Cluster 4
“Digital, Industry and Space”

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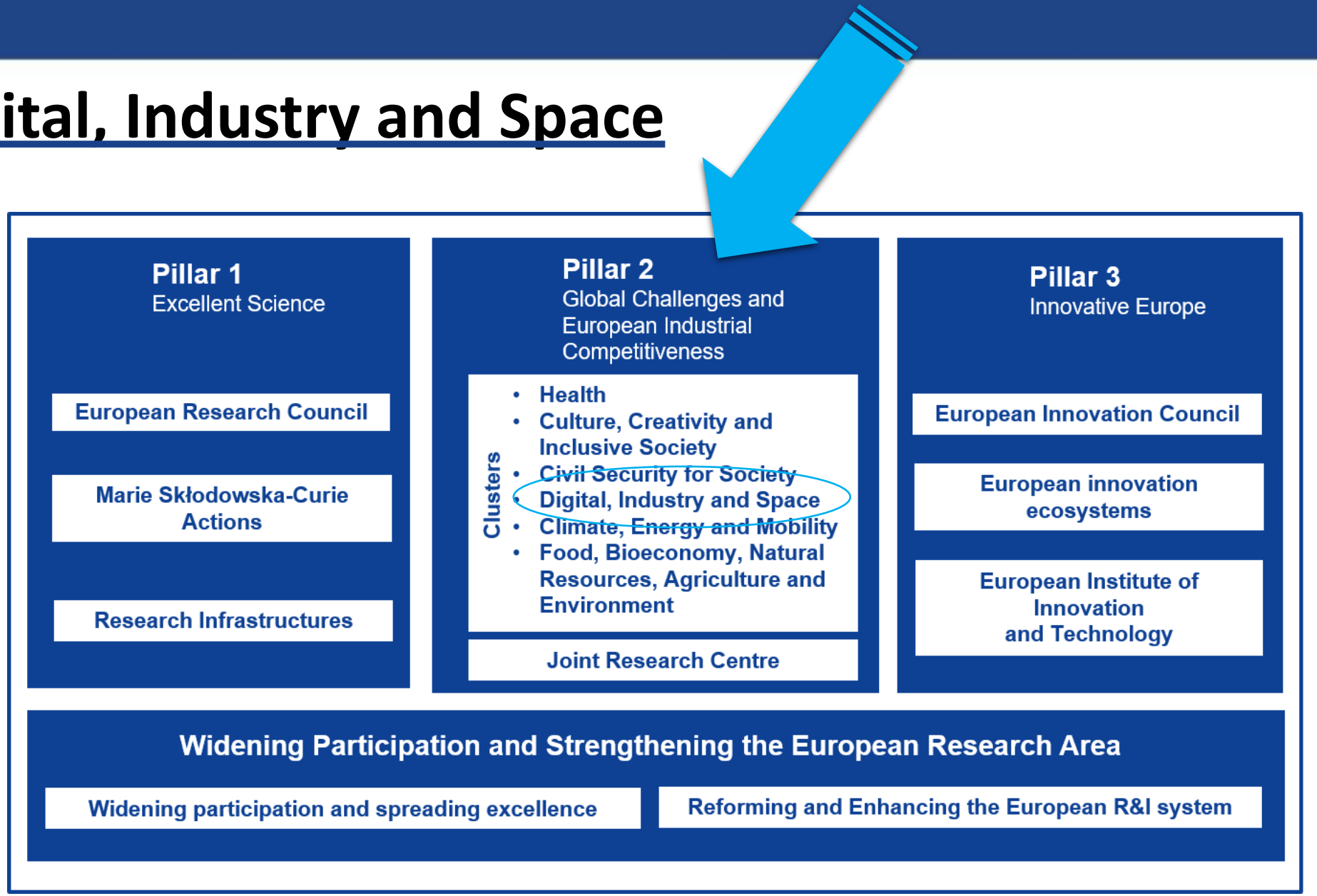
APRE- Agency for the Promotion of European Research

Horizon Europe

Digital, Industry and Space



Partnerships
&
Missions

CLUSTER 4 – AREAS OF INTERVENTION

2021-2027

DIGITAL

- Key Digital Technologies
- AI and Robotics
- NGI
- Advanced Computing and Big Data

INDUSTRY

- Manufacturing
- Advanced materials
- Circular industry
- Low carbon and clean industry

