

Opportunità Horizon Europe per le PMI

Cluster 4, 5 e PMI

Sostenibilità e transizione ecologica

Steven Frigerio, HE CL4/5/EIC NCP
APRE- Agency for the Promotion of European Research



Agenda

- ↗ Cluster 4
- ↗ Cluster 5
- ↗ EIC

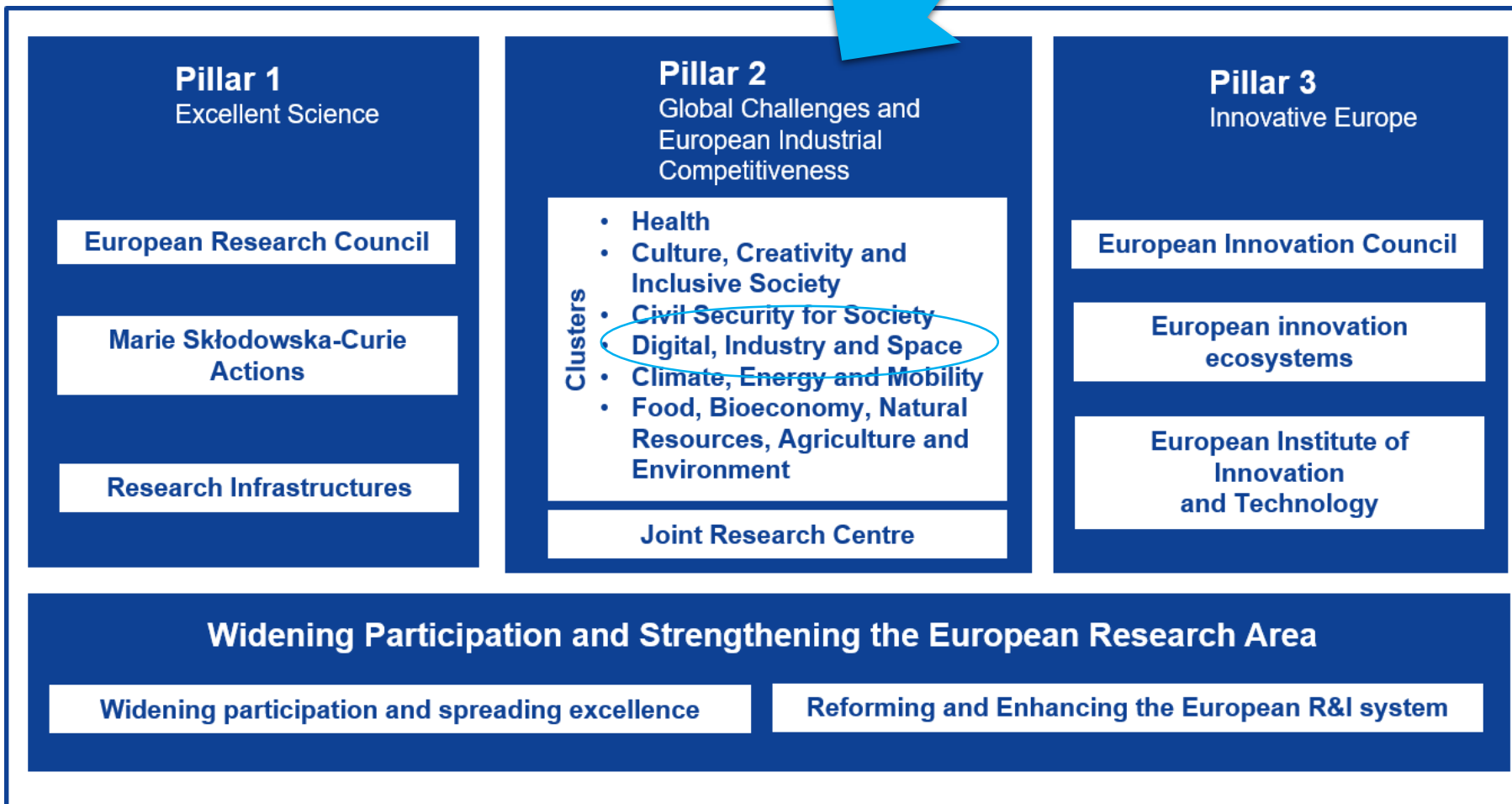


Cluster 4 – Digital, Industry and Space

General Introduction



Digital, Industry and Space



Partnerships & Missions





Entities eligible for funding

EU COUNTRIES

- Member States (MS) including their outermost regions
- The Overseas Countries and Territories (OCTs) linked to the MS.

NON-EU COUNTRIES

- Countries associated to Horizon Europe (AC)
- Low and middle income countries: See [HE Programme Guide](#).
- Other countries when announced in the call or exceptionally if their participation is essential

SPECIFIC CASES

- Affiliated entities established in countries eligible for funding.
- EU bodies
- International organisations (IO):
 - International European research organisations are eligible for funding.
 - Other IO are not eligible (only exceptionally if participation is essential)
 - IO in a MS or AC are eligible for funding for Training and mobility actions and when announced in the call conditions

