



Digital agenda and digital skills

Silvia Merisio

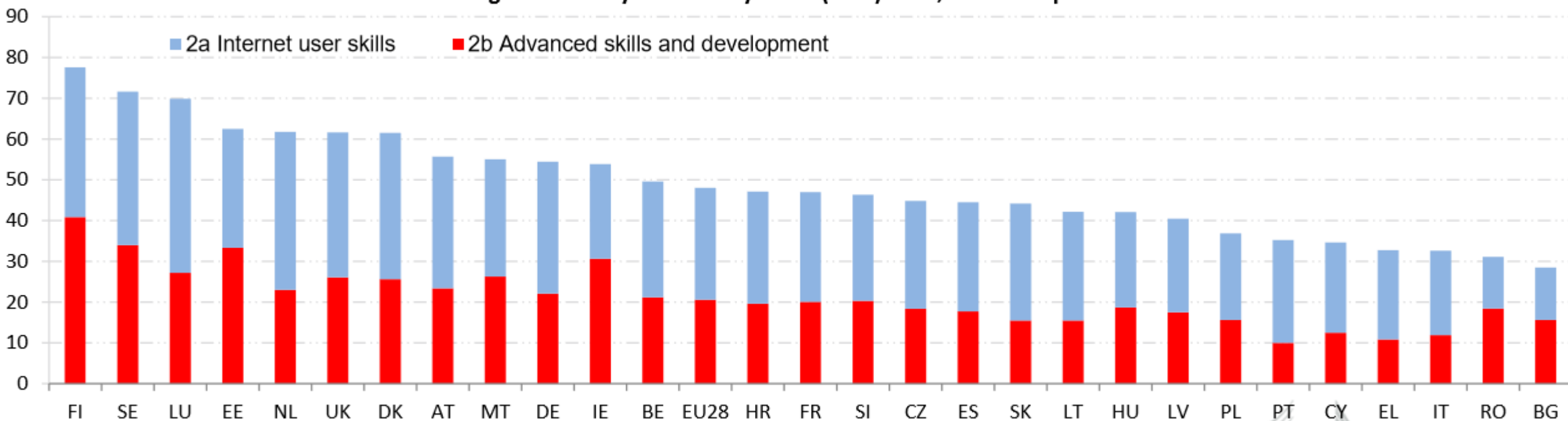
DG Connect, European Commission



Digital skill levels in the EU

Digital Economy and Society Index (DESI) 2019, Human Capital

Source: DESI 2019, European Commission





1.000.000 open vacancies for
digital technology experts

2.000.000 open vacancies
