



Europa Media Trainings

Horizon Europe: A practical insight Part II.

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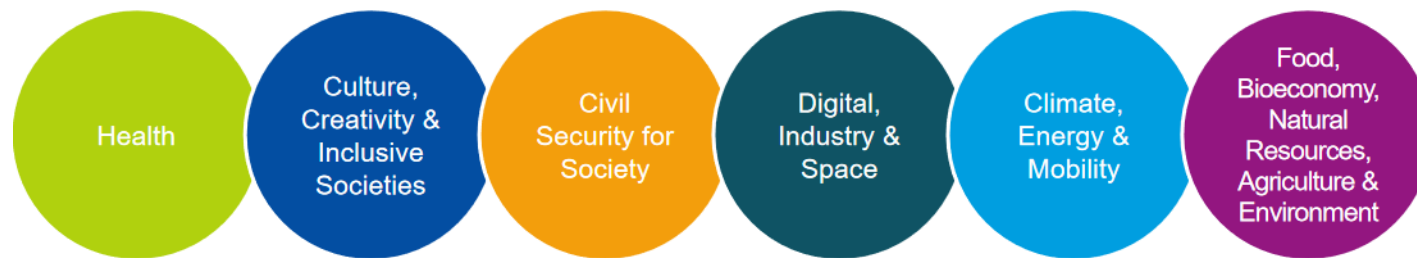
Horizon Europe - Pillar 2

Global Challenges and European Industrial Competitiveness

Pillar 2

in current prices

Cluster 1	Health	€8.246 billion (including €1.35 billion from NGEU)
Cluster 2	Culture, Creativity & Inclusive Societies	€2.280 billion
Cluster 3	Civil Security for Society	€1.596 billion
Cluster 4	Digital, Industry & Space	€15.349 billion (including €1.35 billion from NGEU)
Cluster 5	Climate, Energy & Mobility	€15.123 billion (including €1.35 billion from NGEU)
Cluster 6	Food, Bioeconomy, Natural Resources, Agriculture & Environment	€8.952 billion
	JRC (non-nuclear direct actions)	€1.970 billion



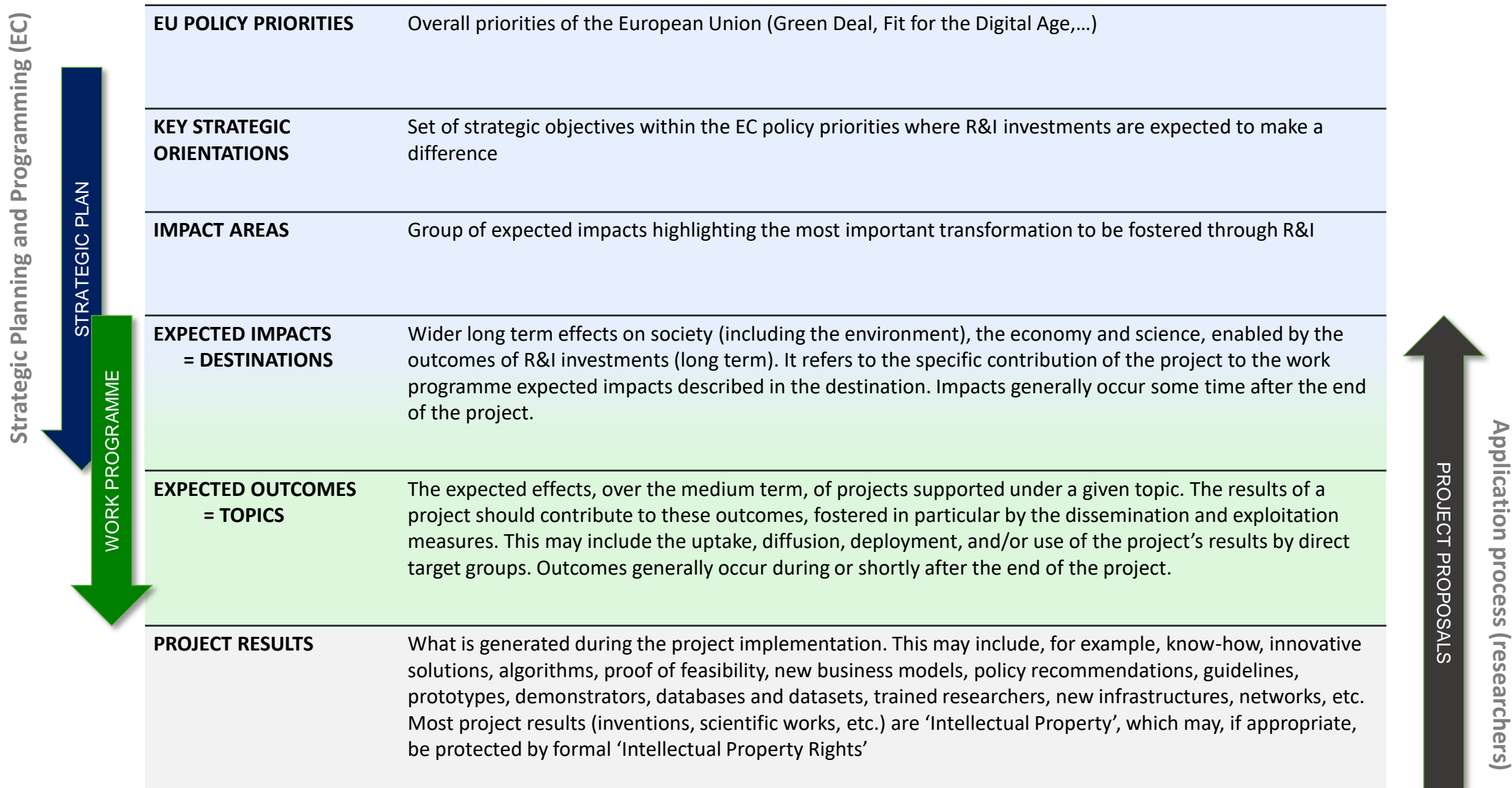
Pillar 2 is built on clusters that exploit European strengths and assets by **generating new knowledge and translating it into useful innovations**, developing and applying digital and key enabling technologies along with a new mission approach.