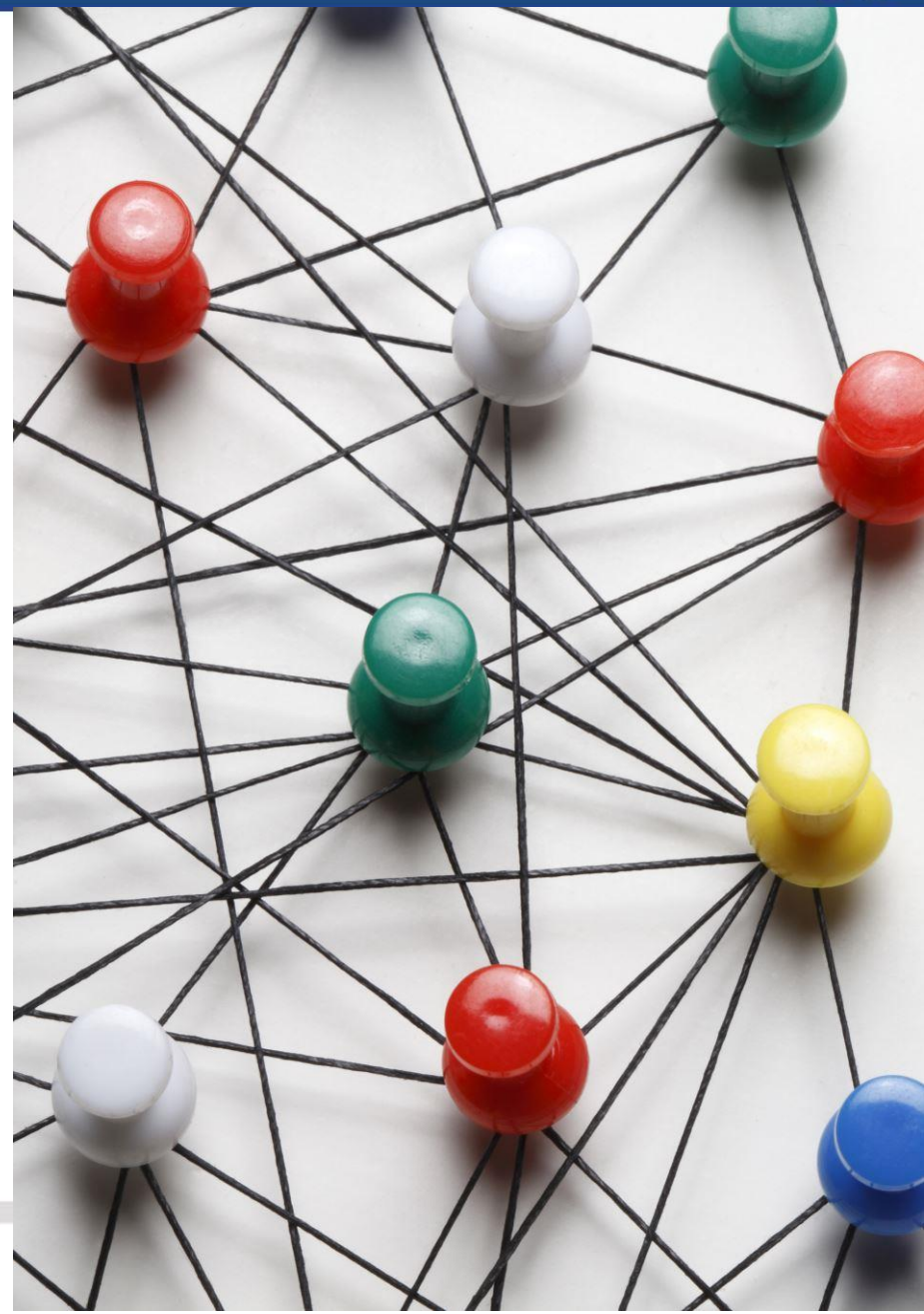


Minimum requirements

- Art. 18: «Entities shall be part of a consortium that shall include at least three independent legal entities each established in a different Member State or associated country and with at least one of them established in a Member State, unless:
(a) the work programme provides otherwise, if duly justified”

SPECIAL/ADDITIONAL CONDITIONS

MAY BE OUTLINED IN THE WORK PROGRAMME (No of participants, type of participants)





Eligible activities (Main types of action)

RESEARCH AND INNOVATION ACTION (RIA)

Activities aiming primarily to establish new knowledge or to explore the feasibility of a new or improved technology, product, process, service or solution.

This may include basic and applied research, technology development and integration, testing, demonstration and validation on a small-scale prototype in a laboratory or simulated environment.

Funding rate: 100% of eligible costs

INNOVATION ACTION (IA)

Activities directly aimed at producing plans and arrangements or designs for new, altered or improved products, processes or services, possibly including prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.

Funding rate: 70% (except for non-profit legal entities, where the funding rate is up to 100%) of the total eligible costs

COORDINATION AND SUPPORT ACTION (CSA)

Activities contributing to the objectives of the Horizon Europe Programme, excluding R&I activities (e.g. networking, awareness raising, coordination, stakeholder engagement)

Funding rate: 100% of the total eligible costs



“Europe must lead the transition to a healthy planet and a new digital world. But it can only do so by bringing people together and upgrading our unique social market economy to fit today’s new ambitions.”



