

of the European Union

# EU DIGITAL POLICY

The EU's plan to turn Europe digital

Vincenzo TIANI



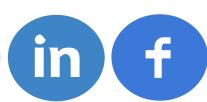
### INTRODUCTION



Vincenzo Tiani, LL.M.

**Digital Policy Advisor, Adjunct Professor, Journalist** 











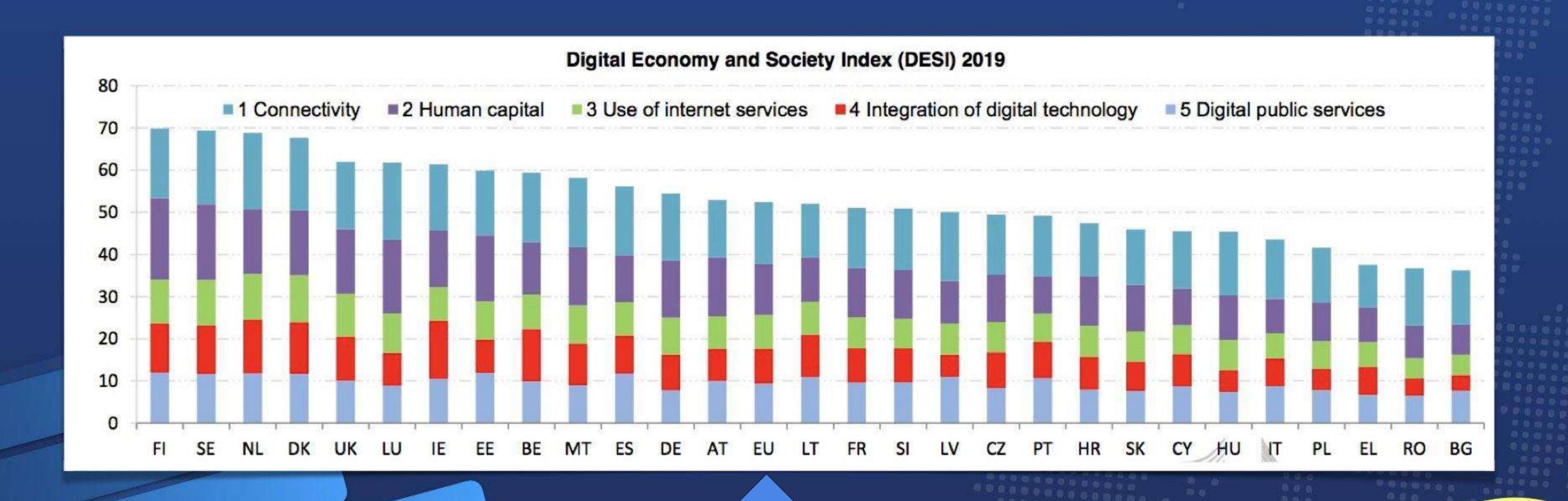








# How #digital is Europe?







#### A EUROPEAN INDUSTRIAL STRATEGY

A new Industrial Strategy for a globally competitive, green and digital Europe

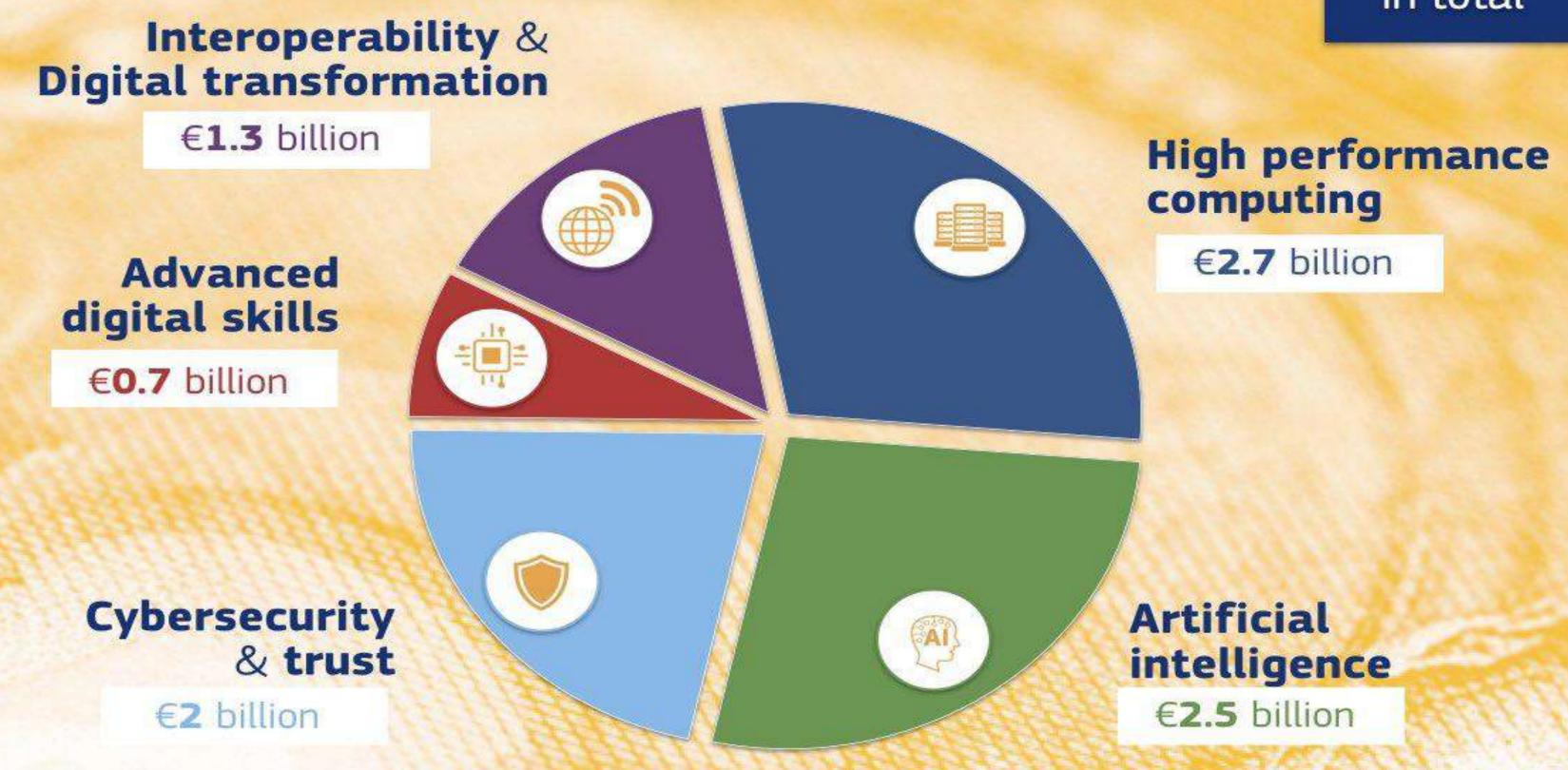
#### THE PLAN

The European Commission is working on a digital transformation that will benefit everyone. Digital solutions that put people first will

- open up new opportunities for businesses
- ☐ boost the development of trustworthy technology
- ☐ foster an open and democratic society
- enable a vibrant and sustainable economy
- ☐ help fight climate change and achieve the green transition

## Investing in the future: Digital Europe Programme

€ **9.2** billion in total





# What will

we do?



