



APRE

Agenzia per la Promozione
della Ricerca Europea

Opportunità di finanziamento e strumenti per le tecnologie digitali in Horizon Europe

Diego Coglitore

HE Cluster 4 – National Contact Point

APRE- Agency for the Promotion of European Research

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Italian **non-profit research organisation (PRIVATE)**



APRE

Agenzia per la Promozione
della Ricerca Europea

Mission.

- Promoting and supporting Italian participation in FPs
- Improve the “Quality” of the Italian participation in European programmes for R&I.

NCP

APRE hosts all **Italian National Contact Points** "NCPs" for the EU Horizon 2020 Framework Programme for R&I and also Horizon Europe



Information and Awareness Raising

Advising and Assisting

Training

Signposting and Feedback

Members & Helpdesks

- **150**
- **12 REGIONAL HELPDESKS**

APRE LIASON OFFICE IN BRUXELLES

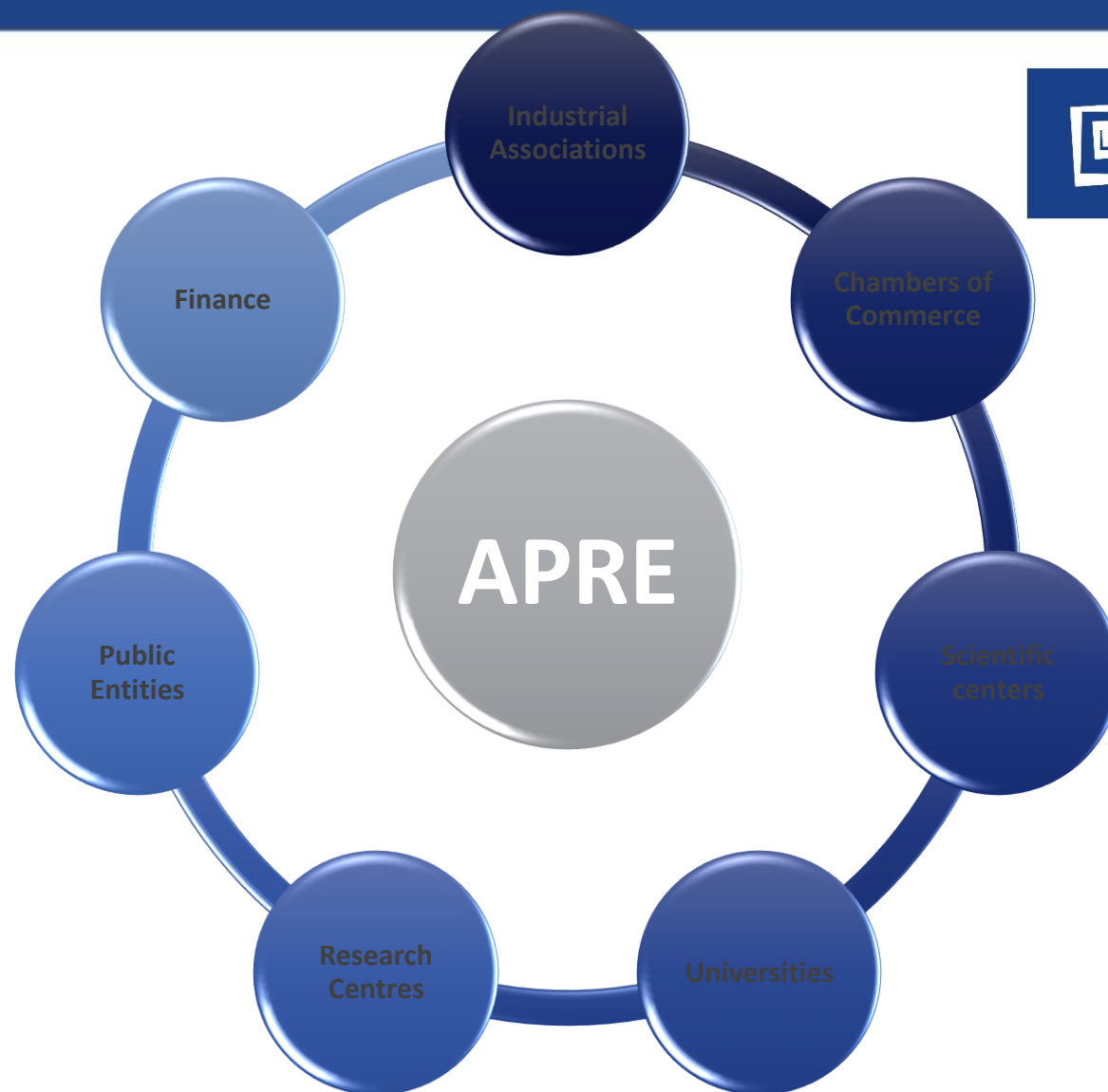
APRE has a Brussels office, hosted in a joint office with main Research institutions in Italy.