estimated for 2030

53% Of EU companies experiencing
difficulties in recruiting ICT specialists

Shortages of ICT and STEM
professionals in almost all Member States

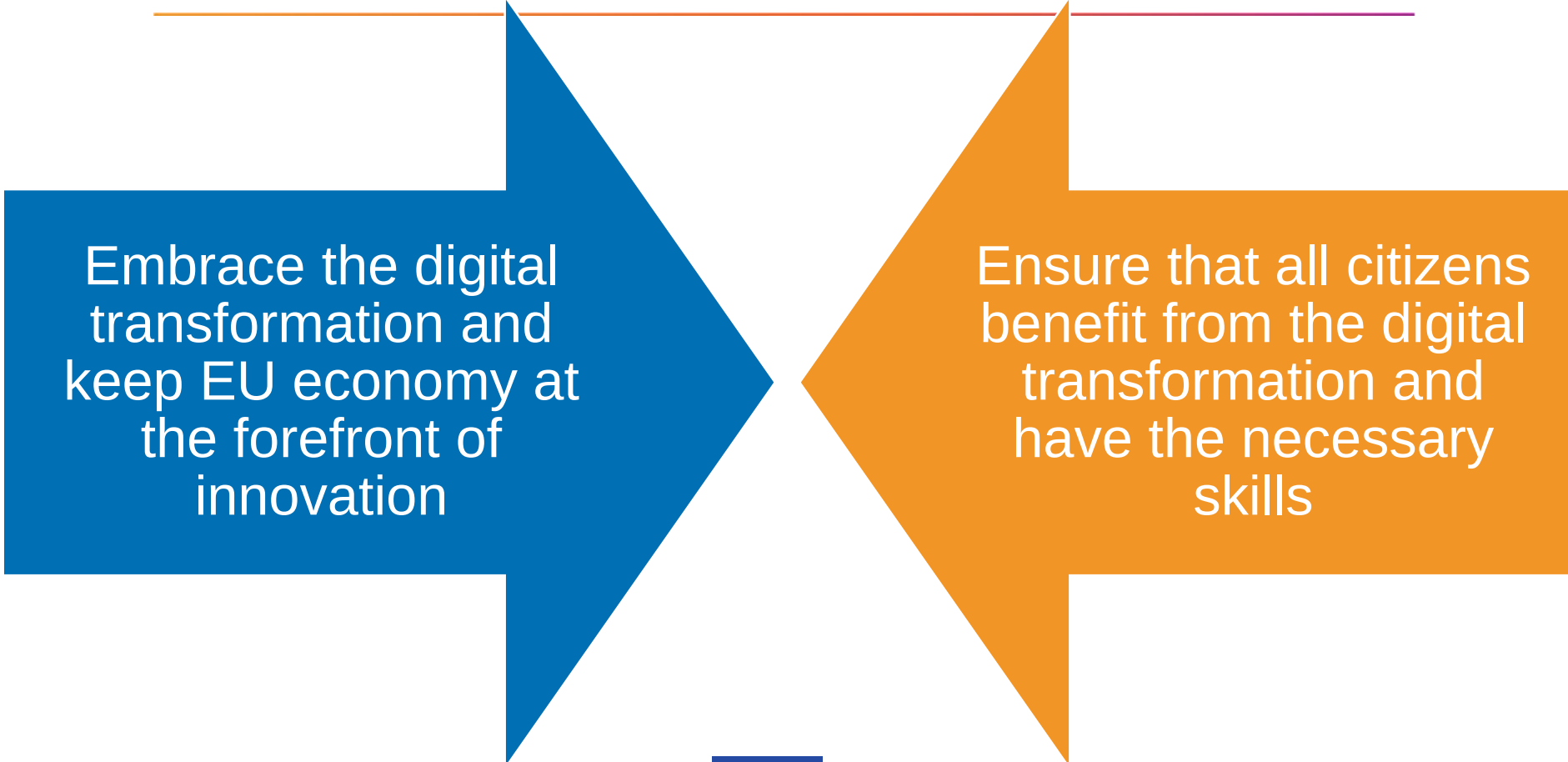
Source DESI, Cedefop

ICT specialists **3.7% of**
total employment

Women ICT specialists **1.4% of**
female employment

ICT Graduates **3.5% of total**
