



ჰორიზონტი ევროპა

ევროკავშირის კვლევისა და
ინოვაციის ჩარჩო პროგრამა
2021 - 2027

#HorizonEU



EUROPEAN UNION



July 2021



“With more than €53 billion, the second pillar of Horizon Europe aims to turn the results of our excellent research into innovative solutions to improve citizens daily lives by tackling global challenges. This pillar will be key to accelerate the twin green and digital transitions and helps to achieve the UN’s Sustainable Development Goals.”

Mariya Gabriel *Commissioner for Innovation, Research, Culture, Education and Youth*

THREE PILLARS FOR IMPLEMENTATION



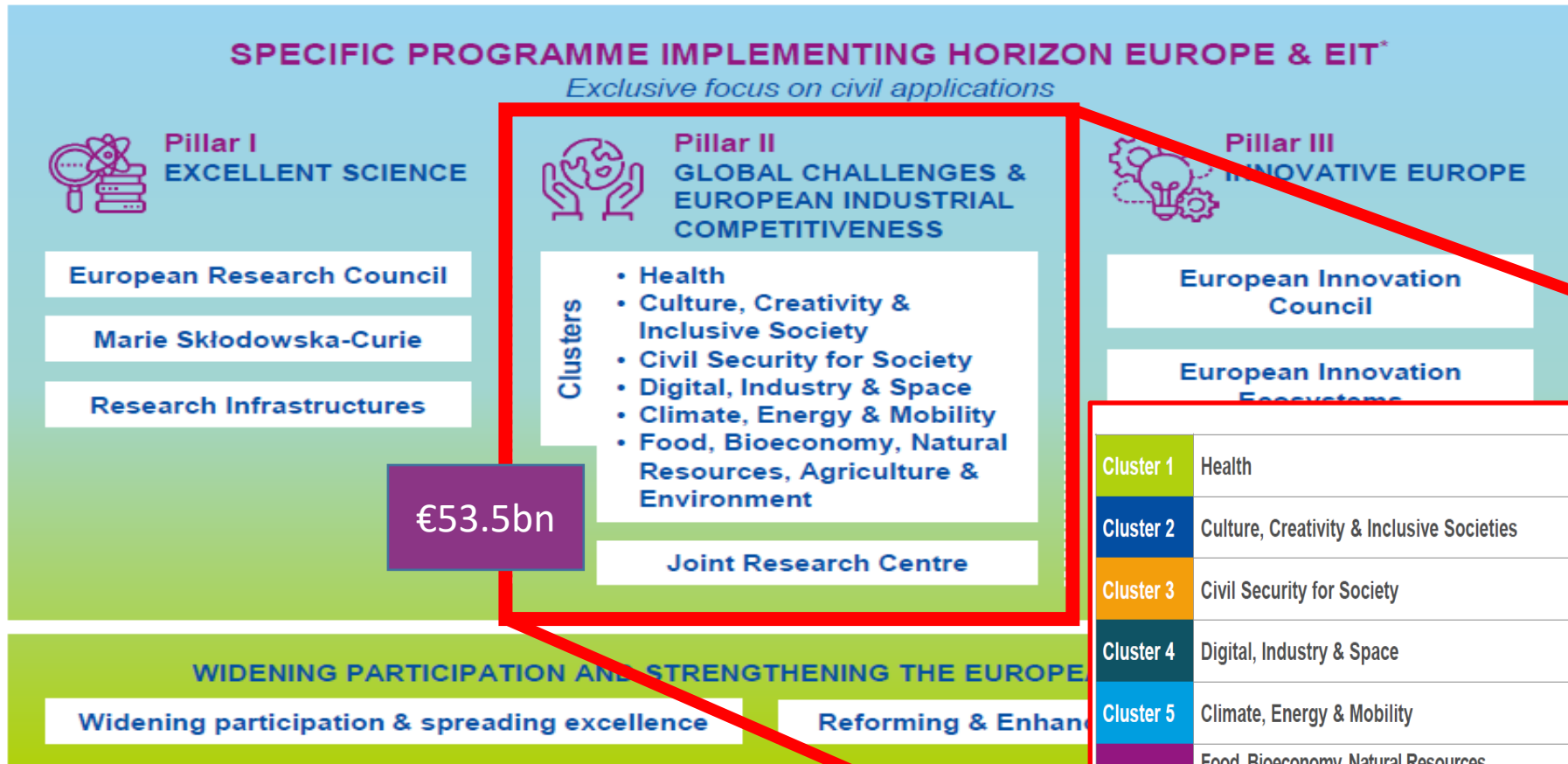
WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

