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FOREWORD

We need the European Union (EU) more than ever! The new European political leadership taking office this year stands in front of a great opportunity to reaffirm their commitment to the European project and to bring Europe to the forefront of the emerging global digital era.

Europe is a large powerful continent built on democratic values. The EU and the freedoms of its Single Market have guaranteed peace, prosperity, and stability for more than 60 years.

The last 10 years have brought profound changes to the global geopolitical situation, including in the areas of security, sustainability, value creation, and trade. Europe will flourish in the global digitalised economy only if it remains united and capitalises on the size of its common market. Europe needs to understand that there are two types of countries in Europe: countries that have realised they are small and others that have not. That's why companies need a single unfragmented European Market to scale.

There is an urgent need for political leadership breaking down national silos and sustaining European values and prosperity in a global digitalised economy.

Value creation in the digital age is borderless and global, and companies need scale to compete. Looking back at the developments of the last 10 years, primarily the companies that were global and digitised managed to adapt, grow, and prosper.

Let us look at the basics of a people-centric democracy. We need to build an inclusive society, where people are empowered by and benefit from its advancements.

It is time to embrace the changes of digitalisation and globalisation with a clear vision and responsible leadership. Leaders lose when falling into the trap of being defensive and defining what they do not want instead of what they do want. As leaders in politics as well as in business, we need to ask ourselves: **“What do we want and how do we get there?”**

Our aim is to drive a more ambitious and harmonised European market integration for companies to grow and create value in a global digitalised economy.

Companies can drive more sustainable growth through the use of digital technologies. Sectors such as transportation, manufacturing, public services, and healthcare will be totally transformed for the better.

A photograph of a woman in a dark suit speaking at a podium in a grand, ornate hall. The hall features large arched windows with decorative glass and warm lighting. An audience of people is seated at tables in the foreground, looking towards the speaker. A banner in the background reads "DIGITALEUROPE" and "Ann...".

Digital has broken down old sectoral silos and new ecosystems of cross-sectoral collaboration are driving innovation and value creation. As a result, digital policy impacts all sectors.

Europe is often described as a global champion of regulation, and it is true that together we often managed to positively drive global change. But we must examine ways to make rules more effective and outcome-oriented.

Technology alone is merely a tool – it is up to our society to make sound use of it. We need to think about how to nurture European values, solidarity, cohesion, and prosperity to leverage the great European project into the digital age.

As decision-makers from the industry and politics we have a pervasive impact on people's lives. It is our common responsibility, together with other stakeholders, such as unions to "level up" the European society, so citizens and the market are ready for a sustainable, prosperous, and **STRONGER DIGITAL EUROPE**. This is DIGITALEUROPE's call to action.

Markus Borchert

NOKIA - DIGITALEUROPE President

Cecilia Bonefeld-Dahl

DIGITALEUROPE Director-General

Together we will strive for a Europe where digital technologies, innovation, and artificial intelligence (AI) can provide Europe's people with competitive jobs, better health, and better public services. A strong unfragmented DIGITAL EUROPE that takes leadership in creating digital Inclusion, green growth, innovation, trust, agile mission-based policy making that drives prosperity and creates benefits for the European society and leads globally in an open economy.

A Stronger DIGITAL EUROPE

Europe can lead, but we need to do so based on things that we excel at and the values we believe in.

However, we also need to face the fact that we still have a fragmented and highly regulated European market. In an era where consolidation and global scale are key to growth and competitiveness, we must be careful that we do not end up with a Europe where only corporate giants can afford to grow due to a fragmented European market. We must also enhance fair opportunities for European champions to emerge in a global competitive environment where scale is key to success.

Therefore, DIGITALEUROPE believes that the next Digital Single Market programme should be linked to clear mission-based policies setting ambitious goals.

Our DIGITAL EUROPE Vision 2025 is:

A Europe where digital technologies, innovation, and artificial intelligence can provide Europe's people with competitive jobs, better health, and better public services.

A strong unfragmented DIGITAL EUROPE that takes leadership in creating digital Inclusion, Green growth, Innovation, Trust, Agile mission-based policy making that drives prosperity and creates benefits for the European society and leads globally in an open economy.

For a sustainable, prosperous and stronger DIGITAL EUROPE, we believe that there are 7 key areas of impact that should be addressed by all decision-makers from the industry as well as government leaders, and public sector institutions: ▶▶

Digital Single Market

Inclusion

Green growth

Innovation

Trust

Agile & mission-based policy

Leadership

The future of Europe is **DIGITAL**.

Digital Single Market

As the European motto says, “we are stronger together”. This is true more than ever; Europe needs cohesion and we need to consolidate the Single Market to make it fit for the 21st century, and to be competitive in a global digital era. The EU Digital Single Market strategy should be recognised for prioritising digital as the core of EU’s actions. In the next five years, more efforts are needed to deliver opportunities in a harmonised European market.

DIGITALEUROPE believes it is time to strike a balance between risks and opportunities. Unfortunately, the debate around digital policy-making has primarily focused on “protection,” “risk”, and “disruption. It is time to take an innovative, mission-based approach and to focus on the benefits we wish to achieve for the citizens of Europe.

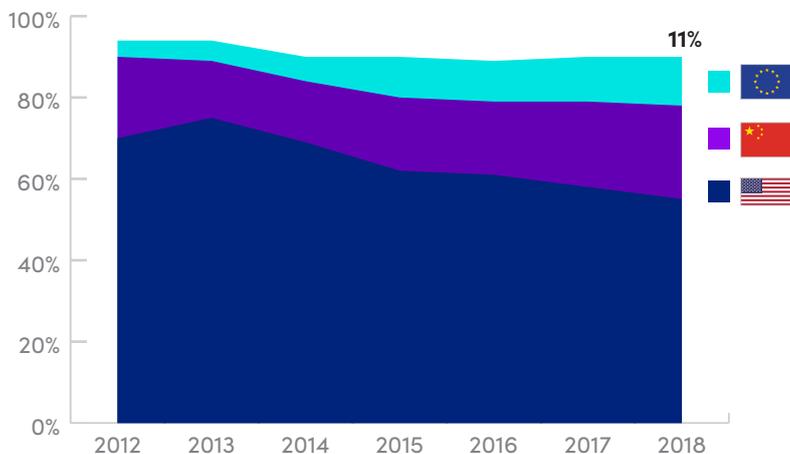
We would like to see the Digital Single Market relaunched with mission-based policy making and with the goal to achieve a strong competitive digital eco-system of innovative companies fulfilling the DIGITAL EUROPE Vision 2025, and a fully harmonised Digital Single Market.

Currently Europe has only 11% of global business unicorns – and 6% of these are based in the UK¹. We need to rapidly implement a truly harmonised Digital Single European market if we are to keep up with global competition allowing business to grow in a homogenous home market and Europe to create and maintain a fair share of European unicorns and champions.

Digital knows no borders, and digitalised enterprises, whether they include a physical product or not, are by nature global. European Small and Medium-Sized Enterprises (SMEs) are to a high extent linked to the international market either as sub-suppliers to the big players, or with direct market access through global platforms and supply chains.

It is essential to cultivate harmonised policies in the EU and strive for global harmonisation of rules. This prevents trade barriers and simplifies compliance, especially for start-ups. Let’s boost growth and competitiveness.

By 2025, Europe should be home to 25% of the world's unicorns
% of total unicorns



¹ CB Insights, [The complete list of Unicorn Companies](#), 2018

Inclusion

Are Europeans empowered in the digital age? Our DIGITAL EUROPE Vision 2025 aims to empower European citizens through digital competency and knowledge. We believe that only by enabling society's digital understanding and competence can we divert fear of technological developments into creativity. Our citizens must be not only users, but creators of innovative technological design.

There are challenges ahead: upskilling the manufacturing sector – 52% of the current European workforce needs retraining before 2022².

We need to urgently address the digital skills shortage to drive growth and secure prosperity for future generations, but also to make sure that people are empowered to voice their demands and to articulate questions to their political leaders. The question is not “what about job losses?”. The question is “do we have enough skilled Europeans that are ready to fill all these new digital jobs?”. While long-range studies vary in their predictions, virtually all of them outline a net positive outlook for jobs; from 1,8 new jobs per job disrupted³ all the way to 3,7⁴. Let us make sure that the young Europeans are ready for those jobs and that we make an extensive effort to reskill the current workforce.

This enormous job potential means that we will have to reform the educational system and the way we reskill people. All educational institutions should include key digital skills and integrate computational thinking in their curricula.

Young people should also have sound knowledge of privacy rules and cyber protection methods.

Higher education should include technology innovation in every discipline.



Digital should enhance a non-biased society, and technologies like Artificial Intelligence give us the chance to fight inequality by advanced transparent data analysis. Inclusion must be the rule not the exception, and digital services and products should promote inclusion. Efforts such as the European Accessibility Act (aimed at improving the access to goods and services in the lives of disabled or elderly people) and the Digital4Her declaration (which promises to get more women into the technology sector) are a good start, but more is needed.

^{2,3} World Economic Forum, *The Future of Jobs Report*, 2018

⁴ Agoria, *Be the Change – Shaping the Future of Work*, 2018

People have the right to participate in the digital society and to have access to digital services. We need to consider infrastructure and safe digital access as a basic right. A grounded and pervasive digital infrastructure will allow everyone, regardless of location, to reap the benefits of the digital age. We believe that by 2025, every European household should have access to 4G⁵.

Today, one household in ten in rural areas still does not have this basic connectivity right. Would citizens accept a Europe without highways?

No, and neither should they accept a Europe without an advanced and secure digital infrastructure as the base of all digital access and services.

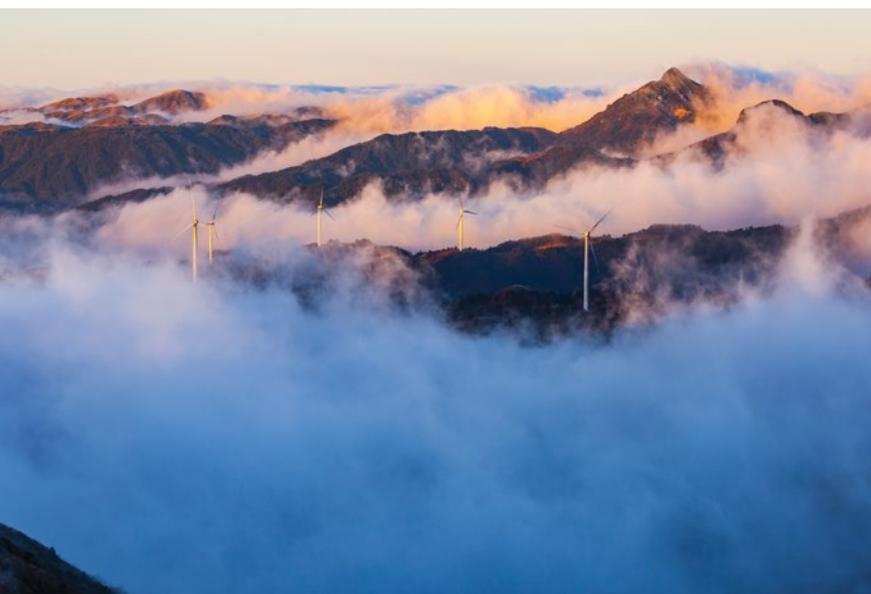
Green growth

With population growth and increased prosperity, demands for resources and materials, energy, food, and water have been rising. This does not only have an impact on our environment, it also presents challenges to the finite amount of natural resources, and therefore Europe's ability to grow sustainably and compete globally. To transform the European economy and generate new and sustainable competitive advantages for Europe, the European Union started a transition process to move towards a low-carbon, more resource-efficient and circular economy.

This transition is not only an opportunity for businesses and citizens, it is also a necessity from an environmental, economic, and social perspective. It will contribute to moving towards a more productive, higher added value and sustainable economy, and not least there is the potential to create new, green jobs for instance within the recycling industry. We believe there are opportunities for the EU to further encourage the transition to a circular economy by creating a truly circular single market, where materials can flow freely, and which boosts refurbishment, repair, reuse and recycling.

Digital technologies have an enormous enabling potential. Concerning mobility, they enable driverless and connected cars as well as ride-sharing services that contribute to reducing emissions from transport; in the energy sector, digital technologies improve the efficiency of distribution grids and utility operations.

To truly grasp the benefits of this transition, Europe should continue to build a framework for a sustainable, low-carbon, and resource-efficient Europe that is fit for the fast-moving innovations in our sector and leverages the true potential of digital technologies as key enablers for green growth.