APRE's services





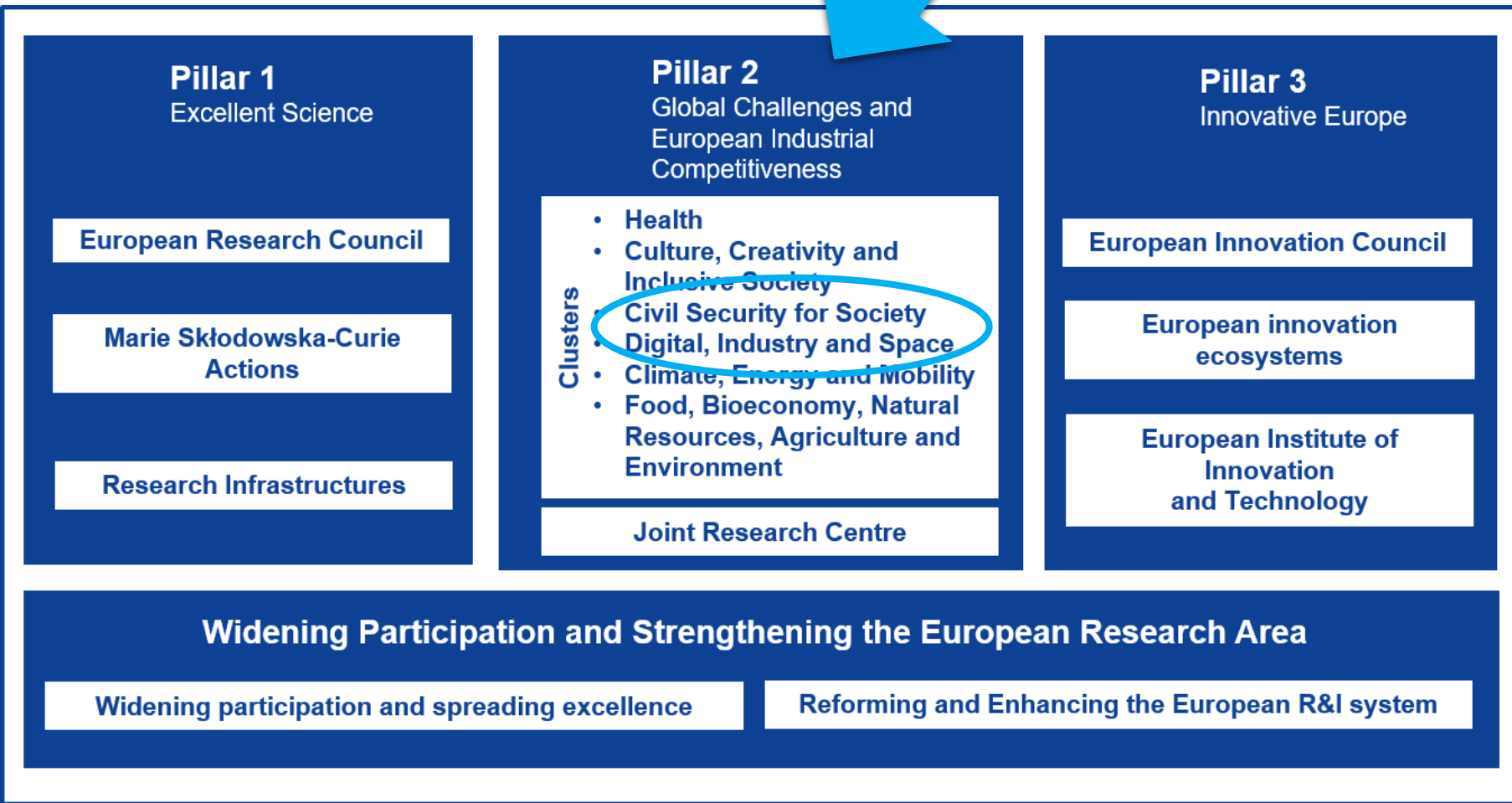
More than 160
associated members



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Digital in Horizon Europe

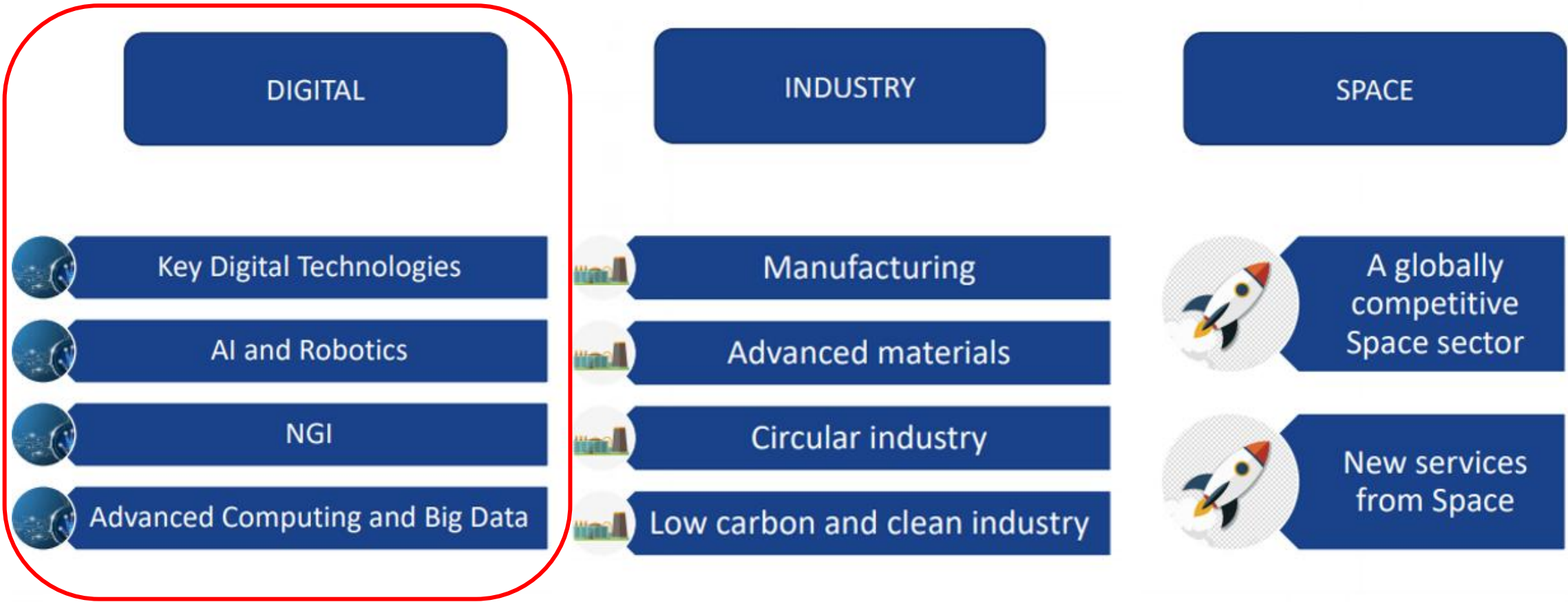


CL4: Digital, Industry and Space - Objectives

- ✚ Global **leadership in clean and climate-neutral industrial value chains**, circular economy and climate-neutral digital systems and infrastructures (networks, data centres)
- ✚ Achieving technological leadership for Europe's open strategic autonomy in **raw materials, chemicals and innovative materials**
- ✚ **Sovereignty in digital technologies and in future emerging enabling technologies** by strengthening European capacities in key parts of digital and future supply chains
- ✚ Globally **attractive, secure and dynamic data-agile economy** by developing and enabling the uptake of the next-generation computing and data technologies and infrastructures (including space infrastructure and data)
- ✚ **Strategic autonomy in** conceiving, developing, deploying and using **global space-based infrastructures, services, applications and data**
- ✚ A **human-centred and ethical development** of digital and industrial technologies

CLUSTER 4 – AREAS OF INTERVENTION

2021-2027



Emerging enabling technologies: Graphene, Quantum Technologies, spintronics, smart materials