Widening participation and spreading excellence

Reforming and Enhancing the European R&I system

Pillar 2 – Global Challenges and European Industrial Competitiveness

Budget 2021 - 2027



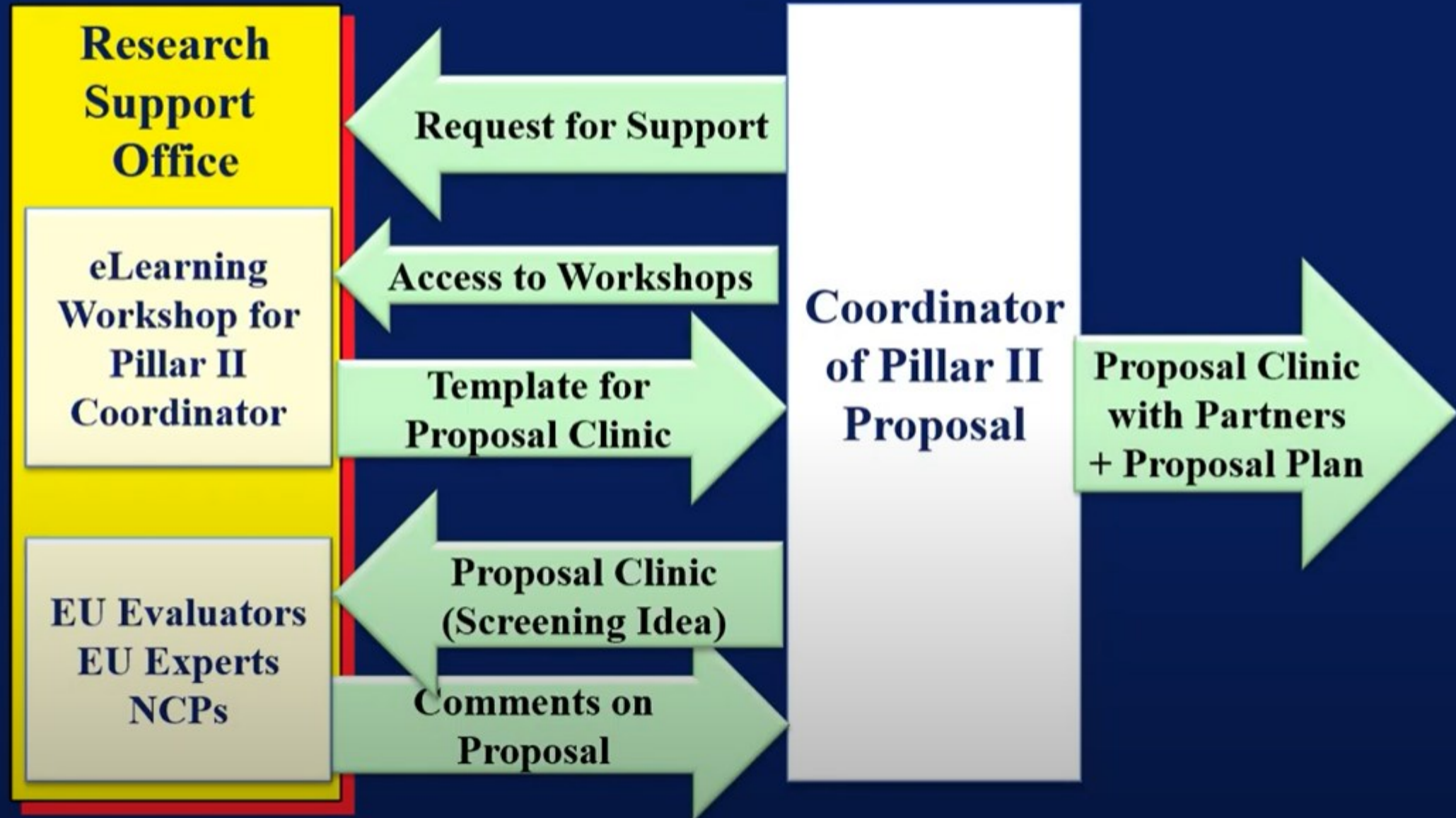
in current prices

Cluster 1	Health	€8.246 billion <small>(including €1.35 billion from NGEU)</small>
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 <small>(including €1.35 billion from NGEU)</small>
