Digital as enabler of the Recovery

Workshop on Industrial Ecosystems with Business Europe

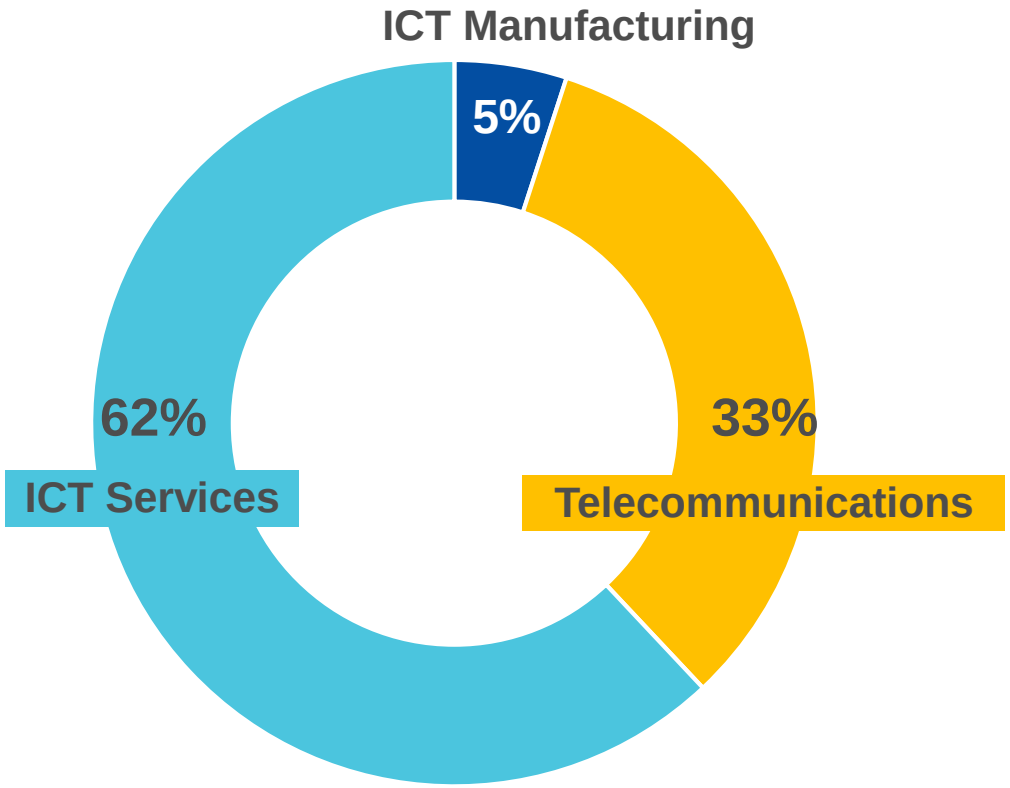
Alexander Riedl

European Commission DG Connect

The digital ecosystem

The **ICT sector** – key figures[1]

- **4.5%** of the EU-27 Value Added
- **~ 1 trillion** turnover
- More than **5 million** employees



1. Eurostat, based on the definition of the Digital ecosystem.
2. Source: Digital Economy and Society Index 2020, The EU ICT sector and its R&D performance.