⁵ Eurostat, [Rural 4G mobile broadband coverage](#), 2017

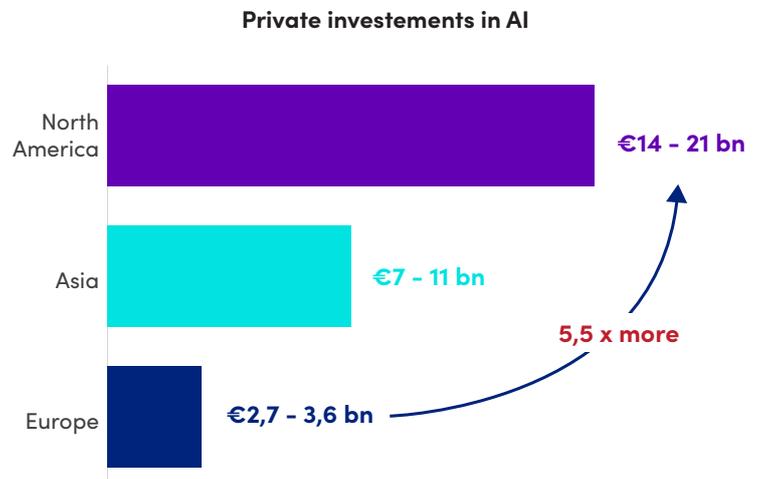
Innovation

In order to position Europe as a global leader, access to capital and strategic investments in innovation is crucial. In 2016, private investment in AI in the EU was between €2,7-3,6 billion, in China it was €7-11 billion, and the US was leading with €14-21 billion – more than 5 times that of Europe's.⁶

We therefore welcome the European Commission's proposal for the "Digital Europe Investment Programme". This programme will drive a long-needed acceleration of digitalisation in the European society. The Digital Europe programme is a great cross-sectoral initiative from the Commission with the target of adopting technology across all sectors. However, the current funding is merely a drop in the ocean. It costs €9,2 billion to digitalise all sectors in Europe and to invest in digital infrastructure and reskilling – the biggest challenge to growth – is much too low. It is evident compared to the support and subsidies granted to declining sectors. We need to invest in the future, not the past.

Europe can only lead through investing in the European technology adoption and the creation of innovative eco-systems enhancing innovation in crucial technologies like AI, Internet of Things (IoT), 5G. We urge Members States to collaborate and prioritise this and allocate a significantly higher budget for the Digital Europe programme. 5G, IoT and Cloud are turning-point technologies that could deliver socio-economic benefits worth more than €110 billion and create 2,3 million new jobs in Europe.⁷

Europe needs a dedicated "unicorn strategy" to raise the share of unicorns above the 11% witnessed in 2018⁸. In Nordic countries, arguably more successful than most, two thirds of unicorns leave Europe in the first two growth phases.



Europe needs a clear vision, leadership, and capital to ensure that next decade's world-leading unicorns come from Europe and are given the right incentives to stay. Public-private partnerships are just one aspect that should be fully explored. We believe that by 2025, Europe should have a minimum 25% of the world's unicorns and world-leading digital cross-sectoral eco-systems driving growth in key areas, such as manufacturing, healthcare, transportation, and public services.

⁶ McKinsey, *Artificial intelligence: The next digital frontier?*, 2016

⁷ European Commission, *Identification and quantification of key socio-economic data to support strategic planning for the introduction of 5G in Europe*, 2016

⁸ CB Insights, *The complete list of Unicorn Companies*, 2018

Trust

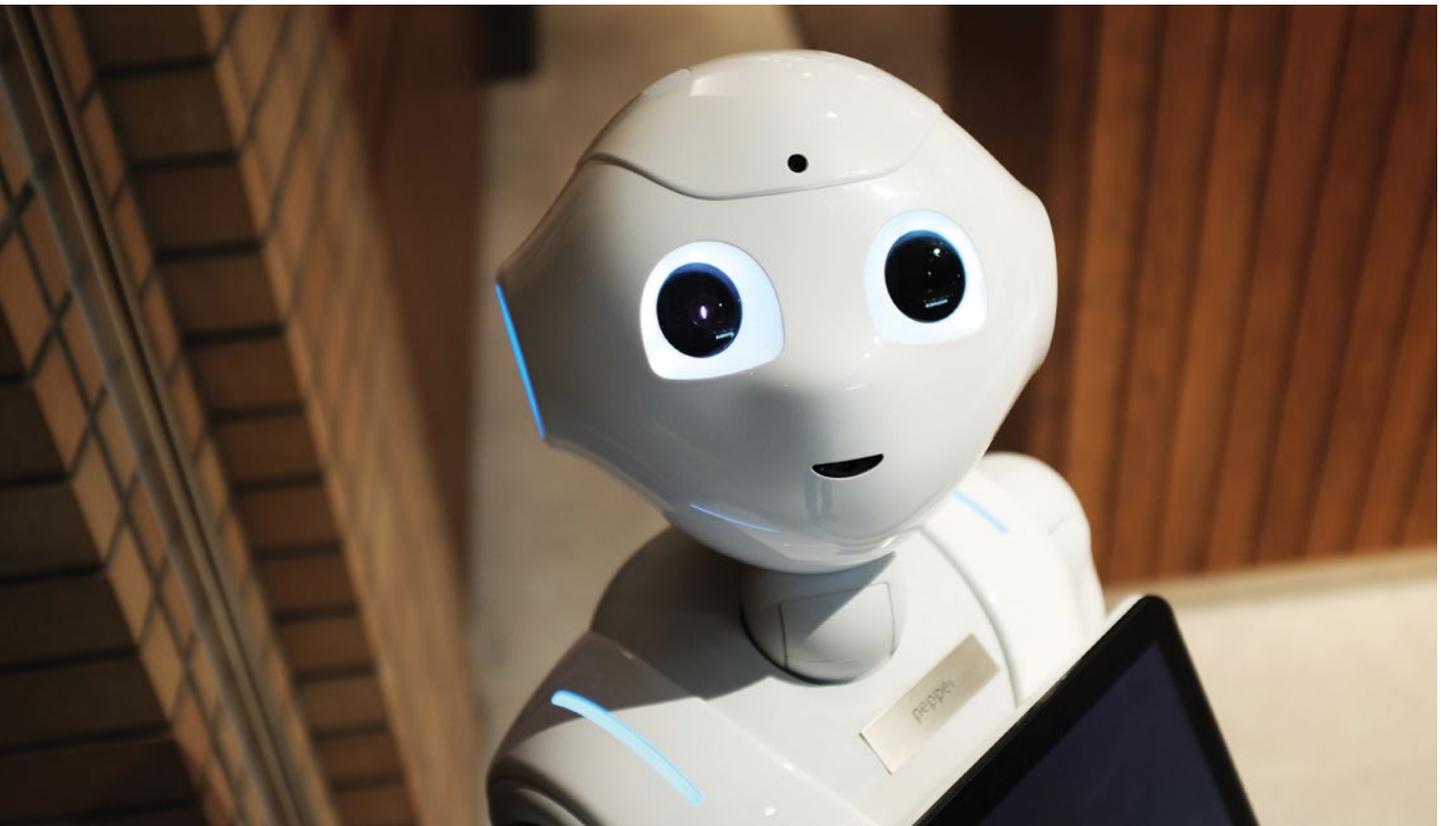
Trust is fundamentally important as it is the glue that holds relationships together and is the basic prerequisite for a well-functioning and participatory democracy.

Europe has been built on trust. It is crucial to avoid erosion, and leaders should therefore take responsibility and take actions to build trust.

The digital age brings numerous opportunities to boost trust by providing more transparency and easier access to information and platforms. Building trust means that Europe must continue to defend citizens' accessibility, privacy, cybersecurity, consumer rights, education, and workplace development.

In the digital age, trust is closely linked to cybersecurity. Europe must act as one in the area of cybersecurity to ensure there are no weak links in the chain. Efforts by governments and the industry to strengthen cybersecurity are crucial to maintain and build European citizens' trust. As data does not stop at borders, we need to collaborate also at a global level.

DIGITALEUROPE acknowledges that we, as decision-makers from the industry, have a pervasive impact on people's lives. We also believe that, together with the policy-makers from the EU institutions and national governments, it is our common responsibility to enhance trust and cement cohesion for the benefit of all Europeans.



Agile & mission-based policy

In the coming decades, societies will have to find solutions for global megatrends, such as population ageing in advanced economies, urbanisation, and sustainability.

Digitalisation and globalisation have changed the society and the competitive environment at a speed we have never experienced before. Long policy making processes driven only by institutions are out-dated and not fit for the real world. Europe has a long tradition on multi-stakeholder dialogue, and we should take this to the next level.

Agile and mission-based policies can provide solutions and approaches to address societal challenges. At the same time, they will promote innovation and inclusive growth. A STRONGER DIGITAL EUROPE should build on the following missions:

- ▶▶ An inclusive and social DIGITAL EUROPE that promotes participation and builds trust
- ▶▶ An innovative and sustainable DIGITAL EUROPE that brings benefits to the society at large and invests in future generations
- ▶▶ A strong and competitive DIGITAL EUROPE that reflects European values and thrives globally in an open economy

Europe is often described as a champion for regulation. But how can we renew our way of devising policies? Rather than creating new legislation by default, we should think about innovative ways of regulating. We should be scaling down outdated rules that inhibit innovation and think about providing guidance to achieve the desired objectives. Let's consider regulatory sandboxes to experiment in a controlled environment, under regulatory supervision. Let's bring policy and innovation into real life and renew our methods based on our traditions, and build an innovative, competitive, and stronger Europe.



Leadership

Europe needs global leadership. Instead of focusing on what they don't want, leaders need to articulate what they do want, and how to get there. In Europe, we share common values, but we also need a common vision and common goals across borders – as a leader, once you become defensive, you have lost.

Innovative leadership recognises that competition is global and that scale matters. We need clear incentives to encourage European companies to look past their own borders and compete in a harmonised European Digital Single Market and beyond.

Competition is healthy. We cannot accept that only one or two companies hold all the cards and stifle emerging businesses. However, it's not about keeping international competitors out, but ensuring European businesses can compete, and win, on a global scale.

Europe's strengths lie in manufacturing, the public sector, health, and transport. We are ready to drive agile mission-based policy making to strengthen the position of the digital and digitalising sectors in Europe and push to maintain an open global market economy.





DIGITALEUROPE calls upon all leaders to strive for:

A Europe where digital technologies, innovation, and artificial intelligence can provide Europe's people with competitive jobs, better health, and better public services.

A strong unfragmented DIGITAL EUROPE that takes leadership in creating digital Inclusion, Green growth, Innovation, Trust, Agile mission-based policy making that drives prosperity and creates benefits for the European society and leads globally in an open economy.

Success indicators for 2025

To measure Europe's success in navigating the digital transformation, we have identified 22 success indicators. At DIGITALEUROPE we believe that these metrics take the pulse of the European digital transformation that brings benefits to the society at large.

We will review these indicators on a yearly basis and publish a progress report.

For each of the indicators, we have set a 2025 target which we believe is both ambitious and achievable. We will be reporting on these on a yearly basis up until 2025 in order to monitor progress.

By 2025,

90%

of people who are without formal education should be regular internet users. At the moment 61% of people with low or no education use the internet less than once a week⁹.

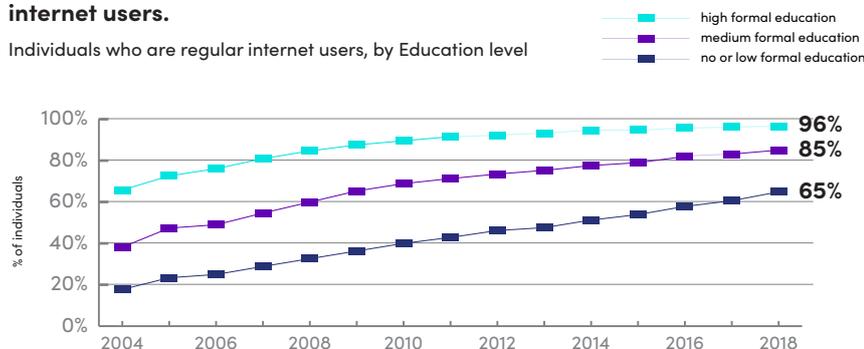
By 2025,

6%

of working women should be ICT specialists – currently only 1,4% of women in the EU are employed as ICT specialists¹⁰.