Cluster 5	Climate, Energy & Mobility	€15.123 billion <small>(including €1.35 billion from NGEU)</small>
Cluster 6	Food, Bioeconomy, Natural Resources, Agriculture & Environment	€8.952 billion
	JRC (non-nuclear direct actions)	€1.970 billion

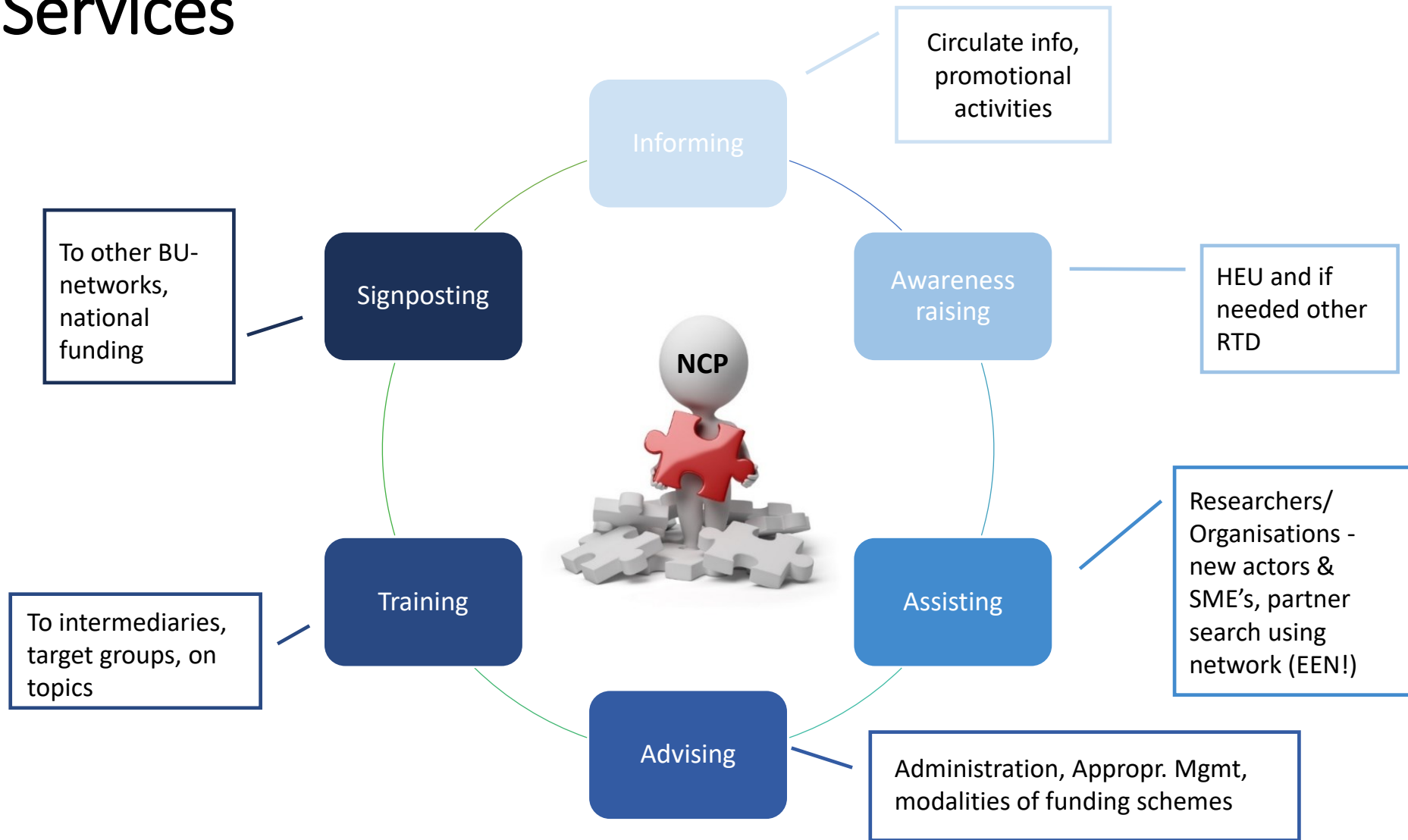
* The European Institute of Innovation & Technology (EIT) is not part of the Sp

