

## HORIZON EUROPE

### Cluster 6: struttura e opportunità verso i bandi 2024 *include Partnerships*

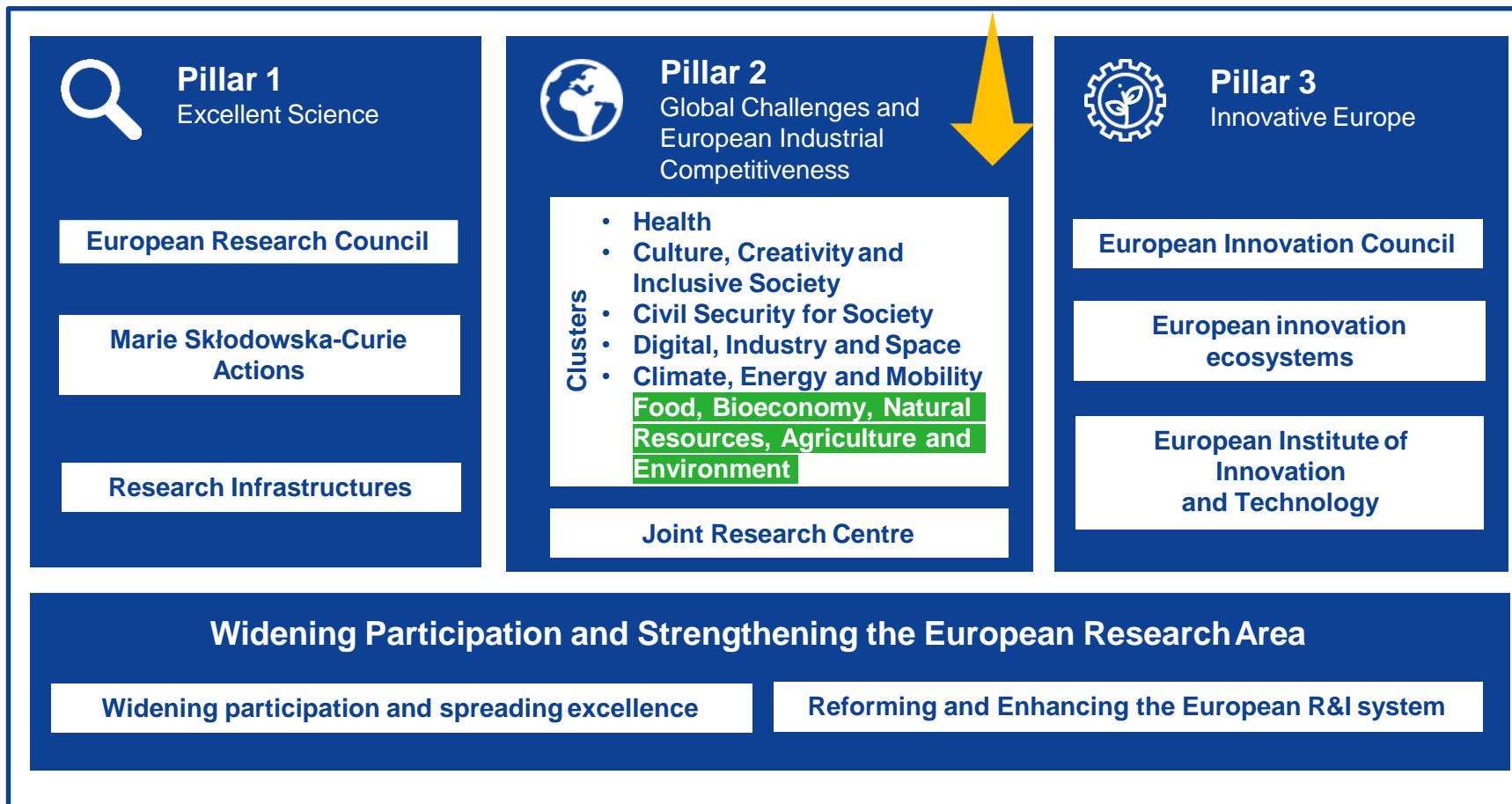
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*17 Luglio 2023*



# Horizon Europe: struttura

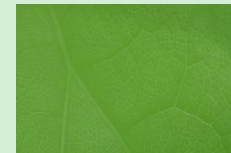




## 6 Commission priorities for 2019-24

### A European Green Deal

Striving to be the first climate-neutral continent



### A Europe fit for the digital age

Empowering people with a new generation of technologies

### An economy that works for people

Working for social fairness and prosperity



### A stronger Europe in the world

Europe to strive for more by strengthening our unique brand of responsible global leadership

### Promoting our European way of life

Building a Union of equality in which we all have the same access to opportunities.



### A new push for European democracy

Nurturing, protecting and strengthening our democracy



# Il contesto politico relativo al Cluster 6

## Obiettivi di sviluppo sostenibile



### GREEN DEAL EUROPEO

Adoperarsi per divenire il primo continente a impatto climatico zero.



### UN'EUROPA PRONTA PER L'ERA DIGITALE

La strategia digitale dell'UE doterà le persone di competenze inerenti a una nuova generazione di tecnologie.



### UN'ECONOMIA AL SERVIZIO DELLE PERSONE

L'UE deve creare un ambiente più attraente per gli investimenti e una crescita che offra lavori di qualità, in particolare per i giovani e le piccole imprese.

## ALTRE POLITICHE EUROPEE

*Politica agricola comune, Politica comune della pesca, Politica marittima integrata, Politica artica, Legislazione alimentare generale, Strategia per la bioeconomia, Strategia forestale, Strategia Crescita Blu, Strategia per la sostenibilità della Chimica, Strategia sulla plastica, Strategia europea in materia di dati, Food 2030 e altre iniziative legislative per la protezione della biodiversità, del suolo, dell'acqua, dell'aria e delle risorse marine.*





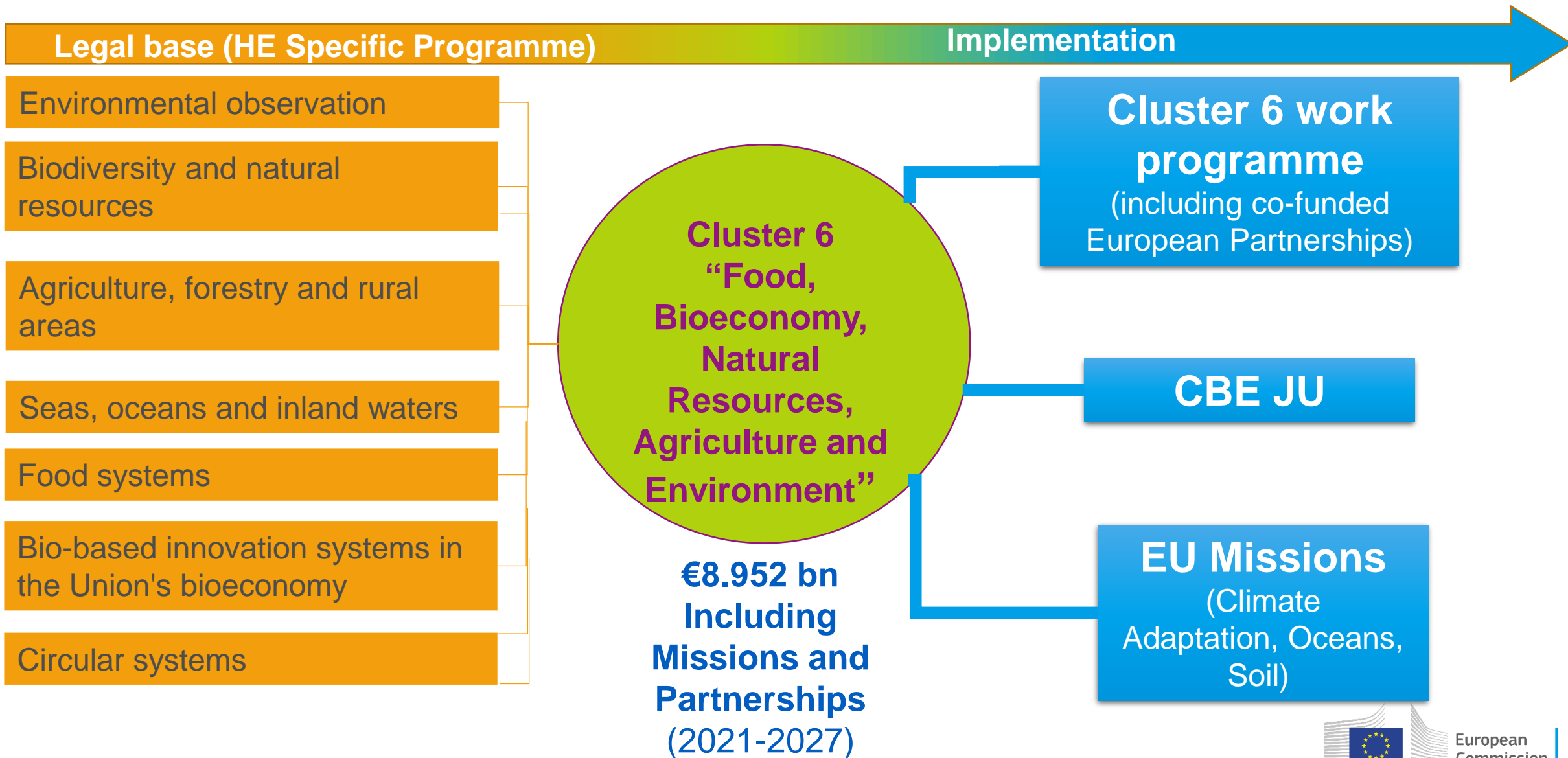
# CL6: Food, bioeconomy, natural resources, agriculture and environment

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- aims at reducing **environmental degradation**, halting and reversing the decline of **biodiversity** on land, inland waters and sea and better managing **natural resources** through social and economic changes in both urban and rural areas.
- will ensure **food and nutrition security** for all through knowledge, innovation and digitalisation in agriculture, fisheries, aquaculture and food systems and accelerate the transition to a **circular economy** and sustainable bioeconomy, including forestry.
- R&I activities under CL6 will contribute to the objectives of the [European Green Deal](#) related to the [Biodiversity Strategy to 2030](#), the [Farm to Fork strategy](#), the [European Climate Pact](#) and initiatives under [sustainable industry](#) and [eliminating pollution](#), as well as the [long-term vision for rural areas](#), and the Sustainable Development Goals.

Intervention Areas
Environmental Observation
Biodiversity and natural resources
Agriculture, Forestry and rural areas
Seas, oceans and inland waters
Food systems
Biobased innovation systems in the EU Bioeconomy
Circular systems

# Overview





# Cluster 6: from Expected Impacts to Destinations

## Strategic Plan 2021-2024

**Impact 1** Climate neutrality and adaptation to climate change

**Impact 2** Preservation and restoration of biodiversity and ecosystems

**Impact 3** Sustainable and circular management of natural resources; tackling pollution; bioeconomy

**Impact 4** Food and nutrition security for all from sustainable food systems from farm to fork

**Impact 5** Balanced development of rural, coastal and urban areas

**Impact 6** Innovative governance models enabling sustainability, environmental observation

## Work Programmes 2021-2024

• **Destination 5:** Land, oceans and water for climate action

• **Destination 1:** Biodiversity and ecosystem services

• **Destination 3:** Circular economy and bioeconomy sectors  
• **Destination 4:** Clean environment and zero pollution

• **Destination 2:** Fair, healthy and environmentally-friendly food systems from primary production to consumption

• **Destination 6:** Resilient, inclusive, healthy and green rural, coastal and urban communities

• **Destination 7:** Innovative governance, environmental observations and digital solutions in support of the Green Deal





## CL6 - Destinations

**Destination #1 “Biodiversity and Ecosystem Services”** Sostiene la ripresa e il ripristino degli ecosistemi attraverso una gestione sostenibile del suolo, delle acque interne e del mare, che ne protegga l’integrità e favorisca l’integrazione tra settori.