By 2025, 90% of people who are without formal education should be regular internet users.

Individuals who are regular internet users, by Education level



By 2025, **every European household should have access to**

4G

Today, one household out of ten in rural areas still does not have this basic connectivity right¹¹.

⁹ Eurostat, Individuals who have never used the internet, by Education level, 2017

¹⁰ Eurostat, ICT specialists, by Gender, 2017

¹¹ Eurostat, Rural 4G mobile broadband coverage, 2017

By 2025, Member States and companies across Europe should have completed retraining for 20% of the workforce, leaving only 32% of workers in need of reskilling.

52%

of workers need some form of reskilling¹².

By 2025, fewer than

10%

of internet users should be deterred from online purchases due to safety concerns. In 2015, 19% of internet users were discouraged from online purchases because of security concerns¹⁵.

By 2025, Europe should strive to invert the increasing gap of cybersecurity professionals that it requires. As of now, the gap is expected to rise to

350.000

by 2022¹⁶.

By 2025, Member States, universities and business should be

TRAINING SPECIALISTS

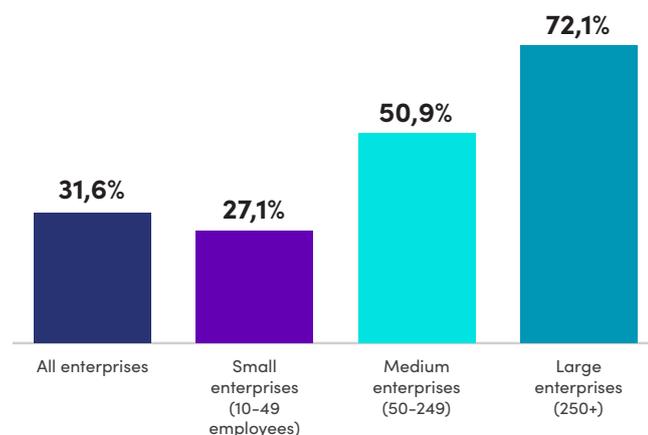
for the most in-demand jobs, including: data analysis scientists; AI and machine learning specialists; big data specialists; and digital transformation managers.

By 2025, all large European enterprises should have a clear

CYBERSECURITY STRATEGY

Efforts need to be made for Small and Medium-Sized Enterprises to implement cybersecurity strategies by an additional 20%. In 2015, only 31,6% had formally defined their ICT security policy. On this matter there is a great variance with 72,1% of large enterprises having done so against only 27,1% of small ones¹⁴.

% of enterprises with a formally defined ICT security policy



By 2025, enterprises in Europe should be providing ICT training to

30%

of their employees.

Today, only 22,6% of all European enterprise do so¹³.

¹² World Economic Forum, *The Future of Jobs Report*, 2018

¹³ Eurostat, *Enterprise providing training to their personnel to develop their ICT skills*, 2018

¹⁴ Eurostat, *Enterprises with a formally defined ICT security policy*, 2015

¹⁵ Eurostat, *Security concerns kept individual from ordering or buying online*, 2015

¹⁶ Frost & Sullivan, *2017 Global Information Security Workforce Study*, 2017

¹⁷ World Economic Forum, *How can digital enable the transition to a more sustainable world?*, 2016

By 2025,

15%

of all the material used in the economy should be recovered and re-used.

Today it is only the case for 11,7%¹⁸.

By 2025,

5G

connections should cover 40% of the European workforce, 70% of European industrial sites, and 80% of main logistics routes²⁰.

By 2025,

10%

of **Research and Innovation spending** should be targeted at ICT technologies – currently only Japan meets this target with the US at 8,2 and the EU at 6,8%²¹.

By 2025, all **Member States** should have updated their

NATIONAL BROADBAND PLANS

to adapt to the needs of **5G** and in line with EU's connectivity objectives.

By 2025, **European countries** should be spending

3% OF GDP

on **Research & Innovation** – Japan already meets that target with 3,3% spending, and in the US it is 2,8%. The EU average is 2%²².

By 2025, Europe should have saved

26 billion tonnes

of **CO₂ emissions** by digitising resource-intensive sectors.

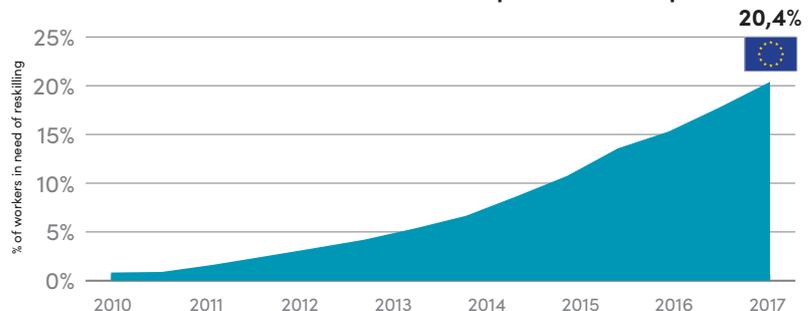
According to estimates, 15,8 billion tonnes can be saved from the electricity sector, 9,9 billion tonnes from the logistics sector, and 540 million tonnes from the automotive sector alone¹⁷.

By 2025,

70%

of **European households** should have a **broadband connection** with 100 Mbps or more. Today, only one out of five does¹⁹.

Share of fixed broadband subscription >= 100Mbps



¹⁸ Eurostat, Circular material use rate, 2016

¹⁹ Eurostat, Share of fixed broadband subscriptions >=100 Mbps, 2017

²⁰ CSS Insight, 1 Billion Users of 5G by 2023, with More Than Half in China, 2018

²¹ Eurostat, Public ICT R&D spending, 2016

²² UNESCO, Research and development expenditure, 2015

By 2025,

30%

of European manufacturing industries should leverage **big data analytics**. At the moment just 10,8% do so²³.

By 2025,

75%

of EU citizens should be using **eGovernment services**, compared to the current 52,5%²⁶.

By 2025,

15%

of European enterprises should be **selling across borders** – at the moment only 8,4% do so²⁵.

By 2025,

35%

of internet users should **order goods or services across EU borders** – last time it was recorded that figure was a paltry 18%²⁴.

By 2025, **Europe should be home to****25%**

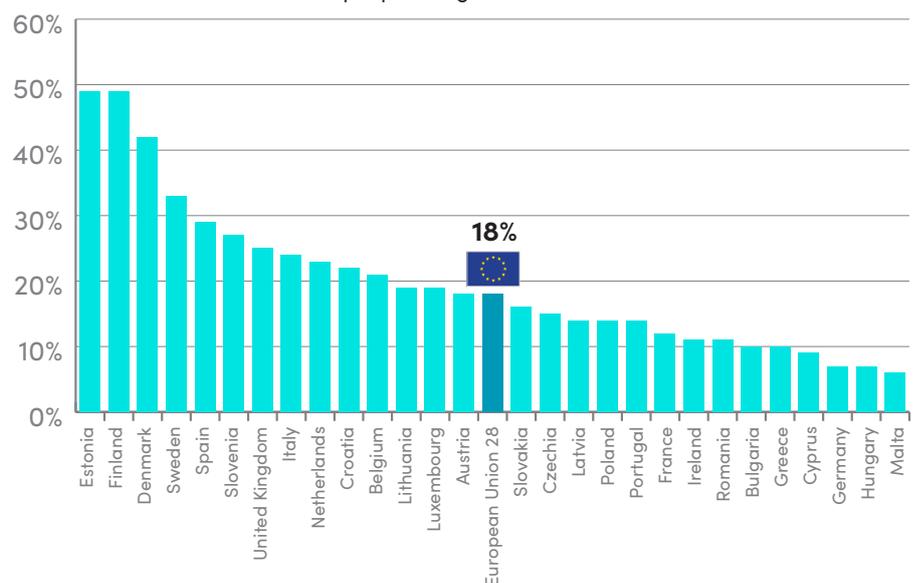
of the world's **unicorns**. In 2017 we were home to just 11,6% (and nearly half of them are based in the UK), far behind the US and China²⁸.

By 2025,

30%

of EU citizens should use **health and care services provided online**, following the example of Estonia and Finland where almost 50% of citizens take advantage of such services online. In 2018 for the EU, this figure was a meagre 18%²⁷.

% of people using health services online



²³ Eurostat, Enterprises analysis big data from any source, by Economic sectors, 2018

²⁴ Eurostat, Individuals ordering good or services online, from sellers from other EU countries, 2014

²⁵ Eurostat, Selling online Cross-border, 2018

²⁶ Eurostat, Individuals interacting online with public authorities, last 12 months, 2018

²⁷ Eurostat, Individual using health and care services provided online, 2018

²⁸ CB Insights, The complete list of Unicorn Companies, 2018

Enhance digital development to drive social inclusion

Digital transformation has the power to reduce inequalities across Europe. But doing so relies on empowering everyone – irrespective of their income, education, age or gender – and it requires harmonised action and greater collaboration across all players.

Today, more than a third of people without formal education end up falling out of the digital wagon²⁹ and there are 4 times more ICT specialists that are men than women³⁰. This represents a social as well as an economic loss to the EU and meaningful steps must be taken to promote accessibility and diversity in the digital sector. The EU must act to increase the engagement of women in the technology sector as well as encourage further inclusion for people with disabilities to better represent the wider population within the digital sector. This social inclusion must be achieved through both effective legislation as well as educational programmes for our citizens.

1

**AN INCLUSIVE AND
SOCIAL EUROPE
THAT PROMOTES
PARTICIPATION AND
BUILDS TRUST**

Implement efficiently the European Accessibility Act

Reinforcing the accessibility of products and services is a common goal of both the ICT sector and the EU. An efficient implementation of the European Accessibility Act, a key new EU Directive, will ensure a better implementation of the United Nations (UN) Convention on the Rights of Persons with Disabilities. It will also support the ICT industry in its ongoing mission to act as an enabler of the social, economic, and political inclusion of people with disabilities. To further advance accessibility and enable the ICT industry to reach an even higher level of accessibility of its products and services, we call on the European Commission to:

- ▶▶ Draft and release standardisation requests ('mandates') in a timely manner, to ensure that European Standardisation Organisations have enough time to draft standards and the industry has sufficient time to implement them.
- ▶▶ Provide guidance to Member States during the transposition of the European Accessibility Act into national law to encourage a coherent European legal framework, with only limited national disparities. To avoid legal uncertainty for economic operators, Market Surveillance Authorities need to exchange information to harmonise their practices and make their enforcement activities proportionate to the specificities of accessibility.

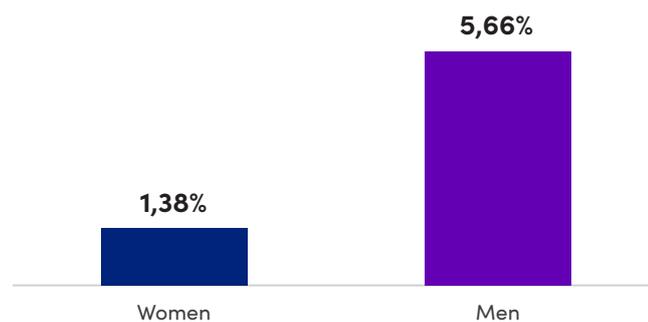
Encourage more women to engage in the technology sector and foster greater diversity

Technology solutions, especially Artificial Intelligence (AI) need to be developed in unbiased and inclusive ways to ensure that they reflect the society at large. More diverse and demographically representative participation of programmers, AI experts and designers, will help achieve this goal. According to Eurostat, fewer than two in ten ICT specialists' jobs in Europe are held by women. Typically, girls do as well as or outperform boys in Science, Technology, Engineering, and Mathematic (STEM) classwork, but their interest in STEM subjects starts to wane by the age of 15. Therefore, more emphasis should be put on gender equality in the ICT sector. It is important that children are exposed to technology at early ages, when they can develop digital skills and spark interest in STEM subjects. Combining learning technology with female role models is crucial in encouraging girls to pursue further studies and careers in STEM. Concretely, we ask European leaders to:

- ▶▶ Develop educational programmes that inspire young girls to study ICT and STEM subjects.