Cluster 4 – Work Programme 2025 Overview



D1 - Climate neutral,
circular and digitized
production
TWIN-TRANSITION

Manufacturing
Industry

A New Way to
Build, accelerating
disruptive change
in construction

Energy Intensive
Industries

D2 - Achieving
technological
leadership in raw
materials, chemicals
and innovative
materials
MATERIALS

Raw Materials for
strategic autonomy
and circular
economy

Safe and
Sustainable by
Design Chemicals
and Materials

Innovative
Advanced Materials

Textiles

D3 - single market and
infrastructure for data-
services and
trustworthy artificial
intelligence services
DATA

Connected
Collaborative
Computing
Networks (3C
networks)

AI-GenAI / Data /
Robotics

D4 - open strategic
autonomy in digital
and emerging
enabling technologies
DIGITAL-EMERGING

Quantum and High
Performance Computing

Photonics

AI-GenAI / Data /
Robotics

Artificial
Intelligence in
Science

D5 - Open strategic
autonomy in
developing, deploying
and using global space-
based infrastructures,
services, applications
and data
SPACE

Access to Space

Acting in Space

Using Space on
Earth –
Telecommunication
and Earth
Observations

Copernicus Services

D6 - A human-
centred and ethical
development of
digital and industrial
technologies
HUMAN

Virtual Worlds

AI-GenAI / Data /
Robotics

Standardisation and
Knowledge
Valorisation

International
Cooperation

Digitale - Policy Framework



Cluster 4 Complementarities - Digital Europe

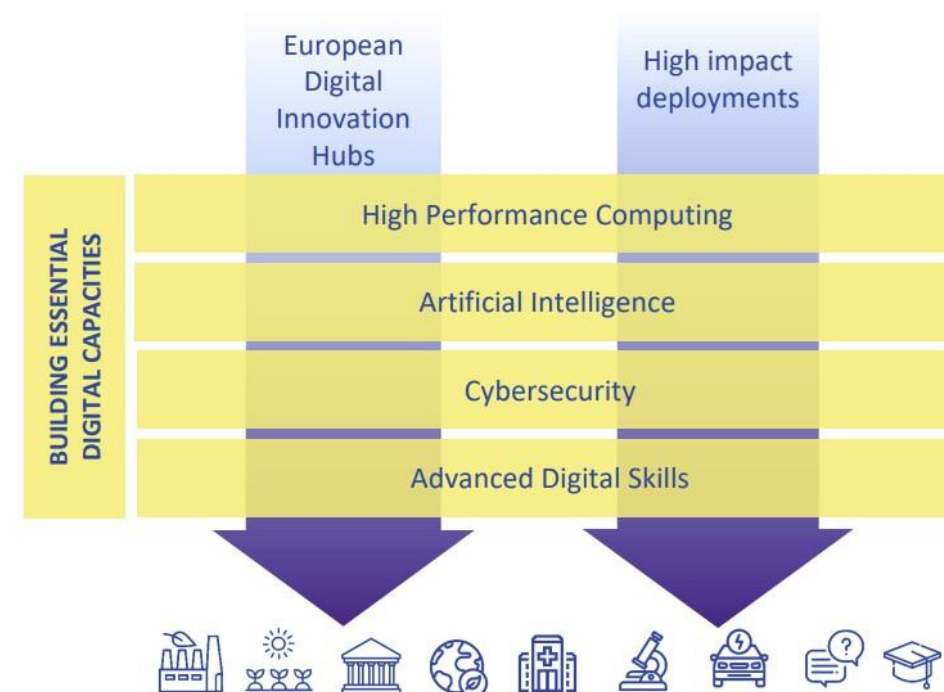
It will make use of the most recent research results, **but it will not support research**. For example, DE will support:

- The acquisition of HPC machines
- The set-up of sectorial data spaces, e.g. manufacturing
- The building or reinforcing of Testing and Experimentation Facilities
- The set up and delivery of Master courses in key advanced digital technologies

The programme has **specific restrictions to participation** of entities not in the EU or in the EEA.