Technology that works for people



A fair and competitive digital economy



An open, democratic and sustainable society







#### The EU's digital strategy will

- invest in digital competences for all Europeans
- protect people from cyber threats (hacking, ransomware, identity theft)
- ensure Artificial Intelligence is developed in ways that respect people's rights and earn their trust
- accelerate the roll-out of ultra-fast broadband for homes, schools and hospitals throughout the EU
- expand Europe's super-computing capacity to develop innovative solutions for medicine, transport and the environment

#### A TIMELINE FOR EUROPE'S AI STRATEGY

- Commission adopts the Communication on Artificial Intelligence
- Starts a pilot project on explainable Al
- Commission publishes a report on the implications for and potential gaps in the liability and safety frameworks for Al
- Commission strengthens its AI research centers, supports digital skills, and creates a center for data sharing

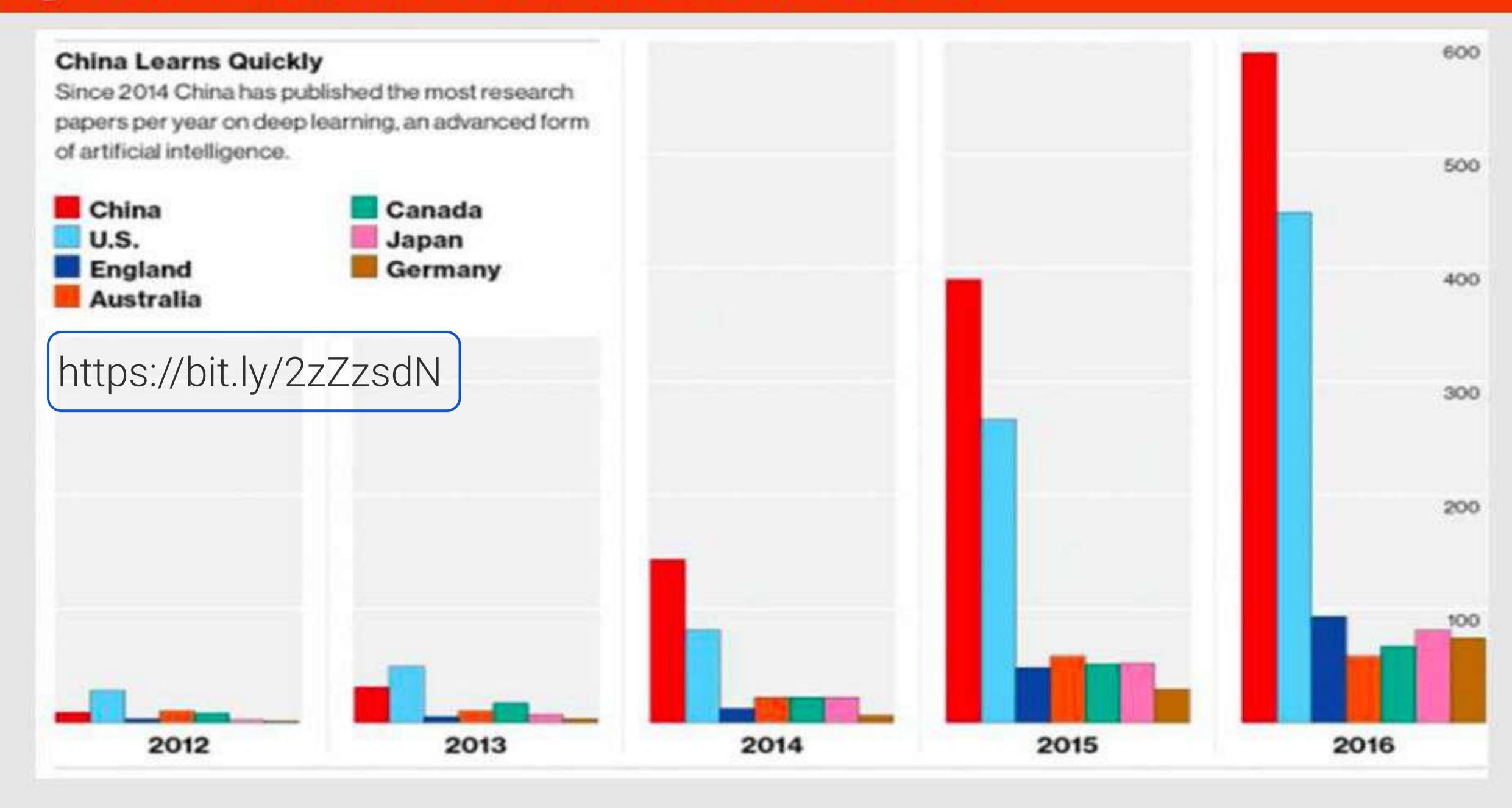


- Commission creates and operates the European Al Alliance
- Develops a plan on AI with member states
- Drafts AI ethics guidelines for member states
- Commission increases its investment in AI from €500 million in 2017 to €1.5 billion in 2020
- Develops an "Al-on-demand platform" to encourage uptake of Al by private sector

https://bit.ly/2WN2iX

- 1. Human agency and oversight
- 2. Robustness and safety
- 3. Privacy and data governance
- 4. Transparency
- 5. Diversity, nondiscrimination and fairness
- 6. Societal and environmental well-being
- 7. Accountability

#### Figure 2: Chinese and US domination on AI research 5



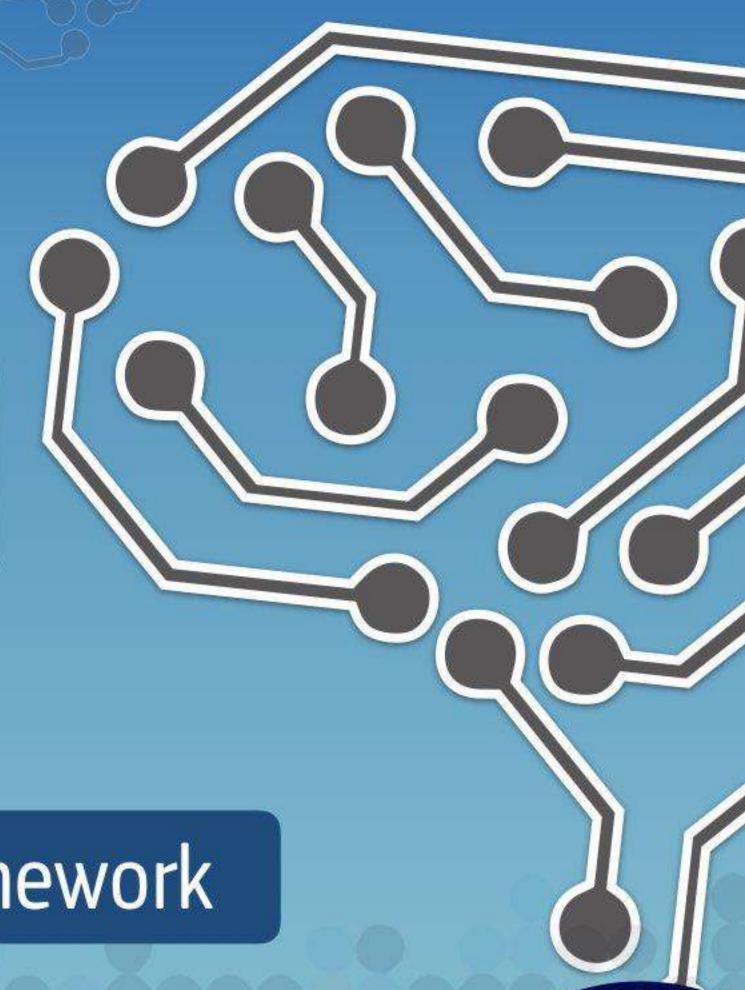
# Artificial Intelligence for Europe

Boost the EU's technological and industrial capacity and AI uptake across the economy