SPACE

- A globally competitive Space sector
- New services from Space

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

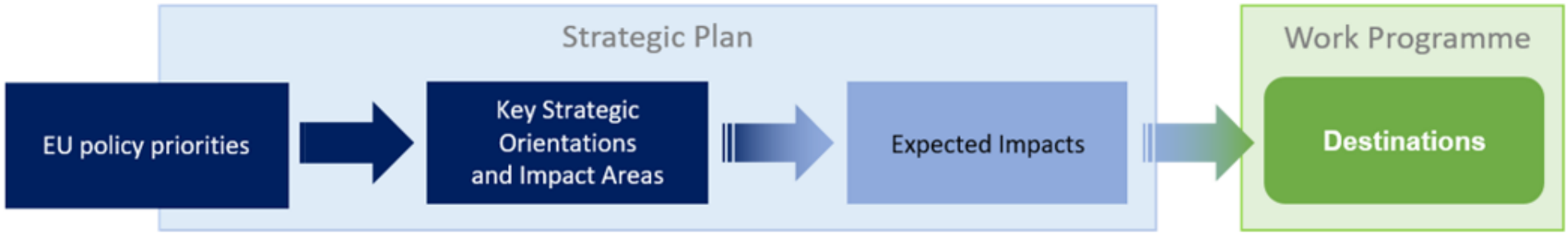
CL4: Digital, Industry and Space - Objectives

- Global leadership in clean and climate-neutral industrial value chains, circular economy and climate-neutral digital systems and infrastructures (networks, data centres)
- Industrial leadership and increased autonomy in key strategic value chains with security of supply in raw 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 - Policy Framework

Horizon Europe delivers on EU policy priorities

From EU priorities to Work Programme Destinations



- The **strategic plan** sets out strategic orientations and impacts areas for research and innovation investments under Horizon Europe for **four years** (first HE strategic plan covers the period 2021-2024). The **key strategic orientations** and **impact areas** are formulated on the basis of **expected impacts.**
- Each expected impact is targeted via dedicated packages of actions in the work programme. These are termed **destinations**, because they indicate both the specific direction and the ultimate point of arrival of the projects to be supported through Horizon Europe.
- The **work programmes** (WPs) include the research and innovation activities to be funded under Horizon Europe for **two years** (first HE WP covers the period 2021-2022). ERC and EIC WPs will be annual.

What does this mean for Cluster 4? Strategic Priorities

From EU priorities to Work Programme Destinations

Cluster 4 directly supports the following three Key Strategic Orientations outlined in the Strategic Plan 2021-2024:

- Promoting an open strategic autonomy by leading the development of key digital, and enabling and emerging technologies, sectors and value chains (A)
- Making Europe the first digitally enabled, circular, climate-neutral and sustainable economy (C)
- Creating a more resilient, inclusive and democratic European society (D)

Cluster 4 Destinations and connected Expected Impacts

1. **Destination 1 (WP2023-2024) - Climate neutral, circular and digitized production**

   Expected Impact 2021-24: Global leadership in clean and climate-neutral industrial value chains, circular economy and climate-neutral digital systems and infrastructures

2. **D2 (WP23-24) - Increased autonomy in key strategic value chains for resilient industry**

   Expected Impact 2021-24: Industrial leadership and increased autonomy in key strategic value chains with security of supply in raw materials

3. **D3 (WP23-24) - World leading data and computing technologies**

   Expected Impact 2021-24: Globally attractive, secure and dynamic data-agile economy

4. **D4 (WP23-24) - Digital & emerging technologies for competitiveness and fit for the Green Deal**

   Expected Impact 2021-24: Sovereignty in digital technologies and in future emerging enabling technologies

5. **D5 (WP23-24) - Open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data**

   Expected Impact 2021-24: Strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data

6. **D6 (WP23-24) - A human-centred & ethical development of digital and industrial technologies**

   Expected Impact 2021-24: A human-centred and ethical development of digital and industrial technologies

Cluster 4 – Work Programme 2023-24 Overview

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

- Manufacturing Industry
- A New Way to Build, accelerating disruptive change in construction
- Energy Intensive Process Industries

D2 - Increased autonomy in key strategic value chains for resilient industry
RESILIENCE