This will further ensure that Research & Innovation activities support EU policy priorities in areas such as the achievement of the **Sustainable Development Goals**, the **Societal Challenges**. Industrial leadership will be prominent within the pillar and through the programme as whole.

Clusters will be implemented through usual calls, **missions & partnerships**

Clusters in Horizon Europe

Link between policy priorities and project results



Clusters and the Strategic Plan

Example: Cluster 4: Digital, Industry and Space



EN

Horizon Europe

Work Programme 2021-2022

7. Digital, Industry and Space

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Horizon Europe Strategic Plan 2021-2024

https://ec.europa.eu/info/horizon-europe/strategic-plan_en

Clusters and the Strategic Plan

Example: Cluster 4: Digital, Industry and Space



Cluster 4 will support in particular the following two Horizon Europe key strategic orientations and impact areas associated to them²⁰



KEY STRATEGIC ORIENTATIONS FOR R&I

KSO A: Promoting an open strategic autonomy by leading the development of key digital, enabling and emerging technologies, sectors and value chains

KSO C: Making Europe the first digitally enabled circular, climate-neutral and sustainable economy

IMPACT AREAS

Competitive and secure data-economy

Climate change mitigation and adaptation

Industrial leadership in key and emerging technologies that work for people

Circular and clean economy

Secure and cybersecure digital technology

EXPECTED IMPACTS

16. Industrial leadership and increased autonomy in key strategic value chains with security of supply in raw materials

15. Global leadership in clean & climate-neutral industrial value chains, circular economy and climate-neutral digital systems and infrastructures

17. Globally attractive, secure and dynamic data-agile economy

18. Open strategic autonomy in digital technologies and in future emerging enabling technologies

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

20. A human-centred and ethical development of digital and industrial technologies

Clusters and the Strategic Plan

Example: Cluster 4: Digital, Industry and Space

Table 4 Overview of R&I expected impacts, cluster intervention areas, and Horizon Europe partnerships