Prepare for socio-economic changes

Ensure an appropriate ethical and legal framework







# Artificial Intelligence for Europe



Strengthen R&I •

Make data available •

Empower people -

Nurture talent -

Work together -

Boost competitiveness

Maximise use



















## BOOSTING THE EUROPEAN POTENTIAL IN AI



Research excellence centres



Strong industrial and services sectors



Strong businessto-business domain

#### Al-Related Areas



€2.6 billion

over the duration of Horizon 2020

## Investing in Al

#### Robotics



€700 million

under Horizon 2020

€ 2.1 billion

from private investment

#### Skills



€ 27 billion

in skills development

€2.3
billion
specially in digital

skills

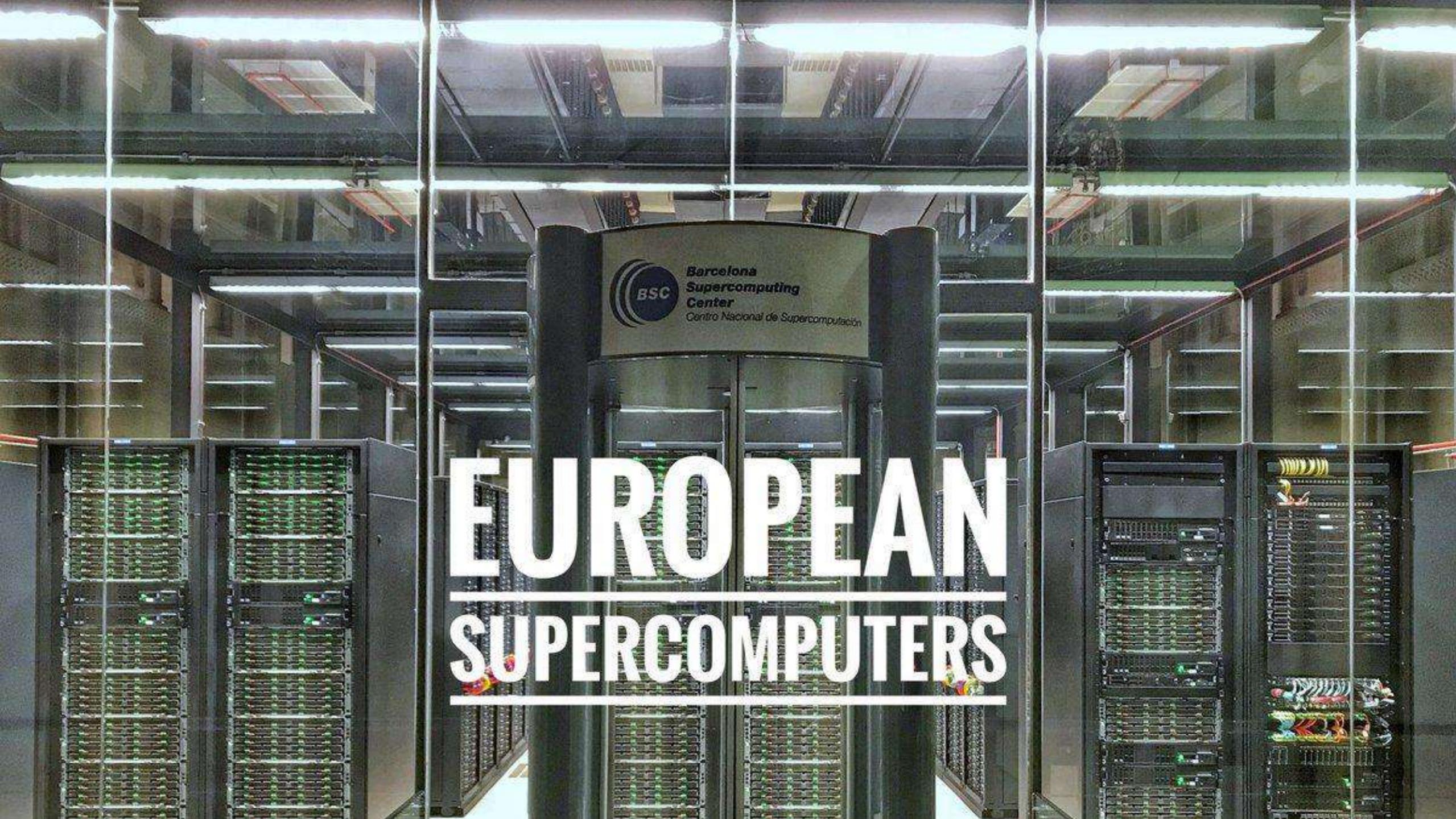


World-leading position in robotics



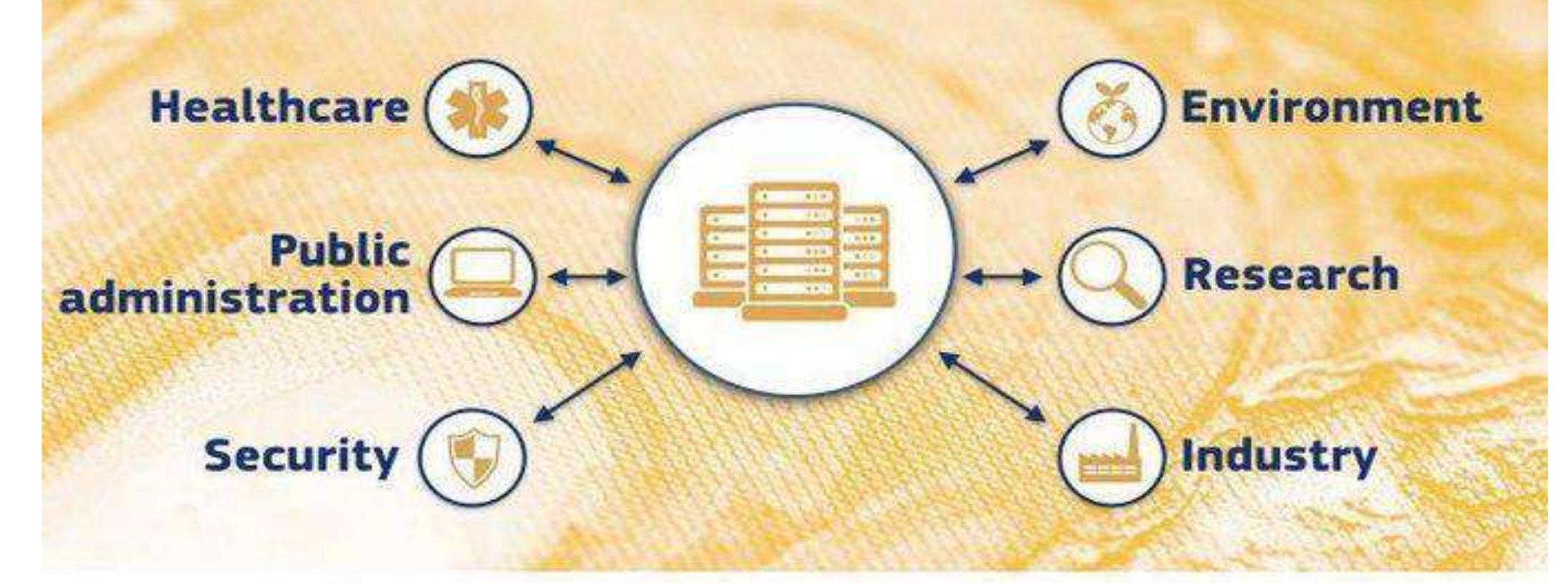
data





## Investing in the future: Digital Europe Programme

€2.7 billion for High performance computing



#EUBudget

#DigitalEurope





#### €2.7 billion for supercomputing to:



Build up and strengthen the EU's supercomputing and data processing capacities by buying world-class exascale supercomputers by 2022/2023 (capable of at least a billion billion or 10<sup>18</sup> calculations per second) and post exascale facilities by 2026/2027



Increase accessibility and broaden the use of supercomputing in areas of public interest such as health, environment and security, and in industry, including small and medium-sized enterprises



#### €2.5 billion for artificial intelligence to:



Invest in and open up the use of artificial intelligence by businesses and public administrations



Facilitate safe access to and storage of large sets of data and algorithms



Strengthen and support existing artificial intelligence testing and experimentation facilities in areas such as health and mobility in Member States and encourage their cooperation



#### **Extensive 5G Network**

- ☐ With the evolution of digital technologies, such as robotics, internet of things, artificial intelligence, high-performance computers and powerful communication networks, vehicles in general, and cars in particular, are quickly changing.
- ☐ Therefore policies and legislation relating to digital technology, including cybersecurity, liability, data use, privacy and radio spectrum/connectivity are of increasing relevance to the transport sector.
- ☐ These aspects need coordination at the European level in order to ensure that a vehicle may remain connected when crossing borders.