- Raw Materials for strategic autonomy and circular economy
- Safe and Sustainable by Design Chemicals and Materials
- Strategic Innovation Markets Driven by Advanced Materials
- Improving the resilience of EU businesses

D3 - World leading data and computing technologies
DATA

- Data sharing and analytics capacity
- From Cloud to Edge to IoT

D4 - Digital and emerging technologies for competitiveness and fir for the Green Deal
DIGITAL-EMERGING

- Open Source for Cloud/Edge Digital Autonomy
- Photonics
- AI, data and robotics
- Graphene
- Quantum
- Emerging Techs

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

- Competitiveness
- Access to Space
- Galileo, EGNOS and Copernicus, PRS and GOVSATCOM
- Copernicus service
- Galileo and EGNOS
- SSA, GOVSATCOM , Quantum
- CASSINI & Space entrepreneurship

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

- AI based on trust
- Internet of Trust
- Extended Reality
- Accelerating uptake of tech & innovation
- Industry 5.0
- Standardization
- Digital Humanism

Energy efficiency and climate neutral process industries
Circularity and Zero Pollution in process industry
Clean Steel

Other Actions: NGI commons; Critical Raw Materials Exploration Investment Facility; UNECE resource management system; JRC & Action Plan on Critical Raw Materials; Raw Materials events; Support to Hydrogen

APRE

Cluster 4 Complementarities - European Partnerships

DID YOU KNOW?

European Partnerships are initiatives where the EU, together with private and public partners, commit to jointly support the development and implementation of a programme of research and innovation activities. The partners could represent industry, universities, research organisations, bodies with a public service remit at local, regional, national or international level or civil society organisations, including foundations and NGOs. Partnerships are not new - they were first introduced in 2002 as part of the European Research Area to overcome fragmentation of research effort.

3 Istitutional partnerships (Art.187, Public-Private)

EuroHPC JU
Key Digital Technologies JU (ex ECSEL JU)
Smart Networks and Services JU (ex 5G PPP)

Next call in 2023

7 Co-programmed partnerships

Made in Europe (ex FoF)
Process4Planet - Carbon neutral Circular Industry
Clean steel (ex SPIRE)
AI, Data and Robotics
Photonics
Globally competitive Space Systems (Proposed 2023)

1 Istitutional partnership (Art. 185, Public-Public)

European Partnership on Metrology

Next call in 2023

How to participate

Rules for participation

Horizon Europe Strategic Plan 2021-2024

01 WORK PROGRAMME 21-22 «PROGRAMME 23-24»

- Multiannual
- Prepared by EC
- Thematic Priorities
- Rules, Eligibility, Selection, Award Criteria

02 CALL FOR PROPOSALS

- Published in F&T Portal
- 1 or 2 Stages
- Specific Aim & Objectives
- Specific Rules, Eligibility, budget

03 SUBMISSION OF PROPOSALS

- Eligible entities
- Through F&T portal
- Templates
- Digital procedure (fully online)

04 EVALUATION - SELECTION

- 2-3 Independent Experts
- Consensus
- Panel Review
- Evaluation Summary Report

05 INVITATION TO GRANT

- Validate
- Inform
- Prepare
- Sign Grant Agreement

Get ready for Horizon Europe Calls

How to prepare for HE

Study the Policies

- Strategic Plan 2021-24
- Strategic Plan Analysis
- General Intro of WP 23-24

Identify your call

- Scan the WP to find a relevant call to your interests
- Study carefully the call text
- Study General Annex of WP