EXPECTED IMPACT	INTERVENTION AREAS COVERED ^{2,9}	EUROPEAN PARTNERSHIPS
15. Global leadership in clean and climate-neutral industrial value chains, circular economy and climate-neutral digital systems and infrastructures (networks, data centres).	Manufacturing Technologies Advanced Materials Circular Industries Low-Carbon and Clean Industries Key digital technologies Artificial Intelligence and Robotics	Clean Steel – Low Carbon Steelmaking Made in Europe Processes4Planet Photonics Artificial Intelligence, Data and Robotics
16. Industrial leadership and increased autonomy in key strategic value chains with security of supply in raw materials (...)	Advanced Materials Circular Industries Low-Carbon and Clean Industries Manufacturing Technologies Key digital technologies Emerging enabling technologies	Made in Europe Processes4Planet
17. Globally attractive, secure and dynamic data-agile economy (...)	Artificial Intelligence and Robotics Advanced Computing and Big Data Manufacturing Technologies	Artificial intelligence, Data and Robotics Smart Networks and Services ² Key Digital Technologies ² High Performance Computing ² European Metrology ³
18. Open strategic autonomy in digital technologies and in future emerging enabling technologies (...)	Key digital technologies Emerging enabling technologies Artificial Intelligence and Robotics Next Generation Internet Advanced Computing and Big Data	Artificial Intelligence, Data and Robotics Photonics Smart Networks and Services ² Key Digital Technologies ² High Performance Computing ² European Metrology ³
19. Open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data (...)	Space, including Earth Observation	Globally Competitive Space Systems
20. A human-centred and ethical development of digital and industrial technologies (...)	Next Generation Internet Artificial Intelligence and Robotics Manufacturing Technologies	Made in Europe Artificial Intelligence, Data and Robotics Key Digital Technologies ²

Table 2 Overview of Cross Cluster Complementarities

NUMBER AND NAME OF CLUSTER	RELEVANT EXPECTED IMPACT OF THE CLUSTER DESCRIBED LEFT	POSSIBLE COMPLEMENTARITIES
1. HEALTH	2. Living and working in a health-promoting environment (...)	Safe and sustainable materials systems Zero-polluting industries
	5. Unlocking the full potential of new tools, technologies and digital solutions for a healthy society: Health technologies, new tools and digital solutions are applied effectively thanks to their inclusive, secure and ethical development, delivery, integration and deployment in health policies and health and care systems.	Leading European AI based on trust Robotics Photonics; repurposing of manufacturing Advanced Materials for health Data sharing in the common European data space, and data analytics capacity
2. CULTURE, CREATIVITY AND INCLUSIVE SOCIETY	9. Social and economic resilience and sustainability are strengthened through a better understanding of the social, ethical, political and economic impacts of drivers of change (such as technology, globalisation, demographics, mobility and migration) and their interplay.	Activities under an Internet of Trust and human-machine interactions, as well as for manufacturing technologies, will benefit from studies of people's participation and public engagement in industrial technologies, as well as cultural heritage research Data sharing in the common European data space, and data analytics capacity are a fundamental tools for understanding society
	10. Inclusive growth is boosted and vulnerabilities are reduced effectively through evidence-based policies for protecting and enhancing employment education, social fairness and tackling inequalities, including in response to the socio-economic challenges due to the COVID-19 pandemic.	Future of work and skills activities for Manufacturing Activities on new business models relevant to activities under circular industries and low-carbon climate neutral industries Data sharing in the common European data space, and data analytics capacity are a key prerequisite for evidence-based policies
	3. CIVIL SECURITY FOR SOCIETY	Security of IoT devices Cybersecurity Disaster –Resilient Societies

Joint Reserach Centre

- Strengthening knowledge base for policy making
- Global challenges
- Innovation, economic development and competitiveness
- Scientific excellence
- Territorial development and support for Member States and Regions
 - Science4Policy



Horizon Europe - Missions

R&I Missions

A mission is a **portfolio of actions** across disciplines intended **to achieve a bold and inspirational and measurable goal** within a set timeframe, with impact for society and policy making as well as relevance for a significant part of the European population and wide range of European citizens.

1. Adaptation to Climate Change, including Societal Transformation
2. Cancer
3. Healthy Oceans, Seas, Coastal and Inland Waters
4. Climate-neutral and Smart Cities
5. Soil Health and Food



During the first three years of the programme, a maximum of 10% of the annual budget of Pillar II shall be programmed through specific calls for implementing the missions.