**Destination #2 “Fair, healthy and environmentally-friendly food systems from primary production to consumption”** Contribuisce a guidare e accelerare la transizione verso sistemi alimentari sostenibili, sicuri, sani e inclusivi, dal produttore al consumatore, e a garantire la sicurezza alimentare.

**Destination #3 “Circular economy and bioeconomy sectors”** Sostiene soluzioni circolari, guidate dalla neutralità climatica e dalla bioeconomia per generare soluzioni, integrate, sicure a livello territoriale e in settori diversi.

**Destination #4 “Clean environment and zero pollution”** Arresta e previene l’inquinamento, sostenendo azioni di R&I su acque interne e marine, suolo, aria, comprese le emissioni di azoto e fosforo, sulle prestazioni ambientali e sulla sostenibilità dei processi nei sistemi a base biologica



## CL6 - Destinations

**Destination #5 “Land, oceans and water for climate action”** Studia l’impatto del cambiamento climatico sugli ambienti terrestri e marini, sulle risorse naturali, l’agricoltura e i sistemi agroalimentari, identificando azioni di mitigazioni e percorsi di adattabilità.

**Destination #6 “Resilient, inclusive, healthy and green rural, coastal and urban communities”** Mette al centro i luoghi, dalle aree rurali e a quelle costiere, e le persone per raggiungere un’Europa più sostenibile e resiliente, anche nella reazione alla recente pandemia, nell’utilizzo, protezione e gestione delle risorse naturali.

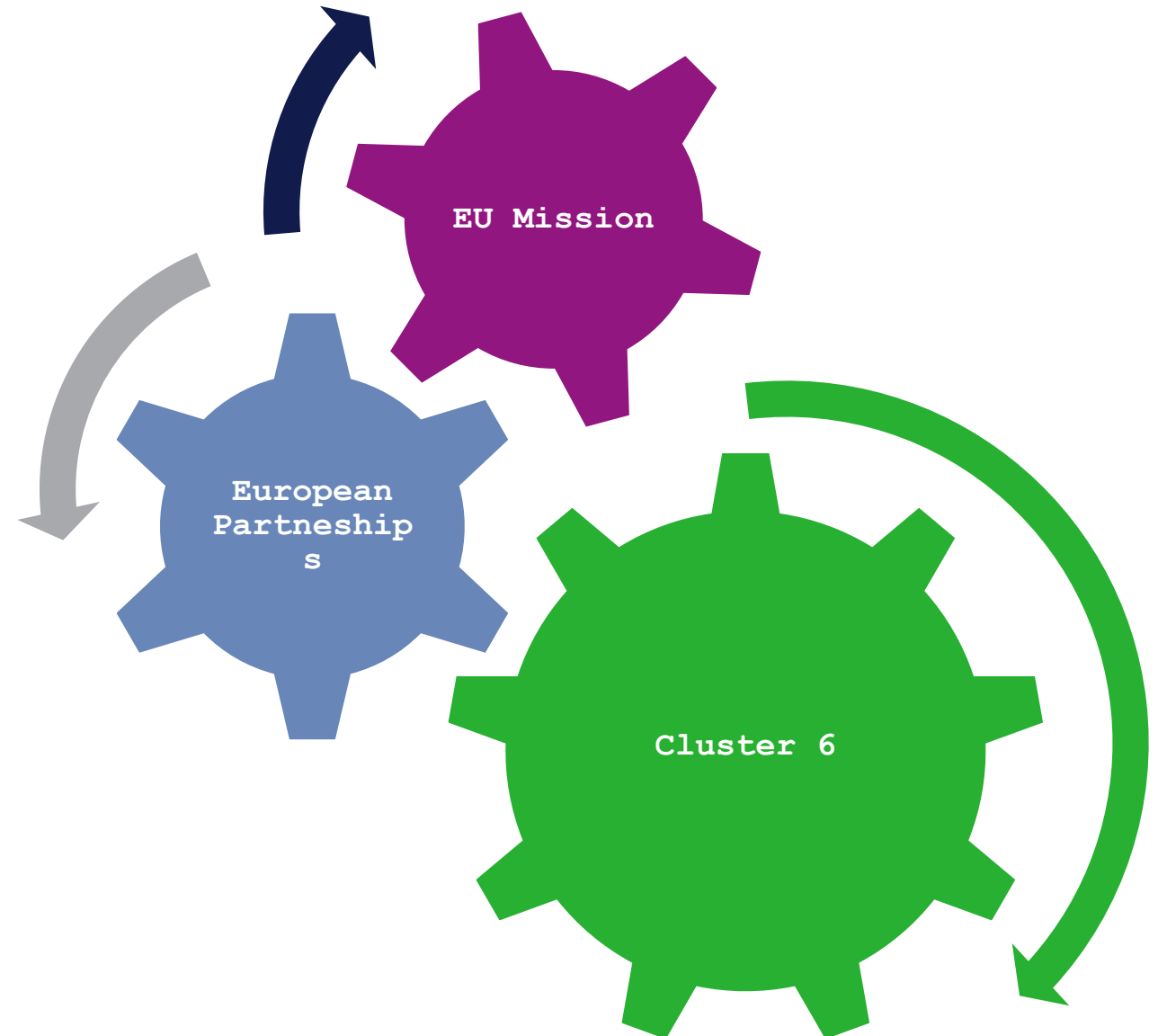
**Destination #7 “Innovative governance, environmental observations and digital solutions in support of the Green Deal”** Assicura che il processo di transizione verde passi per un’innovazione nei modelli di governance, un’informazione e conoscenza disponibile e accessibile, un utilizzo diffuso delle osservazioni ambientali e delle soluzioni digitali.

WP 2023  
Mission

Biodiversa +  
Water4all  
SBEP

CBE WP 2023

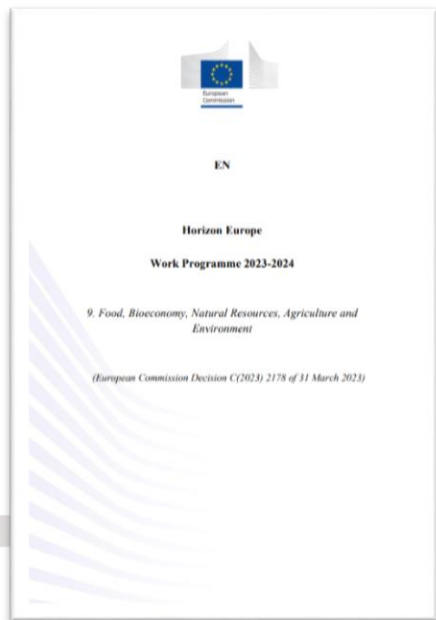
WP 2024  
Cluster 6





# CLUSTER 6 | Overview Work Programme 2023 - 24

Scadenze		Topic		Budget	
23 e 28 Marzo e 12 Aprile		100		1056,39 (di cui 897 sui bandi 2023)	
22 / 28 Febbraio		76		903 (di cui 734 sui bandi 2024)	
		176		1.959,39 mln €	



<https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-9-food-bioeconomy-natural-resources-agriculture-and-environment-horizon-2023-2024-en.pdf>



# WP 23-24 | Overview bandi 2024

Opening: 17 Oct

DESTINATION	CALL	DEADLINES
1. BIODIVERSITY AND ECOSYSTEM SERVICES	HORIZON-CL6-2024- <b>BIODIV</b> -01	Deadline: 22 Feb 2024
	HORIZON-CL6-2024- <b>BIODIV</b> -02	Deadline(s): 22 Feb 2024 (First Stage), 17 Sep 2024 (Second Stage)
2. FAIR, HEALTHY AND ENVIRONMENTALLY-FRIENDLY FOOD SYSTEMS FROM PRIMARY PRODUCTION TO CONSUMPTION	HORIZON-CL6-2024- <b>FARM2FORK</b> -01	Deadline: 22 Feb 2024
	HORIZON-CL6-2024- <b>FARM2FORK</b> -02	Deadline(s): 22 Feb 2024 (First Stage), 17 Sep 2024 (Second Stage)
3. CIRCULAR ECONOMY AND BIOECONOMY SECTORS	HORIZON-CL6-2024- <b>CIRCBIO</b> -01	Deadline: 22 Feb 2024
	HORIZON-CL6-2024- <b>CIRCBIO</b> -02	Deadline(s): 22 Feb 2024 (First Stage), 17 Sep 2024 (Second Stage)
4. CLEAN ENVIRONMENT AND ZERO POLLUTION	HORIZON-CL6-2024- <b>ZEROPOLLUTION</b> -01	Deadline: 22 Feb 2024
	HORIZON-CL6-2024- <b>ZEROPOLLUTION</b> -02	Deadline(s): 22 Feb 2024 (First Stage), 17 Sep 2024 (Second Stage)
5. LAND, OCEAN AND WATER FOR CLIMATE ACTION	HORIZON-CL6-2024- <b>CLIMATE</b> -01	Deadline: 22 Feb 2024
6. RESILIENT, INCLUSIVE, HEALTHY AND GREEN RURAL, COASTAL AND URBAN COMMUNITIES	HORIZON-CL6-2024- <b>COMMUNITIES</b> -01	Deadline: 22 Feb 2024
	HORIZON-CL6-2024- <b>COMMUNITIES</b> -02	Deadline(s): 22 Feb 2024 (First Stage), 17 Sep 2024 (Second Stage)
7. INNOVATIVE GOVERNANCE, ENVIRONMENTAL OBSERVATIONS AND DIGITAL SOLUTIONS IN SUPPORT OF THE GREEN DEAL	HORIZON-CL6-2024- <b>GOVERNANCE</b> -01	Deadline: 28 Feb 2024

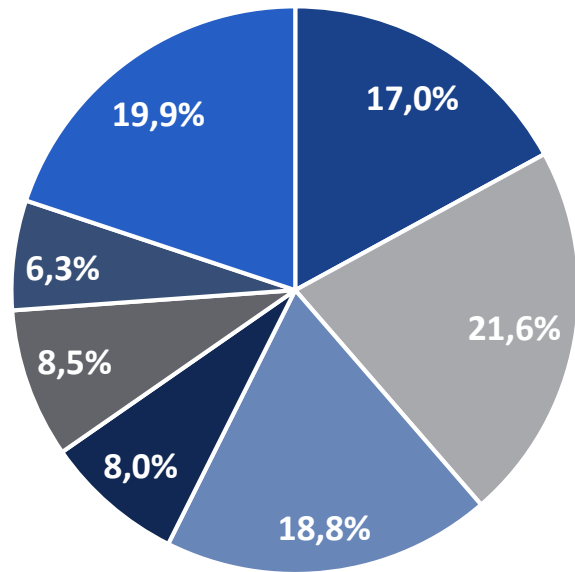


## WP 23-24 | Destination

DESTINATION	Topic		Budget	
	2023	2024	2023	2024
1. BIODIVERSITY AND ECOSYSTEM SERVICES	18	12	184,00 €	142
2. FAIR, HEALTHY AND ENVIRONMENTALLY-FRIENDLY FOOD SYSTEMS FROM PRIMARY PRODUCTION TO CONSUMPTION	20	18	196,50 €	256,50
3. CIRCULAR ECONOMY AND BIOECONOMY SECTORS	17	16	178,50 €	147,5
4. CLEAN ENVIRONMENT AND ZERO POLLUTION	9	5	79,50 €	61
5. LAND, OCEAN AND WATER FOR CLIMATE ACTION	8	7	90,00 €	93
6. RESILIENT, INCLUSIVE, HEALTHY AND GREEN RURAL, COASTAL AND URBAN COMMUNITIES	6	5	38,50 €	37
7. INNOVATIVE GOVERNANCE, ENVIRONMENTAL OBSERVATIONS AND DIGITAL SOLUTIONS IN SUPPORT OF THE GREEN DEAL	22	13	130,00 €	157,5
	<b>100</b>	<b>76</b>	<b>897</b>	<b>894,5</b>
<b>2023-2024</b>		<b>176</b>		<b>1631</b>

