

Cluster 4

“Digital, Industry and Space”

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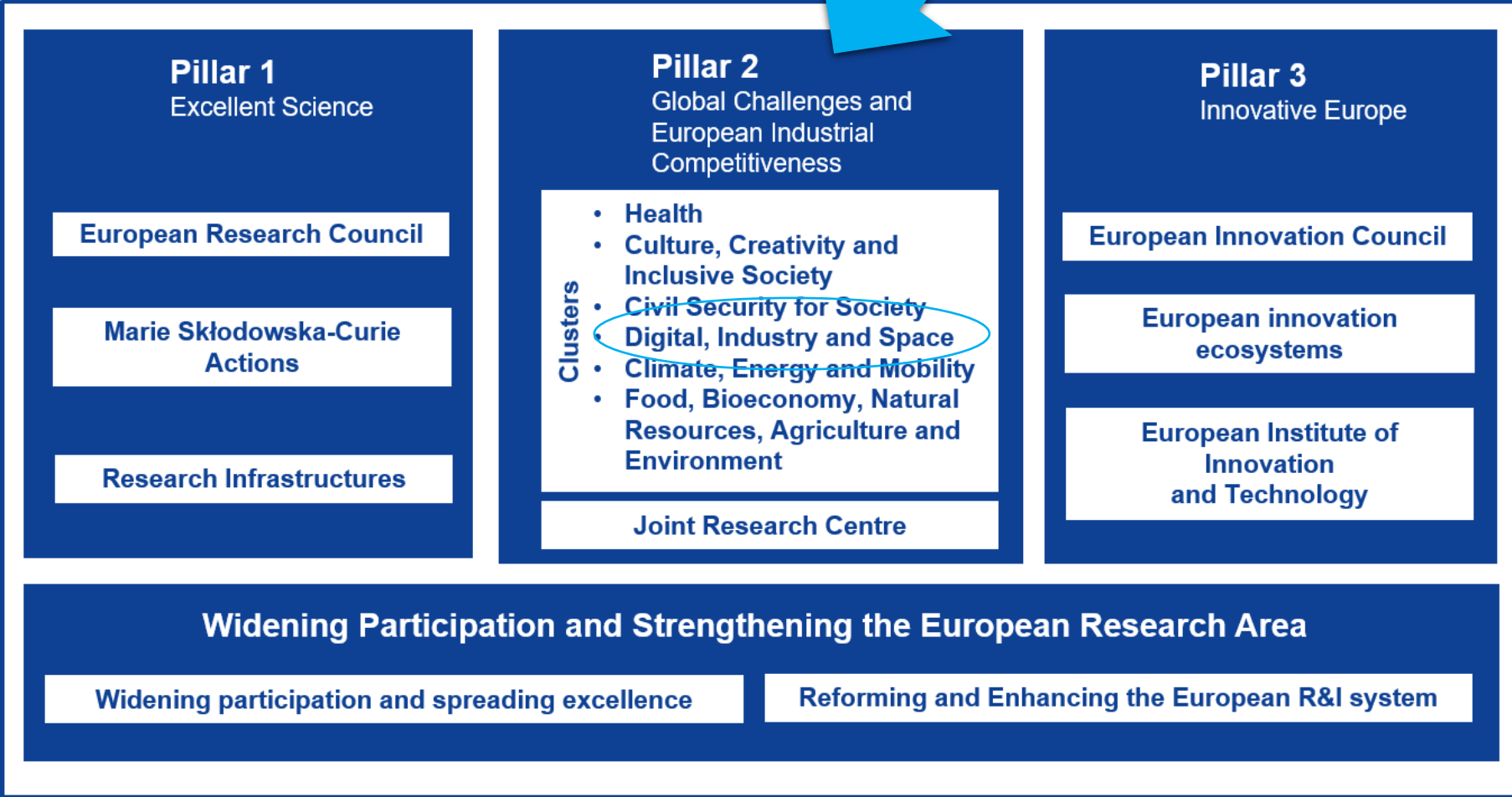