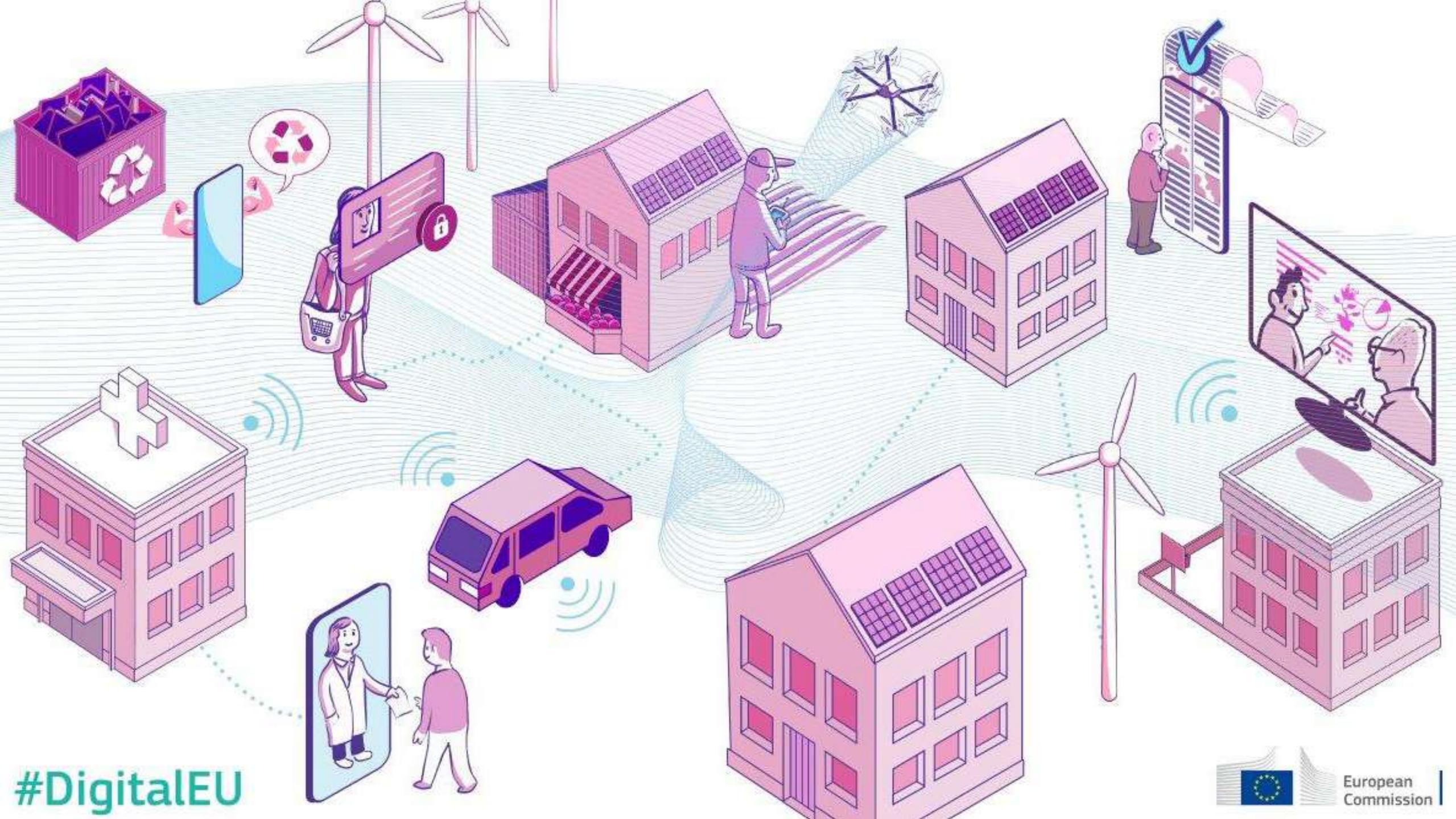
- ☐ With Cross-border corridors the 29 signatory countries of a Letter of Intent signed at Digital Day 2017 agreed to designate 5G cross-border corridors, where vehicles can physically move across borders and where the cross-border road safety, data access, data quality and liability, connectivity and digital technologies can be tested and demonstrated.
- ☐ The European Commission's ambition is to focus on these corridors in future EU automated driving projects in the area of digital policies, with links to cybersecurity, privacy, 5G, internet of things, data economy, free flow of data, etc.
- The EU supports **3 projects** (running as part of the European Commission's 5G Public Private Partnership) which will set up 5G trials over more than 1000km of highway including four cross-border corridors: Metz-Merzig-Luxembourg, Munich-Bologna via the Brenner Pass, and Porto-Vigo and Evora-Merida, both between Spain and Portugal.

WWW.SLIDEFOREST.COM

#### **Extensive 5G Network**

- ☐ To be achieved through targeted funding programmes to leverage private investment
- ☐ For digital infrastructure and networks alone, the EU has an **investment gap of EUR 65 billion** per year.
- □ Implementing reforms and stepping up investments in Research and Development and technological deployment **could yield 14% of cumulative additional GDP growth** by 2030. **Acting quickly** (for example by stepping up investments and adopting measures by 2022 rather than by 2025) would bring an **additional 3.2% increase in GDP** and **positive job creation** by 2030.

This is a socio-economic boost that Europe cannot afford to miss.

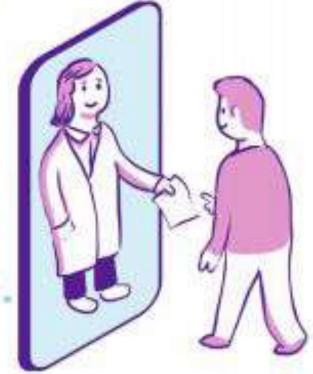




Citizens need to be able to trust the technology itself, as well as the way in which it is used.

#### All Europeans can thrive in a digitalised society





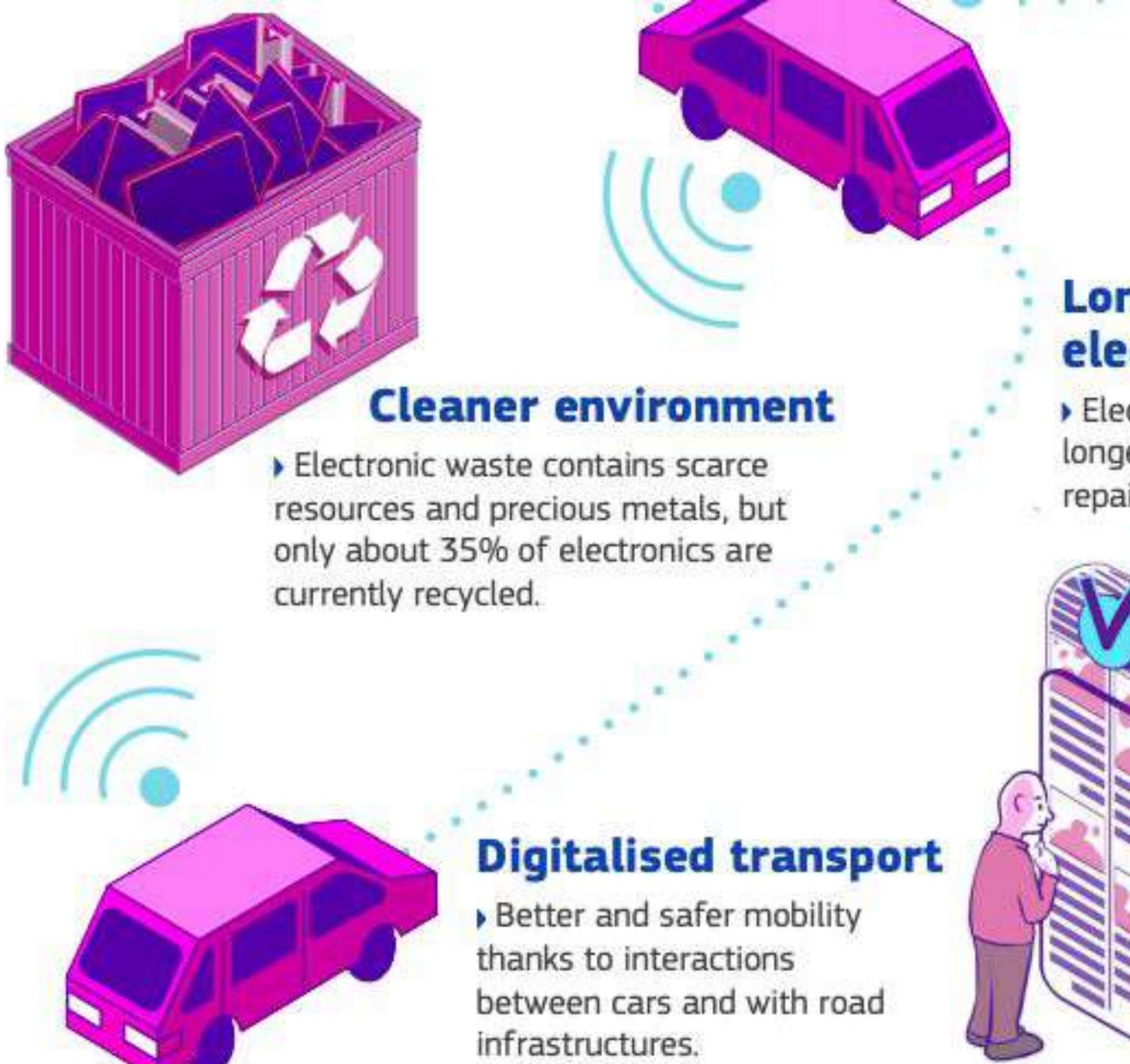
#### Stronger digital skills

 Lifelong access to digital technology and skills training.