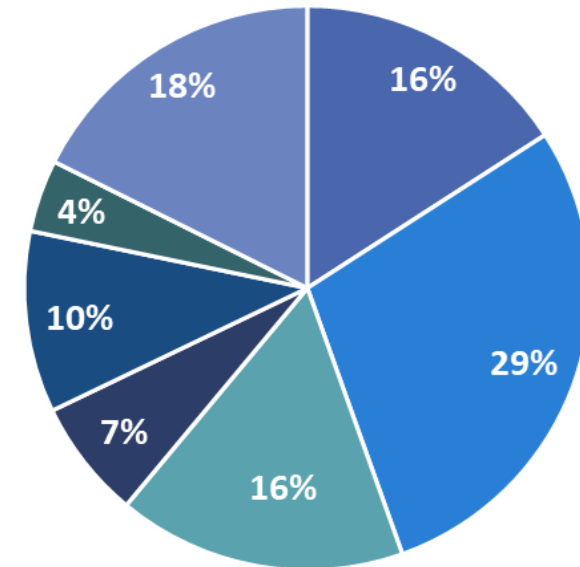
# WP 23-24 | Incidenza per destination

# Topic per Destination



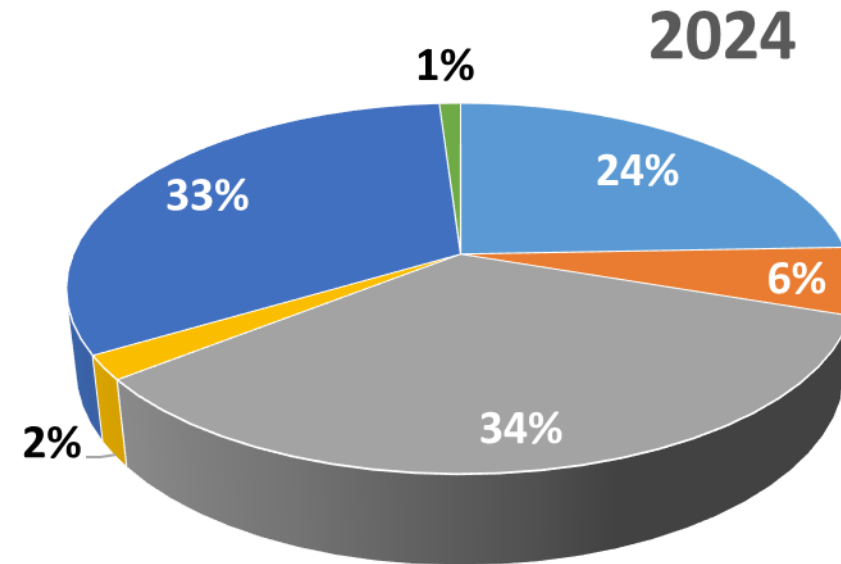
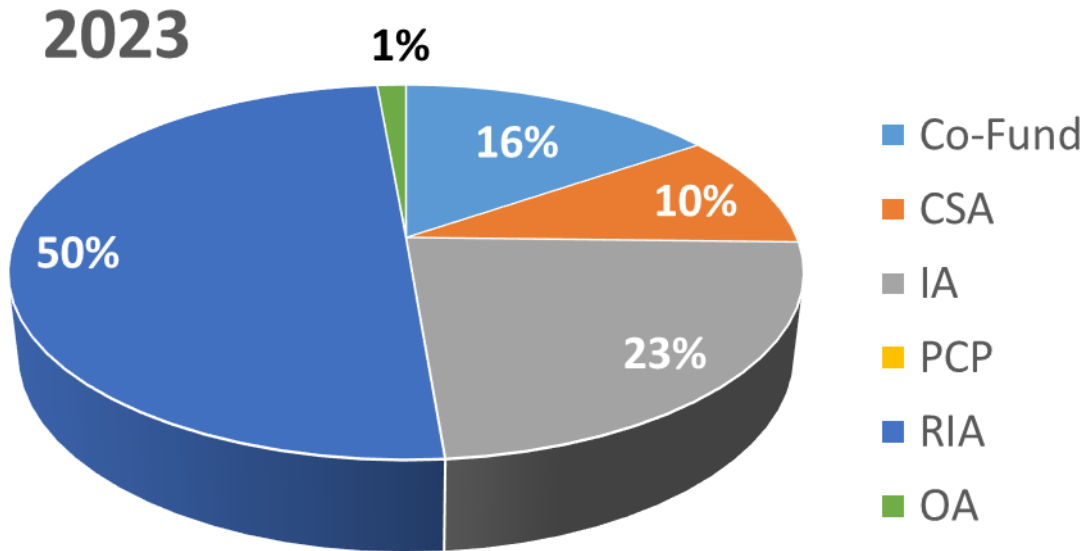
- Destinazione 1
- Destinazione 2
- Destinazione 3
- Destinazione 4
- Destinazione 5
- Destinazione 6
- Destinazione 7

€ Contributo Eu per destination





# Budget per Year and Type of Action



	2023		2024		Total
Co-Fund	€ 140,5	€ 220,5	€ 361,0		
CSA	€ 90,5	€ 53,0	€ 143,5		
IA	€ 212,0	€ 308,0	€ 520,0		
PCP		€ 19,0	€ 19,0		
RIA	€ 454,0	€ 294,0	€ 748,0		
OA	€ 12,7	€ 9,4	€ 22,1		
<b>Total</b>	<b>€ 909,7</b>	<b>€ 903,9</b>	<b>€ 1.813,6</b>		

Budgetary balance between the two years  
**RIAs** have the lion share in 2023  
**IAs** are the relative majority in 2024



## 2023-24 | Condizioni specifiche/criteri di eleggibilità aggiuntivi

MAA - Multi actor approach  
(37 topic)

Lump sum  
(25 Topic)

JRC  
(24 topic)

Eligibility for third country in CSA  
(3 Topic)

Two stages - blind evaluation  
(2 bandi)

Eligibility for International organisations with headquarters in a Member State or associated country (6 Topic)

FSTP  
(1 topic)



## 2023 | Condizioni specifiche/criteri di eleggibilità aggiuntivi

**MAA - Multi actor approach**  
**(37 topic)**

Lump sum  
(25 Topic)

**JRC**  
**(24 topic)**

Eligibility for third country in CSA  
(3 Topic)

**Two stages – blind evaluation**  
**(2 bandi)**

Eligibility for International organisations with headquarters in a Member State or associated country  
(6 Topic)

FSTP  
(1 topic)



## TWO stages – Blind evaluation

(2024, BIODIV, F2F, CIRCBIO, ZEROPOLLUTION, COMMUNITIES)



### Blind evaluation (in 1<sup>st</sup> stage)

- There is no evidence that the current proposal evaluation system is systematically biased.
- There are understandable concerns that evaluation experts may be swayed – perhaps unconsciously – in favour of proposals from well-known organisations in countries with better performing R&I systems.
- ‘Blind’ evaluation is a way to remove any real or perceived effect of such reputational bias.
- Experts evaluate without knowing the identity of participants.
- The work programme will include an additional admissibility criterion: applicants can not be disclosed in the narrative part of the proposal.



# JRC – Joint Research Center

**JRC Mission:** *As the science and knowledge service of the Commission our mission is to support EU policies with independent evidence throughout the whole policy cycle.*



**JRC**

**Policy neutral:** has no policy agenda of its own

More than **50** large scale research facilities  
More than **110** online databases  
**15** Knowledge & Competence Centres

About **2 800** staff, nearly **70 %** of whom are **scientific/technical staff**

**83 %** of core research staff with PhDs

Over **1 100** scientific publications per year

The infographic features a central 'JRC' logo with a circular graphic. Lines connect this logo to various statistics, each accompanied by an icon: a scale for 'Policy neutral', a magnifying glass over a database for '50 large scale research facilities', a stack of books for '110 online databases', a group of people for '15 Knowledge & Competence Centres', a group of people for '2 800 staff', a graduation cap for '83% of core research staff with PhDs', and an open book for '1 100 scientific publications per year'. The background includes yellow circles and a light blue gradient.



# JRC – Knowledge Centres





## JRC e Cluster 6

For topics in this cluster, **the consortia should consider their possible contribution to Joint Research Centre (JRC) relevant platforms for capitalising the knowledge developed in their projects, and to become more policy relevant, contributing in terms of data, indicators and knowledge.** With reference to, for instance:

1. **Life cycle assessment (LCA)** and its relevant application to value chain assessment, refer to the European Platform on **Life cycle assessment** (EPLCA, <https://eplca.jrc.ec.europa.eu/>) and make reference to the Environmental footprint method when applying LCA (<https://ec.europa.eu/environment/eussd/smgp/index.htm>)
2. **Raw materials**, refer to the Raw materials information system (RMIS, <https://rmis.jrc.ec.europa.eu/>)
3. **Soil** and soil related issues, refer to the European Soil Observatory (ESO, <https://ec.europa.eu/jrc/en/eu-soil-observatory>)
4. **Natural capital** accounting, refer to the INCA platform (<https://ec.europa.eu/eurostat/ecosystem-accounts>)
5. **Biodiversity**, refer to the EC Knowledge Centre for Biodiversity, ([https://knowledge4policy.ec.europa.eu/biodiversity\\_en](https://knowledge4policy.ec.europa.eu/biodiversity_en)).
6. **Food systems and food security**, refer to the EC Knowledge Centre for Global Food and Nutrition Security ([https://knowledge4policy.ec.europa.eu/global-food-nutrition-security\\_en](https://knowledge4policy.ec.europa.eu/global-food-nutrition-security_en)).
7. **Bioeconomy**, refer to the EC Knowledge Centre for Bioeconomy ([https://knowledge4policy.ec.europa.eu/bioeconomy\\_en](https://knowledge4policy.ec.europa.eu/bioeconomy_en)).
8. **EU and AU cooperation**, refer to the Africa Knowledge Platform (<https://africa-knowledge-platform.ec.europa.eu/>)
9. **Earth and environmental observations**, refer to the EC Knowledge Centre on Earth Observation ([https://knowledge4policy.ec.europa.eu/earthobservation\\_en](https://knowledge4policy.ec.europa.eu/earthobservation_en)).



## JRC in HE – *General Annex*

- Where provided for in the specific call conditions, applicants may include in their proposals the possible contribution of the JRC but the JRC will not participate in the preparation and submission of the proposal.
- Applicants will indicate the contribution that the JRC could bring to the project based on the scope of the topic text
- After the evaluation process, the JRC and the consortium selected for funding may come to an agreement on the specific terms of the participation of the JRC.
- If an agreement is found, the JRC would accede to the grant agreement as beneficiary requesting zero funding and would accede to the consortium as a member





## JRC in HE - *Involvement in actions*

### JRC as Beneficiary [menzione nel topic]

- Requesting no contribution
- Signing the CA

### JRC as a Non Beneficiary [NO menzione nel topic]

- light form of collaboration (e.g. agreement, membership in the scientific advisory board, etc.)