By 2025 6% of working women should be ICT specialists

% of employed women & men working as ICT specialists



²⁹ Eurostat, [Individuals who have never used the internet, by Education level](#), 2017

³⁰ Eurostat, [ICT specialists, by Gender](#), 2017

Create the jobs and skills of the future

The digital skills gap slows down Europe's growth and hampers competitiveness and innovation capacity. Unemployment remains high in the EU while there is an expectation of 900.000 unfilled positions requiring digital skills in the EU by 2020. Boosting the digital skills of the European workforce to match the needs of companies today and in the future, will ensure that companies in Europe (IT and ICT using/driven sectors) can remain competitive and grow. Member States profit from a European Union coordinated action that acts upon increased innovation and employability, modernising education and training systems through the diverse portfolio of EU funds and programmes. The support is reaching tens of thousands of local, regional, national, and Europe-wide projects, and millions of Europeans. EU funds and programmes can make a difference, but more needs to be done in helping Europeans acquire digital skills.

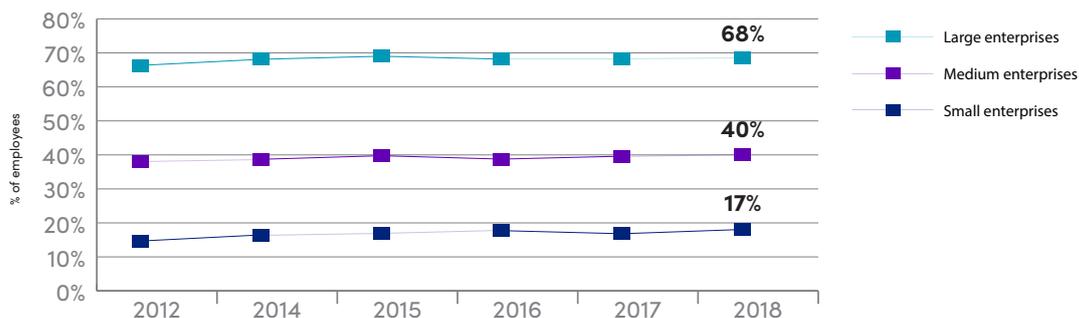
Provide state aid exemptions for SMEs investing in digital skills training for employees

According to Eurostat, in 2017 around 43% of the EU labour force did not have even basic digital skills³¹, and only one in five of companies reported having provided training to develop or upgrade ICT skills of their personnel³². SMEs typically struggle to invest in human resources while the large and/or multinational enterprises build learning plans and training budgets. Due to their limited resources, SMEs will always lag behind in terms of talent retention and development. Therefore, much emphasis should be put into helping SME's employees get proper training even at the expense of state aid rules. We therefore call upon European leaders to:

- ▶ Exclude SMEs from state aid rigor in the area of education and training for their employees. The state aid exemption should not exclude, but rather reinforce or complement, the existing national tax exemption rules or national fund schemes for companies supporting their employees in continuous training efforts.

By 2025, all enterprises in Europe should be providing ICT training to 30% of their employees

Enterprise that provided training to their personnel to develop/upgrade their ICT skills, by Enterprise size



³¹ Eurostat, [Digital Skills Indicator](#), 2017

³² Eurostat, [Enterprise providing training to their personnel to develop their ICT skills](#), 2017



Strengthen the digital sector contribution in the modernisation of education curricula

The digital age requires digital education. For more than 10 years, traditional understanding of literacy has also included a set of digital skills and media competences required in a knowledge-based economy and society. Mandatory education that foresees both using digital equipment in classrooms and instructional practice that makes effective use of technology helps children in becoming technology consumers and digital creators. As digital skills are transversal skills needed in life and work, 20 European countries have already integrated programming or computational thinking in their curricula, as a way to also boost other competences such as problem solving, logical thinking, and creativity.

The education curricula modernisation needs to also go beyond primary and secondary education. There is a great need for curricula modernisation at vocational training, university, and adult learning levels. We therefore call on European leaders to:

- ▶▶ Ensure a greater presence of the digital sector in tertiary and adult education to fuel the digital labour sector faster with the skills required by digital employers.
- ▶▶ Modernise national education curricula by embracing digital education, sharing best examples, supporting initiatives (such as EU Code Week, Safer Internet Day, National Digital Skills and Jobs Coalitions), partnering more broadly with digital sector, and orchestrating dialogue with stakeholders.

Enhance digital skills forecasts for better policy accuracy and digital labour market relevance

Good policy making requires a solid base of evidence and well-developed predictions to inform and guide policy decisions and implementation.

Foresight can help improve education and training systems, solve current educational challenges, offer projections of the future trends in employment, and analyse the current and future population's skills base. Digital transformation impacts the labour market not only by increased demand for skills, but also through significant changes in job profiles – new professions related to cloud computing, big data, AI, machine learning, etc., will emerge. As the traditional taxonomy of professions changes, the skills forecast must adapt to the nuances of the digital workforce. While the Digital Education Action Plan, Cedefop's Skills Panorama or Victory Project – analysing vacancies in a few EU countries – are steps in the right direction, more should be done. To reduce shortages caused by lack of information or information mismatches, we call upon European leaders to:

- ▶▶ Enhance digital skills forecasts at national and regional levels.
- ▶▶ Invest in deeper analysis of the digital skills needed for working with modern technologies such as: AI, cloud or IoT.

Provide work contract flexibility to promote EU skills mobility

Technology innovation changes the labour market. Companies are delivering services and employees are completing their tasks online, globally, working from anywhere. Digital solutions enable new ways of working e.g. teleworking, working from home, virtual conference rooms, etc. This way of working has a direct impact on working conditions, resulting in an increasing number of people working in part-time jobs or being self-employed. New business models, driven for example by social media, allow new generations of employers and employees to work flexible hours and remotely. In times of digital transformation, it is crucial that all stakeholders, especially companies and trade unions, are involved in rethinking the labour contract (ensuring e.g. lifelong learning, social security, etc.) together with the EU institutions and the Member States. We specifically urge EU Member States to:

- ▶▶ Involve the industry, employers, and trade union organisations in a broad debate on the proclamation of the European Pillar of Social Rights, and in particular the proposal for a Directive on Transparent and Predictable Working Conditions, as well as other acts leading to rethinking employment policies.

Provide a digital environment that enhances trust, privacy and security

Trust is fundamentally important as it is the glue that holds relationships together and is the basic prerequisite for a well-functioning and participatory democracy. While digital technologies do raise new challenges, they also present great opportunities to increase trust. Already today, new technologies are being used to provide more transparency and easier access to information and platforms. In the digital age, trust is closely linked to data protection cybersecurity. With the General Data Protection Regulation (GDPR), Europe has set the bar high for the protection of personal data and it should continue to do so. In the area of cybersecurity, Europe must act as one to ensure there are no weak links in the chain. Industry plays a vital role in fostering cyber security and a safe infrastructure and should as such be closely involved in the development as well as implementation of any frameworks designed to identify and remedy risks.

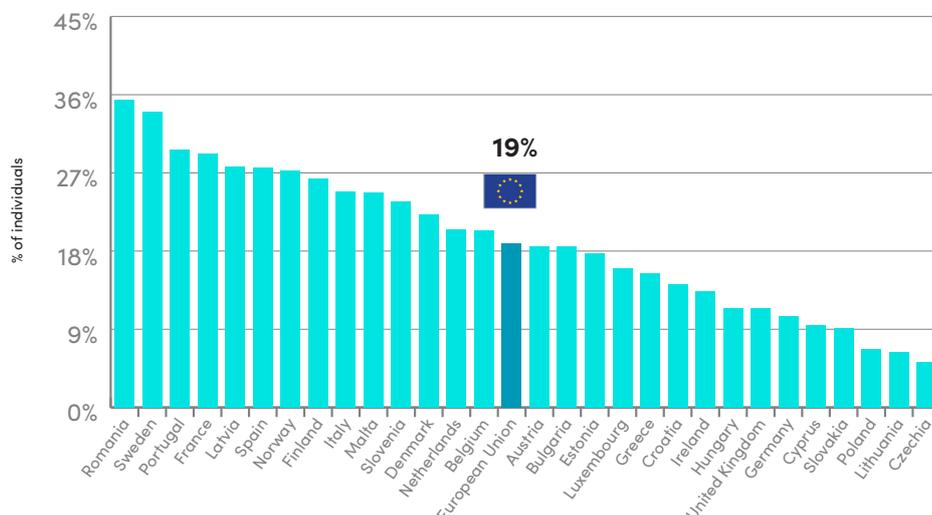
Together, leaders from the EU, governments, and the industry can strengthen our common cybersecurity through information-sharing, best practice, and a common approach to secure infrastructure.

Make GDPR implementation fit for technological change

The EU General Data Protection Regulation (GDPR) has clearly marked a shift in public conscience about the importance of data protection and it has generated unprecedented efforts from companies to ensure compliance with a complex set of rules and requirements. These efforts have also been clear on the authorities' side, both in the Member States and with the setting up of the new European Data Protection Board (EDPB). The complexity and variety of such efforts also require new ways of ensuring collaboration and mutual learning between the industry and regulators.

By 2025, fewer than 10% of internet users should be deterred from online purchase.

Security concerns kept individual from ordering or buying online
Year: 2015



Changes in technology and business models will be sweeping in the future and these must be reflected in the interpretation and implementation of the GDPR. This cannot be achieved without a meaningful industry dialogue with data protection authorities (DPAs), which should go beyond the current format of stakeholder consultations.

The independence of DPAs is not at odds with an open and transparent dialogue with the industry. Indeed, the DPAs' very statutory independence guarantees that ongoing structured involvement from the industry can greatly increase their knowledge, effectiveness, and responsiveness. We therefore call on European leaders to:

- ▶▶ Set up a "Privacy Competence Community," bringing together the main stakeholders from the industry, academia, and non-profit organisations to help advance and disseminate the latest privacy-enhancing solutions and provide structured industry input into the work of the EDPB.

Support a pan-European network of GDPR Codes of Conduct for SMEs

Preparing for Europe's new data protection law becoming applicable was particularly challenging for small businesses. Helping small businesses develop the skills to understand the most important aspects of their compliance obligations under the GDPR is desperately needed – without action, Europe will be faced with continued uncertainty and a waste of economic potential. To facilitate a correct understanding and implementation of the GDPR among Europe's broad SME base, we call on European leaders to:

- ▶▶ Support the development of a pan-European network of Codes of Conduct for GDPR implementation for SMEs, responding to the common needs of various SME sectors and facilitating widespread application of the GDPR.

Ensure changes to ePrivacy law improve trust in a fast-changing technological environment

With the GDPR, Europe has set a high bar for the protection of personal data. Electronic communications undoubtedly represent a significant portion of the data that is processed around the world, with Europe being no exception, as new industrial opportunities and the proliferation of Internet of Things (IoT) technologies, connected cars, etc. continue to drive digital transformation opportunities.

Europe has already tried to revamp its sectoral rules on privacy in electronic communications with the ePrivacy Regulation proposed under the current term. The complexity of the negotiations has shown that the current proposal fundamentally misunderstands the implications of expanding old rules to new paradigms. Because ePrivacy is key to improving trust in a fast-changing technological environment, we urge the next Commission to:

- ▶▶ Put forward a new proposal for the ePrivacy Regulation that fundamentally reassesses the relationship with the GDPR, ensures and provides clarity on the alignment between the two legal instruments, and enables beneficial uses of electronic communications and terminal equipment data.

Continue efforts to strengthen cybersecurity

Cyber hygiene and awareness have emerged as strategic assets for both corporations and governments. It is fair to say that the wellbeing of entire economies and societies depends on them. At the same time, cybersecurity is a moving target and requires constant adjustment and collaboration to identify and remedy risks, particularly as the attack surface expands with the growth of connected products.

Europe has responded to this challenge with a comprehensive strategy to improve the overall level of cybersecurity in the EU, a key part of which is the Cybersecurity Act giving the European Union Agency for Network and Information Security (ENISA) a permanent, enhanced mandate, and setting up a framework for the development of European certification schemes. We want this framework to be successful, which critically depends on the schemes' ability to generate uptake in the market and keep up with the various state of the art technologies and sectors that could be involved. To this end, we call on European leaders to:

- ▶▶ Involve the relevant industry experts in the development of the certifications schemes designed under the Cybersecurity Act. Involving the industry beyond the initial consultation phase, directly in the development of the individual schemes, will ensure both the quality of the schemes themselves and a broad uptake of the schemes by industry players.
- ▶▶ Ensure alignment with market-driven standards to facilitate industry adoption and global scalability.