## Longer lasting electronic equipment

Electronic devices that last longer can easily be updated, repaired and recycled.



Access to diverse and reliable media content.



#### €2 billion for cybersecurity to:



Support, together with Member States, the procurement of advanced cybersecurity equipment, tools and data infrastructures



Support the best use of European knowledge, capacity and advanced skills related to cybersecurity



Ensure the wide deployment of the latest cybersecurity solutions across the economy



Reinforce capabilities within Member States and the private sector for a uniformly high level of security of network and information systems across the EU



#### €700 million for advanced digital skills to:



Support the design and delivery of short-term trainings and courses for entrepreneurs, small business leaders and the workforce



Support the design and delivery of long-term trainings and Master's courses for students, IT professionals and the workforce



Support on-the-job trainings and traineeships for students, young entrepreneurs and graduates



#### **Digital skills**

https://bit.ly/2WNTPDO

A strong digital economy is vital for innovation, growth, jobs and European competitiveness. The spread of digital is having a massive impact on the labour market and the type of skills needed in the economy and society.

- ☐ It is changing the structure of employment, leading to the automation of "routine" tasks and to the creation of new and different types of jobs.
- ☐ It is leading to the need for more skilled ICT professionals in all sectors of the economy. There are already hundreds of thousands of unfilled vacancies for ICT professionals in Europe.

#### Digital skills

- □ It is leading to the need for digital skills for nearly all jobs where ICT complements existing tasks. Careers such as engineering, accountancy, nursing, medicine, art, architecture, and many more require increasing levels of digital skills.
- It changes the way we learn by fostering online communities, by enabling personalised learning experiences, by supporting the development of soft skills such as problem solving, collaboration and creativity, and by making learning fun.
- ☐ It is leading to the need for **every citizen to have at least basic digital skills** in order to live, work, learn and participate in the modern society.

# MORE WOMENIE WAR IN DIGITAL: The road to arowth & equality

The new Digital Europe Programme with a budget of €700 million will expand the digital talent pool with around 256,000 people who will be able to deploy the latest technology in business throughout Europe. It will focus on three types of actions:

- Master's Programmes in cutting-edge digital technologies developed together with EU excellence centres in artificial intelligence, cyber and high-performance computing.
  The aim is to offer 160 new master programmes training 80,000 digital specialists.
- ☐ Short-term specialized training courses in advanced digital technologies for around 150,000 job seekers and employed people especially in SMEs.
  - The aim is to **equip them with the competences** that will enable the deployment of digital technologies across all sectors of the economy.
- □ 35,000 job placements in companies or research centres where advanced digital technologies are developed or used. The aim is to give people the opportunity to learn specialists' skills working with the latest available technologies.

  WWW.SLIDEFOREST.CO

#### **Trust**

- A true digital transformation has to start from European citizens and businesses **trusting that their applications and products are secure**. The more interconnected we are, the more we are vulnerable to malicious cyber activity.
  - raising the awareness of EU citizens on cybersecurity
  - ensuring that law enforcement and judicial authorities can work effectively

Citizens need to be able to trust the technology itself, as well as the way in which it is used.

#### **Key actions**

- ☐ White Paper on Artificial Intelligence setting out options for a legislative framework for trustworthy AI, with a follow-up on safety, liability, fundamental rights and data (Q4 2020).
- ☐ Building and deploying **cutting-edge joint digital capacities** in the areas of AI, cyber, superand quantum computing, quantum communication and blockchain (2020)
- Accelerating **investments in Europe's Gigabit connectivity**. 5G corridors for connected and automated mobility, including railway corridors, will be rolled out.

# 1. Technology that works for people

- ☐ A European cybersecurity strategy, including the establishment of a joint Cybersecurity Unit
- A Digital Education Action Plan to boost digital literacy and competences (2020).
- $\square$  Initiative to improve labour conditions of **platform workers** (2021).
- ☐ A reinforced EU governments interoperability strategy to ensure coordination and common standards for secure and borderless public sector data flows and services. (2021)

# What will we do?



Technology that works for people



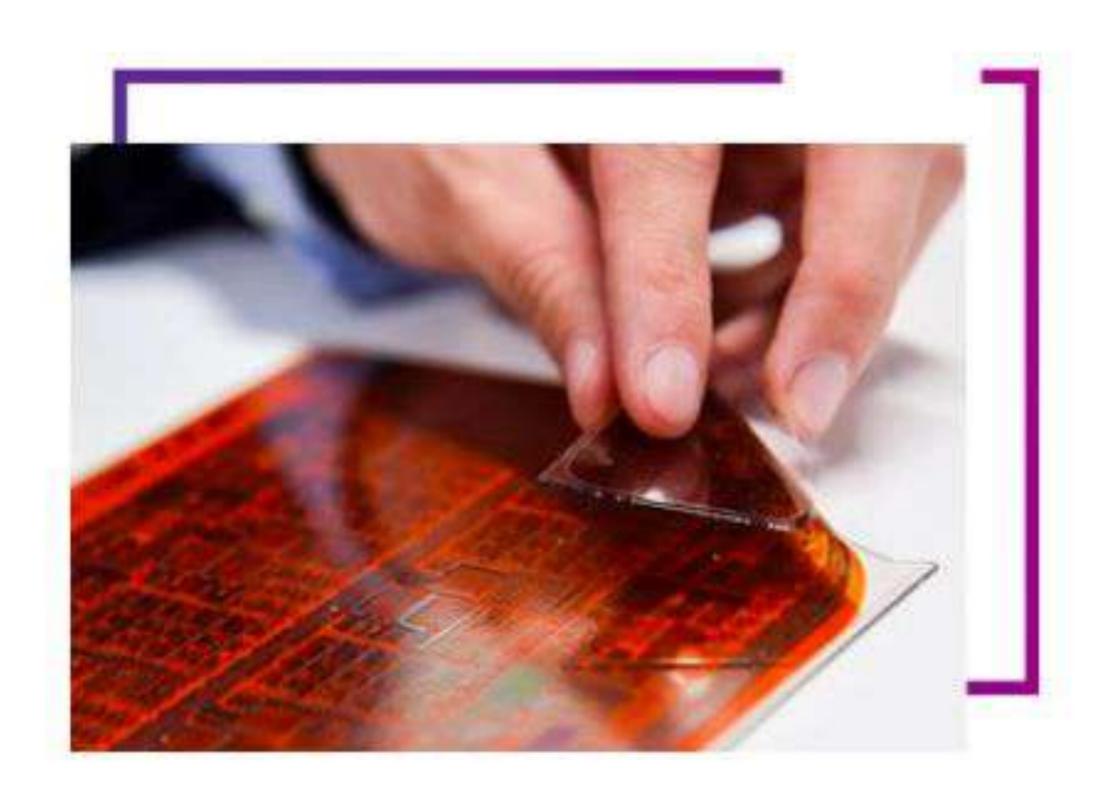
A fair and competitive digital economy



An open, democratic and sustainable society



# A fair and competitive digital economy



## The EU's digital strategy will

- enable a vibrant community of innovative and fast growing start-ups and SMEs to access finance and to expand
- propose a Digital Services Act to strengthen the responsibility of online platforms and clarify rules for online services
- make sure that EU rules are fit for purpose in the digital economy
- ensure that all companies compete in Europe on fair terms
- increase access to high-quality data while ensuring that personal and sensitive data is safeguarded

## New opportunities for businesses in a digitalised society



## Access to high-quality industrial data

Farmers can produce more food at lower cost

Analysing data on harvests, seeds, and use of fertilisers can make farming more efficient. Farmers could earn €225 more per hectare.