European
Commission



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 – 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

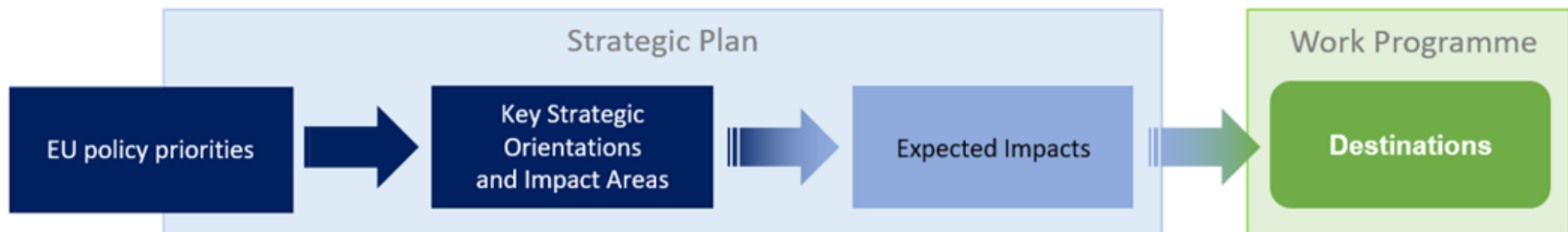


New services from Space

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

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 - Policy Framework





Cluster 4 Destinations and connected Expected Impacts

- 1 Destination 1 (WP 2021- 2022) - 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 (WP21- 22) - 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 (WP21- 22) - World leading data and computing technologies**
Expected Impact 2021-24: Globally attractive, secure and dynamic data-agile economy
- 4 D4(WP21- 22) - 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 (WP21- 22) - 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 (WP2021- 22) - 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 Overview



D1 - Climate neutral,
circular and digitized
production

**TWIN-TRANSITION
(KSO C)**

Manufacturing

Circularity in
Process Industries

Construction

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

**RESILIENCE
(KSO A)**

Green and
Sustainable
Materials

Raw Materials

Resilience of EU
businesses

D3 - World leading
data and computing
technologies

DATA (KSO A)

European data
space

Data analytics
capacity

From Cloud to
Edge to IoT

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

**DIGITAL-EMERGING
(KSO A)**

Electronics,
Processors and
Photonics

AI, data and
robotics

Connectivity
technologies

Emerging Techs
(Quantum,
Graphene)

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

SPACE (KSO A)

Competitiveness
of space systems

Galileo, Egnos,
Copernicus and
SSA, GOVSATCOM

Space
entrepreneurship
ecosystems

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

**HUMAN
(KSO D)**

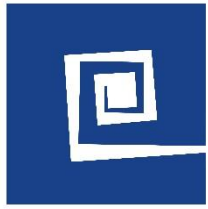
AI based on trust

Internet of Trust

Extended Reality

Digital learning
technologies

Cross-cutting



APRE

Agenzia per la Promozione
della Ricerca Europea

Cluster 5

CL5: Climate, energy and mobility

- aims to fight climate change by better understanding its causes, evolution, risks, impacts and opportunities, and by making the energy and transport sectors climate neutral, environment-friendly, efficient, competitive, smarter, safer, resilient and useful for citizens and society.
- Cluster 5 supports the EU's strategic objectives through activities included in its work programme and through the support of Institutional European Partnerships which are implemented through dedicated structures.
- R&I activities under CL5 will contribute to the objectives of the European Green Deal related to the Climate Pact, the Clean energy strategy, the Strategic Energy Technology (SET) Plan, the Strategic Transport Research and Innovation Agenda (STRIA), European Circular Economy Action Plan

Intervention Areas
Climate sciences and solutions
Energy systems and grids
Energy supply
Buildings and industrial facilities in energy transitions
Energy storage
Communities and cities
Smart mobility
Clean, safe and accessible transport and mobility



IMPACTS

DESTINATIONS

Transition to a climate-neutral resilient society and economy enabled through **climate science, pathways and responses to climate change (mitigation and adaptation) and behavioural transformations.**



Climate sciences and responses for the transformation towards climate neutrality

Transition of the energy and transport sectors towards climate neutrality facilitated by **innovative crosscutting solutions.**



Cross-sectoral solutions for the climate transition

More efficient, clean, sustainable, secure and competitive energy supply through **new solutions for smart grids and energy systems based on more performant renewable energy solutions.**



Sustainable, secure and competitive energy supply

Efficient and sustainable **use of energy**, accessible for all is ensured through a clean energy system and a just transition.



Efficient, sustainable and inclusive energy use

Towards climate-neutral mobility through **clean solutions across all transport modes** while increasing global competitiveness of the EU transport sector.



Clean and competitive solutions for all transport modes

Safe, seamless, smart, inclusive, resilient, climate neutral and sustainable **mobility systems for people and goods** thanks to user-centric technologies and services including digital technologies and advanced satellite navigation services.



Safe, Resilient Transport and Smart Mobility services for passengers and goods

All actions funded under CL5 destinations must help to deliver the respective main impacts.



CL5 Work Programme 2021-2022 - budget distribution per destination

Destination	Number of topics	Budget mln EUR]	% Share
D1 Climate sciences and responses for the transformation towards climate neutrality	17	274	9%
D2 Cross-sectoral solutions for the climate transition	27	388,5	13%
D3 Sustainable, secure and competitive energy supply	67	1.226,3	40%
D4 Efficient, sustainable and inclusive energy use	18	244	8%
D5 Clean and competitive solutions for all transport modes	31	511	17%
D6 Safe, Resilient Transport and Smart Mobility services for passengers and goods	28	380	12%
Other actions	35	44,97	2%
Total	223	3077,39	100%