Promote cybersecurity norms of behaviour

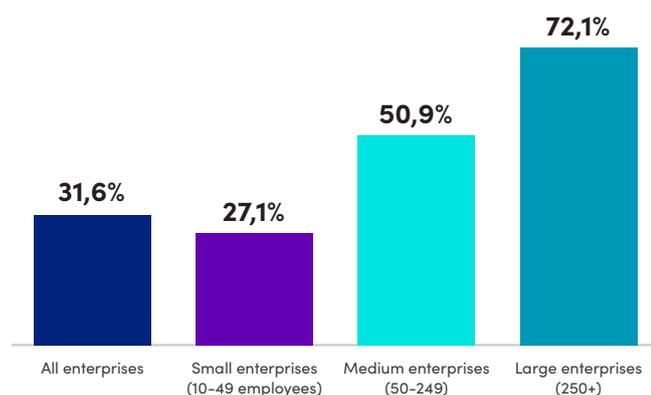
Protecting the security of European and global network information systems requires collaboration between the industry and governments. As the fall-out from the WannaCry and NotPetya attacks in May and June 2017 shows, substantial economic and social damage can be created, and lives put at risk when security vulnerabilities are hoarded for future exploitation by governments. The damage from attacks based on such vulnerabilities can be significantly mitigated if vendors have prior knowledge of them before they are released into the wild and are able to prepare patches and workarounds.

Recent attacks, consistent leaks into the public domain and a high rate of rediscovery of vulnerabilities underscore the importance of having transparent processes, subject to meaningful oversight, for how governments handle and disclose vulnerabilities. To this end, we urge the European Commission, in collaboration with ENISA, to:

- ▶▶ Launch a Vulnerability Equities Process, with the purpose of coordinating Member State actions balancing whether to disclose vulnerabilities or temporarily restrict them for purposes of law enforcement or national security.

By 2025, European enterprises should have a clear cybersecurity strategy.

% of enterprises with a formally defined ICT security policy



Boost consumer trust by ensuring better and more effective enforcement of consumer rules

The objective of the Digital Single Market strategy is to give better access to goods and services online by removing unjustified barriers and improving the confidence of consumers and businesses to buy and sell cross-border. Effective consumer protection is a key enabler of online trust. This ultimately plays a significant role in the EU's competitiveness and growth of e-Commerce markets for goods, services, and information. A balanced consumer protection framework is essential for further development of these markets to the benefit of consumers and businesses alike. We therefore call upon European leaders to:

- ▶▶ When appropriate, adapt existing contractual rules to changing consumer behaviour and current and future technological developments to support innovation while ensuring a high level of consumer protection in order to address the remaining obstacles to e-Commerce in Europe.
- ▶▶ Make sure that any new consumer-related legislation strikes the right balance between boosting consumer confidence in technology and online shopping, while providing businesses with the necessary legal certainty to keep providing innovative products and services.

Improve consumers' access to justice in the EU

As more and more consumers enjoy online shopping, the European Commission should aim to deliver a fairer Single Market that will boost trust in the e-Commerce sector and encourage businesses to respond to consumers' growing demand. The European Union already has some of the strongest rules on consumer protection in the world but needs to ensure that consumers are better educated about the rules and that they are better enforced. While the existing EU consumer framework is considered to be broadly fit for purpose, any revision of the rules should be aimed at their simplification and providing consumers with the appropriate tools to protect them against illegal commercial practices, and fight mass harm situations. To improve consumers' access to justice in the EU and increase consumer trust, we call on the European Commission to:

- ▶▶ Devote its efforts to ensure better enforcement and awareness of existing consumer rules. This will improve people's access to justice and increase their trust in the e-Commerce sector.
- ▶▶ Adequately equip consumers to fight against mass harm situations by not falling short of its ambition in the proposal on representative actions, which aims at harmonising collective redress mechanisms in Europe. The new rules should be based on the Commission's 2013 own Recommendations and common principles for injunctive and compensatory collective redress mechanisms in the Member States and integrate necessary safeguards against forum shopping and abusive-style litigation that would fail to benefit consumers.

Conclude an EU-US bilateral accord for e-evidence

Improving cross-border access to electronic evidence in criminal matters is important to provide legal certainty for both companies operating in this space and users – both citizens and businesses – who rely on our members' services to store and process some of their most sensitive and private information. The e-evidence package proposed by the European Commission in the current term is a vital part of ensuring clarity and harmonisation across the EU. The next step is to ensure agreements with third countries that provide similar rules-based protections for users and providers when authorities seek access to data stored on a cross-border basis. To this end we call on European leaders to:

- ▶▶ Negotiate an executive agreement with the US in the context of the US Clarifying Lawful Overseas Use of Data Act (CLOUD Act). An agreement that builds on similar rules with an important jurisdiction such as the US can reinforce protections for consumers and businesses and act as a model for other countries with strong privacy protections and rule of law, thus limiting conflicts of law.



Build a framework for a sustainable Europe that leverages the potential of digital technologies

To transform the European economy and generate new and sustainable competitive advantages for Europe, the European Union is transitioning to a low-carbon, more resource-efficient, circular economy. This transition is not only an opportunity for businesses and citizens, it is also a necessity from an environmental, economic, and social perspective to move towards a more productive, higher added value, and more sustainable economy. The digital industry strongly supports this transition and has already taken several steps to advance it (e.g. digital technologies enable driverless and connected cars as well as car-sharing services that contribute to reducing emissions from transport; in the energy sector, digital technologies improve the efficiency of distribution grids and utility operations). To truly leverage the benefits of this transition, Europe should continue to build a framework for a sustainable, low-carbon, and resource-efficient Europe that leverages the potential of digital technologies as key enablers for sustainable development.

2

**AN INNOVATIVE AND
SUSTAINABLE EUROPE
THAT BRINGS BENEFITS
TO THE SOCIETY AT LARGE
AND INVESTS IN FUTURE
GENERATIONS**

Invest in a truly circular single market and accelerate the deployment of digital solutions

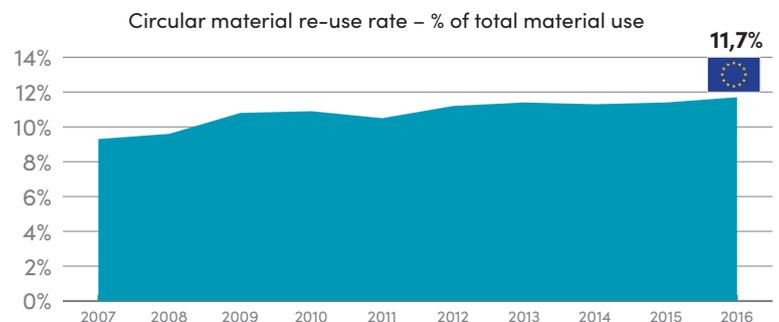
To make sure that valuable materials can be recovered, and to share responsibility in addressing electronic waste, the ICT sector has actively invested in establishing successful waste collection schemes and collaborating with recyclers throughout all EU Member States. DIGITALEUROPE members have substantial experience in establishing different circular business models that promote the return, remanufacturing, refurbishment, repair, reuse or upgradeability of products.

Digital technologies are also important enablers for a circular economy. Powerful information sharing tools (built upon digital technologies) are key to boosting efficient circular use of resources, be it materials, product sharing or second product life. The sharing economy is also one of the pillars of environmental solutions and relies on the existence of collaborative platforms.

We believe there are opportunities for the EU to further encourage the transition to a circular economy by creating a truly circular single market and developing strategies that accelerate the development and deployment of digital technologies. Concretely we ask policymakers to:

- ▶▶ Create conditions for a cross-border flow of used products and e-waste to match supply and demand regarding recycling, repair, and reuse while protecting against illegal practices.
- ▶▶ Stimulate innovation for material efficiency improvement by supporting agreement of effective product design standards, EU-wide guidelines for green products and services, and cross-sectional collaboration platforms.
- ▶▶ Foster healthy global value chains for the circular economy and green growth by protecting intellectual property of all actors involved and taking into account different needs of producers, original equipment manufacturers (OEM), materials suppliers, parts suppliers, recyclers, and dismantlers.

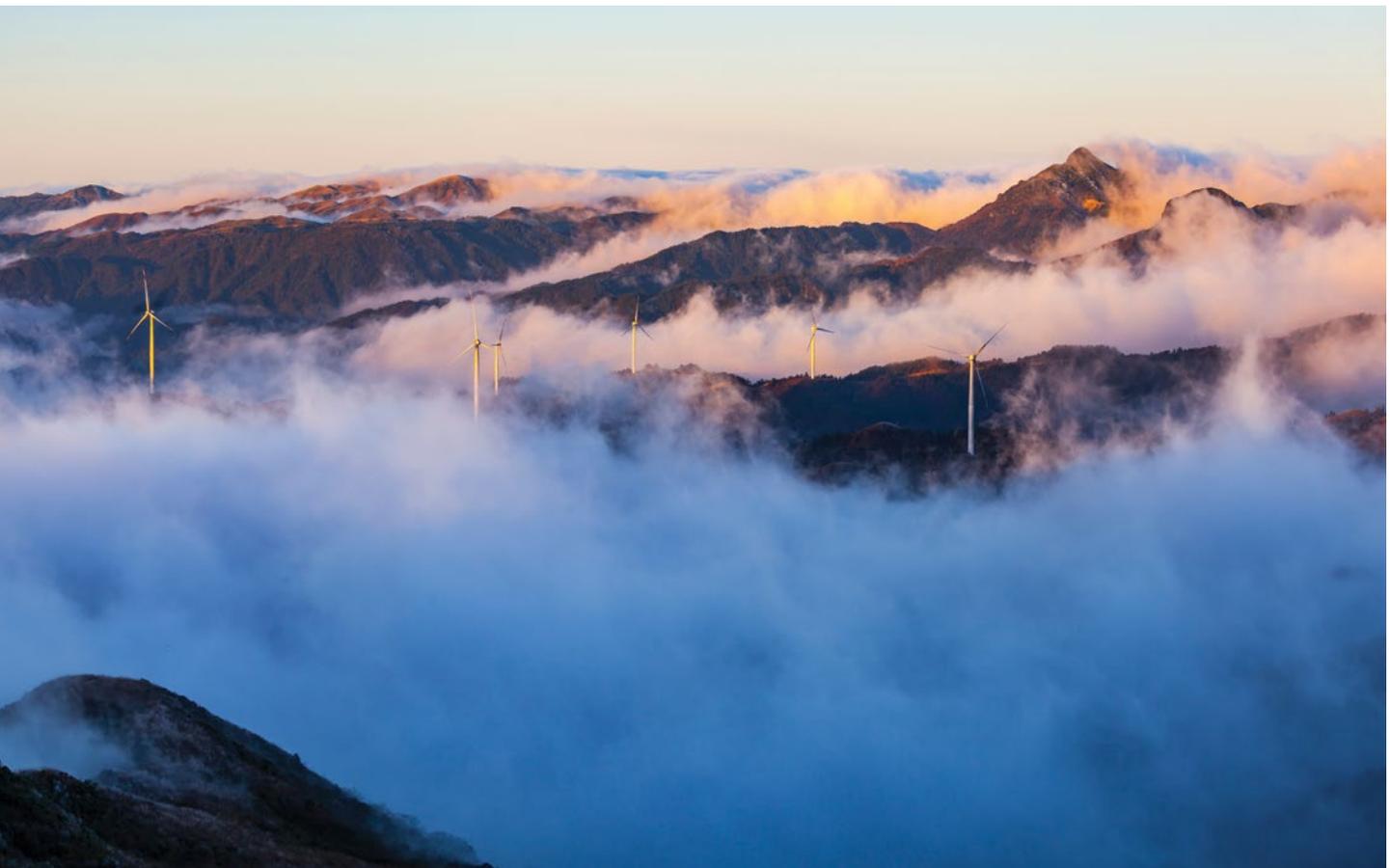
By 2025, 15% of all material used in the European economy should be reused



Promote the use of digital technologies as enabler for sustainable development

The EU has played a leading role in the process that led to the adoption of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). In the coming years it will be essential for the EU institutions, national governments, the private sector, and civil society to show continued leadership in their implementation. Achieving the SDGs is a shared responsibility and the digital technology sector is committed to playing its part by being a leader, enabler, facilitator, and trusted advisor. To support the achievement of the SDGs, we ask for:

- ▶▶ Promotion of digital technology such as Artificial Intelligence (AI), Blockchain, and broadband as a means to enable the SDGs; adoption of the policy framework to leverage the potential of the technology sector in driving progress.
- ▶▶ Promotion of digital technology to identify and address risks and promote sustainable development in supply chains.
- ▶▶ A balanced approach to environmental and supply chain regulation for the digital technology industry that reduces burden, at the same time maintaining and enhancing environmental and social protection while allowing the deployment of digital technology to address the SDG challenges.
- ▶▶ Promotion of public-private partnerships and collaborations such as the European Partnership for Responsible Minerals (EPRM www.responsibleminerals.eu) that brings together governments, supply chain actors, civil society, and other relevant stakeholders.