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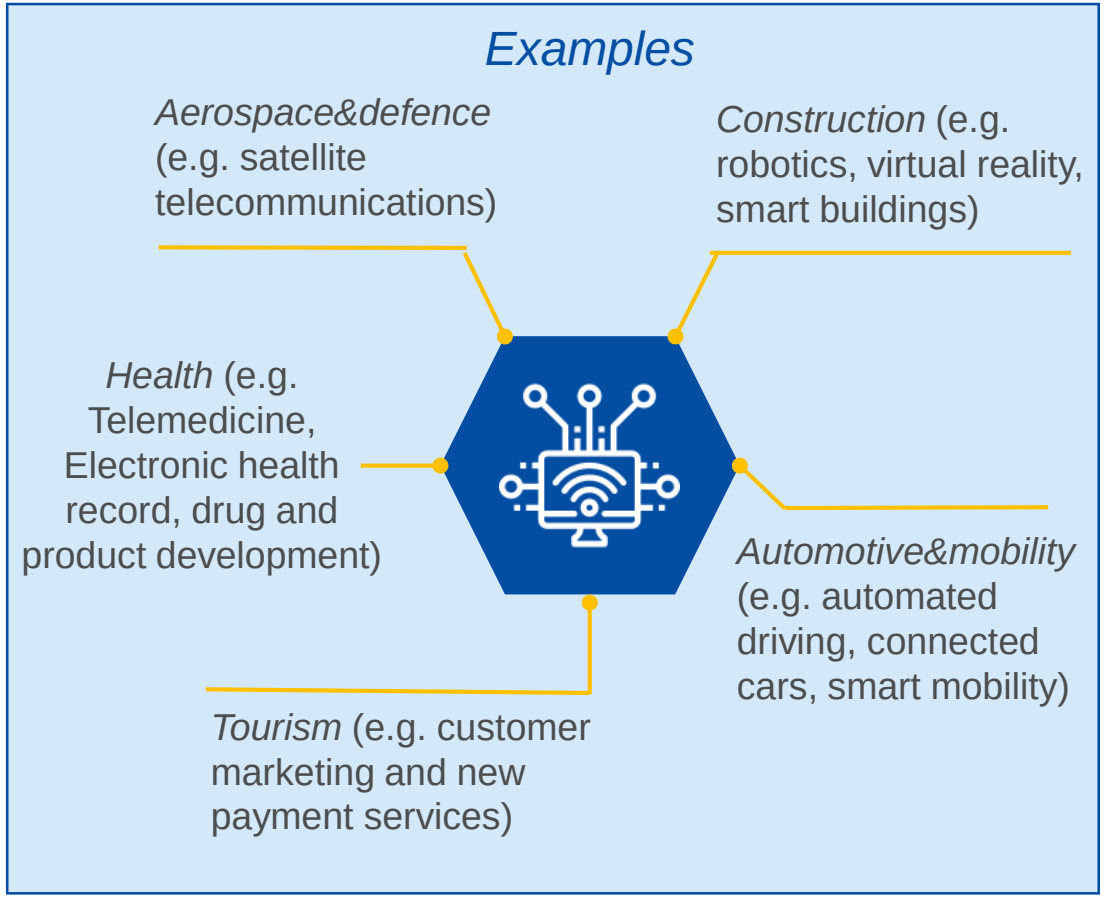
Digital beyond the ICT sector

- Digital includes **mature and emerging technologies with their own dynamics**, e.g. artificial intelligence, robotics, blockchain, quantum, high performance computing, cybersecurity, IoT
- Digital is **intertwined with all industrial ecosystems**
- Digital is **an enabler across the whole economy**



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Digital as enabler: the automotive industry

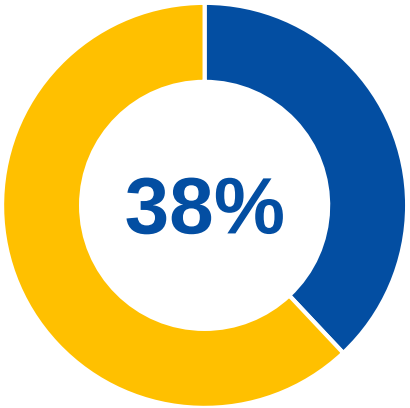
Four major trends will transform the automotive ecosystem in the next 5-10 years

Autonomous driving

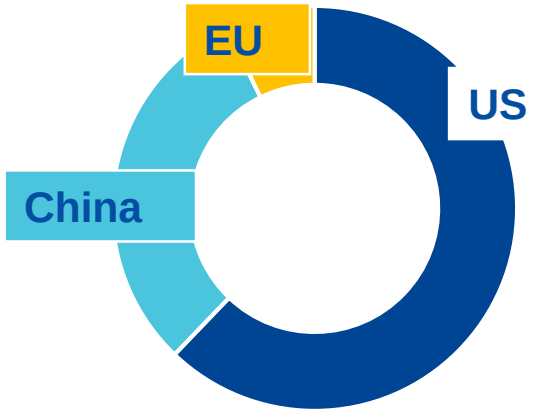
Connectivity

Electrification

Smart mobility



of automotive suppliers will cut R&D budgets as response to COVID-19[1]



EU lags behind the US & China in disclosed investments in the 4 major trends[2]

1. Source: McKinsey CLEPA Pulse Check Survey, conducted in April 2020.
2. Source: McKinsey Growth Analytics – Horizon Scan; CapitalIQ; Pitchbook; McKinsey Growth Analytics – Innography. Disclosed external investments in ACES trends since 2010.