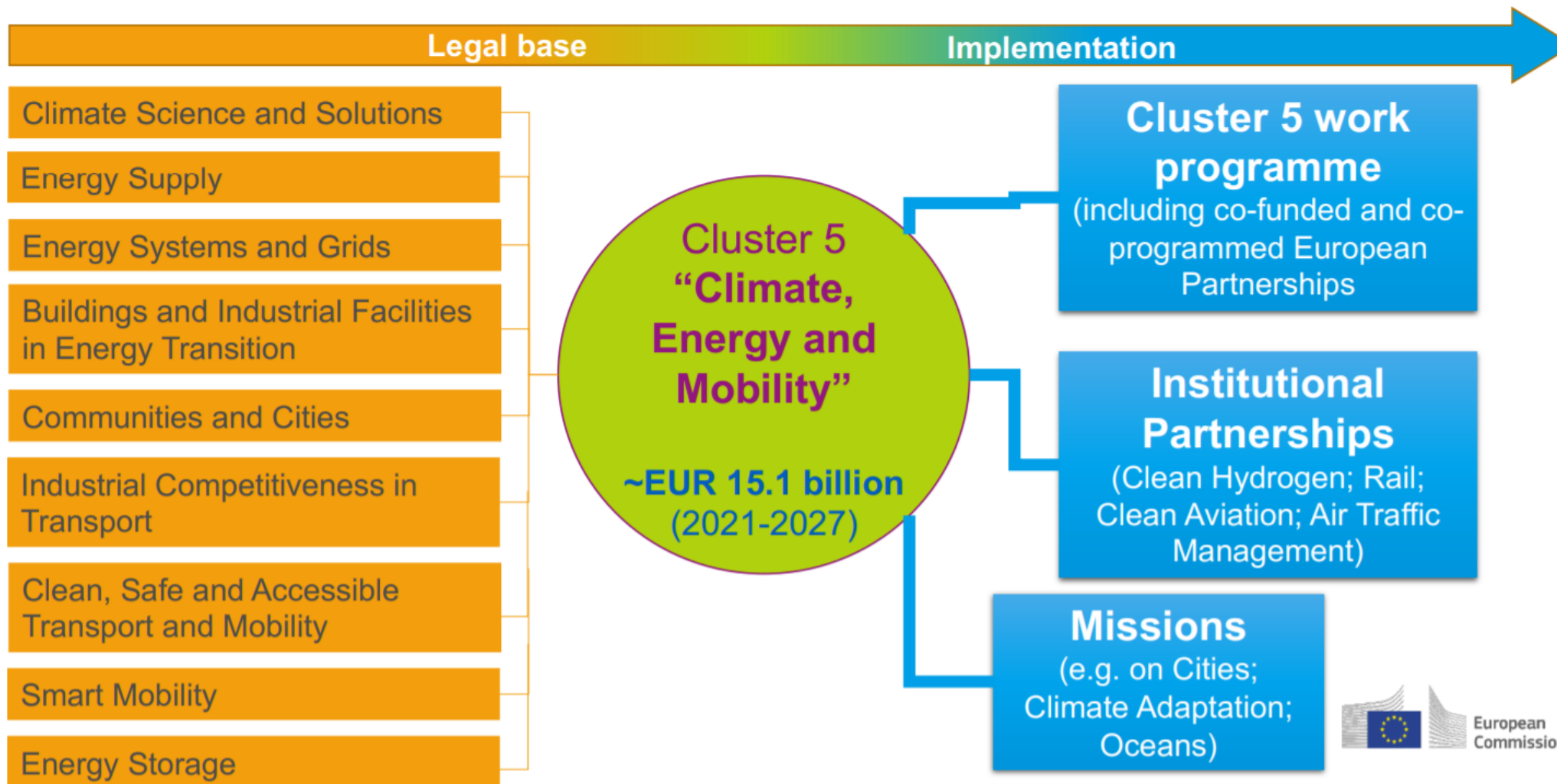


Cluster 5 WP calls structure

DESTINATION	Call ID 2021 one stage	Call ID 2022 one stage	Call ID 2022 two stage
D1 Climate sciences and responses for the transformation towards climate neutrality	HORIZON-CL5-2021-D1-01	HORIZON-CL5-2022-D1-02	HORIZON-CL5-2022-D1-01-two-stage
D2 Cross-sectoral solutions for the climate transition	HORIZON-CL5-2021-D2-01		HORIZON-CL5-2022-D2-01
D3 Sustainable, secure and competitive energy supply	HORIZON-CL5-2021-D3-01 HORIZON-CL5-2021-D3-02	HORIZON-CL5-2022-D3-01 HORIZON-CL5-2022-D3-02 HORIZON-CL5-2022-D3-03	
D4 Efficient, sustainable and inclusive energy use	HORIZON-CL5-2021-D4-01 HORIZON-CL5-2021-D4-02	HORIZON-CL5-2022-D4-01 HORIZON-CL5-2022-D4-02	
D5 Clean and competitive solutions for all transport modes	HORIZON-CL5-2021-D5-01	HORIZON-CL5-2022-D5-01	
D6 Safe, Resilient Transport and Smart Mobility services for passengers and goods	HORIZON-CL5-2021-D6-01	HORIZON-CL5-2022-D6-01 HORIZON-CL5-2022-D6-02	



Cluster 5 - overview





Expected impacts of cluster 5

Transition to a climate-neutral and resilient society and economy enabled through **advanced climate science**, pathways and responses to climate change (mitigation and adaptation) and behavioural transformations

Clean and sustainable transition of the energy and transport sectors towards climate neutrality facilitated by innovative **crosscutting solutions**

More efficient, clean, sustainable, secure and competitive **energy supply** through new solutions for smart grids and energy systems based on more performant renewable energy solutions

Efficient and sustainable **use of energy**, accessible for all is ensured through a clean energy system and a just transition