# DESTINATION 1 – BIODIVERSITY AND ECOSYSTEMS SERVICES

Topics thematically grouped under 6 headings



## Expected impacts

- Direct **drivers of biodiversity decline** will be **understood** and **addressed**
- **Protected areas** and their networks will be **planned, managed** and **expanded** and the **status of species** and **habitats** will be improved
- Biodiversity, ecosystem services and natural capital will be **mainstreamed** in the **society** and **economy**
- **Practices** in **agriculture, forestry, fisheries and aquaculture** will be **developed and improved**
- **Biodiversity research** and **support policies and processes** will be **interconnected**
- **Biodiversity and health nexus** will be understood (especially at the level of ecosystems)



<b><i>HORIZON-CL6-2024-BIODIV-01 Scadenza 22.2.2024</i></b>				
<u>HORIZON-CL6-2024-BIODIV-01-1: Invasive alien species</u>	IA	6	12	2
<u>HORIZON-CL6-2024-BIODIV-01-2: Digital for nature</u>	IA	8	16	2
<u>HORIZON-CL6-2024-BIODIV-01-3: Dependence of society and the economy on pollinators</u>	RIA	6,5	13	2
<u>HORIZON-CL6-2024-BIODIV-01-4: Biodiversity, economics and finance: Understanding macro-financial risks associated with biodiversity loss</u>	RIA	5	5	1
<u>HORIZON-CL6-2024-BIODIV-01-5: Transformative action of policy mixes, governance and digitalisation addressing biodiversity loss</u>	RIA	2	4	2
<u>HORIZON-CL6-2024-BIODIV-01-6: Promoting pollinator friendly farming systems</u>	RIA	6	6	1
<u>HORIZON-CL6-2024-BIODIV-01-7: Reintroduction of landscape features in intensive agricultural areas</u>	RIA	5	5	1
<u>HORIZON-CL6-2024-BIODIV-01-8: Conservation and protection of carbon-rich and biodiversity-rich forest ecosystems</u>	RIA	6	12	2
<u>HORIZON-CL6-2024-BIODIV-01-9: Selective breeding programme for organic aquaculture</u>	RIA	3	3	1
<b><i>HORIZON-CL6-2024-BIODIV-02 Scadenze 22.2.2024 (1step), 17.9.2024 (2step)</i></b>				
<u>HORIZON-CL6-2024-BIODIV-02-1-two-stage: Demonstrating Nature-based Solutions for the sustainable management of water resources in a changing climate, with special attention to reducing the impacts of extreme droughts</u>	IA	8	16	2
<u>HORIZON-CL6-2024-BIODIV-02-2-two-stage: Demonstrating the potential of Nature-based Solutions and the New European Bauhaus to contribute to sustainable, inclusive and resilient living spaces and communities</u>	IA	5	10	2
<u>HORIZON-CL6-2024-BIODIV-02-3-two-stage: Promoting minor crops in farming systems</u>	RIA	5	10	2

# DESTINATION 2 – FAIR, HEALTHY, AND ENVIRONMENT-FRIENDLY FOOD SYSTEMS FROM PRIMARY PRODUCTION TO CONSUMPTION

Topics thematically grouped under 4 headings



## Expected impacts

- **Sustainable, productive, climate-neutral and resilient farming systems** providing consumers with affordable, safe, traceable healthy and sustainable food, while minimising pressure on ecosystems, restoring and enhancing biodiversity, improving public health and generating fair economic returns for farmers;
- Sustainable **fisheries and aquaculture** increasing aquatic biomass production, diversification and consumption of seafood products for fair, healthy, climate-resilient and environment-friendly food systems with low impact on aquatic ecosystems and high animal welfare; and
- **Sustainable, healthy and inclusive food systems** delivering co-benefits for climate mitigation and adaptation, environmental sustainability and circularity, sustainable healthy nutrition, safe food consumption, food poverty reduction, the inclusion of marginalised people, the empowerment of communities, and flourishing businesses



***HORIZON-CL6-2024-FARM2FORK-01 Scadenza 22.2.2024***

<u>HORIZON-CL6-2024-FARM2FORK-01-1: Agro-pastoral/outdoor livestock systems and wildlife management</u>	RIA	5	5	1
<u>HORIZON-CL6-2024-FARM2FORK-01-2: New healthy and sustainable food products and processes</u>	RIA	5	10	2
<u>HORIZON-CL6-2024-FARM2FORK-01-3: Thematic network tackling food fraud by translating research and innovation into practice</u>	CSA	2	2	1
<u>HORIZON-CL6-2024-FARM2FORK-01-4: Climate change and food safety: effects of climate change on food safety across food systems</u>	RIA	4	8	2
<u>HORIZON-CL6-2024-FARM2FORK-01-5: Creating smart and attractive tools to enhance healthy and sustainable food provision, eating and treating of food at home</u>	IA	3	6	2
<u>HORIZON-CL6-2024-FARM2FORK-01-6: Citizens' science as an opportunity to foster the transition to sustainable food systems</u>	RIA	5	10	2
<u>HORIZON-CL6-2024-FARM2FORK-01-7: Impact of the development of novel foods based on alternative sources of proteins</u>	RIA	4,5	9	2
<u>HORIZON-CL6-2024-FARM2FORK-01-8: Preventing and reducing food waste to reduce environmental impacts and to help reach 2030 climate targets</u>	RIA	4,5	9	2
<u>HORIZON-CL6-2024-FARM2FORK-01-9: Microbiome for flavour and texture in the organoleptic dietary shift</u>	IA	4,5	9	2
<u>HORIZON-CL6-2024-FARM2FORK-01-10: EU-African Union cooperation on agroforestry management for climate change adaptation and mitigation</u>	RIA	6	18	3
<u>HORIZON-CL6-2024-FARM2FORK-01-11: EU-African Union – towards climate-neutral, social just fair trade food systems</u>	RIA	4,5	9	2



***HORIZON-CL6-2024-FARM2FORK-02 Scadenze 22.2.2024 (1step), 17.9.2024 (2step)***

<u>HORIZON-CL6-2024-FARM2FORK-02-1-two-stage: Increasing the availability and use of non-contentious inputs in organic farming</u>	IA	6	12	2
<u>HORIZON-CL6-2024-FARM2FORK-02-2-two-stage: Sustainable organic food innovation labs: reinforcing the entire value chain</u>	IA	5,5	11	2
<u>HORIZON-CL6-2024-FARM2FORK-02-3-two-stage: Tools to increase the effectiveness of EU import controls for plant health</u>	IA	4	8	2
<u>HORIZON-CL6-2024-FARM2FORK-02-4-two-stage: Tackling outbreaks of plant pests</u>	RIA	6,5	13	2
<u>HORIZON-CL6-2024-FARM2FORK-02-5-two-stage: Animal nutritional requirements and nutritional value of feed under different production management conditions</u>	RIA	7	7	1
<u>HORIZON-CL6-2024-FARM2FORK-02-6-two-stage: Minimising climate impact on fisheries: mitigation and adaptation solutions for future climate regimes</u>	IA	4,5	9	2
<u>HORIZON-CL6-2024-FARM2FORK-02-7-two-stage: Minimising climate impact on aquaculture: mitigation and adaptation solutions for future climate regimes</u>	IA	4,5	9	2



## FOCUS TOPIC

# HORIZON-CL6-2024-FARM2FORK-01-2: New healthy and sustainable food products and processes

<b>Specific conditions</b>	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 10.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Eligibility conditions</i>	<p>The conditions are described in General Annex B. The following exceptions apply:</p> <p>The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.</p> <p>The following additional eligibility criteria apply: the proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.</p>
<i>Technology Readiness Level</i>	Activities are expected to achieve TRL 4-5 by the end of the project – see General Annex B.





## FOCUS TOPIC

# HORIZON-CL6-2024-FARM2FORK-01-2: New healthy and sustainable food products and processes

**Expected Outcome:** In line with the European Green Deal priorities, the farm to fork strategy for a fair, healthy and environment-friendly food system, and the EU's climate ambition for 2030 and 2050, the successful proposal will support R&I to develop new food products and processes in conventional or organic production systems. These new products should be healthier and overall more sustainable and based on natural ingredients, tasty appealing to the consumer, affordable and minimally processed. They should also optimize nutritional, structural and functional food properties of raw materials to enhance health and well-being benefits for EU and Associated Countries citizens and have a low impact on the environment/climate. This will contribute to the transformation of food systems to deliver co-benefits for climate, biodiversity, environmental sustainability and circularity, the shift to healthy and sustainable diets, safe food, food poverty reduction and empowerment of communities, and thriving businesses.

Project results are expected to contribute to all of the following outcomes:

- New knowledge that the food industry can use in the design of new healthy and sustainable food products and processes to improve health and well-being of EU and Associated Countries citizens and with low impact on the environment/climate.
- Alignment in goals of consumers and food solution providers with more healthy, tasty, minimally processed, affordable and sustainable food.
- New market and job opportunities for sustainable food SMEs and industries.





## FOCUS TOPIC

# HORIZON-CL6-2024-FARM2FORK-01-2: New healthy and sustainable food products and processes

**Scope:** Several studies in adults found a strong scientific concordance between consumption of ultra-processed foods and a higher risk of developing cancer, irritable bowel syndrome, obesity, type 2 diabetes and hypertension. Evidence is accumulating from mechanistic studies of the plausible causal pathways by which the physical structure and chemical compositions of these foods might cause harm. Additives or cocktail of additives could play a role in the incidence of NCDs and further R&I are needed. *It is now widely accepted that a diet rich in plant-based food, such as fruits, vegetables, wholegrain cereals, legumes and nuts, may reduce the incidence of chronic diseases and is also beneficial against obesity and metabolic diseases.* **Further research is necessary to determine how the structural characteristics of plant-based foods deliver health benefits in modulating digestibility and in improving bioavailability of nutrients and how the physical structure may be modified by processing.** An increasing number of people pay attention to environmental, health, social and ethical issues and they seek value in food more than ever before. Therefore, a food systems' transformation is needed with a shift towards more healthy, safe, affordable, accessible and sustainable food for all, coupled with a respective change in the food production, distribution and consumption involving all the actors of the food chain. *A move to a plant-based diet with less red and processed meat, less salt, sugars, saturated and trans fats and additives, with more whole-grain cereals, fruit and vegetables, legumes and nuts, as well as processing efficiency and reduced losses and wastage along the food supply chains is needed.* Where relevant, activities should build on and **expand the results of past and ongoing research projects** and collaborate with relevant initiatives.



## FOCUS TOPIC

# HORIZON-CL6-2024-FARM2FORK-01-2: New healthy and sustainable food products and processes

Proposals are expected to address the following R&I activities:

- **Develop and optimise new efficient methods/processes to reduce costs** (e.g. energy, water, food raw materials) **and impact on the environment to produce** minimally processed functional food ingredients and food products and assess their nutritional, sensorial, structural and functional properties to enhance health and well-being, including the values provided by the plant/produce microbiome for nutritional qualities and its effects on the human gut microbiome.
- **Develop new healthy, sustainable, diversified, minimally processed, reformulated, tasty and affordable food products and assess their** nutritional, structural, sensorial and functional **properties** to enhance health and well-being and to improve nutrition status.
- **Demonstrate the safety of the developed food products** in accordance with relevant EU regulatory frameworks related to their placing on the market, and generate relevant data for pre-market authorisation,
- **Investigate, assess and develop improved predictive realistic models for quantifying effects on human health** (risks/benefits) of processing and food ingredients (and/or mixture of them).
- **Study and optimise the role of the food matrix structure to make specific ingredients available or not** (in case of caloric control) to our digestive system to reach the desired health effects/to combat non-communicable (NCDs).
- **Ensure societal acceptance and the consumer buy in of new food products** and processes in involving consumer at all stage of the product development process.
- Proposals must implement the '**multi-actor approach**' and ensure adequate involvement of academia, research-technology organizations, food businesses and other relevant actors of the value chain and **take into account sex and gender analysis**.
- Proposals could consider cooperation with of the European Commission's **Joint Research Centre (JRC) research infrastructures (Nanobiotechnology laboratory)** and its expertise at the interface between the research activities and regulatory aspects. In that respect, the JRC will consider collaborating with any successful proposal and this collaboration, when relevant, should be established after the proposal's approval.