graduates

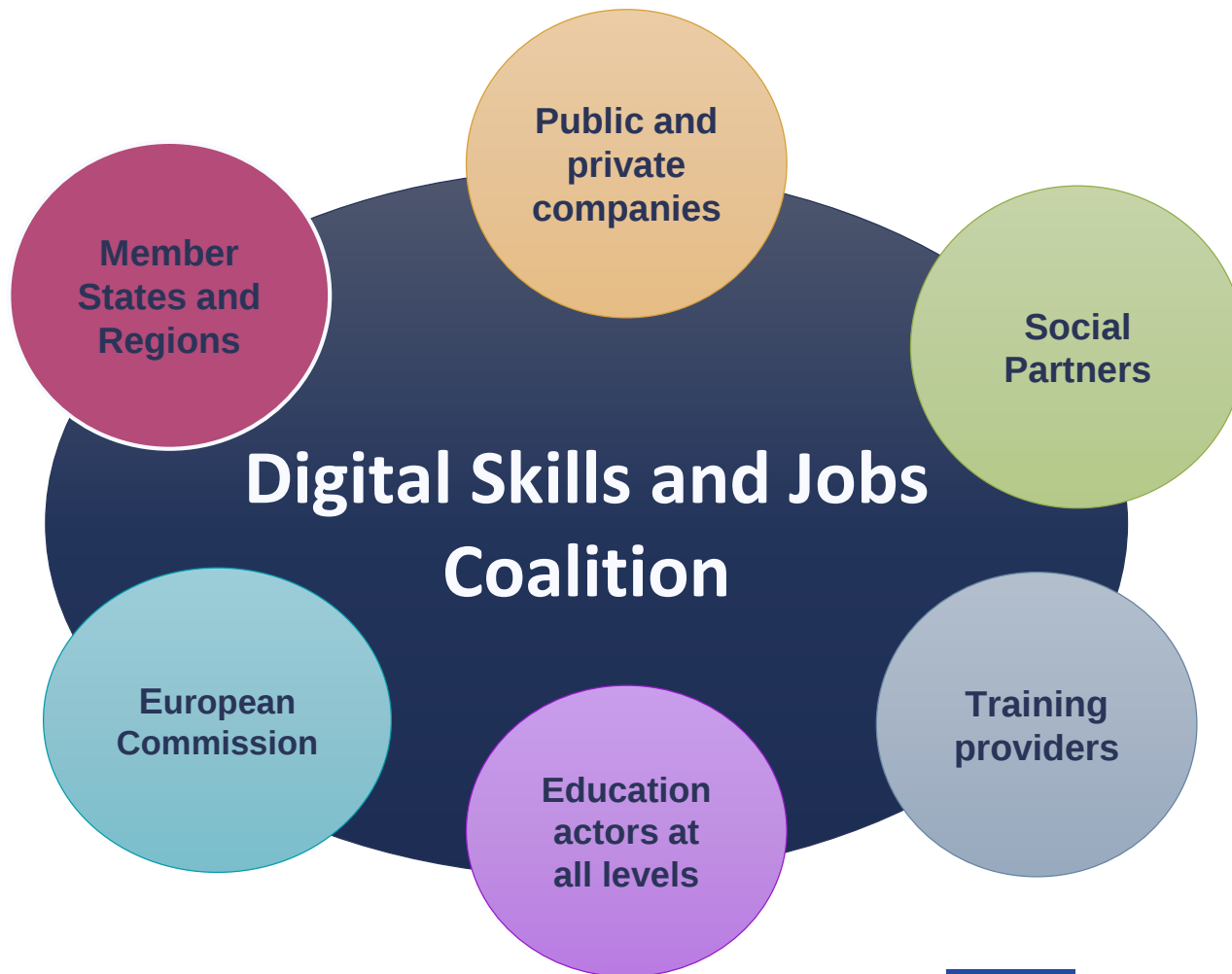
Double challenge at EU level



Embrace the digital transformation and keep EU economy at the forefront of innovation

Ensure that all citizens benefit from the digital transformation and have the necessary skills

JOIN EFFORTS TO TACKLE THE LACK OF DIGITAL SKILLS IN EUROPE



Four target groups:

- ICT professionals
- Education
- Workforce
- citizens

7,402,323

trainings already
provided

1,867,483

certifications
already delivered

17,458

job placements
and internships
already offered

41

new labs and
incubators
already opened

1,610,956

people reached
through
awareness
raising



DIGITAL OPPORTUNITY TRAINEESHIPS

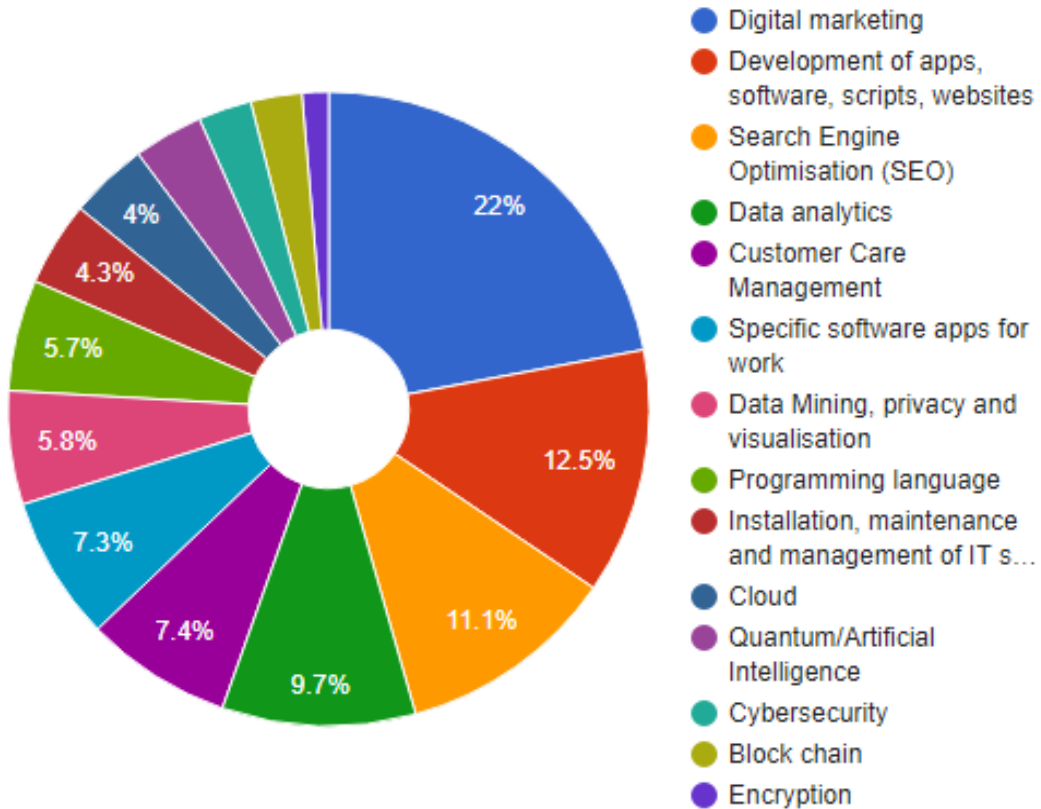
Students in **all domains** need to be
educated in **digital skills**,
not just those who choose an **ICT career**



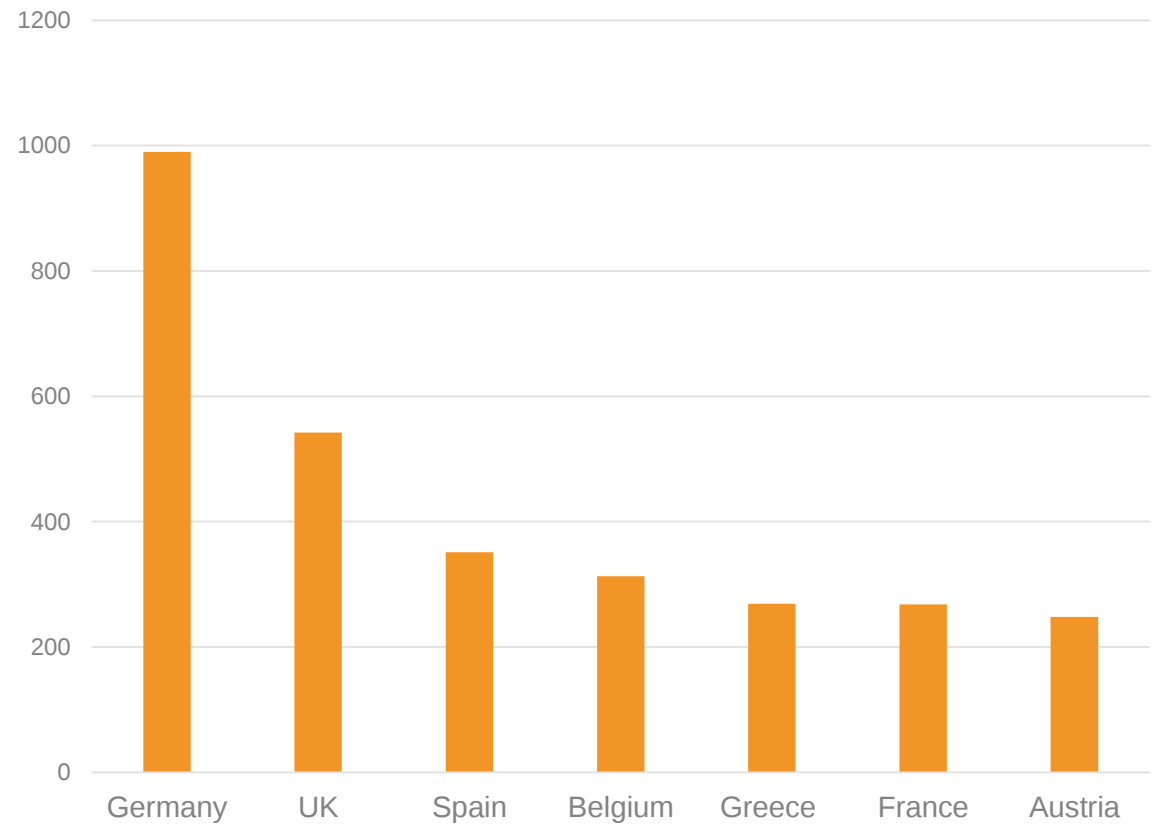
**Pilot project to provide cross-border traineeships for
up to 6,000 university students in 2018-2020.
Implemented through Erasmus+**