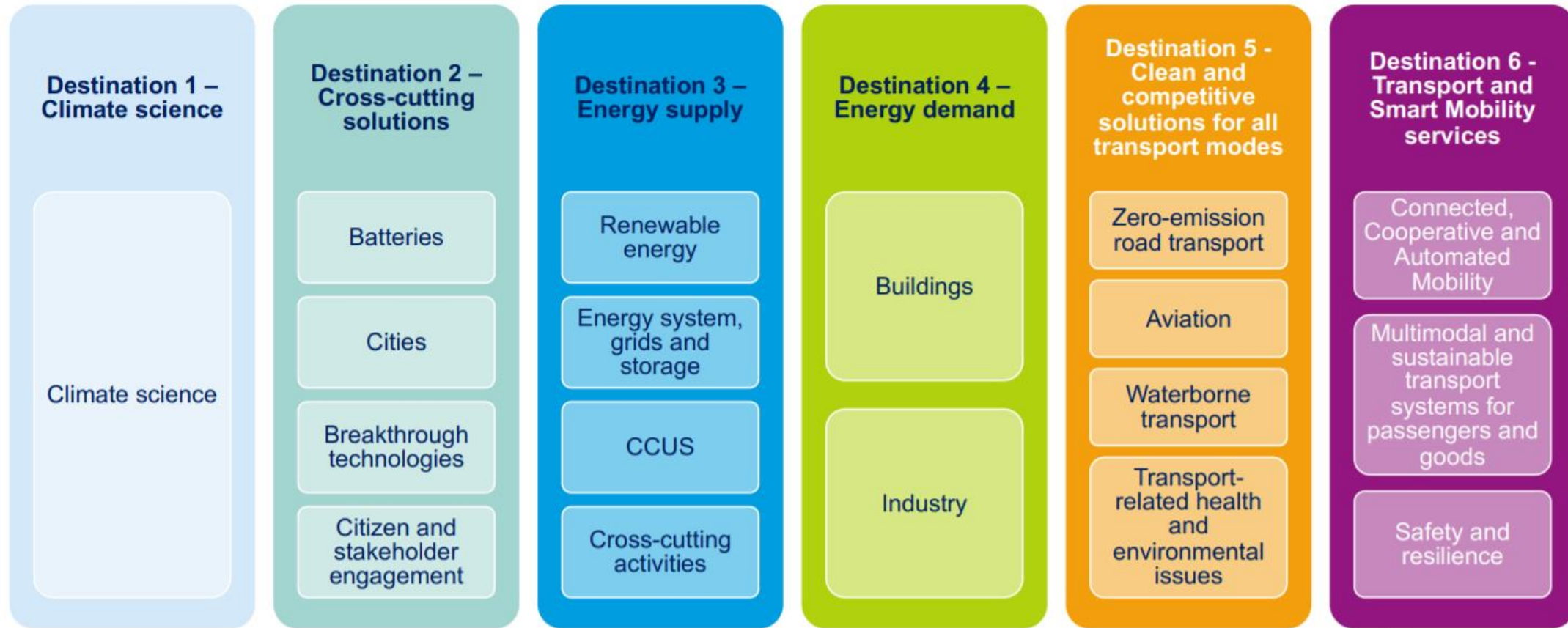
Towards climate-neutral and environmental friendly mobility through **clean solutions** across all transport modes while increasing **global competitiveness** of the **EU transport sector**

Safe, seamless, smart, inclusive, resilient, climate neutral and sustainable **mobility systems** for people and goods thanks to user-centric technologies and services including digital technologies and advanced satellite navigation services





Cluster 5 Work programme - overview



European Innovation Council – Horizon Europe

European
Innovation
Council

Newsletter out now!