# DESTINATION 3 – CIRCULAR ECONOMY AND BIOECONOMY SECTORS



Topics thematically grouped under 4 headings

## Expected impacts

- **Regional, rural, local/urban and consumer-based transitions towards a sustainable, regenerative, inclusive and just circular economy and bioeconomy** across all regions of Europe based on enhanced knowledge and understanding of science;
- European **industrial sustainability, competitiveness and resource independence** by lowering the use of primary non-renewable raw materials and reducing greenhouse gas emissions and other negative environmental footprint;
- **Innovative and sustainable bio-based value-chains**, replacing fossil-based value chains and increasing circular bio-based systems from sustainably sourced biological resources
- **Improved consumer and citizen benefits**;
- **Multi-functionality and management of forests** in Europe based on the three pillars of sustainability (economic, environmental and social);
- **Enlarged potential of marine and freshwater biological resources and blue biotechnology** to deliver greener (climate-neutral circular) industrial products and processes, and to help characterise, monitor and sustain the health of aquatic ecosystems for a healthy planet and people.



**HORIZON-CL6-2024-CircBio-01 Scadenza 22.2.2024**

<a href="#">HORIZON-CL6-2024-CircBio-01-1: Circular Cities and Regions Initiative’s project development assistance (CCRI-PDA)</a>	CSA	2	6	3
<a href="#">HORIZON-CL6-2024-CircBio-01-2: Circular solutions for textile value chains based on extended producer responsibility</a>	IA	7	14	2
<a href="#">HORIZON-CL6-2024-CircBio-01-3: Innovative circular solutions for furniture</a>	IA	5	10	2
<a href="#">HORIZON-CL6-2024-CircBio-01-4: Systemic circular solutions for a sustainable tourism</a>	IA	5	10	2
<a href="#">HORIZON-CL6-2024-CircBio-01-5: Programmed biodegradation capability of bio-based materials and products, validated inspecific environments</a>	RIA	4	8	2
<a href="#">HORIZON-CL6-2024-CircBio-01-6: Digital information systems for bio-based products</a>	RIA	3	6	2
<a href="#">HORIZON-CL6-2024-CircBio-01-7: Demonstrating the fair and just transition from GHG-intensive economies facing challenges towards circular bioeconomy model regions</a>	IA	6	6	1
<a href="#">HORIZON-CL6-2024-CircBio-01-8: Bioeconomy project development assistance</a>	CSA	3	3	1
<a href="#">HORIZON-CL6-2024-CircBio-01-9: Circular bioeconomy start-up villages</a>	CSA	0,8	2,5	3
<a href="#">HORIZON-CL6-2024-CircBio-01-10: Targeting aquatic extremophiles for sourcing novel enzymes, drugs, metabolites and chemicals</a>	RIA	0,9	4,5	2



***HORIZON-CL6-2024-CircBio-02 Scadenze 22.2.2024 (1step), 17.9.2024 (2step)***

<u><a href="#">HORIZON-CL6-2024-CircBio-02-1-two-stage: Circular solutions for textile value chains through innovative sorting, recycling, and design for recycling</a></u>	RIA	5	15	3
<u><a href="#">HORIZON-CL6-2024-CircBio-02-2-two-stage: Increasing the circularity in plastics value chains</a></u>	IA	5	10	2
<u><a href="#">HORIZON-CL6-2024-CircBio-02-3-two-stage: Increasing the circularity in electronics value chains</a></u>	IA	5	10	2
<u><a href="#">HORIZON-CL6-2024-CircBio-02-4-two-stage: New circular solutions and decentralised approaches for water and wastewater management</a></u>	IA	5	15	3
<u><a href="#">HORIZON-CL6-2024-CircBio-02-5-two-stage: Circular design of bio-based processes and products</a></u>	RIA	4	8	2
<u><a href="#">HORIZON-CL6-2024-CircBio-02-6-two-stage: From silos to diversity – small-scale bio-based demonstration pilots</a></u>	IA	5	15	3

# DESTINATION 4 – CLEAN ENVIRONMENT AND ZERO POLLUTION

Topics thematically grouped under 5 headings



## Expected impacts

- Move towards achieving clean, unpolluted surface water and groundwater bodies by advancing the understanding of diffuse and point sources of **water pollution in a global and climate change context**, enabling novel solutions to avoid degradation and restore water bodies, aquatic ecosystems and soil functionality, and further improve the quality and management of water for safe human and ecological use, while strengthening EU & Associated Countries' positions and roles in the global water scene.
- Balanced **N/P flows** within safe ecological boundaries at regional and local level, helping ecosystems.
- Move towards **clean, unpolluted oceans and seas**, including in the Arctic, by means of successful scientific, technological, behavioural, social-economic, demographic, governance and green-blue transitions.
- **Strengthen circular bio-based systems** to operate within planetary boundaries, replacing fossil-based systems and their carbon footprint, mitigating climate change, restoring biodiversity and protecting air, water and soil quality along supply chain of biological feedstocks and industrial value chains
- **Substitute harmful chemicals** for safer and more sustainable alternatives, notably by boosting innovative biotechnology and other sustainable technologies to create zero-pollution bio-based solutions.
- **Reduce the environmental impact of food systems**, e.g., by increasing knowledge of environmental and climate impacts from food systems and reducing pollution from plastic food packaging.



<b><i>HORIZON-CL6-2024-ZEROPOLLUTION-01 Scadenze 22.2.2024</i></b>				
<u>HORIZON-CL6-2024-ZEROPOLLUTION-01-1: Demonstrating how regions can operate within safe ecological and regional nitrogen and phosphorus boundaries</u>	IA	9	27	3
<u>HORIZON-CL6-2024-ZEROPOLLUTION-01-2: Best available techniques to recover or recycle fertilising products from secondary raw materials</u>	CSA	2	4	2
<u>HORIZON-CL6-2024-ZEROPOLLUTION-01-3: Environmental impacts of food systems</u>	RIA	7	7	1
<b><i>HORIZON-CL6-2024-ZEROPOLLUTION-02 Scadenze 22.2.2024 (1step), 17.9.2024 (2step)</i></b>				
<u>HORIZON-CL6-2024-ZEROPOLLUTION-02-1-two-stage: Holistic approaches for effective monitoring of water quality in urban areas</u>	IA	5	15	3
<u>HORIZON-CL6-2024-ZEROPOLLUTION-02-2-two-stage: Innovative technologies for zero pollution, zero-waste biorefineries</u>	RIA	4	8	2



## FOCUS TOPIC

# HORIZON-CL6-2024-ZEROPOLLUTION-01-3: Environmental impacts of food systems

<b>Specific conditions</b>	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of around EUR 7.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 7.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Eligibility conditions</i>	The conditions are described in General Annex B. The following exceptions apply:  The following additional eligibility criteria apply: the proposals must use the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.







## FOCUS TOPIC

# HORIZON-CL6-2024-ZEROPOLLUTION-01-3: Environmental impacts of food systems

**Expected Outcome:** The food sector contributes to food security but is also responsible for air, water and soil pollution. It can contribute to biodiversity loss, soil erosion and climate change, and it consumes excessive amounts of natural resources, including water and energy, while a significant amount of food is wasted. In supporting the implementation of **the European Green Deal, the EU zero pollution action plan, the farm to fork strategy, the European climate pact, the common agricultural policy and the common fisheries policy and the Food 2030 initiative**, the successful proposal should address all of the following outcomes:

- ☐ Increased overall knowledge of the environmental and climate impacts stemming from the food systems, including potential trade-offs/synergies with other sustainability aspects (environmental, social, economic).
- ☐ Robust evidence-based understanding of the impacts of food systems related to direct and indirect soil, water and air pollution that drive biodiversity losses, soil erosion, climate change and can negatively affect human health.
- ☐ Improved capacity to reduce the environmental and climate impacts of food systems, particularly in relation to pollution.
- ☐ Support to actors across the food systems through new available knowledge, shared existing data on environmental and climate impacts of food systems and identification of innovative solutions.



## FOCUS TOPIC

# HORIZON-CL6-2024-ZEROPOLLUTION-01-3: Environmental impacts of food systems

**Scope:** There is an increasing understanding of the impacts related to the green-house gas (GHG) emissions stemming from food systems. Around one third of human-caused GHG emissions worldwide originate from food systems. A similar share of emissions is also recorded in Europe. Although the largest share of the GHG emissions and other relevant environmental impacts can be attributed to the primary food production (or harvesting in the case of fisheries), a significant amount of food-related environmental impacts is also generated in post-production and post-harvest processes along food supply chains. However, when considering wider environmental and climate impacts of food systems, more information is needed to understand these impacts, particularly when it comes to pollution stemming from food processing, manufacturing, packaging, distribution, trade, consumption (including emerging food consumption trends, such as products of alternative diets), food waste and end of life practices.

The relevant data covering these latter industries or practices are often less available and/ or accessible compared to the agricultural data, for example through the CAP indicators. At the same time, knowledge gaps also exist when it comes to environmental impacts of primary food production and harvesting. Therefore, **the successful proposal should fill the relevant knowledge and data gaps. It should explain how it will deliver co-benefits to some of the Food 2030 priorities:** climate, biodiversity and environment, circularity and efficiency, innovation and empowering communities. The data should be aligned with, and support the relevant objectives of the upcoming Sustainable food system framework initiative.



## FOCUS TOPIC

# HORIZON-CL6-2024-ZEROPOLLUTION-01-3: Environmental impacts of food systems

Proposals are expected to:

- **Collect relevant qualitative and quantitative data** on environmental and climate impacts related to water, air and soil pollution stemming from the food systems, biodiversity losses, climate change and negative impacts on human health, as well as data on freshwater consumption, soil erosion, resource and energy efficiency of food production and supply practices.
- **Increase the accessibility of relevant high quality life cycle inventory data** according to FAIR principles and the EU's open science policy by setting up actions to develop, review and make available existing databases.
- **Provide new data based on requirements for Environmental Footprint compliant datasets** and in line with the 2021 Recommendation on the use of the Environmental Footprint methods.
- **Assess the environmental impacts of food systems** from a life-cycle perspective, using the Environmental Footprint methods.
- **Identify and map opportunities and innovative solutions**, including existing good practices **that address the identified impacts and promote the uptake of sustainable food production (including harvesting) and/ or food supply practices**, including consumption practices, with minimum impact.
- Identify and map opportunities and innovative solutions, including existing good practices, **that maximise synergies among the three dimensions of sustainability (i.e. environmental – including climate and biodiversity, economic, social - including health), different sectors, as well as actors across the food systems (from production/ harvesting to consumption)**, minimising trade-offs and reducing pollution as well as other environmental and climate impacts in food systems as a whole.
- Implement the **multi-actor approach** by involving a wide range of food system actors and conducting inter-disciplinary research.
- In order to achieve the expected outcomes, **international cooperation is encouraged**.
- Where relevant, **build on and expand the results of past and ongoing research projects and collaborate with relevant initiatives**. This topic has strong links with destinations “biodiversity and ecosystem services”, “fair, healthy and environment-friendly food systems from primary production to consumption” and “circular economy and bioeconomy sectors”.