eLearning Workshops for Pillar II Coordinator

www.hyperion.ie/fp9-training-programme.htm



NCP - Services



Minimum standards and Guiding principles for setting up systems of National Contact Points (NCP systems) under Horizon Europe (to be published)

Structure of Pillar II Cluster Work Programmes

Large
Multi-
Partner
Projects

Partner
Projects

Single
Partner

**Pillar II
Global Challenges and
Industrial Leadership
(Top Down Programme)**

Cluster 1

Cluster 2

Cluster 3

Cluster 4

Cluster 5

Cluster 6

1

2

3

4

5

6

7

8

9

Technology (and Social) Readiness Level

Universities

Industry / Society

RIA (Research and Innovation Action)

IA (Innovation Action)

Research Centres

Structure of Pillar II Cluster Work Programmes

Large
Multi-
Partner
Projects

Partner
Projects

Single
Partner

PILLAR II Clusters (€53.8 bn)

1. Health
2. Culture, Creativity and Inclusive Society
3. Civil Security for Society
4. Digital, Industry and Space
5. Climate, Energy and Mobility
6. Bioeconomy, Food, Natural Resources, Agriculture and Environment

Cluster
Destinations
Sections
Topics

1

2

3

4

5

6

7

8

9

Technology (and Social) Readiness Level

Universities

Industry / Society

RIA (Research and Innovation Action)

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Research Centres

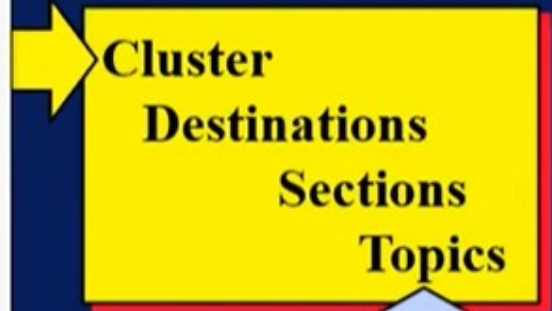
Structure of Pillar II Cluster Work Programmes

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Partner
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- PILLAR II Clusters (€53.8 bn)**
1. Health
 2. Culture, Creativity and Inclusive Society
 3. Civil Security for Society
 4. Digital, Industry and Space
 5. Climate, Energy and Mobility
 6. Bioeconomy, Food, Natural Resources, Agriculture and Environment



1	2	3	4	5	6	7	8	9
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Technology (and Social) Readiness Level

Universities

Industry / Society

RIA (Research and Innovation Action)

Research Centres

IA (Innovation Action)

Structure of Pillar II Cluster Work Programmes

Large
Multi-
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Projects

Partner
Projects

Single
Partner

PILLAR II Clusters (€53.8 bn)

1. **Health**
2. **Culture, Creativity and Inclusive Society**
3. **Civil Security for Society**
4. **Digital, Industry and Space**
5. **Climate, Energy and Mobility**
6. **Bioeconomy, Food, Natural Resources, Agriculture and Environment**

**Main EU
Policies**

**Specific
EU
Policies**

**Cluster
Destinations
Sections
Topics**

**Proposals Address
Topics**

1

2

3

4

5

6

7

8

9

Technology (and Social) Readiness Level

Universities

Industry / Society

RIA (Research and Innovation Action)

IA (Innovation Action)