The EU-funded Data Driven Bioeconomy project cut spraying and irrigation costs by 30%.





- Manufacturers can optimise production
- Data-based optimisation alone can save €90 billion in the manufacturing sector, worldwide.



Fair access to markets to start up, scale up, innovate and compete on fair terms.

The Digital Services Act package will establish clear rules for access to the Single Market and to strengthen the responsibility of online platforms.

Competition rules fit for purpose

Ensure **EU rules** are right for digital businesses, big and small, as well as for traditional industries.



## Investing in people and infrastructure

- More workers with digital skills will fill the 1 million vacancies that constrain business growth;
- EU and national funding to kick-start advanced connectivity and secure European data clouds.

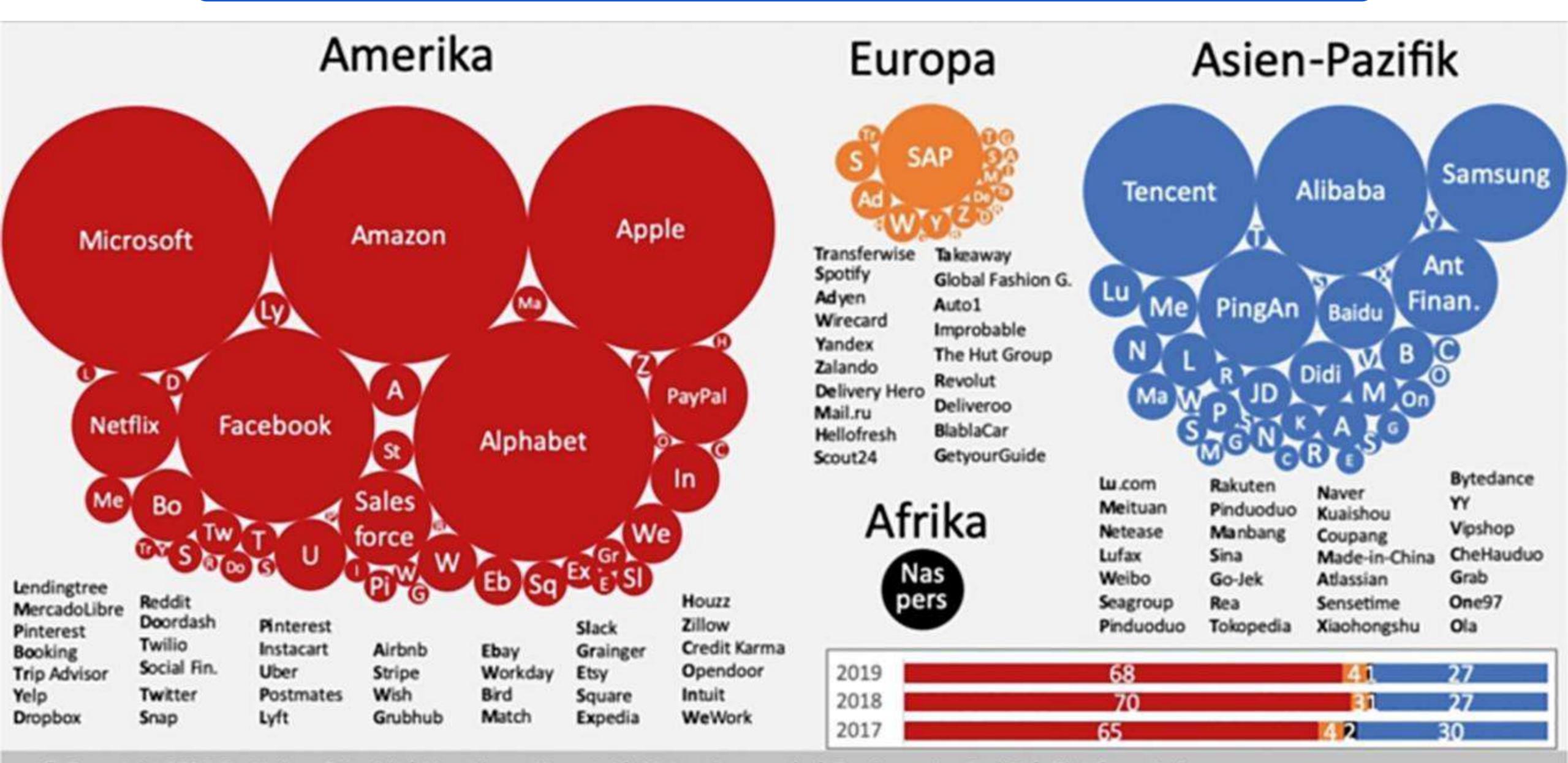
# 5

# Supporting SMEs to use Artificial Intelligence

- Develop a new SME Strategy to strengthen innovative and fast-growing start-ups and SMEs;
- Set up specialised Digital Innovation Hubs on Artificial Intelligence;
- Improve access to finance.

# Platform economy: new regulation is needed





# 2. A fair and competitive economy

# A review of EU competition law

- ☐ Some platforms have acquired significant scale, which effectively allows them to act as **private gatekeepers** to markets, customers and information.
- □ We must ensure that the systemic role of certain online platforms and the market power they acquire will not put in danger the fairness and openness of our markets.

# 2. A fair and competitive economy

# A frictionless single market

- ☐ To start up and grow in Europe, SMEs need a frictionless single market, unhampered by diverging local or national regulations that increase administrative burdens for smaller companies in particular.
- ☐ They need clear and proportionate rules that are effectively and uniformly enforced across the EU, providing them with an immensely **powerful home market** from which to launch themselves on the world stage



## €1.3 billion for ensuring the wide use of digital technologies across the economy and society to:



Ensure that the public sector and areas of public interests, such as health and care, education, transport, and the cultural and creative sectors, can deploy and access state of-the-art digital technologies



Provide more interoperable public services across the EU and at EU level



Offer public administrations access to testing and piloting of digital technologies, including their cross-border use



Support the uptake of advanced digital and related technologies by the industry, notably small and medium-sized enterprises



Build up and strengthen the network of European Digital Innovation Hubs, aiming to have a Hub in every region, to help companies benefit from digital opportunities



Support and follow closely latest technical developments with the potential to benefit European economy and society

# 2. A fair and competitive economy

- ☐ A **European Data Strategy** to make Europe a global leader in the data-agile economy (February 2020), announcing a legislative framework for data governance (Q4 2020) and a possible Data Act (2021).
- ☐ Ongoing evaluation and review of the fitness of **EU competition rules for the digital age** (2020-2023), and launch of a sector inquiry (2020).
- ☐ The Commission will further explore, in the context of the Digital Services Act package, ex ante rules to ensure that markets characterised by large platforms with significant network effects acting as gate-keepers, remain fair and contestable for innovators, businesses, and new market entrants. (Q4 2020).

# 2. A fair and competitive economy

- ☐ Create a framework to enable **convenient**, **competitive and secure Digital Finance**, including legislative proposals on **crypto assets**, and on digital operational and cyber resilience in the financial sector and a strategy toward (Q3 2020);
- ☐ Communication on **Business Taxation for the 21st century**, to address the tax challenges arising from the digitisation of the economy.
- □ Delivering a **new Consumer Agenda**, which will empower consumers to make informed choices and play an active role in the digital transformation (Q4 2020).

# What will we do?



Technology that works for people



A fair and competitive digital economy



An open, democratic and sustainable society





The EU's digital strategy will

- use technology to help Europe become climate-neutral by 2050
- reduce the digital sector's carbon emissions
- empower citizens with better control and protection of their data
- create a European health data space to foster targeted research, diagnosis and treatment
- fight disinformation online and foster diverse and reliable media content



European values and ethical rules and social and environmental norms must apply also in the digital space.



- ☐ It is essential that the rules applicable to digital services across the EU are strengthened and modernised, clarifying the roles and responsibilities of online platforms.
- ☐ The sale of illicit, dangerous or counterfeit goods, and dissemination of illegal content must be tackled as effectively online as it is offline.