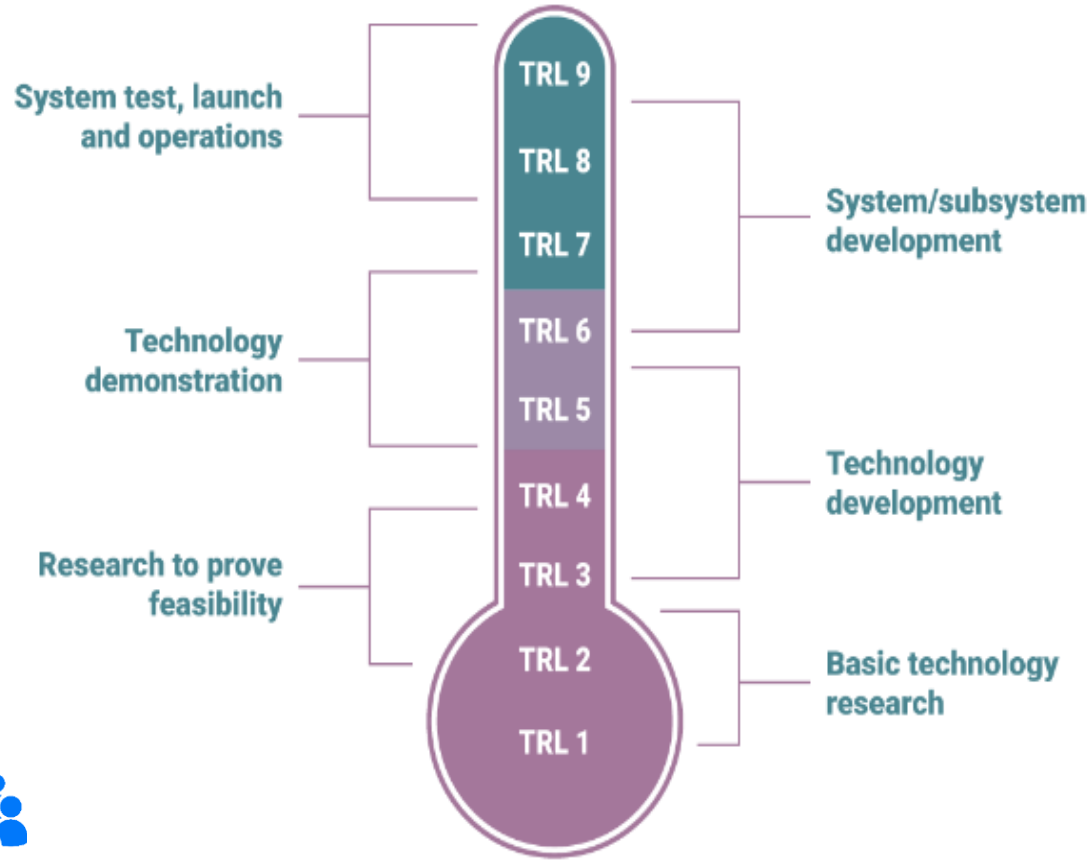
Start building

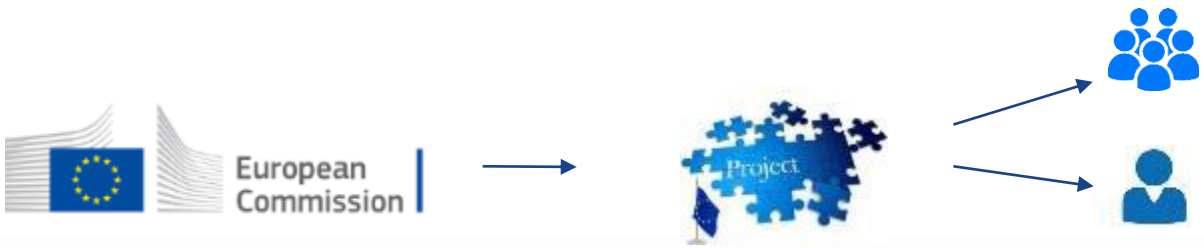
- Study the new Proposal Template
- Prepare your concept
- Build your consortium
- Legal Documents (MGA, CA)

Type of Actions

- **Research and Innovation Actions - RIA**
  100% Funding Rate + 25% Indirect Costs
- **Innovation Actions - IA**
  70% Funding Rate + 25% Indirect Costs
  (with exception of no-profit entities)
- **Coordination and Support Actions - CSA**
  100% Funding Rate + 25% Indirect Costs

Some calls may require
Financial Support to Third Parties





How to participate? Eligibility Condition for RIA and IA

Consortium composition: at least **three independent legal entities** established in **three different Member States** or Associated Countries, of which **at least one** is an independent legal entity established in a **Member State !**

Associated countries in Horizon Europe (with applicable association agreements in place)

Albania	Israel	Serbia
Armenia	Kosovo*	Turkey
Bosnia and Herzegovina	Moldova	Tunisia
Faroe Islands	Montenegro	Ukraine
Georgia	North Macedonia	
Iceland	Norway	

Link: Updates on the association of third countries to Horizon Europe | European Commission (europa.eu)

International Cooperation with Horizon Europe Third Countries

- Low and middle income countries (with EU financial contribution)
- Other countries without EU funding

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