Digital as enabler: the health sector

The use of e-Health services has accelerated during the crisis

Uncertain RoI and lack of digital skills largest barriers to uptake of digital health solutions[2]

Digital health solutions could help EU health sector save €120bn per year[1]

Online interaction

Workflow & Automation

Patient self-care

Decision support & Outcome transparency

Paperless data

1. Extrapolation from FR and DE data: German Federal Ministry of the Interior, German Federal Statistical Bureau, French Ministry of Social Affairs and Health (based on 2017 data); Sum of benefit potential for 26 use cases across 5 digital domains; benefit potential captures reductions in the cost of delivery and/or direct decreases in activity. Compared to 2018 baseline.
2. Source: McKinsey SME survey (2019), respondents from the health ecosystem

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The impact of the COVID-19 crisis and the lessons learned

- It emphasised the need for digital connectivity, skills and digital tools for businesses and citizens
- While telecommunications and certain ICT services have benefitted from increased online activity during the crisis, the economic downturn negatively affects investments in digital throughout the economy
- Reduced investments in R&D and in strategic areas, such as 5G, cybersecurity, HPC, would have impacts on the innovation capacity of businesses and future competitiveness

EU currently underinvesting in digital capacities

- Compared to global competitors, the EU underinvests in digital infrastructure and technologies in key areas such as AI, cloud, HPC, quantum, cybersecurity, and blockchain
- Investment needs to enable and accompany the digital transition have been highlighted for all Member States in the context of the European Semester

Examples of investment needs:

Infrastructure investments to reach the Gigabit Society and Digital Agenda for Europe targets (gap of about €250 billion until 2025)[1]

Upskilling the European population and reduce the shortage of digital specialists: around €9 billion per year[2]