A universally accepted public electronic identity (eID) is necessary for consumers to have access to their data and securely use the products and services they want

# Eurobarometer on Fake News

of Europeans perceive fake news to be a problem for democracy

#TackleFakeNews

Source: Eurobarometer





E-WASTE

# Annually, 10 million tonnes of e-waste is generated in the EU







# SUPPORTING THE GREEN TRANSITION

SHAPING EUROPE'S DIGITAL FUTURE

> February 2020 #DigitalEU

Digital technologies are crucial for the EU to become climate neutral by 2050, the goal set in the European Green Deal.



Energy networks



Precision farming



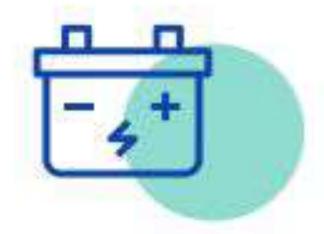
Mobility and transport



Smart buildings



Green data spaces

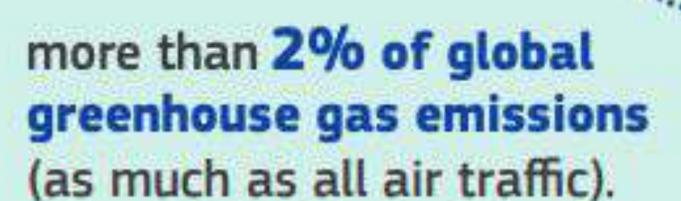


The power of data

# Reducing the carbon footprint of the ICT sector

Today the ICT sector accounts for:

5-9% of electricity use



If unchecked, the ICT footprint could increase to 14% of global emissions by 2040.



But at the same time technologies could help:

reduce emission by 7 times

more than the amount created by the ICT sector;

reduce global emissions by up to 15%.



Artificial Intelligence, supercomputing and pooled data will allow better analysis and decision-making on climate crisis and the environment. This will lead to better policy making.

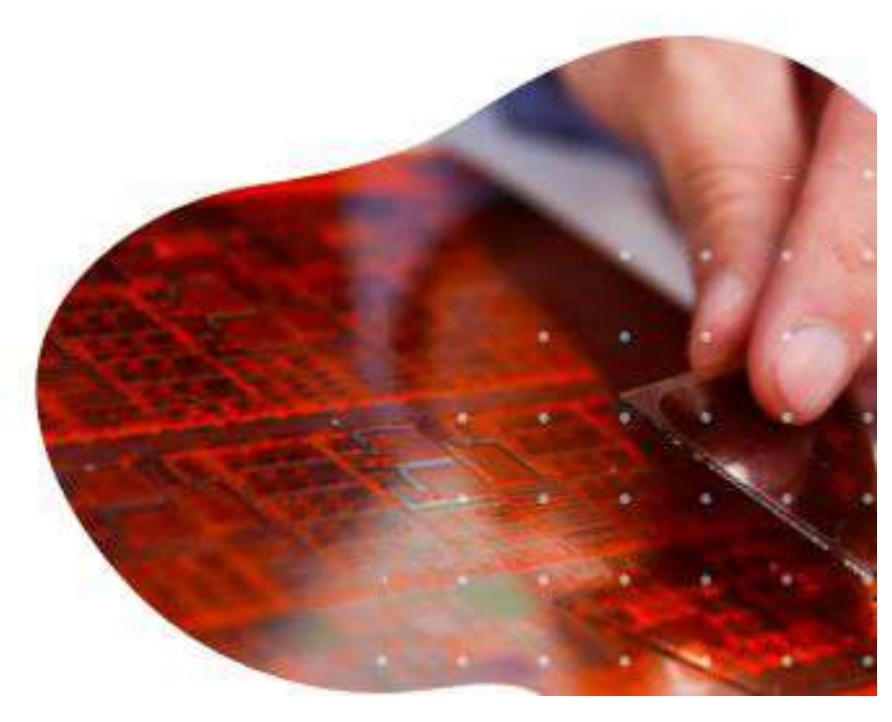
# The digital strategy will help the European Green Deal make the EU climate neutral

Launch a new EU industrial strategy

In March 2020, the Commission will adopt an EU industrial strategy to support the green and digital transformation of the EU economy.

Boost the EU's ability to predict and manage environmental disasters

The "Destination Earth" initiative will develop a high precision digital model (a 'digital twin') of the Earth that will radically improve Europe's ability to predict extreme weather patterns, gauge the impact of climate change and manage natural and environmental disasters.



# Support the circular economy

Take measures to improve the energy efficiency and circular economy performance of the ICT sector from broadband networks to data centres and ICT devices;

Introduce new "product passports" to tell consumers and industry about the origin, composition (including hazardous and rare materials), end-of-life handling and recycling of products.

# Launch a circular electronics initiative

Improve rules to make devices last longer and make them easier to repair and recycle.

Extending the lifetime of all smartphones in the EU by one year would save 2.1 million tonnes of CO<sub>2</sub> per year by 2030, the equivalent of taking a million cars off the roads.



Take advantage of Artificial
Intelligence, 5G, cloud and edge
computing, and the Internet of
Things

Make sure we use digital technologies better to deal with climate change and protect the environment.





# Support automated and connected transport

Develop smart systems to reduce traffic congestion and improve mobility.





# Make public procurement more sustainable

Ensure that EU rules on green public procurement cover all ICT products and services.

# Digital Health and Care







TRANSFORMATION OF HEALTH AND CARE IN THE DIGITAL SINGLE MARKET - Harnessing the potential of data to empower citizens and build a healthier society

## European health challenges

- Ageing population and chronic diseases putting pressure on health budgets
- Unequal quality and access to healthcare services
- Shortage of health professionals 88

## Potential of digital applications and data to improve health

- Efficient and integrated healthcare systems
- Personalised health research, diagnosis and treatment
- Prevention and citizen-centred health services

### What EU citizens expect...

90% agree

To access their own health data

(requiring interoperable and quality health data)



To share their health data

(if privacy and security are ensured)



To provide feedback on quality of treatments

## Support European Commission:



### Secure access and exchange of health data

#### Ambition:

Citizens securely access their health data and health providers (doctors, pharmacies...) can exchange them across the EU.

#### Actions:

- eHealth Digital Service Infrastructure will deliver initial cross-border services (patient summaries and ePrescriptions) and cooperation between participating countries will be strengthened.
- Proposals to extend scope of eHealth cross-border services to additional cases, e.g. full electronic health records.
- Recommended exchange format for interoperability of existing electronic health records in Europe.



#### Health data pooled for research and personalised medicine

### Actions:

Shared health resources (data, infrastructure, expertise...) allowing targeted and faster research, diagnosis and treatment.

Ambition:



- Specifications for secure access and exchange of health data.

- Pilot actions on rare diseases, infectious diseases and impact data.



#### Digital tools and data for citizen empowerment and person-centred healthcare



#### Ambition:

Citizens can monitor their health, adapt their lifestyle and interact with their doctors and carers (receiving and providing feedback).

#### Actions:

- Facilitate supply of innovative digital-based solutions for health, also by SMEs, with common principles and certification.
- Support demand uptake of innovative digital-based solutions for health, notably by healthcare authorities and providers, with exchange of practices and technical assistance.
- Mobilise more efficiently public funding for innovative digital-based solutions for health, including EU funding.





- New and revised rules to deepen the Internal Market for Digital Services, by **increasing and** harmonising the responsibilities of online platforms and information service providers and reinforce the **oversight over platforms' content policies** in the EU. (Q4 2020, as part of the Digital Services Act package).
- □ Revision of **eIDAS Regulation** to improve its effectiveness, extend its benefits to the private sector and **promote trusted digital identities** for all Europeans (Q4 2020)
- ☐ Media and audiovisual Action Plan to support digital transformation and competitiveness of the audiovisual and media sector, to **stimulate access to quality content and media**pluralism (Q4 2020)

- ☐ European Democracy Action Plan to improve the resilience of our democratic systems, support media pluralism and address the threats of external intervention in European elections (Q4 2020)
- A circular electronics initiative, mobilising existing and new instruments in line with the policy framework for sustainable products of the forthcoming circular economy action plan to ensure that devices are designed for durability, maintenance, dismantling, reuse and recycling and including a right to repair or upgrade to extend the lifecycle of electronic devices and to avoid premature obsolescence (2021).