Push forward the EU decarbonisation agenda through digitalisation

The digital transformation of the industry in Europe is leading to significant opportunities to increase reliability, productivity but also to increase energy efficiency and support the move towards a sustainable, low-carbon economy. Energy efficiency of the digital sector goes beyond existing product policy.

Over the years, significant energy savings in ICT equipment have been achieved through product-specific ecodesign and energy labelling measures. However, with fast-moving innovation in the sector, and increased interdependence and complexity of connected products, there are limitations to what the ecodesign framework can deliver in terms of contributing to long-term energy savings and decarbonisation.

Digital technologies, data, and analytics are key enablers for the EU to move towards a smarter, more connected, and efficient economy. DIGITALEUROPE therefore calls for a holistic approach:

- ▶▶ Set benchmarks instead of over-regulating product groups and to introduce incentives for additional investments in product or system energy efficiency improvements.
- ▶▶ Support innovative connected system power management and dematerialisation technologies that will bring real energy and materials savings to end-consumers.

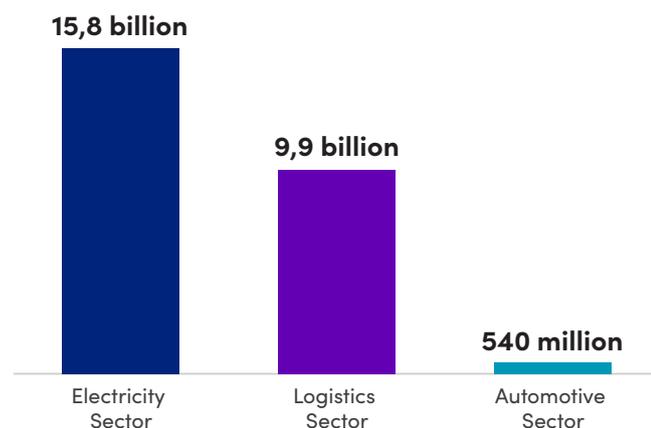
An important potential benefit of the digital transformation of the energy sector is a reduction in global emissions of greenhouse gases that cause climate change. By enabling clean energy systems that rely on low-carbon energy sources and are highly efficient in using energy, digital innovations in the energy sector can speed decarbonisation³³.

We need policymakers to put together the right framework to ensure digital technologies are being deployed to accelerate decarbonisation in key sectors of the EU economy. For that, we specifically call on policymakers to:

- ▶▶ Adopt a digital manufacturing strategy prioritising sustainability and decarbonisation in key industrial sectors of the EU economy.
- ▶▶ Ensure environment and climate rationales are being included in all impact assessments about future digital regulation.

By 2025, Europe should have saved 26 billion tonnes of CO₂ by digitising resource-intensive sectors.

Expected metric tonnes of net CO₂ emissions avoided thanks to digitisation from 2016 to 2025



³³ For example: Based on a distributed, secure, and decentralised infrastructure, Blockchain is already accelerating the energy transition. Combined with micro grids that enable the construction of autonomous energy communities, they facilitate the creation of the local “peer-to-peer” markets needed to develop renewable energies. That is core to the development of prosumers – active energy users who both consume and produce local energy; the critical step toward a bottom-up decarbonisation of the energy system. The convergence of Information Technology (IT) and Operational Technology (OT) to create a more flexible, dynamic, and sustainable energy future is being crafted by the convergence of four main mega trends – smart technology to drive real energy sustainability; new business models to drive customer centricity; connectivity and convergence to enable valuable data capture and drive innovation and efficiency; and innovating to zero to create the vision. The future is about digital energy and it is all about integration: That means the integration of an increasingly complex and diverse range of generating assets as the global energy mix diversifies, and the integration and deployment of advanced IT and digital solutions to drive more efficient use of resources.

Boost digital infrastructure to enhance connectivity

Citizens and businesses rely more and more on fast internet for accessing, consuming, and sharing content and information. With this growing need for high capacity broadband connections, which are key for both economic development and social inclusion, an appropriate and solid regulatory framework is also needed in order to create economies of scale, to facilitate investment, and to stimulate timely deployment of new fixed and wireless networks. It is also important to have such a forward-looking framework to deliver the benefits for the society by having an accessible and reliable internet infrastructure. New, faster 5G connections, internet access in rural areas, and networks for IoT and machine-to-machine (M2M) applications depend on an efficient and coordinated regulatory approach to spectrum management as well as the roll-out of next-generation broadband.

Stimulate investment in digital infrastructure

Connectivity, fixed and wireless, is the backbone of the digitalised economy and the society. It is an essential prerequisite for business and companies in order to reach wider markets and upgrade their services. However, Europe is still facing an investment gap in connectivity compared to other parts of the world, leading to lacking and diverging network availability between and within Member States. We call on European leaders to work towards increased, more thorough public-private investment in digital infrastructure. More concretely, we ask European leaders to:

- ▶▶ Improve the regulatory environment to make it more investment-conducive, to unleash private investments in network upgrades.
- ▶▶ Fund broadband and connectivity projects under the Multiannual Financial Framework, with easier access for local authorities to avoid under-utilisation of public funds.
- ▶▶ Enhance market investment by a harmonised and forward-looking implementation of the Electronic Communications Code and accompanying Guidelines (from the Body of European Regulators for Electronic Communications (BEREC)), for instance on co-investment and broadband mapping. This should be aligned with a review of the state aid guidelines to ensure Europe can match the 2025 connectivity and gigabit society goals.
- ▶▶ Put into practice the Broadband Cost Reduction Directive to facilitate network deployment.

Ensure a 5G-ready spectrum and connectivity environment

This requires reliable, robust, and next-generation network coverage and connectivity across Europe. Lack of spectrum availability, or strong divergences between countries, however, cause delays, fragmentation, and reduce economies of scale for the development and deployment of digital infrastructure. EU Member States, the European Commission, and related agencies and bodies, should continue to strive for a harmonised framework on spectrum.

Concretely we call upon European leaders to:

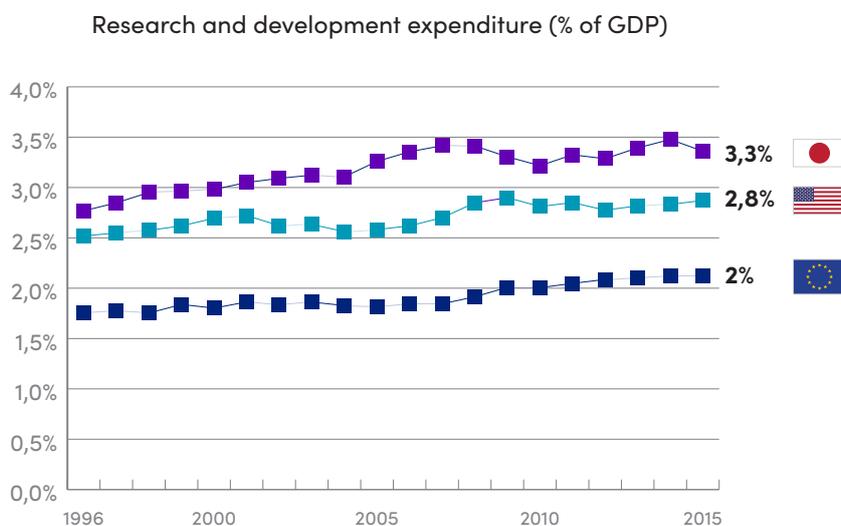
- ▶▶ Make spectrum available for services, including 5G, in a timely and coordinated manner (such as the 5G Action Plan and 5G Pioneer bands).
- ▶▶ Ensure a consistent and collaborative approach to licence durations, access and usage conditions, and reduction of deployment burdens (such as streamlined 'small cells' and wireless equipment deployment rules).
- ▶▶ Maximise investments in 5G and create incentives for market actors to achieve scale of operation and invest with confidence.

Enhance innovation and the adoption of emerging technologies (AI, IoT, etc.)

Innovative digital technologies can provide Europe's people with competitive jobs, better health, and better public services. However, in order to reap the potential of these technologies and to position Europe as a global leader, access to capital and strategic investments in innovation are crucial. Europe can only lead if it invests in European technology

adoption and the creation of innovative eco-systems enhancing innovation in areas like AI, IoT, 5G. Whilst the European Commission's proposal for the "Digital Europe investment programme" is a good first step in the right direction, much more funding is needed in order to truly enhance innovation and to invest in the future.

By 2025, European countries should be spending 3% of their GDP on Research & Innovation



Make the industry a key advisor for the implementation of Horizon Europe

The ICT industry has a lot to offer to European research – from giving access to other researchers to specific markets, industry networks and high-end infrastructures, to providing additional technical resources. The European framework programme for research and innovation, Horizon Europe, allows the industry to exchange new ideas for state-of-the-art research, apply them to address societal challenges, build platforms, and establish networks of talented people. To reap the potential for Horizon Europe to really deliver on its promises towards innovation for future growth, we call on the European Commission to:

- ▶ Ensure that the implementation of Horizon Europe is done in concertation with the ICT industry, particularly regarding the implementation of pillar 2: “Societal challenges and industry competitiveness”. This means that implementation issues, set either in the Commission’s Strategic Planning process or in the Specific Programme decision, should be discussed with industry stakeholders at every stage of the implementation process.

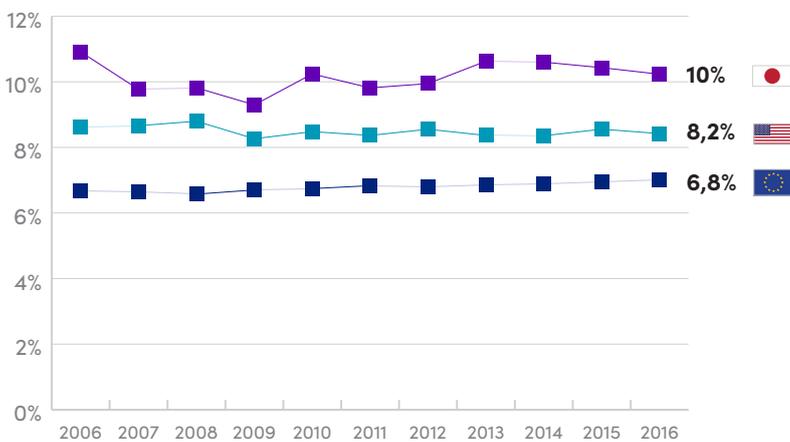
Pave the way for the next Digital Europe programme

The brand-new ‘Digital Europe’ funding programme launched by the European Commission will be critical in bridging the gap between the Horizon Europe programme (research) and the Connecting Europe Facility (physical ICT infrastructures), through investment in IT capacities to be used for research, and participation in large-scale deployment, diffusion and uptake of key digital technologies. Given the importance of the proposed Digital Europe programme and to secure its success, we call on the European Commission to:

- ▶ Ensure that the implementation of the proposed Digital Europe programme is well-thought out and based on consultation and exchanges with the ICT industry.
- ▶ Start working on the next edition of the Digital Europe programme, with a much more ambitious scope of activities and a significantly higher budget, to cover all the ICT fields that are currently part of the research programme Horizon Europe.

By 2025, 10% of Research & Innovation spending should be targeted at ICT technologies

Public ICT R&D spending as % of total R&D spending



Accelerate the digital transformation for the manufacturing sector

Europe has a good chance to be a world leader in Digital Manufacturing.

Europe currently has the highest concentration of robots increasing quality and delivering products efficiently. It is also an industry that uses innovative and clean technology that will greatly improve the sustainable transformation of the manufacturing sector. Digital has the potential to drastically reduce the material and energy waste from its production processes and to produce equipment that will lead to the decarbonisation of European industries. The sector will be a driver for the Internet of Things (IoT), connected devices create benefits in areas from healthcare to transportation systems.

Europe needs to develop a strong cross sectoral eco-system driving innovation in Digital manufacturing, support digital tools that will enhance the industrial processes for sustainability and carbon neutrality, develop a strong 5G infrastructure, and strive for a mission-based harmonised regulatory framework that decreases the time of deployment to European and global markets.