Missions boards and the proposals of the boards

5 mission boards: were formed to help specify, design and implement missions for Horizon Europe. Each mission board consists of up to **15 experts** coming from innovation, research, policymaking, civil society and relevant organisations. Each mission area also has an **assembly** that gathers a larger number of high-level experts. The assemblies provide an additional pool of ideas, knowledge and expertise. [Mission boards chairs; Members of mission boards; Members of mission assemblies.](#)

Mission board proposals September 2020:

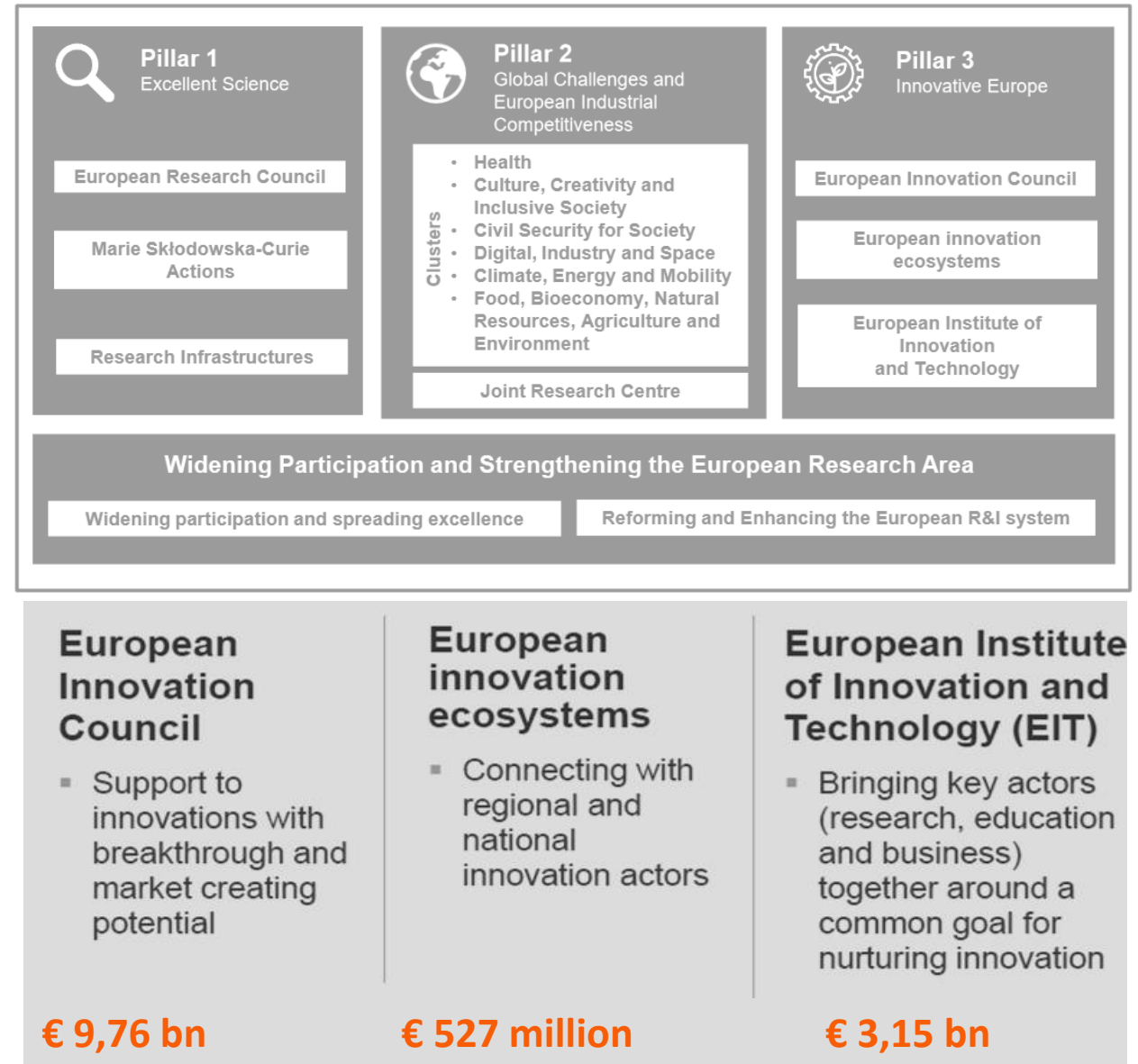
- **Conquering Cancer: Mission Possible.** Targets by 2030: more than 3 million more lives saved, living longer and better, achieve a thorough understanding of cancer, prevent what is preventable, optimise diagnosis and treatment, support the quality of life of all people exposed to cancer, and ensure equitable access to the above across Europe.
- **A Climate Resilient Europe -Prepare Europe for climate disruptions and accelerate the transformation to a climate resilient and just Europe by 2030.**Targets by 2030: prepare Europe to deal with climate disruptions, accelerate the transition to a healthy and prosperous future within safe planetary boundaries and scale up solutions for resilience that will trigger transformations in society.
- **Mission Starfish 2030: Restore our Ocean and Waters.** Targets by 2030: cleaning marine and fresh waters, restoring degraded ecosystems and habitats, decarbonising the blue economy in order to sustainably harness the essential goods and services they provide.
- **100 Climate-Neutral Cities by 2030 -by and for the citizens.** Targets by 2030: support, promote and showcase 100 European cities in their systemic transformation towards climate neutrality by 2030 and turn these cities into innovation hubs for all cities, benefiting quality of life and sustainability in Europe.
- **Caring for Soil is Caring for Life.** Targets by 2030: at least 75% of all soils in the EU are healthy for food, people, nature and climate. The proposed mission combines research and innovation, education and training, investments and the demonstration of good practices using “Living labs” (experiments and innovation in a laboratory on the ground) and “Lighthouses” (places to showcase good practices).