- ☐ Initiatives to achieve climate-neutral, highly energy-efficient and **sustainable data centres** by no later than 2030 and transparency measures for telecoms operators on their environmental footprint.
- The promotion of electronic health records based on a common European exchange format to give European citizens secure access to and exchange of health data across the EU.

  A **European health data space** to improve safe and secure accessibility of health data allowing for targeted and faster research, diagnosis and treatment (from 2022).

## Europe as a global leader



## The EU will:

- aim to become a global role model for the digital economy;
- support developing economies in going digital;
- develop digital standards and promote them internationally.



The conclusions of the EU-African Union Digital Economy Task Force will underpin the support for the digital transformation in Africa, including the creation of a single African Digital Market

# Europe as a Global Player

- ☐ A Global Digital Cooperation Strategy (2021).
- A White Paper on an instrument on foreign subsidies (Q2 2020).
- A Digital for Development Hub that will build and consolidate a whole-of-EU approach promoting EU values and mobilising EU member states and EU industry, Civil Society Organisations (CSOs), financial institutions, expertise and technologies in digitisation.
- ☐ A **strategy for standardisation**, which will allow for the deployment of interoperable technologies respecting Europe's rules, and promote Europe's approach and interests on the global stage (Q3 2020).
- ☐ Mapping of opportunities and action plan to promote the European approach in bilateral relations and multilateral fora (Q2 2020).





# NEW DEADLINE 25 JUNE

https://bit.ly/2L

**Automated Translation** 

€4 million

Blockchain

€3 million

eDelivery

€0.9 million

eldentification & eSignature

€3 million

European Platform for Digital Skills and Jobs

€6.5 million

Europeana

€3 million

Safer Internet

€11 million





https://bit.ly/2TmN75N WiFi4EU 03/05





- Share and monitor
   information on EU funds for
   private and public sector
- 2. Promote digital literacy
- 3. Promote STEM education
- 4. Prepare your SMEs and your citizens for the massive social change that Al will bring to the world
- 5. Use data and AI to build smart cities



How is our society changing? How are our cities changing? New businesses or services available? New means of transport? How do all changes affect the economy? And to labor rights? Are the current laws prepared to face these situations?

... you should know that these issues are being addressed in the Project PLUS.



https://project-plus.eu



MARKET PLACE OF THE
EUROPEAN INNOVATION
PARTNERSHIP
ON SMART CITIES
AND COMMUNITIES

https://eu-smartcities.eu

# HOW THE PLATFORM CAN HELP YOU?





Find the latest news, events and documents related to innovation in Smart Cities



Find information on many existing EU funding sources



Launch a debate on a specific issue, initiative or practice



Share information, documents and links to enhance the visibility of your events



Find interesting completed or ongoing smart cities projects



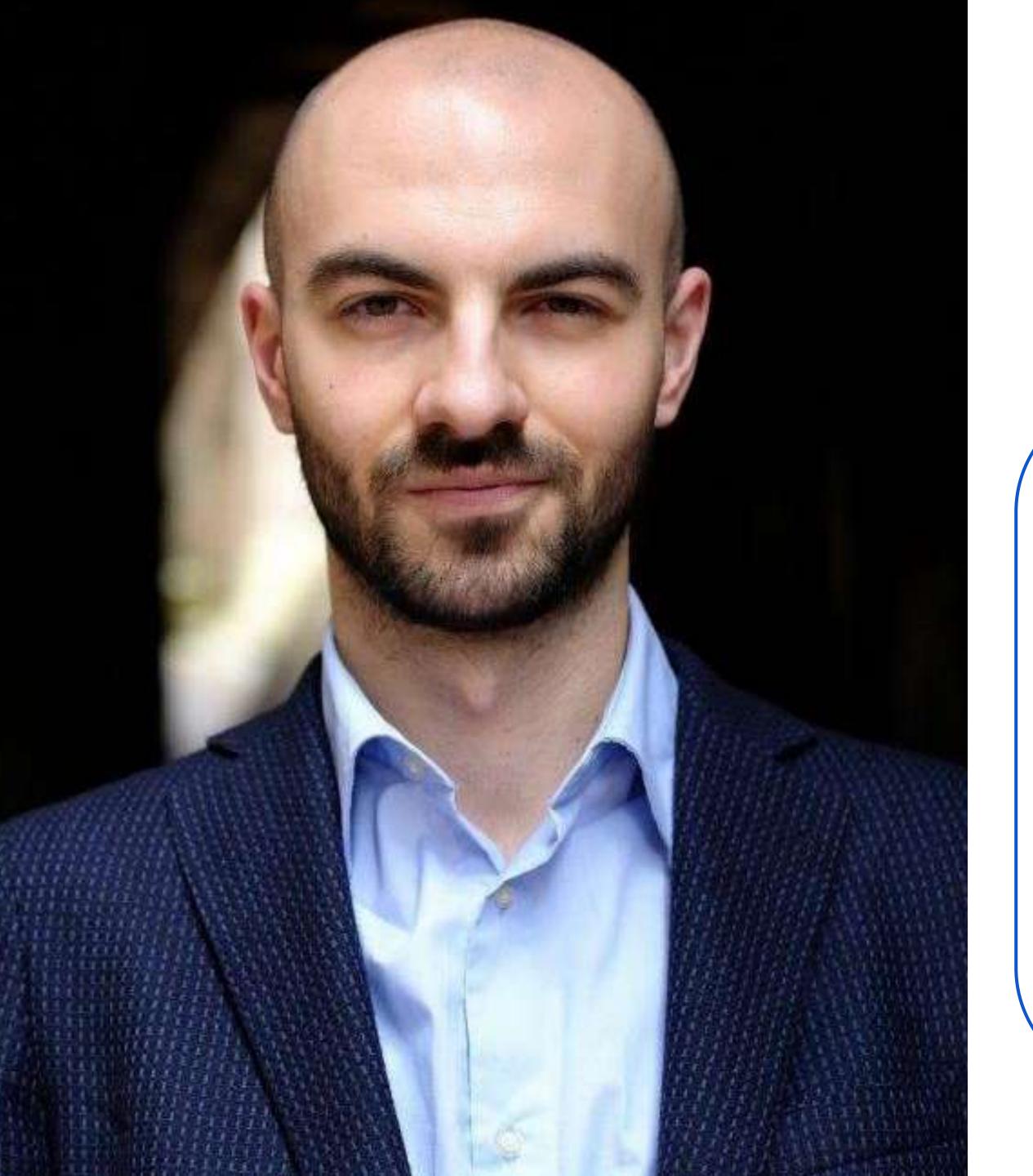
Get in touch with potential partners or peers who work on the same subject

# Al, digital solutions, smart cities & Green deal

- □ 'Artificial Intelligence in smart cities', scheduled for 25/05/2020 at 14:00-16:00 CET.

  More information and the dial-in details can be found here:

  https://ec.europa.eu/digital-single-market/en/news/artificial-intelligence-smart-cities-digital-innovation-hubs-webinar
- 'How to scale up digital solutions in smart cities and communities?' on 26/05/2020 (10:00-12:00 CET), in the context of the Community of Practice for cities (COP-CITIES). More information and registration page can be found here: <a href="https://ec.europa.eu/digital-single-market/en/news/webinar-community-practice-cities-ho">https://ec.europa.eu/digital-single-market/en/news/webinar-community-practice-cities-ho</a>
  - w-scale-digital-solutions-smart-cities-and-communities
- □ 'The role of smart cities in meeting objectives of the Green Deal' on 04/06/2020 (11:00 12:30 CET) in the context of the INSPIRE 2020 conference.
   More information and registration page can be found here:
  - https://inspire.ec.europa.eu/conference2020/virtualprog



# THANK YOU!

Email: vincenzo.tiani@whead.it

- in linkedin.com/in/vincenzotiani/en
- twitter.com/VincenzoTiani

Podcast: Il digitale spiegato (ITA only)

# See you on 29/05 to talk about privacy and covid-19!