Research Centres

Pillar II (Global Challenges) Cluster 1

1. HEALTH

DESTINATIONS

1. **Staying healthy in a rapidly changing society**
2. **Living and working in a health promoting environment**
3. **Tackling diseases and reducing disease burdens**
4. **Ensuring access to innovative, sustainable and high quality care**
5. **Unlocking the full potential of new tools, technologies and digital solutions for a healthy society**
6. **Maintaining an innovative, sustainable and globally competitive health-related industry.**

<https://ec.europa.eu/research/pdf/horizon-europe/annex-1.pdf>

Subject to Change as Work Programme evolves

Pillar II (Global Challenges) Cluster 2

2. CULTURE, CREATIVITY AND INCLUSIVE SOCIETY

DESTINATIONS

- 1. Innovative Research on Democracy and Governance**
- 2. Innovative Research on European Cultural Heritage and the Culture and Creative Industries**
- 3. Innovative Research on Social and Economic Transformations**

<https://ec.europa.eu/research/pdf/horizon-europe/annex-2.pdf>

Pillar II (Global Challenges) Cluster 3

3. CIVIL SECURITY FOR SOCIETY

DESTINATIONS

1. **Fight against Crime and Terrorism**
2. **Border Management**
3. **Infrastructure Protection**
4. **Cybersecurity**
5. **A Disaster Resilient Society for Europe**
6. **SSRI (Support for Security Research and Innovation)**

<https://ec.europa.eu/research/pdf/horizon-europe/annex-3.pdf>

Pillar II (Global Challenges) Cluster 4

4. DIGITAL, INDUSTRY AND SPACE

DESTINATIONS

- 1. Climate neutral, circular and digitised production**
- 2. A digitised, resource-efficient and resilient industry**
- 3. World leading data and computing technologies**
- 4. Digital and emerging technologies for competitiveness and fit for the Green Deal**
- 5. Strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data**
- 6. A human-centred and ethical development of digital and industrial technologies**

<https://ec.europa.eu/research/pdf/horizon-europe/annex-4.pdf>

Subject to Change as Work Programme evolves

Pillar II (Global Challenges) Cluster 5

5. CLIMATE, ENERGY and MOBILITY

DESTINATIONS

- 1. Climate sciences and responses**
- 2. Cross-sectoral solutions (battery value chains, smart cities, decarbonised societies, climate solutions)**
- 3. Sustainable, secure and competitive energy supply**
- 4. Efficient, sustainable and inclusive energy use**
- 5. Clean and competitive solutions for all transport modes (road, rail, aviation, waterborne)**
- 6. Safe resilient transport and smart mobility services for passengers and goods**

<https://ec.europa.eu/research/pdf/horizon-europe/annex-5.pdf>

Subject to Change as Work Programme evolves

Pillar II (Global Challenges) Cluster 6

6. BIOECONOMY, FOOD, NATURAL RESOURCES, AGRICULTURE AND ENVIRONMENT DESTINATIONS

- 1. Biodiversity and ecosystem services**
- 2. Fair, healthy and environmentally-friendly food systems from primary production to consumption**
- 3. Circular economy and bioeconomy sectors**
- 4. Clean environment and zero pollution**
- 5. Land, oceans and water for climate action**
- 6. Resilient, inclusive, healthy and green rural, coastal and urban communities**
- 7. Innovative governance, environmental observations and digital solutions in support of the Green Deal**

<https://ec.europa.eu/research/pdf/horizon-europe/annex-6.pdf>

Subject to Change as Work Programme evolves

How to Read a Pillar II Work Programme

6 Food, Bioeconomy, Natural Resources, Agriculture and the Environment

CLUSTER 6

DESTINATIONS

DESTINATIONS

1. Biodiversity and Ecosystem Services

SECTIONS

SECTIONS OR CALLS

Understanding biodiversity decline

TOPICS

TOPICS

Horizon-CL6-2021-BIODIV-1-1

Horizon-CL6-2021-BIODIV-1-2

Horizon-CL6-2021-BIODIV-1-3 Understanding and valuing coastal..