# DESTINATION 5 – LAND, OCEAN AND WATER FOR CLIMATE ACTION

No headings under this Destination



## Expected impacts

- Better understanding and enhancing the **mitigation potential of ecosystems and sectors** based on the sustainable management of natural resources;
- Advanced understanding and science to support **adaptation and resilience** of natural and managed ecosystems, water and soil systems and economic sectors in the context of the changing climate;
- Efficient monitoring, assessment and projections related to climate change impacts, **mitigation and adaptation potential** in order to bring out solutions for **tackling emerging threats** and support decision-making in climate change mitigation and adaptation policies at European and global levels;
- Fostered **climate change mitigation in the primary sector**, including by the **reduction of GHG emissions**, maintenance of **natural carbon sinks** and enhancement of sequestration and storage of carbon in ecosystems;
- Improved **adaptive capacity of water and soil systems** and sectors including by unlocking the potential of **nature-based solutions**;
- Better managed scarce resources, in particular soils and water, thus **mitigating climate related risks, in particular desertification and erosion**, thanks to informed decision-makers and stakeholders and integration of adaptation measures in relevant EU policies.



***HORIZON-CL6-2024-CLIMATE-01 Scadenze 22.2.2024 (1step), 17.9.2024 (2step)***

<a href="#"><u>HORIZON-CL6-2024-CLIMATE-01-1: Improving irrigation practices and technologies in agriculture</u></a>	IA	5	10	2
<a href="#"><u>HORIZON-CL6-2024-CLIMATE-01-2: Socio-economic, climate and environmental aspects of paludiculture</u></a>	RIA	5	5	1
<a href="#"><u>HORIZON-CL6-2024-CLIMATE-01-3: Paludiculture: large-scale demonstrations</u></a>	IA	10	20	2
<a href="#"><u>HORIZON-CL6-2024-CLIMATE-01-4: Land use change and local / regional climate</u></a>	RIA	6	12	2
<a href="#"><u>HORIZON-CL6-2024-CLIMATE-01-5: Climate-smart use of wood in the construction sector to support the New European Bauhaus</u></a>	RIA	7	14	2
<a href="#"><u>HORIZON-CL6-2024-CLIMATE-01-6: Ocean models for seasonal to decadal regional climate impacts and feedbacks</u></a>	RIA	4,5	9	2
<a href="#"><u>HORIZON-CL6-2024-CLIMATE-01-7: EU-China international cooperation on improving monitoring for better integrated climate and biodiversity approaches, using environmental and Earth observation</u></a>	RIA	5	5	1

# DESTINATION 6 – RESILIENT, INCLUSIVE, HEALTHY AND GREEN RURAL, COASTAL AND URBAN COMMUNITIES

No headings under this Destination



## Expected impacts

- **Rural, coastal and urban areas** are developed in a **sustainable, balanced, equitable and inclusive manner**.
- **Rural, coastal and urban communities** are empowered to **act for change**, be better prepared to achieve climate-neutrality and adapt to climate change, and use the digital and green transitions to increase resilience and provide positive long-term prospects.
- **Rural communities** are equipped with upgraded **innovation ecosystems and innovative and smarter circular solutions** that increase access to services and job opportunities, increase their attractiveness and reduce the feeling of being left behind.
- **Sustainable development of coastal areas**, including coastal protection and resilience, is enhanced, reaping the benefits of **social, digital and community-led innovations**.
- **Urban and peri-urban communities** – including people in vulnerable situations – can access, afford and choose healthy, nutritious and **environmental-friendly food**.



**HORIZON-CL6-2024-COMMUNITIES-01 *Scadenze 22.2.2024***

<a href="#">HORIZON-CL6-2024-COMMUNITIES-01-1: Unlock the potential of the New European Bauhaus in urban food system transformation</a>	IA	3	6	2
<a href="#">HORIZON-CL6-2024-COMMUNITIES-01-2: Societal perceptions and benefits of rural life and jobs: will COVID 19 generate a long-lasting shift?</a>	RIA	6	6	1
<a href="#">HORIZON-CL6-2024-COMMUNITIES-01-3: Participation and empowerment of Arctic coastal, local, and indigenous communities in environmental decision-making</a>	RIA	3	3	1

**HORIZON-CL6-2024-COMMUNITIES-02 *Scadenze 22.2.2024 (1step), 17.9.2024 (2step)***

<a href="#">HORIZON-CL6-2024-COMMUNITIES-02-1-two-stage: Innovating for climate-neutral rural communities by 2050</a>	IA	5	10	2
<a href="#">HORIZON-CL6-2024-COMMUNITIES-02-2-two-stage: New sustainable business and production models for farmers and rural communities</a>	RIA	6	12	2

# DESTINATION 7 – INNOVATIVE GOVERNANCE, ENVIRONMENTAL OBSERVATIONS AND DIGITAL SOLUTIONS IN SUPPORT OF THE GREEN DEAL

Topics thematically grouped under 4 headings



## Expected impacts

- Innovative governance models enabling sustainability and resilience notably to achieve **better informed decision-making processes, societal engagement and innovation**
- Areas related to the European Green Deal benefit from further **deployment and exploitation of Environmental Observation** data, products and “green” solutions
- A **strengthened Global Earth Observation System of Systems (GEOSS)**
- **Sustainability performance and competitiveness** in the areas covered by Cluster 6 are improved through further deployment of digital and data technologies as key enablers
- Stakeholders and end users including primary producers and consumers are better informed and engaged thanks to effective platforms such as **Agriculture Knowledge and Innovation Systems (AKIS)**;
- Strengthened EU and international science-policy interfaces to achieve the **Sustainable Development Goals**



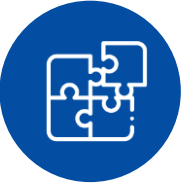


**HORIZON-CL6-2024-GOVERNANCE-01 Scadenze 22.2.2024 (1step), 17.9.2024 (2step)**

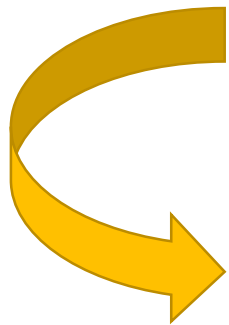
HORIZON-CL6-2024-GOVERNANCE-01-1: Additional activities for the European Partnership for a climate neutral, sustainable and productive Blue Economy	COFUND	60	60	1
HORIZON-CL6-2024-GOVERNANCE-01-2: Regional ecosystems of innovation to foster food system transformation	CSA	3,5	3,5	1
HORIZON-CL6-2024-GOVERNANCE-01-3: The role of mainstream media, social media and marketing in fostering healthy and sustainable consumption patterns and how to encourage good practices	CSA	3	3	1
HORIZON-CL6-2024-GOVERNANCE-01-4: Supporting the All-Atlantic Ocean Research and Innovation Alliance and Declaration	CSA	4	4	1
HORIZON-CL6-2024-GOVERNANCE-01-5: Customisation/pre-operationalisation of prototypes end-user services in the area Climate Change Adaptation and Mitigation	PCP	19	19	1
HORIZON-CL6-2024-GOVERNANCE-01-6: Develop innovative applications to support the European Green Deal, building on meteorological satellite data	RIA	4	8	2
HORIZON-CL6-2024-GOVERNANCE-01-7: Enhancing working conditions and strengthening the work force through digital and data technologies – the potential of robotics and augmented reality in agriculture	RIA	5	15	3
HORIZON-CL6-2024-GOVERNANCE-01-8: Broaden EIP Operational Group outcomes across borders by means of thematic networks to compile and share knowledge ready for practice	CSA	2	4	2
HORIZON-CL6-2024-GOVERNANCE-01-9: Thematic networks to compile and share knowledge ready for practice	CSA	3	6	2
HORIZON-CL6-2024-GOVERNANCE-01-10: Organic farming thematic networks to compile and share knowledge ready for practice	CSA	4	4	1
HORIZON-CL6-2024-GOVERNANCE-01-11: Biodiversity thematic networks to compile and share knowledge ready for practice	CSA	3	3	1
HORIZON-CL6-2024-GOVERNANCE-01-12: Developing EU advisory networks on forestry	CSA	4	4	1
HORIZON-CL6-2024-GOVERNANCE-01-13: Developing EU advisory networks on sustainable livestock systems	CSA	4	4	1



# Fostering synergies in Cluster 6



- Approach of the Commission: ‘synergies by design’
- In CL6 we pursue it in all phases of WP co-creation
- Annex IV Horizon Europe Regulation:
  - Requires seeking synergies with other EU programmes & funding instruments (e.g., LIFE, CAP, ERDF, EMFAF, Erasmus+, ESF, Innovation Fund, Just Transition Fund, Digital Europe etc.)



Factsheet on ‘Boosting innovation through synergies with Horizon Europe’

<http://bitly.ws/x3Sf>





APRE

Agenzia per la Promozione  
della Ricerca Europea

# Cluster 6 EUROPEAN PARTNERSHIPS



## COSA SONO?

I partenariati europei sono iniziative in cui l'Unione europea, le autorità nazionali e/o il settore privato si impegnano congiuntamente a sostenere lo sviluppo e l'attuazione di un programma di attività di ricerca e innovazione. I partner possono rappresentare l'industria, le università, le organizzazioni di ricerca, gli organismi con una missione di servizio pubblico a livello locale, regionale, nazionale o internazionale o le organizzazioni della società civile, comprese le fondazioni e le ONG.

**UN PROGRAMMA  
NEL PROGRAMMA HE**

INFOGRAFICA

FACTSHEET

SITO

*\* alcune figure sono prese dal rapporto:  
Performance of European Partnerships. Biennial  
Monitoring Report 2022 On Partnerships In Horizon  
Europe <https://ec.europa.eu/assets/rtd/bmr/2022/>*



# CL6 - European Partnerships

## HORIZON EUROPE PILLAR II - Global challenges & European industrial competitiveness

CLUSTER 1: Health	CLUSTER 4: Digital, Industry & Space	CLUSTER 5: Climate, Energy & Mobility	CLUSTER 6: Food, Bioeconomy, Agriculture, ...
Innovative Health Initiative	Key Digital Technologies	Clean Hydrogen	Circular Bio-based Europe
Global Health Partnership	Smart Networks & Services	Clean Aviation	Rescuing Biodiversity to Safeguard Life on Earth
Transformation of health systems	High Performance Computing	Single European Sky ATM Research 3	Climate Neutral, Sustainable & Productive Blue Economy
Chemicals risk assessment	European Metrology (Art. 185)	Europe's Rail	Water4All
ERA for Health	AI-Data-Robotics	Connected and Automated Mobility (CCAM)	Animal Health & Welfare*
Rare diseases*	Photonics	Batteries	Accelerating Farming Systems Transitions*
One-Health Anti Microbial Resistance*	Made in Europe	Zero-emission waterborne transport	Agriculture of Data*
Personalised Medicine*	Clean steel – low-carbon steelmaking	Zero-emission road transport	Safe & Sustainable Food System*
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 (KNOWLEDGE & INNOVATION COMMUNITIES)	SUPPORT TO INNOVATION ECOSYSTEMS
InnoEnergy	Innovative SMEs
Climate	
Digital	
Food	
Raw Materials	
Manufacturing	
Urban Mobility	
Cultural and Creative Industries	