Horizon Europe - Pillar 3

Pillar 3: Innovative Europe

in Horizon Europe

- Innovative Europe pillar builds on lessons learned under H2020, in particular from activities such as Future Emerging Technologies (FET), Fast Track to Innovation (FTI) and the **SME Instrument**, but also private and corporate finance gathered and streamlined within the ' **EIC Pilot's activities** launched for the period 2018-2020.
- This new pillar will offer a **one-stop shop for high potential innovators**, aiming to put Europe at the forefront of **market-creating innovation** through a "bottom-up" approach.
- It will **develop future breakthrough or disruptive technologies** and attract innovative companies with **potential for scaling up at international and European levels**.



European Institute of Innovation and Technology

in Horizon Europe

European Institute of Innovation and Technology

Focus areas:

- Sustainable innovation ecosystems across Europe;
- Innovation and entrepreneurial skills in a lifelong learning perspective, including increasing capacities of higher education institutions across Europe;
- New solutions to market to address global challenges;
- Synergies and value added within Horizon Europe.

EIT KICs: Knowledge and Innovation Communities

[EIT Climate-KIC](#); [EIT Digital](#); [EIT Food](#); [EIT Health](#); [EIT InnoEnergy](#) ; [EIT Manufacturing](#) ; [EIT Raw Materials](#) ; [EIT Urban Mobility](#)

New KICs:

2022: Cultural and Creative Sectors and Industries

2026: Water, Marine & Maritime Sectors and Ecosystems



Pilot call open:

Deadline: 25th May 2021

More info: <https://eit-hei.eu/>



Strategy



Education



Entrepreneurship



Innovation



Global outreach



EIT RIS

European Innovation Ecosystems

Specific support to enable innovation ecosystem actors to work together across Europe.

As part of Horizon Europe the EU aims to create more connected and efficient innovation ecosystems to support the scaling of companies, encourage innovation and stimulate cooperation among national, regional and local innovation actors.

Innovation ecosystems

- bring together people or organisations whose goal is innovation, and
- include the links between resources (such as funds, equipment, and facilities), organisations (such as higher education institutions, research and technology organisations, companies, venture capitalists and financial intermediaries), investors and policymakers.

The actions supported by European Innovation Ecosystems complement the actions carried out by the EIC and the European Institute of Innovation and Technology (EIT), activities across Horizon Europe, initiatives at national, regional and local level as well as private and third sector initiatives.

European Innovation Ecosystems actions are grouped under 3 destinations:

- **CONNECT**: The actions in CONNECT focus on building interconnected, inclusive innovation ecosystems across Europe by drawing on the existing strengths of national, regional and local ecosystems and pulling in new, less well-represented actors and territories to set, undertake, and achieve collective ambitions towards challenges for the benefit of society, including the green, digital, and social transitions.
- **SCALEUP**: The actions in SCALEUP focus on reinforcing network connectivity within and between innovation ecosystems to accelerate sustainable business growth with high societal value. By actively engaging in local, national and European networks, companies can better capture and create ecosystem opportunities and gain new competitive advantage.
- European Innovation Ecosystems also supports the **European Partnership for Innovative SMEs ('Eurostars 3')**.