Horizon Europe





Digital, Industry and Space



Partnerships & Missions





CLUSTER 4 – AREAS OF INTERVENTION

2021-2027

DIGITAL

INDUSTRY

SPACE



Key Digital Technologies



AI and Robotics



NGI



Advanced Computing and Big Data



Manufacturing



Advanced materials



Circular industry



Low carbon and clean industry



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

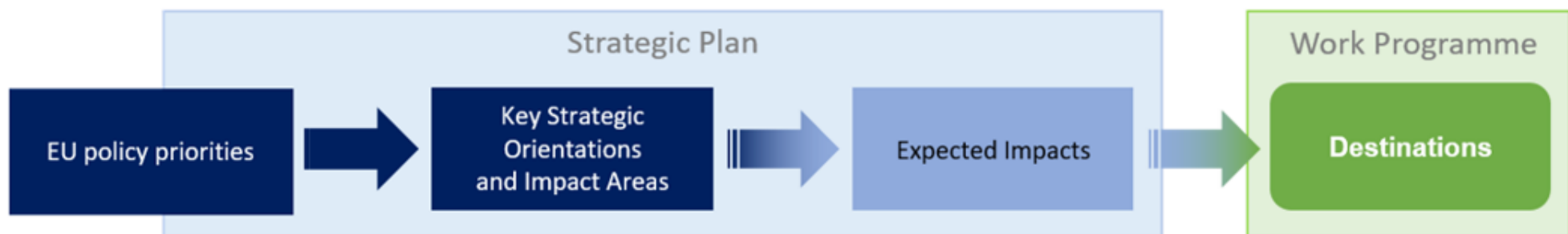


Recovery plan for Europe



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



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 Institutional 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 Institutional 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





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

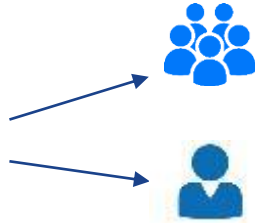
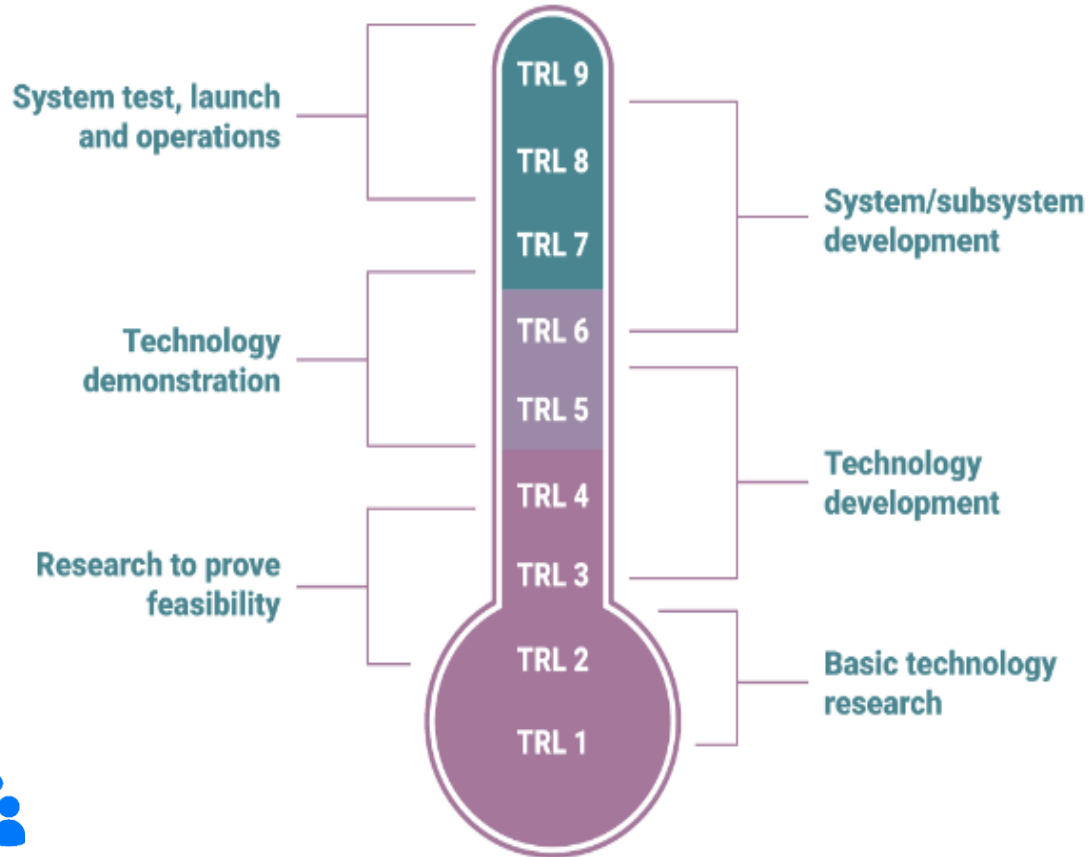
- Study the new Proposal Template
- Prepare your concept
- Build your consortium
- Legal Documents (MGA, CA)



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	



International Cooperation with Horizon Europe Third Countries

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

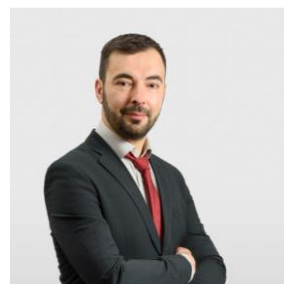
[Link: Updates on the association of third countries to Horizon Europe | European Commission \(europa.eu\)](#)



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