1. EIB, forthcoming.
2. SWD (98) 2020.

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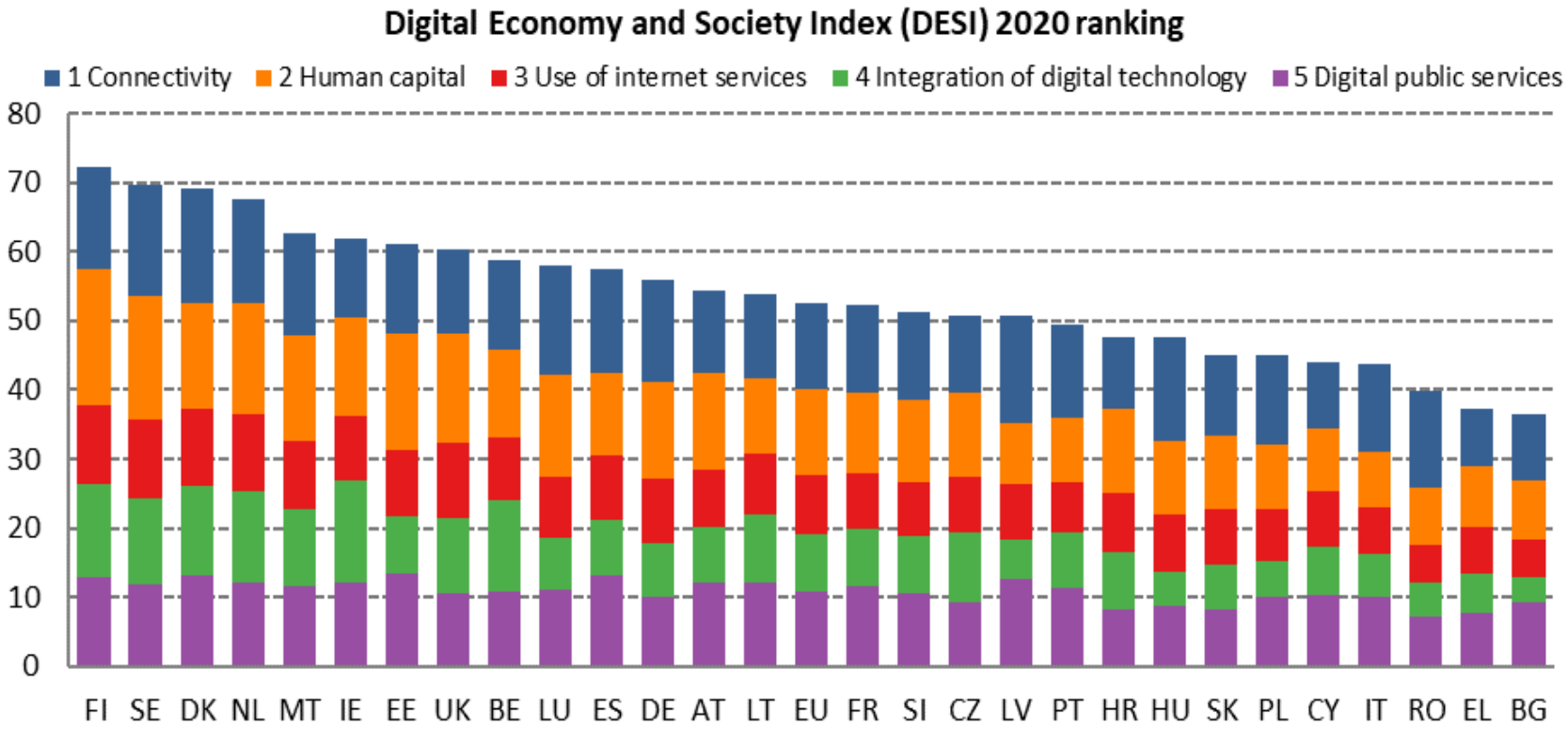
The Commission is tracking the penetration of digital technologies in society and the economy via the **Digital Economy and Society Index**



- Measures digital performance across 5 dimensions
- There are large variations across MS
- Need to boost investments and reforms in Member States

Source: Digital Economy and Society Index 2020

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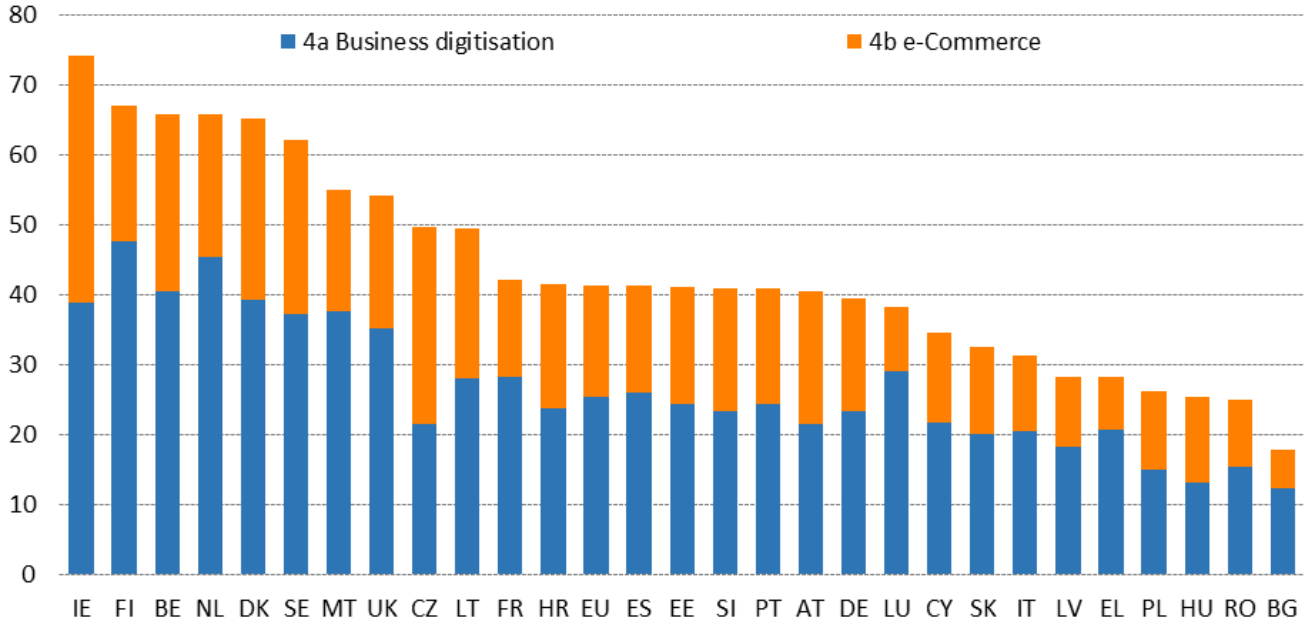
SMEs are not fully exploiting potential of digitalisation