The work programme for this area is expected to be available in Spring 2021.

European Innovation Council

The scope and the schemes

- The EIC aims at **identifying and supporting breakthrough technologies and innovations** with the potential to scale up internationally and become market leaders.
- It **supports all stages** from R&D on the scientific underpinnings of breakthrough technologies, to validation and demonstration of breakthrough technologies and innovations to meet real world needs, to the development and scaling up of start-ups and small and medium enterprises.
- **Support to all types of innovators:** individuals to universities, research organisations and companies (SMEs, including start-ups, and, in exceptional cases, small mid-caps).
- **Schemes:**
 - **EIC Pathfinder Open & Challenges**
 - **EIC Transition Open & Challenges**
 - **EIC Accelerator Open & Challenges**
 - **Other schemes:** EIC Prizes, EU Prize for Women Innovators , The European Capital of Innovation Awards (iCapital), The European Innovation Procurement Awards.
- **‘FastTrack’** scheme to apply for the EIC Accelerator
- **Pilot ‘Plug-in’** scheme to apply for the EIC Accelerator



European Innovation Council

The schemes

	WHO CAN APPLY?	BUDGET	DEADLINE
<p>Open calls</p> <p><i>This funding has no pre-defined thematic priorities and are open to applications in any field of science, technology or application</i></p> <p>Challenges for 2021</p> <p><i>Set specifically for the EIC Pathfinder, Transition and Accelerator - see in the Work Programme</i></p>			
PATHFINDER	Consortia (e.g. research organisations, universities, SMEs, industry) involving at least 3 different countries	Grants of up to € 3-4 m to achieve the proof of principle and validate the scientific basis of breakthrough technology (TRL 1-4)	19th May (Open) 27 Oct (Challenges)
TRANSITION	Single applicants (SMEs, spin-offs, start-ups, research organisations, universities) or small consortia (max 5 partners). Applications must build on results from eligible Pathfinder or ERC Proof of Concept projects	Grants of up to €2,5 m to validate and demonstrate technology in application-relevant environment (TRL 4-6) and develop market readiness .	22nd Sept
ACCELERATOR	Single SMEs (including spinouts and start-ups) and in exceptional cases small mid-caps (less than 500 employees)	Blended finance: - From €0.5 to €15 million equity investment - Up to €2.5 million grant funding technology development and validation (TRL 5-8)	16th June 6th Oct

Horizon Europe - New partnerships

New approach to partnerships

& increased collaboration with other EU Programmes

For the first time, an **overall policy approach** for all **kinds of partnerships**, from JPIs and ERA-NETs to JTIs, FET Flagships and even the EIT/KICs have been developed and uniformly labelled '**European Partnerships**'.

Useful sources:

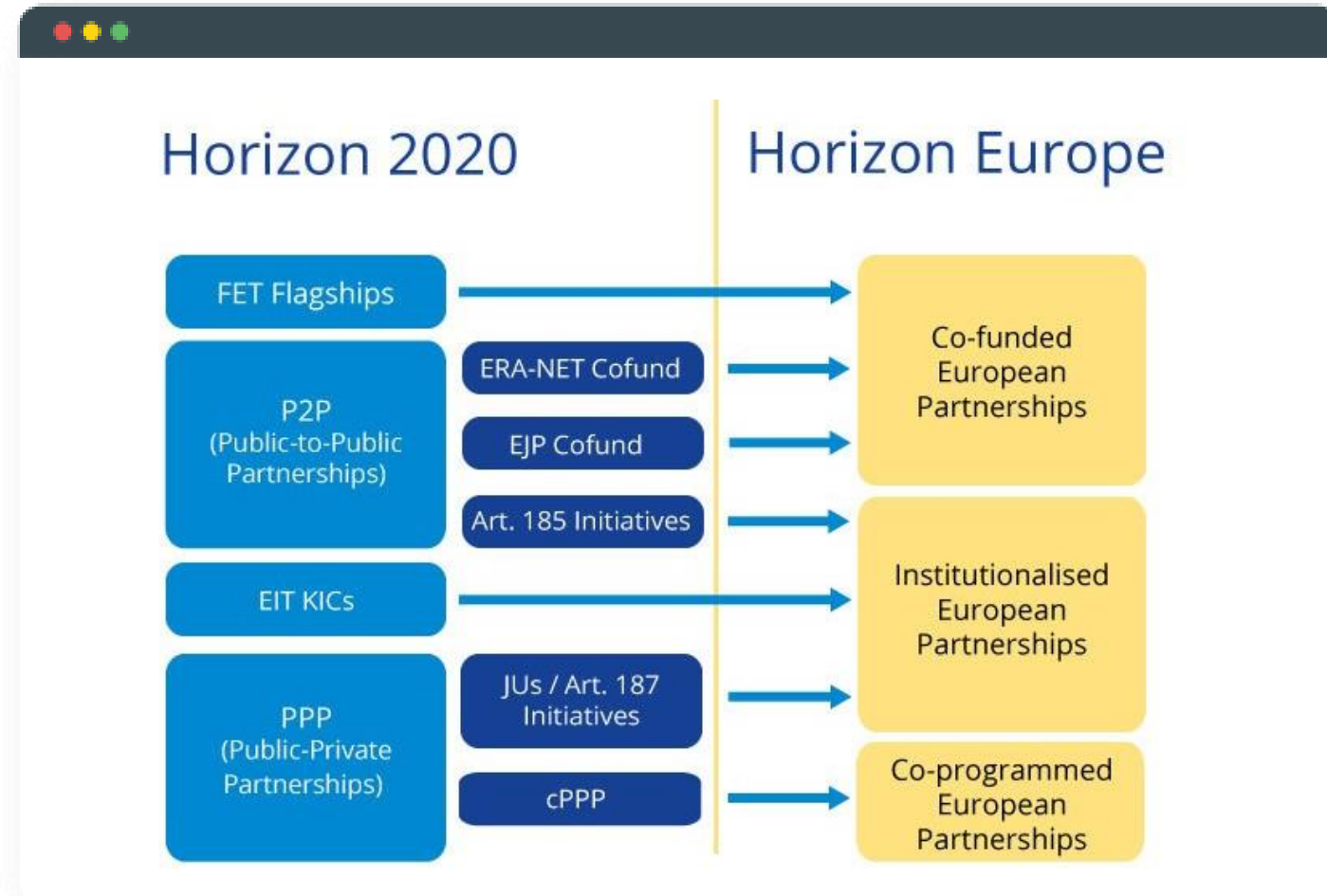
1. [European partnerships webpage](https://ec.europa.eu/info/horizon-europe/european-partnerships-horizon-europe_en)

https://ec.europa.eu/info/horizon-europe/european-partnerships-horizon-europe_en

- Partnership proposals
- Report on coherence and synergies
- Infographics

2. www.era.learn.eu

- Detailed information on the financial management of European partnerships, guidelines on SRIA development, etc
- Workshops



Overview of 49 candidate European Partnerships

PILLAR II - Global challenges & European industrial competitiveness

CLUSTER 1: Health	CLUSTER 4: Digital, Industry & Space	CLUSTER 5: Climate, Energy & Mobility
Innovative Health Initiative	Key Digital Technologies	Clean Hydrogen
Global Health Partnership	Smart Networks & Services	Clean Aviation
Transformation of health systems	High Performance Computing	Single European Sky ATM Research 3
Chemicals risk assessment	European Metrology (Art. 185)	Europe's Rail
ERA for Health	AI-Data-Robotics	Connected and Automated Mobility (CCAM)
Rare diseases*	Photonics	Batteries
One-Health Anti Microbial Resistance*	Made in Europe	Zero-emission waterborne transport
Personalised Medicine*	Clean steel – low-carbon steelmaking	Zero-emission road transport
Pandemic Preparedness* <i>Co-funded or co-programmed</i>	Processes4Planet	Built4People
	Global competitive space systems**	Clean Energy Transition
		Driving Urban Transitions

- Institutionalised Partnerships (Art 185/7)
- Institutionalised partnerships / EIT KICs
- Co-Programmed
- Co-Funded

PILLAR III - Innovative Europe

EIT	SUPPORT TO INNOVATION ECOSYSTEMS
InnoEnergy	Innovative SMEs
Climate	
Digital	
Food	
Health	
Raw Materials	
Manufacturing	
Urban Mobility	
Cultural and Creative Industries	
CROSS-PILLARS II AND III	
European Open Science Cloud	

* Calls with opening dates in 2023-24

** Calls with opening dates not before 2022

Thank
you

for your attention

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Things you wished you knew about Horizon 2020



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