Proposals Address Topics

Example of Cluster 6

Pillar II (Global Challenges) Cluster 6

EN

Annex 9

Horizon Europe

Work Programme 2021-2022

*9. Food, Bioeconomy Natural Resources, Agriculture and
Environment*

Pillar II (Global Challenges) Cluster 6

Destination 1 – Biodiversity and Ecosystem Services	20
Call - Biodiversity and Ecosystem Services	25
Conditions for the Call	25
Understanding biodiversity decline.....	27
HORIZON-CL6-2021-BIODIV-01-01: European participation in global biodiversity genomics endeavours aimed at identifying all biodiversity on Earth	27
HORIZON-CL6-2021-BIODIV-01-02: Data and technologies for the inventory, fast identification and monitoring of endangered wildlife and other species groups	29
HORIZON-CL6-2021-BIODIV-01-03: Understanding and valuing coastal and marine biodiversity and ecosystems services	31
HORIZON-CL6-2021-BIODIV-01-04: Assess and predict integrated impacts of cumulative direct and indirect stressors on coastal and marine biodiversity, ecosystems and their services	35
Valuing and restoring biodiversity and ecosystem services.....	38
HORIZON-CL6-2021-BIODIV-01-05: The economics of nature-based solutions: cost-benefit analysis, market development and funding	38

Pillar II (Global Challenges) Cluster 6

Destination 1 – Biodiversity and Ecosystem Services	20
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Valuing and restoring biodiversity and ecosystem services.....	38
HORIZON-CL6-2021-BIODIV-01-05: The economics of nature-based solutions: cost-benefit analysis, market development and funding	38

Topic HORIZON-CL6-2021-BIODIV0-01-03

Expected Outcome: In support of the implementation of the Green Deal and the Biodiversity Strategy, successful proposals will contribute to all the following expected outcomes notably to better understand biodiversity decline, its main direct drivers and their interrelations:

- Closing the gap in knowledge and exploration of marine biodiversity at the level of species, the intraspecific/genetic level, ecosystems, functionalities, trophic-interactions and interconnections across temporal and spatial scales;
- New theoretical frameworks of the organisation of marine biotic communities, with key species, from microbiome to megafauna, from benthic to pelagic, especially invertebrates and apex predators, and considering sex segregation determined by environmental parameters, in space and time and the ecosystems processes linking them (energy and biogeochemical cycles, including the role of migratory species behaviour), from deep sea to coastal biotopes including intertidal areas
- Ocean health prediction (including climate change vulnerability), decision making and policy implementation supported by the full integration of ecological with physical and geochemical components in four dimensions (surface, water columns, seafloor, time) into improved global and regional high-resolution models of ecosystems conditions and

Getting Ready for Horizon Europe

How to Prepare a European Research Strategy

Identifying Opportunities in Pillar I (Excellent Science)

3

Identifying Opportunities in Pillar II

Clusters (Destinations and Topics)



Missions



New Concept in Horizon Europe

European Partnerships - A mixture of National and European Funding

Pillar II Mission Board Reports

Mission	Mission Board* Reports (September 2020)
Cancer	<u>Conquering Cancer: Mission Possible</u>
Adaption to Climate Change	<u>A Climate Resilient Europe</u>
Healthy Oceans, Seas, Coastal and Inland Waters	<u>Mission Starfish 2030: Restore our Ocean and Waters</u>
Carbon-Neutral and Smart Cities	<u>100 Climate-Neutral Cities by 2030</u>
Soil Health and Food	<u>Caring for Soil is Caring for Life</u>

“Advise on characteristics of Project Portfolios”

European Partnerships (Health)

	Horizon Europe Partnership	Pillar II Cluster
1	EU-Africa Global Health	1
2	Innovative Health Initiative	1
3	Chemicals Risk Assessment	1,4,6
4	Pre-Clinical/Clinical Research	1,6
5	Health Systems in Digital/Ageing	1
6	Personalised Medicine	1
7	Rare Diseases	1
8	One Health AMR	
44	EIT Health	Pillar III
50	Pandemics	

CP (Co-programmed) CF (Co-Funded) KIC (Knowledge Innovation Community)

European Partnerships (Digital, Industry and Space)