DOT in numbers

Number of DOT traineeships by category



Biggest "senders"



AI Coordinated Action Plan

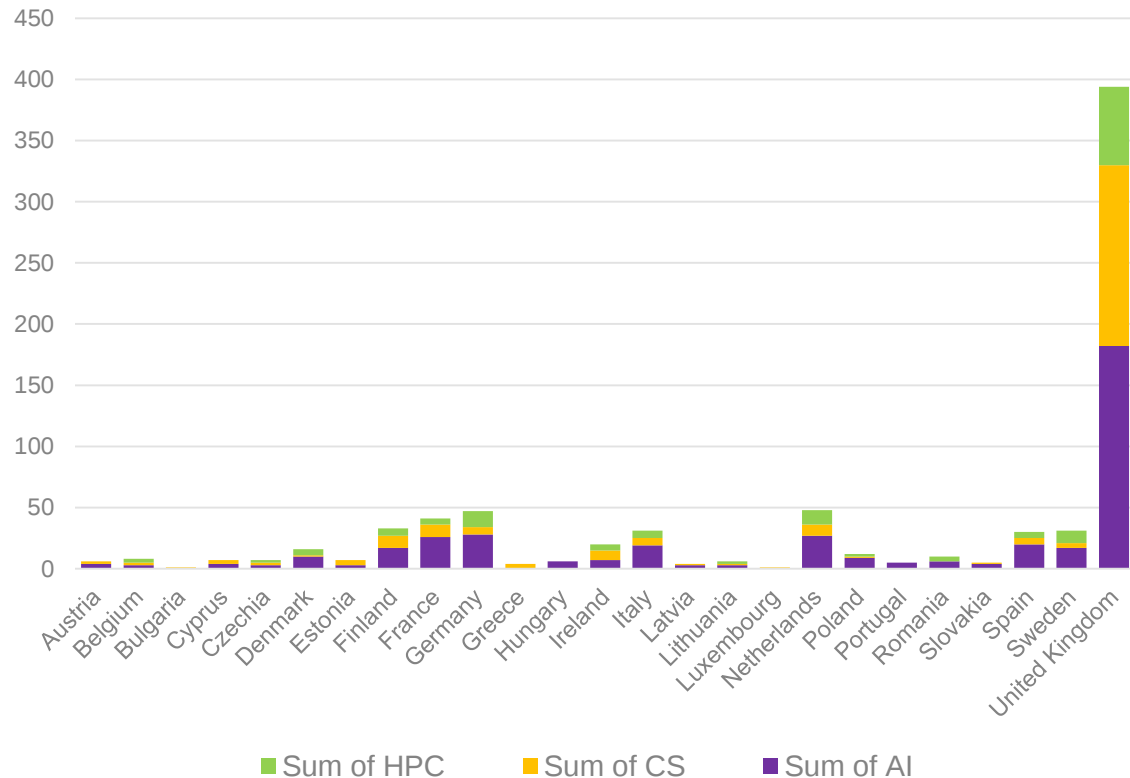
Train, retain and attract AI talents in the EU

Member States will include the skills dimension in the national AI strategies (by mid-2019) and map the national education offer, the skills needs