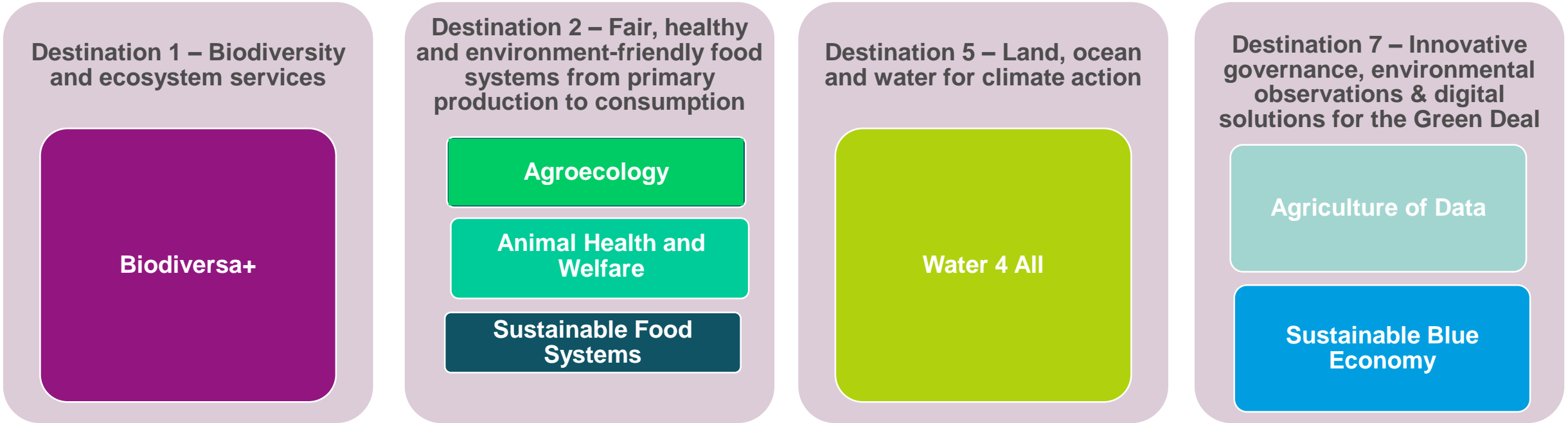
**23% del budget del cluster 6 è dedicato alle EP (2.046 mln €)**

## CROSS-PILLARS II & III

European Open Science Cloud



# Co-funded partnerships in Cluster 6



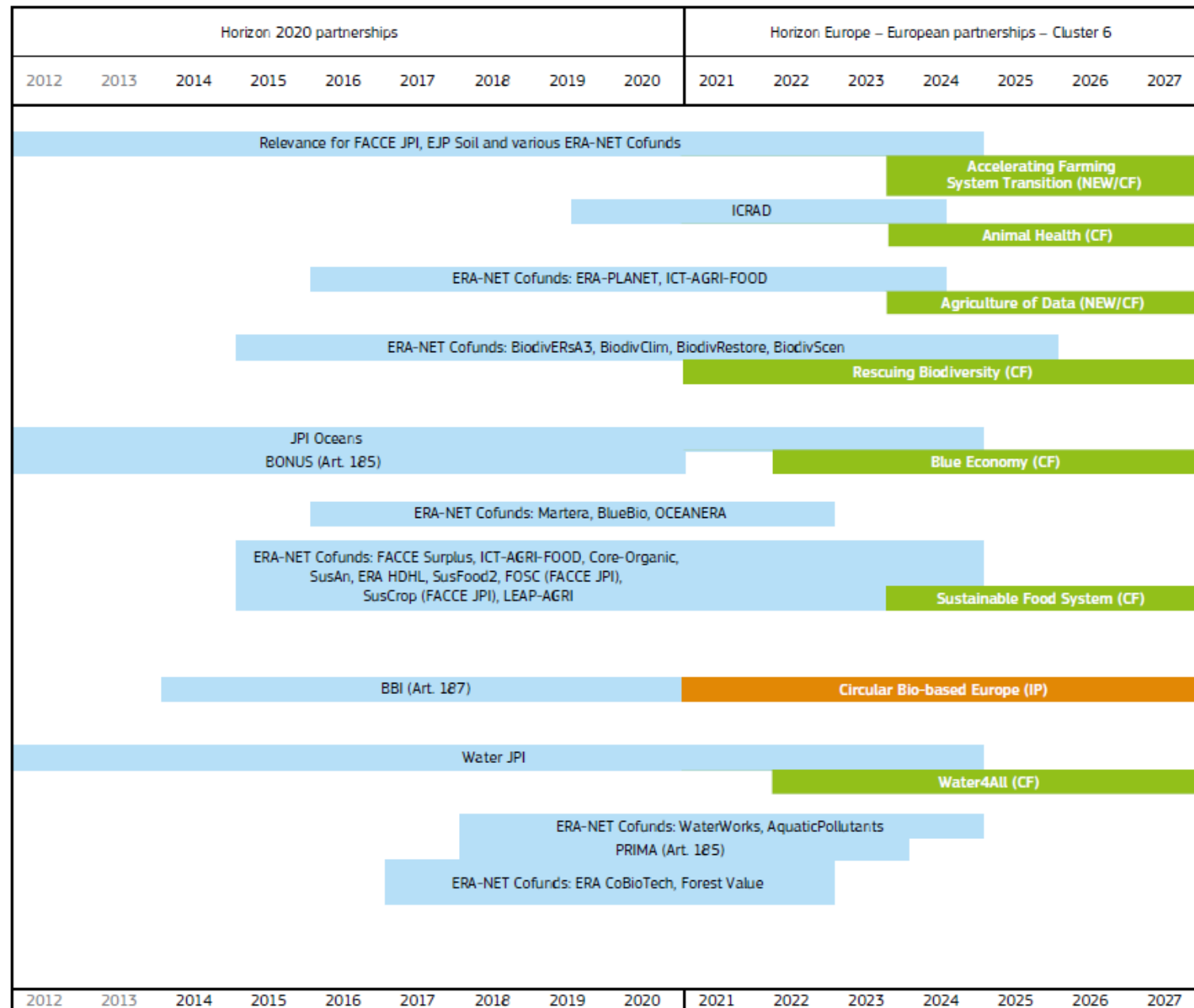
**Biodiversa+, Water4All, SBEP** → launched in WP 2021-2022

**Agroecology, PAHW, Sustainable Food Systems & Agri of Data**

**To start with  
WP 2023-  
2024**

## L'evoluzione delle Partnership del CL6: da H2020 a HE

*In blu i precedenti ERANET e JPI presenti nella passata programmazione, alcuni ancora attivi*





## Rescuing biodiversity to safeguard life on Earth (Biodiversa+)

- Arrestare la perdita di biodiversità, mantenere e ripristinare il capitale naturale è essenziale per la transizione verso la sostenibilità, la neutralità climatica e per il rispetto dei limiti planetari. La partnership mira a implementare soluzioni per fermare l'estinzione di massa causata dall'attività umana aumentando, allineando e integrando gli sforzi e gli investimenti europei di ricerca e innovazione, guidando le azioni per proteggere, ripristinare e gestire in modo sostenibile gli ecosistemi e il capitale naturale.
- Il primo bando, pubblicato a ottobre 2021, è stato completato, 18 progetti a partecipazione italiana finanziati.
- il secondo bando è stato pubblicato settembre 2022 e a breve si chiuderà anche la seconda fase. Il terzo bando è previsto a settembre 2023.
- Budget EC: 165 M€
- Budget Membri: 382 M€ (finanziamento 30%)
- Budget Italia: MUR 17 M€
- Leader: Francia





## A climate neutral, sustainable and productive Blue Economy (SBEP)

- Catalizzare la trasformazione dell'economia blu europea verso lo status di neutralità climatica entro il 2050. Allineando le priorità di ricerca e innovazione nazionali, regionali e dell'UE e riunendo scienza, industria, governance e società, dovrebbe fornire conoscenze e soluzioni per rendere sostenibile l'economia blu. Rispondendo agli obiettivi politici nazionali e dell'UE (ad es. Green Deal europeo, direttiva quadro sulla strategia per l'ambiente marino), il partenariato dovrebbe mirare a realizzare un oceano sano, un'economia blu sostenibile e produttiva e il benessere dei cittadini.
- Il primo bando è stato pubblicato il 13 febbraio e **si chiude il 14 aprile 2023 alle 15.00**
- Budget Italia primo bando: MUR 5 M€ - MIMIT 10 M€
- Budget complessivo EC: 150 M€
- Budget complessivo Membri: 343 M€ (finanziamento 30%)
- Budget complessivo Italia: MUR almeno 20 M€ - MIMIT 16 M€
- Leader: Italia (MUR)



# Water4All

- La partnership mira a garantire tutte le richieste di acqua in termini di qualità e quantità e che sia i sistemi economici e naturali sia le persone siano protetti dai rischi legati all'acqua. Ciò è essenziale per sostenere la transizione verso un pianeta sano e per garantire un'Unione dell'energia resiliente, una politica dell'UE climaticamente neutra e il rispetto dei limitazioni planetarie.
- Il primo bando è stato pubblicato a settembre 2022. Attualmente è in corso la seconda fase
- Budget EC: 126 M€
- Budget Membri: 264 M€ (finanziamento 30%)
- Budget Italia: MUR 17 M€; MIMIT 6 M€
- Leader: Francia. Il MUR gestisce il call secretariat per il primo bando



## Accelerating farming systems transition

- La partnership mira ad accelerare la transizione verso pratiche agricole sostenibili (da un punto di vista economico, ambientale e sociale), rispettose del clima e degli ecosistemi.
- Questa partnership persegue la visione comune di unire le forze e sbloccare la transizione all'agroecologia in modo che i sistemi agricoli siano resilienti, prosperi, sensibili ai luoghi, rispettosi del clima, della biodiversità e delle persone entro il 2050.
- Consentirà una migliore comprensione dei processi agroecologici a breve e lungo termine, dall'azienda agricola al livello paesaggistico;
- La proposta dovrebbe essere presentata entro 12 aprile 2023
- Il primo bando è previsto per gli inizi del 2024
- Budget complessivo EC: 150 M€ (cofinanziamento 50%)
- Budget complessivo SM: 150 M€
- Prevederà sia bandi interni che esterni



# Animal Health and Welfare

- La Partnership Animal Health & Welfare (PAHW) genererà conoscenze chiave e ne favorirà l'adozione, genererà metodologie, strumenti e prodotti innovativi che aiutano a ridurre l'impatto socioeconomico e ambientale delle malattie infettive degli animali e a rafforzare il benessere degli animali da produzione.
- PAHW rafforzerà anche la preparazione contro le minacce imminenti e riemergenti (comprese quelle originate da microrganismi resistenti) e sosterrà interventi basati su prove e la definizione di politiche in entrambi i settori della salute e del benessere degli animali.
- La proposta dovrebbe essere presentata entro il 12 aprile 2023
- Il primo bando è previsto per gli inizi del 2024
- Budget complessivo EC: 180 M€ (cofinanziamento 50%)
- Budget complessivo SM: 180 M€
- Prevederà sia bandi interni che esterni