	Horizon Europe Partnership	Pillar II
9	High Performance Computing	4
10	Key Digital Technologies	1,2,4,5
11	Smart Networks and Services	1,4,5
12	AI, Data and Robotics	4
13	Photonics Europe	1,2,4,5,6
14	Clean Steel – Low Carbon Steelmaking	1
15	European Metrology	1,2,4,5,6
16	Made in Europe	1,5,6
17	Carbon Neutral and Circular Industry	4,5,6
18	Global Competitive Space Systems	4
19	Geological Services for Europe	

CP (Co-programmed) CF (Co-Funded) KIC (Knowledge Innovation Community)

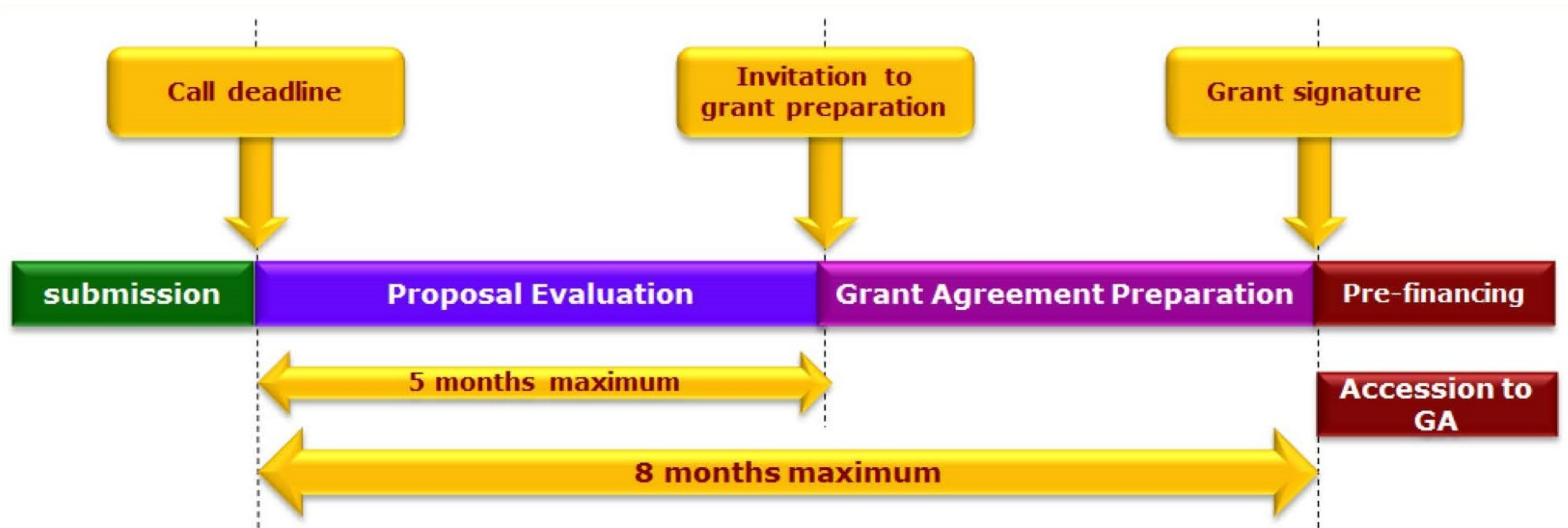
Food, Bioeconomy, Natural Resources, Agriculture and Environment

	Horizon Europe Partnership	Pillar II
31	Accelerating Farming Systems	1,5,6
32	Animal Health: Fighting Infections Diseases	1,6
33	Environmental Observations Agriculture	4,6
34	Rescuing Biodiversity to safeguard life	1,2,5,6
35	Climate Neutral Blue Economy	1,2,4,5,6
36	Safe and Sustainable Food System	6
37	Circular Bio-Based Europe	4,5,6
38	Water4All	1,2,4,5,6
45	EIT Food	Pillar III

Cross-cutting issues

- International cooperation
- Social Sciences & Humanities
- Open access & Data management
- Climate action & Sustainable development
- Ethics
- Gender
- SMEs
- ERA-NETs
- Links to regional policy
- Intellectual property
- Innovation procurement

Horizon Europe – Time to Grant (single stage)



Many exceptions: Always consult the work programme and call documents