#EUeic

European
Innovation
Council

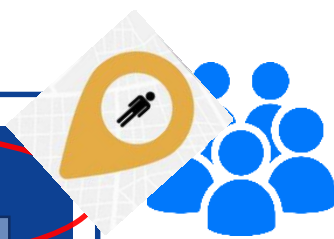
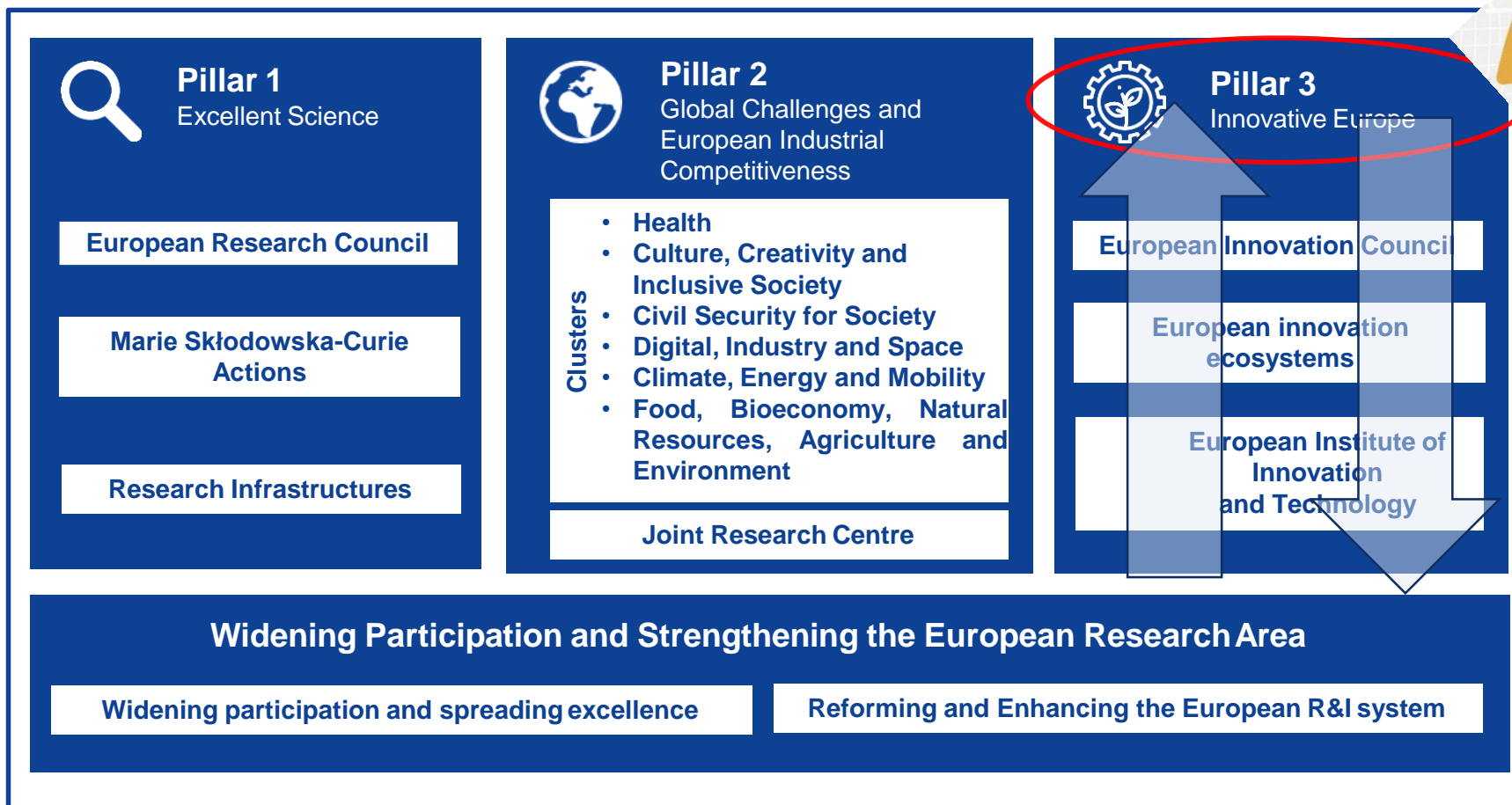



**enterprise
europe
network**
Business Support on Your Doorstep





Horizon Europe



**basato su testo di compromesso (17 Aprile 2019)*



Consiglio europeo per l'innovazione (EIC)

Sostegno alle innovazioni pionieristiche e dirompenti e al potenziale di espansione dei progetti che sono troppo rischiosi per gli investitori privati (*il 70 % del bilancio è destinato alle PMI*)

**Consiglio europeo
per l'innovazione –
uno sportello unico**

Aiutare gli innovatori a creare i mercati del futuro, mobilitare fondi privati e sviluppare le loro imprese

Progetti incentrati sull'innovazione, snelli ed inclini ad assumere rischi, gestione e seguito proattivi

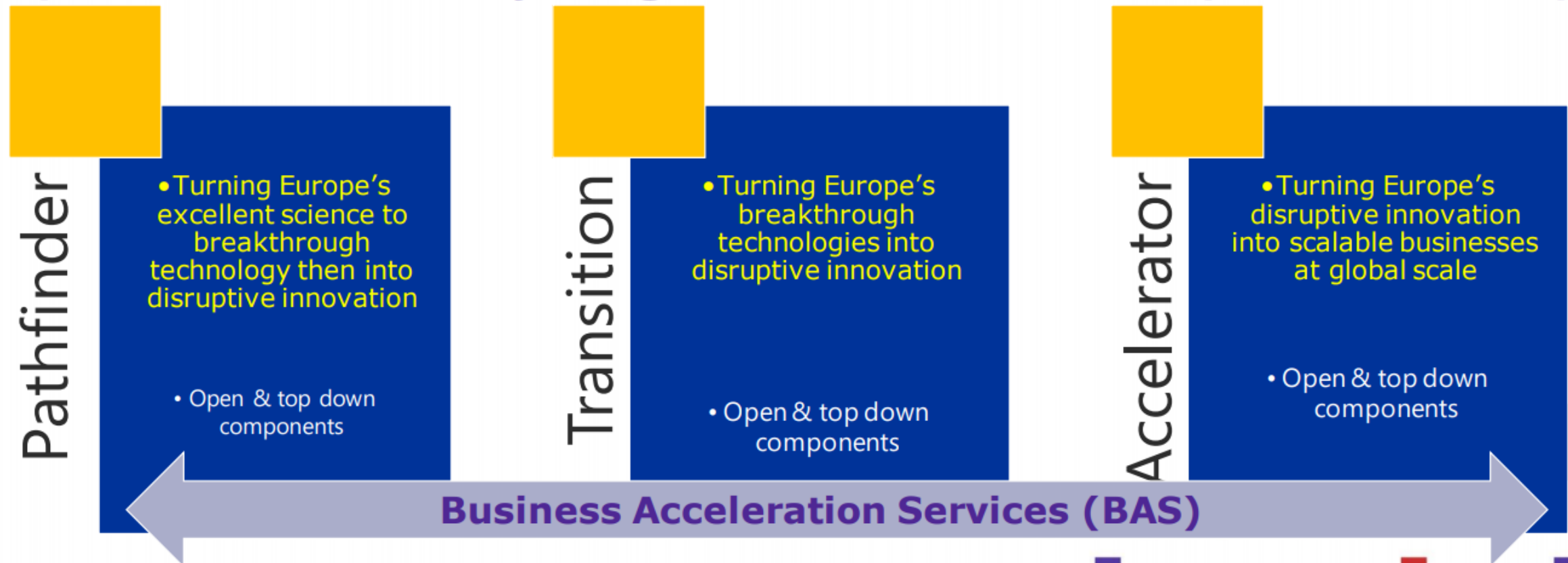
Due strumenti complementari colmano il divario tra l'idea e il progetto investibile