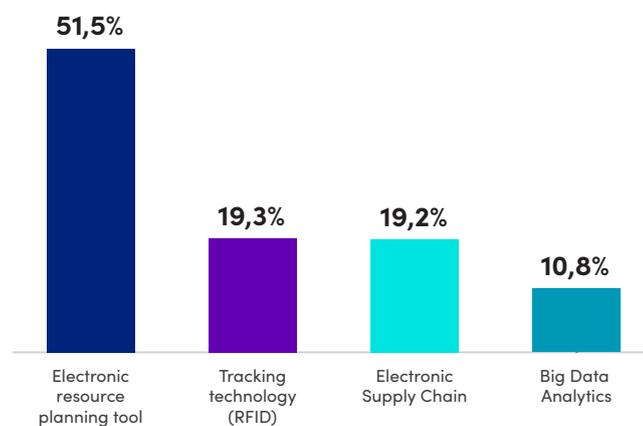
According to Eurostat and the World Economic Forum there has been 1,5 million net new jobs in the EU's manufacturing sector since 2013 and an increase of 2,7% in labour productivity per annum since 2009 – higher than the US and Korea.

Manufacturing is central to Europe's economy contributing to 36 million jobs with every new job creating 1,5 to 2 jobs in other sectors. Globally, 87% of manufacturers plan to adopt machine learning by 2022³⁴ however, only 11% of European manufactures make use of big data analytics.³⁵

While automation is set to cause job losses it is foreseen that it will also create 58 million more jobs than it will displace. To ensure job losses are minimised will require reskilling. In some case (13%), reskilling would take less than a month. But for 12% of employees, reskilling could take more than a year³⁶.

By 2025, 30% of European manufacturing industries should leverage big data analytics

% of manufacturing enterprises that use a set of digital technologies



³⁴ World Economic Forum, [Future of Jobs Report](#), 2018

³⁵ Eurostat, [Enterprises analysing big data from any data source by Economic sectors](#), 2018

³⁶ World Economic Forum, [Future of Jobs Report](#), 2018

We therefore call upon leaders to:

Define a clear action plan involving all stakeholders on reskilling and upskilling its workforce to embrace digital production processes

The digital transformation of European industries will require reskilling and upskilling the workforce to be integrated into the process of automation. It has become clear that robotics and automation cannot function without human involvement and oversight. This will require accelerating an action plan involving the industry, trade unions, institutes, NGOs, governments from all member states to be involved in developing and leveraging public funds to reskill the work force and ensure workers are not excluded as the industry transforms, achieving full employment. The area of a workforce with digital skills is mission critical for the EU's growth and to mitigate any impact on job losses caused by the digital transformation. The EU and governments should collaborate with our industry to deliver an assessment on the skills gap in each Member State and define solutions.

Drive mission-based digital innovation policies focused on Digital Manufacturing

The importance of the growth of Europe's manufacturing sector should be encouraged through the right regulation. We encourage EU policymakers to think of its manufacturing sector first before developing rules that could prove more burdensome to European companies – especially smaller to medium sized companies.

The sector is responsible for innovation and is crucial to enable digitalisation – the sector in the EU is building robotics and digital machines. Tough regulation will outsource production to other areas of the globe, where the usage of AI/ Data in development, innovation, and production is less regulated. Therefore, some key principles include:

- ▶▶ Regulation that will boost EU's capabilities in manufacturing the tools and hardware (sensors, connectivity, semi-conductors, automation, robotics, 5G etc.) that enable the digitalisation for all other actors. Without its own strong digital manufacturing sector, the EU would be dependent on technology-imports from other countries.
- ▶▶ Recognise that the EU has leading global companies in industrial AI, automation, and applied robotics. EU funding, the application of state aid rules and important projects of Common European Interest (IPCEIs) should help to secure this position.
- ▶▶ EU regulation always has to differentiate between the scope and the area where it applies. Good intentioned regulation for key technologies in one area (consumer protection), should not limit other areas from applying those key technologies in different context.

Create an agreement for the free flow of data

Data is critical for the economic growth of the manufacturing sector. It will feed into the development of important innovation in new technologies such as AI algorithms and new digital services. We, therefore, encourage Member States to work with our sector to develop a compatible and interconnected infrastructure for data exchanges through a secure pan-European architecture system.

As European manufacturers are now international by nature, we must continuously drive the agenda of free flow of data at a global level.

Deliver the promised funding levels of the Digital and Horizon Europe Programmes

The European Commission has been successful with its industry days and launched a bold proposal for boosting the infrastructure and deployment capabilities earmarking funds for skills, high-performance computing, innovation hubs, and boosting the adoption of AI technologies. This needs to be a top priority for the EU and all Member States. Both funding mechanisms are key to stimulate the creation of local economic actors and tomorrow's unicorns.

Accelerate sustainability through industrial technology

Technology is rapidly maturing and advancing to reduce waste, material usage, and energy needs. The role of Member State governments is crucial in developing programmes necessary for the success of the manufacturing sector in this field.

The European manufacturing sector can reinforce its leadership position by combining digital and clean technologies. Typically, a digital twin can ensure process & products sustainability by tracking its life cycle from the design to the recycling stages. Key examples of such EU measures include the adoption and creation of waste management systems, accelerating research and design of less carbon-intensive materials to help reduce energy consumption, and reducing the exploitation of raw materials. The industry and governments should devise common methodologies and standards to measure these benefits.

Build a strong European Union by strengthening the Single Market without regulatory fragmentation

The creation of the European Single Market is one of the most ambitious European projects and a pillar of the European Union. Today, the Single Market for products is arguably the most open and accessible marketplace in the world. However, the Single Market for services is not complete, and is fragmented in several areas. Harmonisation at the EU level is needed to ensure proper functioning.

Safeguarding and enhancing a functioning Single Market for products and substantially improving the situation for services is therefore of paramount importance for the future of the European Union.

3

**A STRONG AND
UNITED EUROPE THAT
REFLECTS EUROPEAN
VALUES AND THRIVES
GLOBALLY IN AN OPEN
ECONOMY**

This means actively strengthening the attractiveness of the Single Market and counteracting protectionist tendencies globally. The European Union needs to simplify market access procedures and improve market surveillance to ensure high-levels of compliance and a safe marketplace for products and services for consumers and business alike. Where services are still fragmented, more harmonisation efforts will be needed to complete the Single Market project.

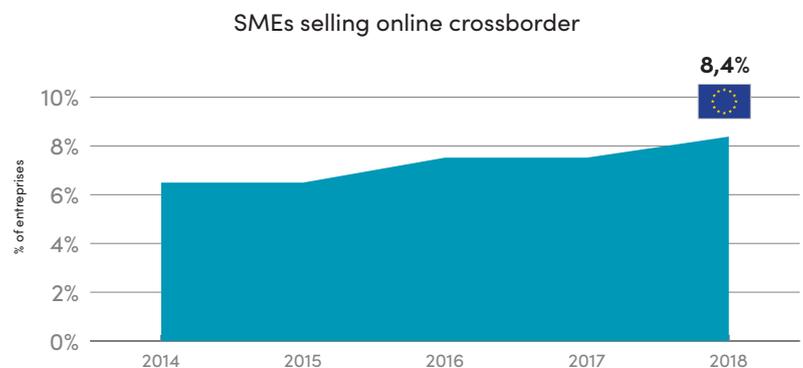
Finally, the Single Market has been a role model for other economies over decades with regard to access requirements and functioning, this role needs to be preserved, but this can be only done if the EU also “walks the global walk”.

Revise the New Legislative Framework and ensure effective Market Surveillance

Product compliance in the EU risks becoming more burdensome with every legislative revision. Frequently, new obligations are added when legislation is revised calling for more obligations rather than ensuring proper enforcement of existing legal provisions. 10 years after the establishment of the overarching framework for selling products in the EU, the New Legislative Framework (NLF), is in need of a careful, targeted update. Concretely, we ask the European leaders to:

- ▶▶ Revise the NLF, focusing on updating it by modernising and simplifying compliance procedures, e.g. by allowing alternatives to paper-based “analogue” procedures in order to realise and acknowledge the potential of digital means of information provision, such as electronic labelling (e-labelling).
- ▶▶ Complete and ensure a timely approval of the Compliance and Enforcement regulation (“Goods Package”) to ensure that market surveillance activities in the EU are effective and increasingly harmonised. The main objective has to be that existing legislation fosters a high-level of compliance and creates a level-playing field that diligent manufacturers can take full advantage of while rogue traders and free-riders are decisively discouraged.

By 2025, 15% of Small and Medium Enterprises (SMEs) should be selling online across borders



Safeguard the unique European Standardisation system (Harmonised Standards)

One of the most important means of complying with the legal requirements for selling in the Single Market for products is the availability of European “Harmonised Standards” (HS) listed in the EU Official Journal. HS are standards provided by the European Standardisation organisations (ESOs), namely CEN, CENELEC, and ETSI and allow the industry to assess and declare product compliance, often without third-party involvement. This truly unique European system is rightly promoted by the European Commission globally as a cost efficient and safe way to ensure product compliance. However, the European system of Harmonised Standards has been in distress for years due to legal concerns, and risks of becoming dysfunctional through the bottleneck in listing standards in the Official Journal (OJ) – thus “harmonising” them. This leads to major industry concerns, delays, and a substantial cost increase for selling products in the EU across several major sectors. We, therefore, call on European leaders to:

- ▶▶ Set up a task force to save the unique European System of Harmonised Standards. The objective of this task force has to be to urgently rectify the situation by reinstating the balance between necessary checks of standards approved by the ESOs at the EU level and their swift publication in the OJ.

Achieve a real single market for audiovisual products and services

Product interoperability in the EU is becoming very convoluted not only due to complexity added with every legislative revision for product compliance (for example legislation on Radio Equipment, Energy Labelling, Ecodesign, etc.), but also due to the fact that several pieces of

legislation give more freedom to Member States to adapt the core legislation. This is currently the case with the Audiovisual Media Services Directive (AVMSD) and the European Electronic Communications Code (EECC). This may result in 27 different flavours of the same rules. The different pace for introduction of technical norms (for example DVB-T, DVB-T2, MPEG4, HEVC, etc.) in the various Member States is already challenging for the industry. To achieve a real single market, we call on the European Commission to:

- ▶▶ Ensure that the implementation of new directives at the Member State level has no “hidden” technical impact on products (or services). This should be done in close cooperation and mutual trust. This is key for Europe’s competitiveness.
- ▶▶ Ensure that the sum of the various directives targeting directly or indirectly the same product or service are not contradictory or adding disproportionate burden.

Deliver the full potential of standardisation

Standardisation plays a crucial role in the effective operation of the Single Market, as fully recognised in the Regulation on European Standardisation. This Regulation introduced an important addition to the European Standardisation System by creating the Multi-Stakeholder-Platform (MSP) for ICT standardisation. A key objective of the MSP is the evaluation of globally important and relevant ICT standards and specifications in support of European legislation, policies, and public procurement. The MSP plays an important role in the ongoing provision of ICT specifications and standards for public procurement and the development of the EU Rolling Plan. The Rolling Plan is an annual review and assessment of EU policy

needs for global ICT standardisation and adds significant value to the assessment of ongoing, and the stimulation of further standardisation efforts on a global, but also European levels. It prevents European standardisation initiatives from ‘reinventing the wheel’, orients their efforts, and provides valuable guidance. The MSP is a major step in recognising the importance of ICT standards and specifications produced by global fora and consortia. In order to take full advantage of existing and ongoing ICT standardisation at the global level, Europe should further invest in the MSP. Concretely we call on European leaders to:

- ▶▶ Strengthen and further invest in the MSP as it provides a unique platform where the European Commission, Member States, and the industry meet to align views and needs on ICT standardisation.

Support global standards and specifications

As more and more legislation related to products and services impacts the ICT industry, we notice inconsistencies in defining technical requirements that support conformity with regulatory obligations – for example, codes of conduct and certification schemes developed outside the established standardisation process, which risk deviating from World Trade Organisation (WTO) Technical Barriers to Trade (TBT) principles and creating new trade barriers. We call on European leaders to:

- ▶▶ Support the development of global standards and specifications as they provide the basis for a fair competition while avoiding market distortions. These global standards should be developed in accordance with the principles of openness, transparency, inclusiveness, consensus, coherence, effectiveness, global relevance, and impartiality.

- ▶▶ Apply WTO TBT standardisation principles to develop voluntary technical requirements where legislation affects products or services.