Funding schemes:

- Grants with cost reimbursement 50% for everybody or with 75% for SMEs
- CSA at 100%
- Wider use of procurement



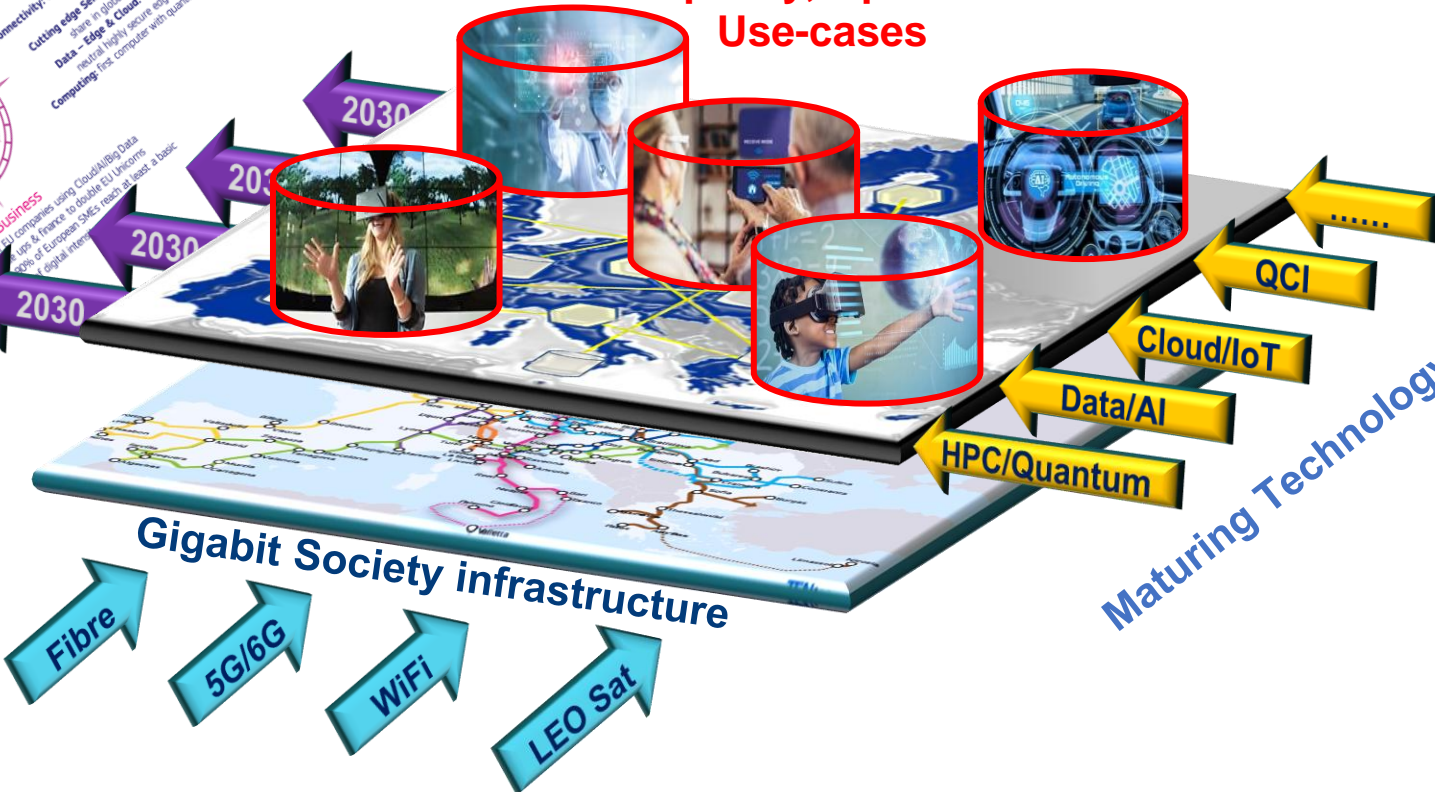
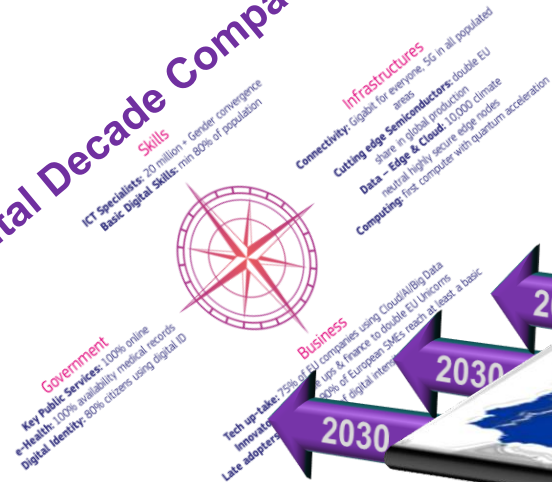
Cluster 4 Complementarities - Digital Europe