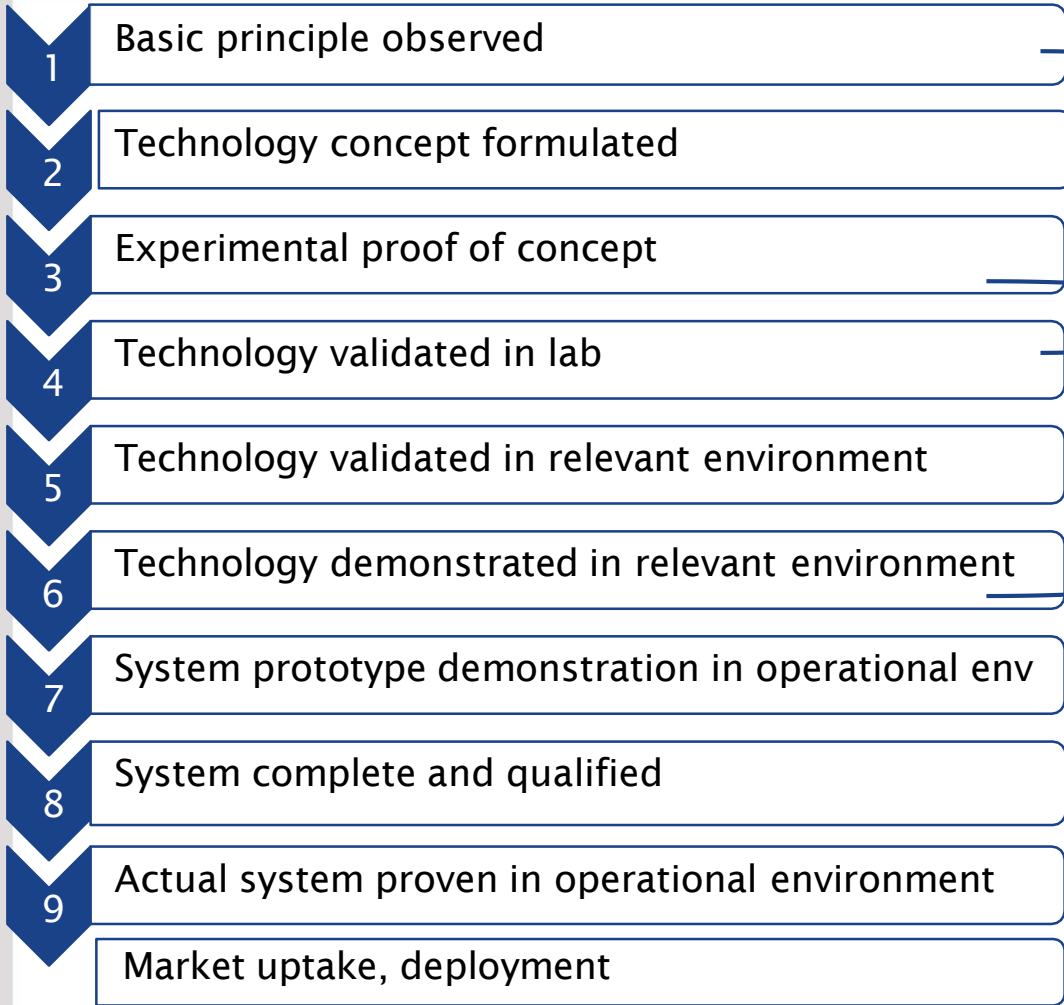
Pathfinder: sovvenzioni
(dalla tecnologia in fase iniziale
alla fase pre-commerciale)

Accelerator: solo sovvenzioni &
finanziamenti misti
(dalla fase pre-commerciale
alla fase di mercato ed espansione)



EIC: Integrated, agile support across the full innovation spectrum from early stage research to start-up and scale-up.





EIC Pathfinder
(Open and Challenges)

EIC Transition
(Open and Challenges)

EIC Accelerator
(Open and Challenges)
(Grant)

EIC
Accelerator
or
(Equity)

The EIC Instruments



EIC Accelerator

Backing visionary
entrepreneurs



European
Innovation
Council



EIC Accelerator (ex SME Instrument)