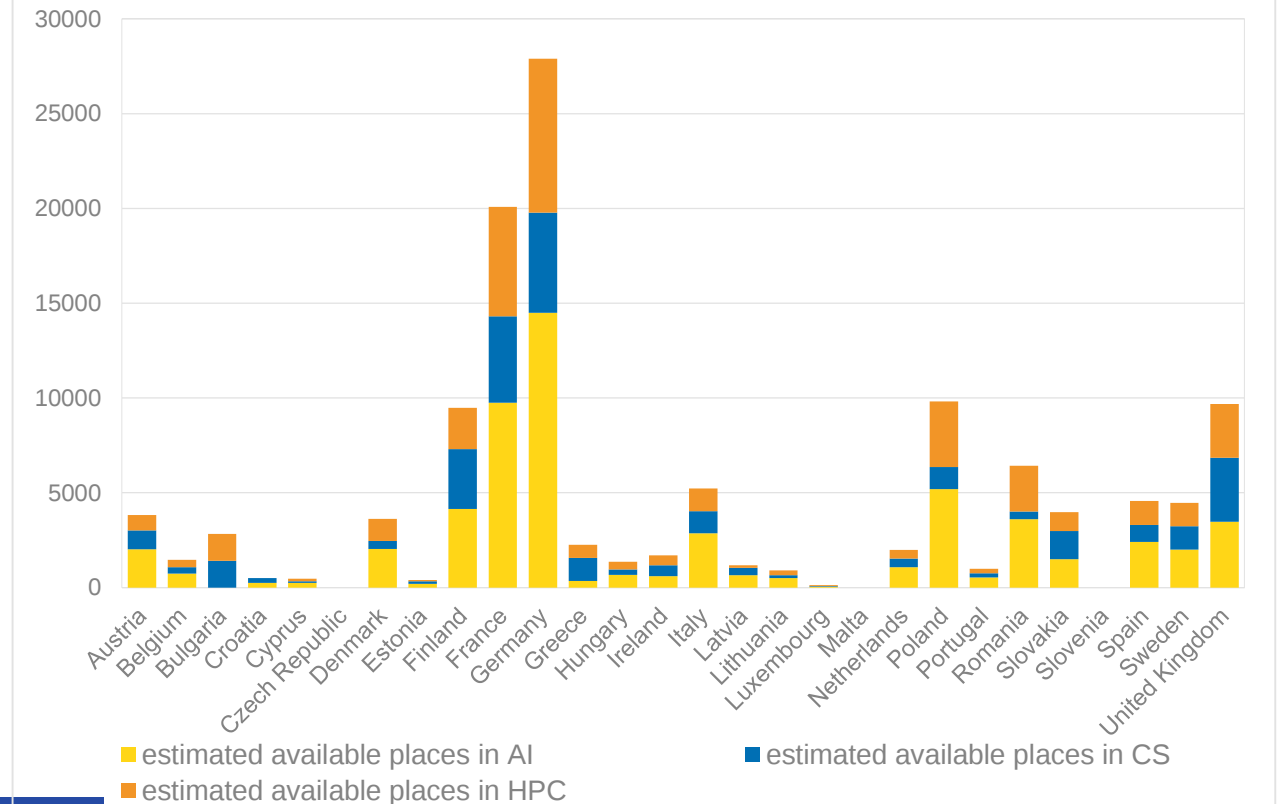
The European Commission will explore avenues to support the inclusion of AI modules in multi-disciplinary Master programmes (e.g. in e-health, fintech, e-government) and in adult training programmes with the focus on people with higher education and work experience.

Where the EU stands in terms of specialised digital education offer?

#of MSc programmes specialised in AI, HPC and Cyber Security (JRC 2019)



Estimated Capacity in terms of available places (JRC 2019)



NETWORKING AND SCALING UP EUROPE'S STRENGTHS – WHAT IS ALREADY BEING DONE?

Artificial Intelligence Excellence Centres

Ongoing Horizon call for EUR 48 million to strengthen EU excellence centres in AI and support the development of networks.

High-Performance Computing

EuroHPC will support to 8 High Performance Computing systems in the EU through a collective effort involving 19 Member States.