Enterprises are increasingly digitised, with large companies taking the lead. 38.5% of large companies rely already on advanced cloud services and 32.7% are using big data analytics. However, the vast majority of SMEs are not yet taking advantage of these technologies.

Digital Economy and Society Index (DESI) 2020, integration of digital technologies



Source: Digital Economy and Society Index 2020

The Integration of digital technology dimension of DESI

	EU	
	DESI 2018	DESI 2020
4a1 Electronic information sharing % enterprises	**34%** 2017	**34%** 2019
4a2 Social media % enterprises	**21%** 2017	**25%** 2019
4a3 Big data % enterprises	**10%** 2016	**12%** 2018
4a4 Cloud % enterprises	**NA**	**18%** 2018
4b1 SMEs selling online % SMEs	**17%** 2017	**18%** 2019
4b2 e-Commerce turnover % SME turnover	**10%** 2017	**11%** 2019
4b3 Selling online cross-border % SMEs	**8%** 2017	**8%** 2019

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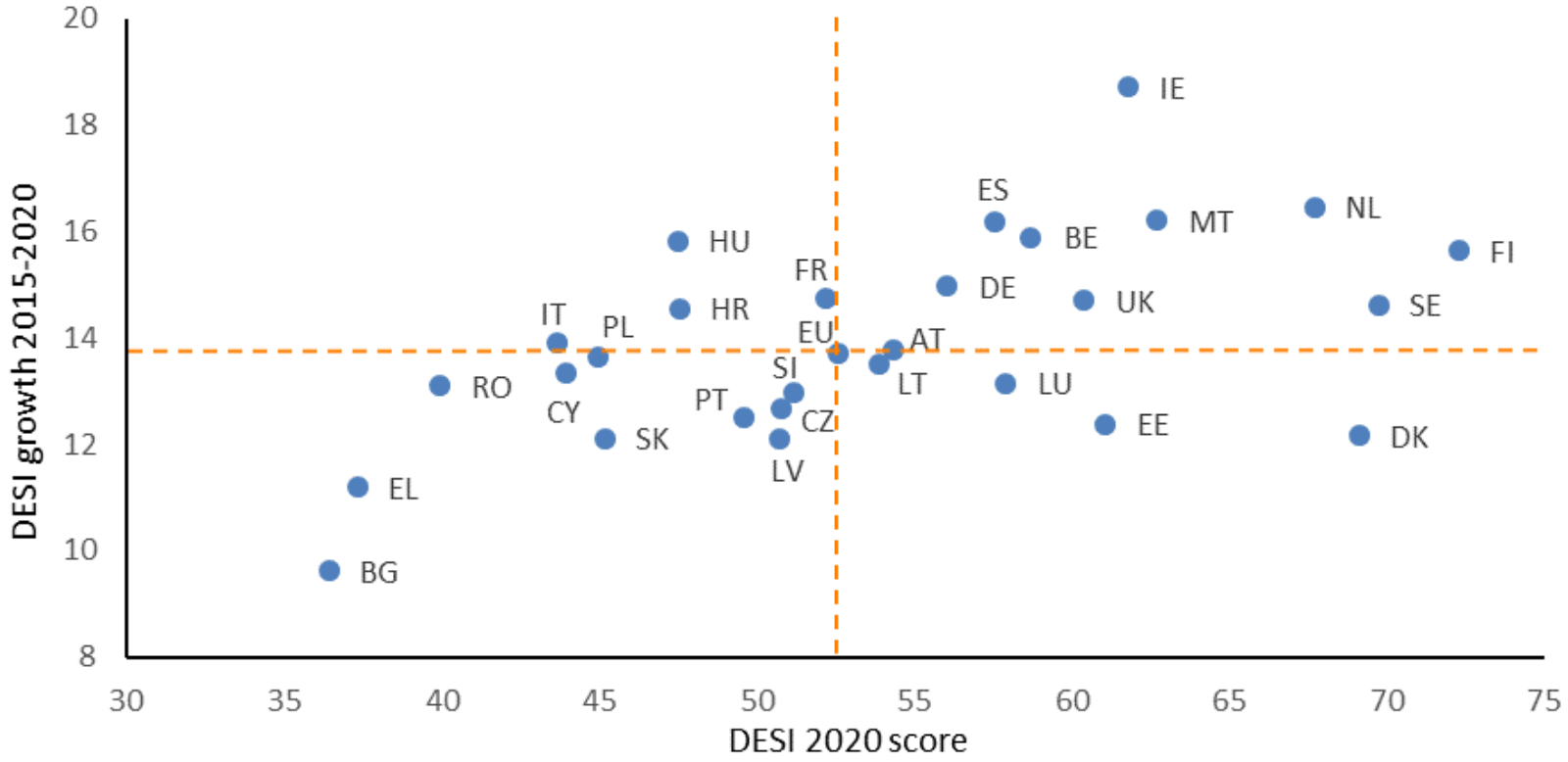
Need to boost investments and reforms