Modernise the private copying levies framework

The current private copying levies framework in the EU faces incredible fragmentation and is completely outdated. As each Member State has gone in a different direction, manufacturers and importers of devices are confronted on a daily basis with high costs and complicated procedures. Many national implementations are in conflict with EU legislation and case law, lacking effective exemption and reimbursement options for business users. The tariffs collected levies and affected devices have no consistency and are not based on factual analysis, evidence, and impact assessments, nor are tariffs reduced following the transition to modern media consumption via licensed and paid-for digital services (such as via streaming and subscriptions, which do not involve making copies). The problems stemming from this unbalanced, unclear, and fragmented system further lead to litigation and ineffective remuneration, damaging rightsholders as well. We, therefore, call on the European Commission to:

- ▶▶ Urgently plan a thorough review of the private copying levies framework, including an examination of the discrepancies, such as on business reimbursement and exemption, and a clarification of the EU case law to ensure a more harmonised implementation. National systems should be based on evidence with common criteria and benchmarking, rather than the current disparate and conflicting regimes.

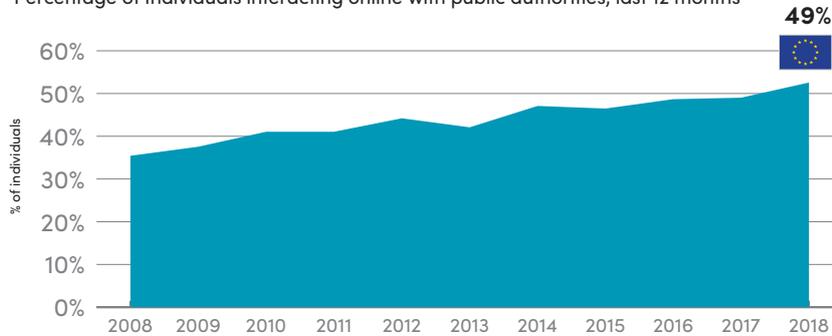
Promote digital leadership in public sector services across the EU

Existing and emerging technologies will play a critical role in the public sector. They will reduce administrative burdens and waste, accelerate efficiencies, and most importantly provide important solutions to societal challenges. Ensuring data is flowing across all Member States will allow citizens to access and control

their data – for example health records or prescriptions. Ensuring these technologies are fully embraced and realise their potential, will require innovative policymaking, such as the use of policy sandboxes where solutions can be tested, and benefits measured.

By 2025, 75% of EU citizens should be using eGovernment services

Percentage of Individuals interacting online with public authorities, last 12 months



Promote secure public procurement

Increasing the overall level of cybersecurity in the EU must inevitably involve the public sector as a major buyer of ICT products and services. The public sector is on the front line of the cyber threat landscape, and security vulnerabilities could expose critical information and citizens' personal data. While upcoming cybersecurity certification schemes may help in this respect, there is currently no overarching policy to help public sector bodies procure secure solutions. To this end, we call on the European Commission to:

- ▶▶ Publish a Buying Secure Handbook offering guidance to help public authorities buy products and services while taking cybersecurity considerations into account. The handbook could build on similar initiatives in the area of Green Public Procurement (GPP) and would outline the possibilities for pursuing secure public procurement under the 2014 Procurement Directives. It is important to ensure that the industry and other relevant stakeholders are closely involved.
 - ▶▶ Utilise existing structures at the EU level, such as the Commission's cooperation with the Central Purchasing Bodies (CPBs) Public Procurement Network, to foster best-practice sharing amongst national central procurement bodies on procuring cyber-secure products and services.
- ▶▶ Increase the use of the Most Economically Advantageous Tender (MEAT) principle as award criterion instead of lowest price as a way to increase Europe's ability to use public procurement to promote digital leadership in the public sector.

Ensure access to the free flow of health data to provide patient-centric care

The European Commission has demonstrated an ambition in its Health and Care Communication to facilitate free flow of health data including Electronic Health Records, genomic information for research, disease prevention and personalised care, and generally to give citizens the right to access and share their health data. Access to data and interoperability are critical for the success of patient-centric care. To support this effort, DIGITALEUROPE asks the European Commission to:

- ▶▶ Engage with Member States to assess the impact of GDPR implementation on the healthcare sector and to ensure, across the EU, the highest level of coherence with regard to the processing of genetic and health data.
 - ▶▶ Address the interoperability issue via a common approach to electronic health records and genomic data.
 - ▶▶ Support the idea of an EU-wide educational campaign on the benefits of and mechanisms for health data sharing to break down misconceptions and support the actions put forward by the Communication.
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Provide innovative policy and regulatory approaches for innovative digital health solutions

Digital health solutions have the potential to revolutionise how citizens manage their wellbeing and health, how patients manage their treatments day-to-day, and improve the effectiveness of health systems. Wearables, m-health medical device software, machine learning and AI applied to health, are all existing and promising answers to old health issues, spearheaded by a broader set of actors in the market.

This view is wholeheartedly embraced by the Commission in its April 2018 Communication on Digital Transformation of Health and Care in the Digital Single Market, particularly its third pillar on citizens' empowerment. The time has come to put these into action. In this light, DIGITALEUROPE calls on the European Commission to help national health systems and regulators bring these solutions to market. This will require a shift in approach to regulation and market access, as well as regulatory scrutiny, and active efforts to create the right market conditions for the effective development of these solutions. More specifically, the European Commission should work with Member States to:

- ▶ Clarify the status of borderline health-related software within the context of medical devices legislation and develop processes to bring low risk software solutions to market in a relatively short time period.
 - ▶ Encourage closer collaboration between the industry and market surveillance/safety authorities to engage and test early in the process for innovative and disruptive solutions.
 - ▶ Spur the development of effective health apps through reimbursement schemes at national level.
 - ▶ Encourage the uptake of AI and machine learning solutions in the health sector, notably through innovative approaches to safety evaluation, progressive policies on health data, and through sector-specific collaboration and guidance.
 - ▶ Be more ambitious in its goal for sharing health records across Member State borders beyond health record summaries. The full ownership of health records by a European citizen to function as a digital passport that will travel with the individual everywhere will accelerate the benefits of patient-centric care.
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Push for fair global competition and boost European competitiveness

Global trade is essential for Europe's growth, jobs and competitiveness. ICT is global by default and enables global value chains for every sector of the economy. A stable, predictable, and open global economy is therefore crucial. With the rising threat of protectionism and increased pressure on the multilateral trading system, DIGITALEUROPE believes that Europe should continue to promote an open and rules-based trading system. Europe needs to lead by example and strive for market access and preserve openness. This provides an opportunity for the EU to display trade leadership again in everyone's best interest.

Promote open markets and foster fair competition

The World Trade Organisation (WTO), born in 1995 as an expansion of the GATT, is crucial to ensure an open, fair, and rules-based trading system. The system is however increasingly under strain and requires modernisation to adapt to the challenges of the fast-changing global economy. The increasingly digitalised economy brings new forms of challenges and forms of protectionism and market access barriers. In order to keep promoting open markets and to foster fair competition, we call on European leaders to:

- ▶▶ Advocate for the reform and expansion of the multilateral rules-based trading system (WTO) to strengthen a multilateral rules-based system that has been instrumental for smooth, productive trading around the world, hence for spreading global growth and prosperity.
- ▶▶ Grant maximum access to markets with minimum restrictions.

- ▶▶ Advocate for regulatory convergence and acceptance of global standards.
- ▶▶ Oppose forced localisation measures and raise awareness globally on the negative impacts of such requirements for the digitalised economy.

Protect innovators within and outside the European borders

Patents and IPR protection are important to encourage investment in R&D, spur growth, and create new jobs across Europe, contributing to an increased European competitiveness. DIGITALEUROPE believes that patent protection in Europe should be improved and patents should be better enforced within Europe and beyond. This will help create a level playing field while enabling European innovators, big and small, to protect the results of their R&D investments abroad. We ask European leaders to:

- ▶▶ Secure the introduction of the Unitary Patent (UP) and the Unified Patent Court (UPC) – a long awaited balanced reform that has the potential to significantly reduce costs and simplify procedures for obtaining, maintaining, and enforcing patent protection in Europe.
- ▶▶ Find a path forward for the UK's continued involvement in the UP and UPC post-Brexit.
- ▶▶ Ensure that EU trading partners maintain a high level of IPR protection consistent with their international commitments.

Take leadership and set up the digital 'standard' in trade agreements

The European Commission is involved in numerous trade negotiations covering various geographical scopes. DIGITALEUROPE believes that all trade deals (at multi-, pluri- or bi-lateral levels) should remove tariffs and non-tariff barriers and include commitments that promote the growth of ICT goods and services, telecoms, cloud computing, and e-commerce. They should ensure that the digital ecosystem and the data that flows through it remain open to innovation and commerce globally. Digital technologies, free flow of data, and e-commerce are vital to the growth and development of the global economy and we, therefore, call on European leaders to:

- ▶▶ Support the WTO e-commerce initiative as it is an important venue for the development of e-commerce rules that ensure companies can grow, innovate, and create jobs with free flow of data as a key principle.
- ▶▶ Expand digital trade chapters in Free Trade Agreements (FTAs) that aim to scale up free flow of data, and combat challenges related to forced localisation (e.g. obligation to disclose source code), geoblocking and copyright.
- ▶▶ Provide access to innovative digital goods and services.

Ensure trade facilitation measures

Simplification and modernisation of international trade procedures, such as import and export requirements, will boost trade and bring crucial socio-economic benefits to Europe. The European Customs Union is a cornerstone of the European Single Market and plays an important role in the facilitation of trade. In order to offer better access for consumers and businesses to digital goods and services across Europe, and to lead by example globally, we call on European leaders to:

- ▶▶ Promote an innovation-friendly approach to customs policy.
- ▶▶ Advocate for Export Control Regulation to support frictionless export practices, aligned with internationally agreed parameters.

Negotiate a comprehensive, global, long-term tax solution

DIGITALEUROPE believes that to update the tax system to digital era, a comprehensive, global, long-term tax solution should be negotiated at the Organisation for Economic Co-operation and Development (OECD). Furthermore, the OECD should be given the time to complete its work as scheduled, in 2020. National governments should be careful not to fall in the trap of agreeing to impose short-term, globally different taxes (such as digital services tax) based on gross revenues or targeted to one particular sector of the economy: this amounts to deciding to deliberately harm the competitiveness of the EU and risk retaliation measures from other countries.

The OECD has announced their updated report on “Tax Challenges Arising from Digitalisation” will be released during spring 2019. Making legally binding agreements beforehand at the EU level would trap the EU to a hastily made legislation, unable to be edited based on the final recommendations of the OECD and changes in business models during the upcoming years.

DIGITALEUROPE, therefore, urges national governments to wait until 2020 and participate with partners in the base erosion and profit shifting (BEPS) initiative led by the OECD for taxation of the digitalised economy that is fair and effective for all industries. In shaping future rules, due regard should be given to the following two considerations:

- ▶▶ There is no digital economy, only a fast-digitising economy, worldwide. Changes in the global tax framework should therefore cover the whole economy.
- ▶▶ To safeguard the principle of fairness and integrity in tax policy, any tax on corporate activity should be linked to profit, not revenues; it should comply with applicable tax treaties and not result in double taxation.



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National Trade Associations

Austria: IOÖ

Belarus: INFOPARK

Belgium: AGORIA

Bulgaria: BAIT

Croatia: Croatian Chamber of Economy

Cyprus: CITEA

Denmark: DI Digital, IT-Branchen

Estonia: ITL

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France: AFNUM, Syntec Numérique, TECH IN France

Germany: BITKOM, ZVEI

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Italy: Anitec-Assinform

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Netherlands: Nederland ICT, FIAR

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Portugal: AGEFE

Romania: ANIS, APDETIC

Slovakia: ITAS

Slovenia: GZS

Spain: AMETIC

Sweden: Foreningen Teknikföretagen i Sverige, IT&Telekomföretagen

Switzerland: SWICO

Turkey: Digital Turkey Platform, ECID

Ukraine: IT UKRAINE

United Kingdom: techUK



DIGITALEUROPE represents the digital technology industry as well as digitally transforming industries in Europe. We stand for a regulatory environment that enables businesses to grow and citizens to prosper from the use of digital technologies. We wish Europe to develop, attract and sustain the world's best digital talents and technology companies.

DIGITALEUROPE's members include in total over 35,000 companies in Europe represented by 63 Corporate Members and 40 National Trade Associations from across Europe.



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