DIGITAL EUROPE PROGRAMME

EU-Wide deployment, Strategic capacities,
Advanced digital skills and Testing Facility

Capacity, Uptake & Use-cases

Digital Decade Compass



HORIZON EUROPE

Horizon Cluster 4
Digital, Industry & Space

Joint Undertakings:

- European High Performance Computing (EuroHPC JU)
- Smart Networks and Services (SNS JU)
- Chips (Chips JU)

CONNECTING
EUROPE
FACILITY (CEF) -
DIGITAL

Cascading grants (FSTP)



Cascading grants (FSTP) – focus tecnologici



Next
Generation
Internet



Artificial
Intelligence



Industry 4.0



Internet of
Things (IoT)



Robotics



Big Data



Photonics

HORIZON-CL4-INDUSTRY-2025-01-MATERIALS-63: Innovative solutions for the sustainable production for Semiconductor raw materials (IA)

- 8mln (24 tot)
- Actions should focus on **raw materials for semiconductors** necessary for the green and digital transition and **strategic sectors, such as aero-space and dual-use applications**; including one or more of the following raw materials: antimony, arsenic, bismuth, boron, gallium, germanium, indium, selenium, silicon, tellurium

HORIZON-CL4-2025-03-MATERIALS-46: Innovative Advanced Materials (IAMs) for photonics, enabling low-power and ultra-broadband performance for telecommunication (RIA)

- 5mln (10 tot)
- The main objective of this call is to explore innovative **solutions based on IAMs, including 2DMs**, that offer state-of-the-art performance and low power consumption, while demonstrating scalability for volume production, thus **exploiting the semiconductor manufacturing infrastructure**. The envisioned compact devices will be designed to be compatible with low-power driving electronics and thus reduce energy consumption. Solutions should be compatible with existing photonic integrated platforms and low-voltage electronics

HORIZON-CL4-2025-03-MATERIALS-47: Innovative Advanced Materials (IAMs) for conformable, flexible or stretchable electronics (RIA)

- 5mIn (15 tot)
- Expected Outcome:
 - Conformable, flexible or stretchable electronic devices and circuits, enabling improved user experience and adoption;
 - Sustainable electronics based on low environmental impact materials, promoting reparability and/or recyclability and compatible with energy and resource efficient manufacturing processes;
 - **Materials tailored for solution-processed electronics such as semiconductor**, conductive, dielectric, electroactive polymers, low environmental impact and/or functional substrates, etc. enabling high performance and reliable flexible electronics devices

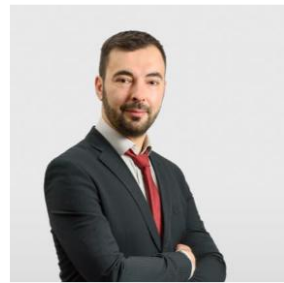
HORIZON-CL4-2025-03-HUMAN-19: International cooperation in semiconductors (CSA)

- 3mln (3 tot)
- Within the context of semiconductor and semiconductor-based photonics (e.g. silicon photonics), the CSA will support the Commission and the Member States in the following activities:
 - Preparation of a regional **mapping of leading semiconductor countries outside of the EU** regarding supply chains, industrial strengths, gaps and their expected evolution;
 - Identification of **emerging opportunities** (e.g. technologies, approaches) for cooperation with other regions;
 - Definition of **research areas in which international cooperation** would result in tangible benefits for Europe;
 - **Analysis of risks related to EU economic security in the semiconductor area including due to potential over-capacities for production of mainstream chips**, export controls and non-market policies and practices.

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2021 2027

HORIZON
EUROPE



WWW.HORIZON-EUROPE.IT



Info, aggiornamenti e materiali sul nuovo Programma Quadro

GIORNATE HORIZON EUROPE



Eventi sul Programma Quadro e le sue dimensioni

GUIDA A HORIZON EUROPE



Passo, passo dentro il nuovo Programma Quadro

APRE BRIEF



I factsheet sui temi e gli aspetti salienti di Horizon Europe

AGENDA HORIZON EUROPE



I principali appuntamenti nazionali ed europei sul Programma Quadro

Registrati a **APREmailing**



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#2021horizoneurope

#HorizonEU



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