- Best performers also progress faster
- Targeted investments and robust policies effective in increasing digital performance

Source: Digital Economy and Society Index 2020

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Recovery and Resilience Facility

Key elements for a digital recovery[1]

Connectivity

- Rapid deployment 5G
- Build infrastructure for necessary bandwidth for health, education, transport, logistics and media.

Industrial & technological presence in supply chain

- Strategic digital capacities and capabilities
  - Semiconductors and components
  - Supercomputers, quantum
  - secured communication
  - 5G/6G networks
  - data and cloud infrastructure
  - AI,
  - cybersecurity,
  - blockchain.

Data Economy

- Common European data spaces
- Supporting European industry, Green Deal, healthcare, mobility and public administration

Better business Environment

- Digital Service Act
- Improving legal framework for digital services with clear rules for online platforms.

Digital Skills

- At least basic digital skills for whole population
- Increasing the pool of digital experts able to develop and operate key technologies

1. Elaboration based on COM(2020) 456 final, Europe's moment: Repair and Prepare for the Next Generation, 27.5.2020

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EU Programmes on digital are complementary

EU-wide collective effort				National regional and local		Financial instruments
Horizon Europe	Digital Europe	Connecting Europe Facilities	Health	Cohesion	Agriculture funds	InvestEU
Research **Innovation**	**Strategic capacities**: computing, data, testbeds, etc. **Advanced digital skills** **EU-Wide deployment**	**Broadband and 5G** roll out **Connecting Communities**	Data Spaces for Health telemedicine	**Digital connectivity** in white and grey areas Support to enterprises in line with **Smart specialisation** **Digital skills** for all citizens	Making use of Big Data for **CAP monitoring** **Broadband rollout** in rural areas	**Leverage private capital** for investments in SMEs, research, digital, infrastructure, skills…

The **Recovery and Resilience Facility** could support efforts at national and EU-wide level. Member States will define investment needs in the Recovery and Resilience Plans.

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Businesses hold the key for the digital transition

- Bouncing back from the crisis is an **opportunity to accelerate the digital transition** of the economy
- **Business is a key actor** both for the recovery and the digital transition - the Commission and the RRF can help but businesses need to play their part
- We need to build **European capacities in key technologies** (AI, cloud, cyber, blockchain, HPC, quantum) across all sectors, to reduce the reliance on third countries and to create a digitally competitive, resilient and autonomous Europe
- Invest in closing the digital **skills** gaps, including in re- and upskilling your own staff
- DESI can help to assess digital performance, guide investment & policy action

Thank you

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