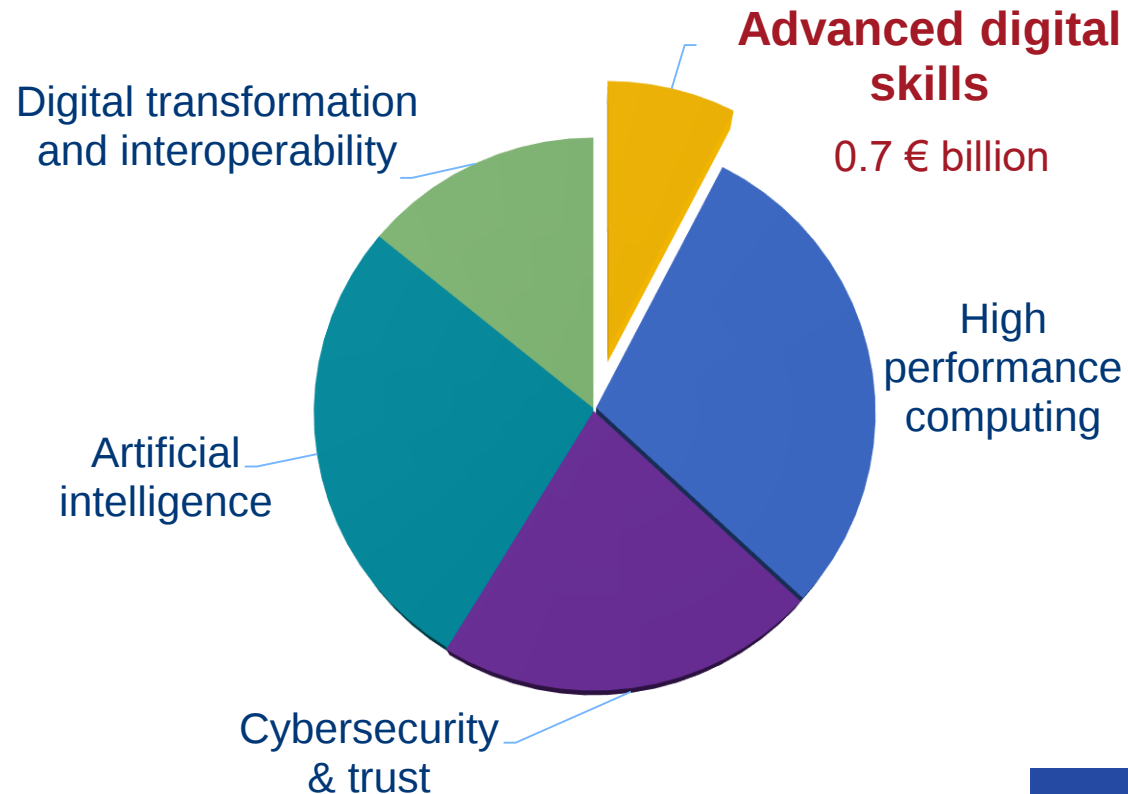
Cybersecurity Skills

A total investment of EUR 63 million to support for the development of ecosystem of excellence centres in cybersecurity composed of 160 EU partners.

How the EU can contribute?

Digital Europe Programme

Proposed total budget EUR 9.2 billion



The Digital Europe Programme will support the development of advanced digital skills, especially with regard to high performance and cloud computing, cybersecurity, quantum technologies, artificial intelligence and big data analytics, distributed ledger technologies.

Possible actions to be supported

Master's programmes

Highly specialized programmes and courses to equip students with the advanced digital skills needed to deploy the latest technologies in all sectors of the economy

Short-term training

Short-term training courses open also to people already in employment to specialise in cutting-edge digital technologies

Job Placements

Job placements in companies or research centres specialised in Artificial Intelligence, HPC or cybersecurity to acquire advanced digital skills on-the-job.

How to implement?

- **EU Consortia of tertiary education institutions**, with digital excellence centres linked with industry
- Develop & deliver **Master's programmes and courses**
- Attractiveness for **top researchers and academics in the field**

Indicative timeline

