital skills** and with possibilities for continuous learning have become critical success factors for the digital economy.

The nature of employment is evolving: some estimates state that automated opportunities will affect 50% of current jobs and will considerably change a large number of tasks (McKinsey Global Institute, 2017). In practice, this means that demand for ICT specialists as part of workforce will continue to grow and that a higher proportion of employees will need to adapt their skillsets to the digitised environment. According to the EC's DESI report (2019), ICT specialists make up to 3,7% of the total EU workforce, but the demand for these specialists is higher than the current supply and growing. The European telecoms industry as well as the digital economy at large rely on the availability of highly skilled ICT specialists, and the EU should promote and support the development of this skill base and job market through campaigns and funding programmes. ETNO, together with its social partner UNI Europa, has started doing its part. Based on a long-standing collaboration, we regularly develop and publish best practices on skills as well as the well-being of ICT workers.

Digital Education:

↑+11%

Proportion of EU population who will be empowered to complete high-quality education online by 2030.

Source: Accenture Strategy for ETNO, 2017

In parallel, basic digital skills have become an essential tool for citizens to cope with the fast-changing job market and to fully benefit from our increasingly digitised economy and society. Nearly 60% of EU citizens have basic digital skills, but the lack of skills remains one of the main barriers to having Internet access at home, ranking higher than, for example, cost-related considerations (EC DESI 2019). As technological transition causes apprehension for individuals and society, we must dramatically step up efforts to reduce disruptions and ensure everyone is ready to seize the benefits. Digital skills should be made a strategic, horizontal priority across all the actions on the EU Skills Agenda. There are already several best practices across European markets, such as Altice Portugal's education programmes or social inclusion plans. Supporting and scaling-up these initiatives is crucial to achieving our digital objectives.

While digital skills development is important from the point of view of an individual citizen, they also support the wider eco-system of digital economy by encouraging the uptake of new generation connectivity and cutting-edge digital services. This organic **demand stimulation** is crucial for the development and roll-out of new technologies such as 5G that can bring large benefits to individuals as part of the society. Nurturing real-life use cases for 5G with a huge transformative potential for citizens and their communities (e.g. connected and automated driving, healthcare, energy) will be particularly pivotal in fostering the business case for more sustained investment in European networks and services, while transforming the way citizens live, work and interact.

We can make a real difference by stimulating demand and promoting digital skills

EMBRACING DIGITAL EQUALITY

An integrated approach for European digital leadership should put citizens back at its center, acknowledging that economic success is fully met as long as citizens' needs and expectations are fulfilled in terms of available service offerings, ease of use, accessibility, sustainable employment opportunities, and respect for human rights. The economic and social opportunities generated through digitalisation should be within everyone's reach, on an equal basis.

Accessibility and Digital tools: Telecom operators are **enhancing accessibility for consumers with disabilities,** often going beyond regulatory requirements. Apps, among others, have made more accessibility services available at lower costs or for free.

Source: Assembly Research for ETNO, 2019

Citizen-centric digital policy approaches based on equality, not only decrease exclusion, marginalisation and discrimination of individuals or communities, but also enhance the overall economic and societal benefits for everyone. Europe should aim to create an environment which allows its citizens to have equal possibilities to access Internet services and be active contributors in the digital society. The EU should continue to promote the development of tailored programs and solutions for user groups requiring support (e.g. disabled users, elderly, refugees) in cooperation with industry as appropriate.

In the telecom sector, there is ample space to increase the proportion of female professionals across different functions. Europe should continue to recognise and celebrate its female telecoms champions to support girls to become more active in the ICT sector from an early age.

Women empowerment

↑+0.5% years

A 5% increase in digital access would result in a 0.5% increase in years of schooling for girls and women compared to boys and men.

Source: Accenture for GeSI, 2018

Finally, new technologies using data and algorithms may create unintended or intentional bias for/against a specific societal group. The principle that outcomes of algorithmic decision-making must remain comprehensible to humans should remain a cornerstone of the development of Artificial Intelligence in the EU. We applaud the EC for having embraced a human-centric approach in its work on AI and in building trust in new technologies.

Digital leadership must be at the service of everyone.

Taking Action, Together: Citizens at the Centre

01 **Harmonise consumer protection rules and safeguards across the value chain** reflecting the evolving consumer patterns to digital services and electronic communications, the shift towards ecosystems based on the convergence of markets and technologies, and the need for consistent rules across borders to allow the creation and upscale of services in the single market.

02 **Urgently address the skills gap in the job market for ICT specialists through reinforced and targeted initiatives** to ensure the availability of skilled workforce that can lead the development and deployment of world-class digital infrastructure and services in Europe.

03 **Make digital skills a strategic and horizontal priority of the EU Skills Agenda** with an aim to ensure that more than 80% of the citizens of each European country has at least basic digital skills by 2025.

04 **Make diversity in tech a top political priority** by reinforcing support to programmes such as “Women in Digital” and extending them to other societal groups, so that new technologies reflect diversity in society.

All of us, together, should collaborate to achieve European Digital Leadership. None of us, alone, will be able to realise this goal.

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