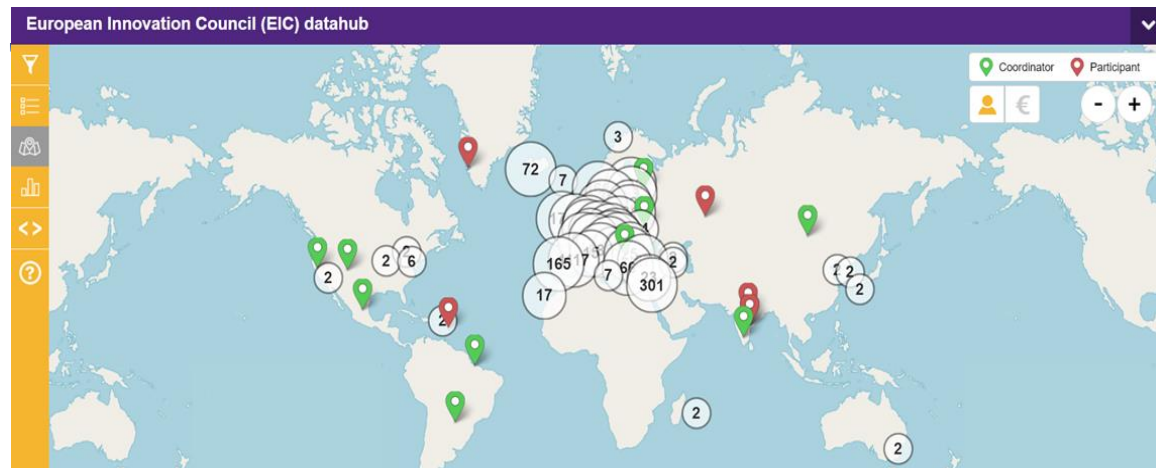
Target	<ul style="list-style-type: none"> ▪ singole PMI/Start up/Spin off europee for profit con innovazioni ad alto rischio e alto potenziale di crescita (eccezione natural person per short proposal)
Obiettivo	<ul style="list-style-type: none"> ▪ “conquistare” nuovi mercati e “distruggere” quelli esistenti
Finanziamento	<ul style="list-style-type: none"> ▪ per gli ultimi stadi di sviluppo
Bottom-up	<ul style="list-style-type: none"> ▪ tutti i settori, prodotti, servizi, nuovi business model (eccezione Challenges)
Grant	<ul style="list-style-type: none"> ▪ €0,5 – 2,5 milioni (tasso di finanziamento al 70% del totale dei costi) (TRL5-8)
Opzione equity (blended finance)	<ul style="list-style-type: none"> ▪ Fino a €15 milioni (Market uptake and deployment, TRL5-9)





EIC Additional Sources

- 🚩 EIC Work Programme
- 🚩 EIC Data Hub [link](#)
- 🚩 EIC Official Website [link](#)
- 🚩 EIC Community [link](#)



A2EIC Tools



A2EIC Tools

Download	46
File Size	952.83 KB
File Count	1
Create Date	22 October 2020
Last Updated	22 October 2020

The toolbox developed by the Access2EIC project focused on businesses coming out from research in order to help them to frame better their way to market. The deliverable first explain the co-creation process launch within the FET community and then present the logic and the instructions to work with the three tools developed as part of this toolset:

- The "Business Glossary" that defines the key business concepts in a number of dimensions (based on the Business Model Canvas frame) according to the different matureness levels of a business.
- The "TB.map tool" that helps to map the competitive landscape in terms of TRL (technology readiness level) and BRL (Business readiness level)
- The "Bsize tool" that helps to estimate the potential size of a business opportunity in a given market.



Horizon Europe - Resources

Risorse sul sito APRE



<https://horizoneurope.apre.it/struttura-e-programmi/global-challenges-european-industrial-competitiveness/cluster-4/>

Horizon Europe Work Programme 2021-2022 - Digital, Industry and Space

VISITA >

General Annexes - Horizon Europe Work Programme 2021-2022

VISITA >

Horizon Europe Standard Proposal Template (RIA, IA)

VISITA >

Horizon Europe Standard Evaluation Form (RIA, IA)

VISITA >

Horizon Europe General Model Grant Agreement (RIA, IA)

VISITA >



APRE Resources



<https://horizoneurope.apre.it/apre-backstage-horizon-europe-cluster-4/>

**WORKING GROUP ITALIANI –
ATTIVATI A MAGGIO 2020 ED
ATTUALMENTE IN CORSO**

CLUSTER 4: DIGITAL, INDUSTRY AND SPACE

BUDGET ASSEGNATO: 15.348 (MIO EUR)
18,07% del budget totale

CLUSTER 4
Gli investimenti in ricerca e innovazione previsti dal cluster Digital, Industry and Space hanno l'ambizione di sostenere la sovranità tecnologica europea nelle tecnologie abilitanti i processi produttivi, la digitalizzazione e le tecnologie spaziali, lungo la catena del valore, al fine di favorire la sostenibilità dell'industria europea.

CLUSTERS

1. HEALTH
2. CULTURE, CREATIVITY AND INCLUSIVE SOCIETY
3. CIVIL SECURITY FOR SOCIETY
4. DIGITAL, INDUSTRY AND SPACE
5. CLIMATE, ENERGY AND MOBILITY
6. FOOD, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE AND ENVIRONMENT

Obiettivi di sviluppo sostenibile

Le priorità della Commissione europea rilevanti per il CLUSTER 4

GREEN DEAL EUROPEO
Adoperarsi per divenire il primo continente a impatto climatico zero.

Altre politiche europee

- Strategia industriale europea
- Strategia europea sui dati

https://apre.it/wp-content/uploads/2021/04/APREbrief_PILLAR-2_cluster4.pdf



Watch topic presentations and discussion : Cluster 4 WP

2022 INFODAYS

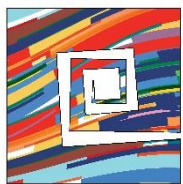
29 Nov, 30 Nov, 1 Dec

Please register under

Cluster 4 - Digital, Industry & Space | European

Commission (europa.eu)





APRE

Conferenza
Annuale 2021

Info day HE 2022

Cluster 4 – Digital, Industry and Space

Atti on line: www.aprecon2021.it/aprebrief



APRE*brief*







Email: cluster4@apre.it

Tel. +39 06 48 93 9993

www.apre.it