## Agriculture of data

- La partnership Agriculture of Data mira a sostenere un'agricoltura sostenibile in Europa, nonché a rafforzare le capacità di monitoraggio e valutazione delle politiche, utilizzando il potenziale che possono fornire le tecnologie digitali e dei dati in combinazione con l'osservazione della Terra (EO tramite il sistema Copernicus) e altri dati agricoli e ambientali. Per raggiungere questi obiettivi essa mira a:
- Migliorare gli strumenti di monitoraggio agroambientale e rafforzare le capacità di valutare lo stato delle condizioni agroambientali e climatiche, in particolare migliorando l'integrazione dei set di dati forniti da varie piattaforme/reti;
- Promuovere l'adozione delle tecnologie digitali e dei dati in agricoltura, fornendo soluzioni basate su dati orientate all'utente finale su misura e facilmente accessibili, basate su EO e altri dati ambientali;
- La proposta è stata presentata il 23 marzo 2023
- Il primo bando è previsto per gli inizi del 2024
- Budget EC: circa 100 M€
- Budget Membri: almeno 233 M€

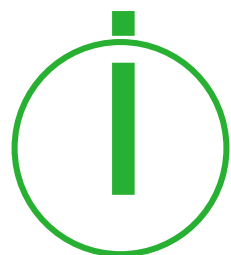


# Sustainable food systems

- La partnership Sustainable food systems (SFS) for people, planet and climate mira a fornire e promuovere alimenti sicuri, nutrienti e sani a basso impatto ambientale per tutti i cittadini attuali e futuri;
- I Sistemi alimentari sostenibili proteggono e ripristinano l'ambiente naturale e i suoi servizi ecosistemici, sono robusti e resilienti, economicamente dinamici, giusti ed equi, socialmente accettabili e inclusivi. Tutto ciò senza compromettere la disponibilità e l'accessibilità di alimenti nutrienti, sicuri, gustosi, culturalmente diversificati e sani per le persone che vivono all'interno e all'esterno dell'UE, né compromettere il loro ambiente naturale;
- La proposta dovrebbe essere presentata entro il 12 aprile 2023
- Il primo bando è previsto per gli inizi del 2024
- Budget complessivo EC: 170 M€ (cofinanziamento 30%)
- Budget complessivo SM: 409 M€



# CHIEDI SUPPORTO AI TEAM TEMATICI IN APRE



[www.horizon-europe.it](http://www.horizon-europe.it)



**GRAZIE PER L'ATTENZIONE!**

**Serena Borgna**  
**[cluster6@apre.it](mailto:cluster6@apre.it)**

TEAM: Miriam de Angelis, Monique  
Longo, Lorenza Lirosi, Flavia La Colla



## HORIZON EUROPE

Le missioni di Horizon Europe collegate al Cluster 6  
“Restore our Ocean and Waters” e “A Soil Deal for Europe: le  
missioni di Horizon Europe e i bandi 2023

Serena Borgna, APRE

[borgna@apre.it](mailto:borgna@apre.it)

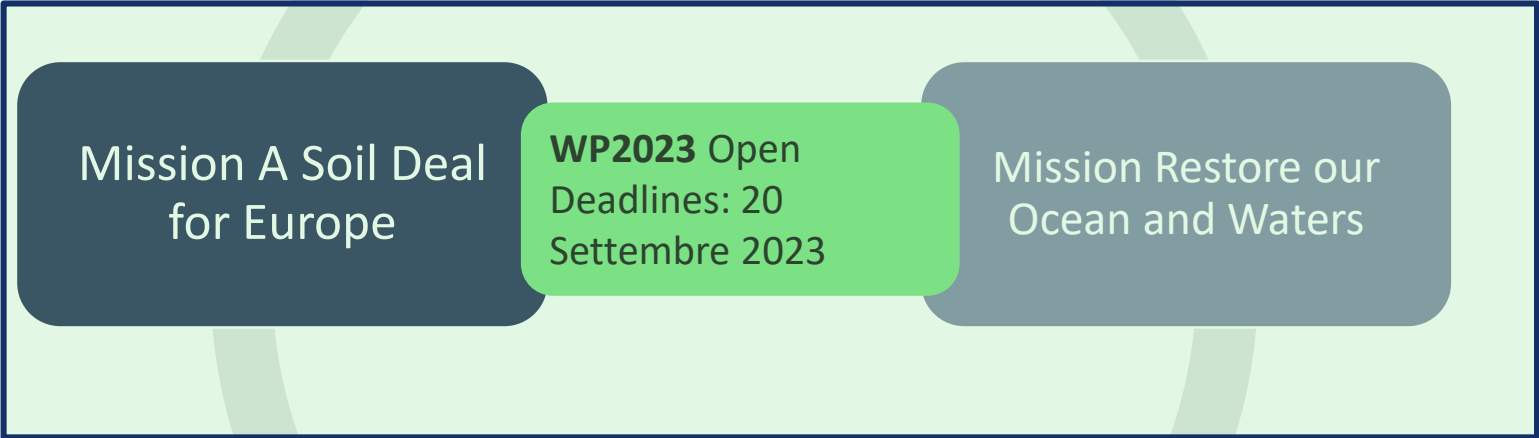
*17 maggio 2023*





Cluster 6 -Food, Bioeconomy, Natural Resources, Agriculture and Environment

**WP2024**  
Deadlines: Febbraio 2024



PRIMA  
Partnership for Research and Innovation in the Mediterranean Area

European Partnerships

**CBE JU WP2023 Open**  
Deadlines: Settembre 2023



# Le missioni sono state lanciate a fine settembre 2021



European Commission - Press release



## Commission launches EU missions to tackle major challenges

Brussels, 29 September 2021

The Commission launched today five new [EU missions](#), a new and innovative way to work together and improve the lives of people in Europe and beyond. EU missions aim to tackle big challenges in health, climate and the environment, and to achieve ambitious and inspiring goals in these areas.

A novelty of [Horizon Europe](#) and also an original concept in EU policy, bringing together several Commission services under the authority of nine College members, missions will support research to deliver on the Commission's main priorities and find responses to some of the greatest challenges we are facing today: fighting cancer, adapting to climate change, protecting the ocean, seas and waters, living in greener cities and ensuring healthy soil and food. They are a new tool that includes a set of actions, such as research and innovation projects, policy measures and legislative initiatives, to achieve concrete goals with large societal impact and within a specified timeline. Five missions will aim to deliver solutions to key global challenges by 2030:

1. **Adaptation to Climate Change:** support at least 150 European regions and communities to become climate resilient by 2030;
2. **Cancer:** working with Europe's Beating Cancer Plan to improve the lives of more than 3 million people by 2030 through prevention, cure and solutions to live longer and better;
3. Restore our **Ocean and Waters** by 2030;
4. 100 **Climate-Neutral and Smart Cities** by 2030;
5. **A Soil Deal for Europe:** 100 living labs and lighthouses to lead the transition towards healthy soils by 2030.





## Il modello

📌 *We choose **to go to the Moon**. We choose to go to the Moon...We choose to go to the Moon **in this decade** and do the other things, not because they are easy, but because they are hard; because that goal will serve to **organize and measure the best of our energies and skills**, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one **we intend to win**, and the others, too.*



JFK, Address at Rice University on the Nation's Space Effort, 12/9/1962



# La base teorica



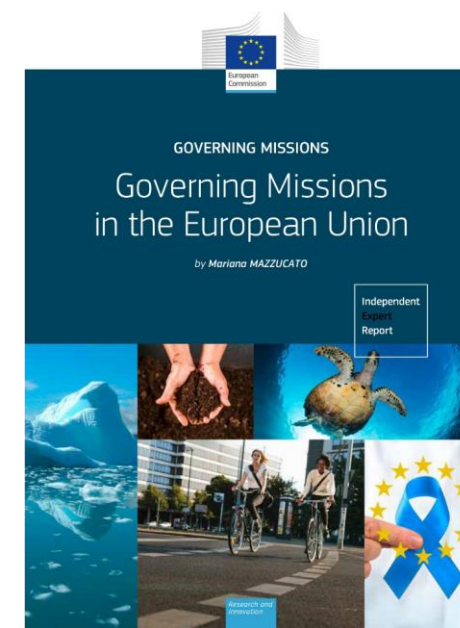
2017



2018



2019





## Le Missioni in Horizon Europe

### Missioni di R&I

Impatto = maggiore efficacia degli investimenti in R&S nel medio-lungo termine  
Visibilità = migliore correlazione tra la R&I europea, la società e le esigenze dei cittadini

Una missione è un portafoglio di azioni **interdisciplinari** volte a conseguire entro un **periodo prestabilito** un **obiettivo audace, stimolante** e misurabile, che abbiano un **impatto sulla società** e sull'elaborazione delle politiche e siano rilevanti per una parte significativa della **popolazione** europea e un ampio spettro di cittadini europei.

Horizon Europe definisce le caratteristiche della missione e gli elementi di *governance*.  
Le missioni specifiche saranno **programmate nell'ambito del pilastro II** "Sfide globali e competitività industriale europea" (attingendo ai contributi di altri pilastri)

# MISSIONI

Soil health and food

Cancer



Climate-neutral and smart cities

Healthy oceans, seas, coastal and inland waters

Adaptation to climate change, including societal transformation

➤ Le Mission includono un portafoglio di azioni - progetti di ricerca, misure di policy o iniziative legislative - dirette a raggiungere, entro un arco di tempo prestabilito, un obiettivo audace, misurabile e rilevante per la società



## Le cinque missioni... dalle proposte dei *board*



🏠 **Adaptation to Climate Change:** support at least 150 European regions and communities to become climate resilient by 2030



🏠 **Cancer:** working with Europe's Beating Cancer Plan to improve the lives of more than 3 million people by 2030 through prevention, cure and solutions to live longer and better



🏠 Restore our **Ocean and Waters** by 2030



🏠 100 **Climate-Neutral and Smart Cities** by 2030



🏠 **A Soil Deal for Europe:** 100 living labs and lighthouses to lead the transition towards healthy soils by 2030

## Missioni in Horizon Europe – altre caratteristiche



▣ Ispirazione agli Obiettivi di Sviluppo Sostenibile



▣ Inserimento in un quadro di policy europeo più ampio (*Green Deal, Industrial Strategy, Beating Cancer Plan, Biodiversity strategy...*)



▣ Influenzare le politiche nazionali degli Stati membri e dei paesi terzi (dimensione internazionale)



▣ Sinergie con altri strumenti di Horizon Europe e ulteriori finanziamenti da altri programmi europei, nazionali e regionali (e.g. Recovery fund)



▣ **Budget dedicato in HE** - Massimo il 10% del bilancio del pilastro II fino al 2023 (possibile aumento dal 2024 se valutazione positiva)



## 5 EU Missions

### What a EU mission is NOT

Missions are an entirely new approach based on **portfolios of actions** working towards broadly defined goals, not be confused with existing methods and instruments.

Missions are not the same as:

- R&I Programmes**
- R&I Partnerships**
- Focus Areas** from Horizon 2020
- Single projects or topics
- Horizon Europe **Clusters**

### Implementing Missions

#### Missions may involve:

- Launch **specific calls** in Horizon Europe and other programmes
- Identify specific actions to change/ improve **policy context** critical for missions success
- Make use of the appropriate **partnerships**
- Mobilise **structural funds**
- Establish the appropriate **links with national programmes**
- Combine efforts with **third country**

There is no fixed budget for each mission. Article 7 of the draft HE Regulation stipulates that 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.



# Cosa c'è dentro un piano di implementazione



(September 2021)

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# Adaptation to Climate Change: support at least 150 European regions and communities to become climate resilient by 2030.

## **The importance of climate adaptation**

Climate adaptation is the process of adjustment to actual or expected climate and its effects. The mission will support this process by connecting citizens with science and public policy.

## **Why this mission area was chosen**

A mission in this area will help maximise the impact of the EU's support to research and innovation and demonstrate its relevance for society and citizens.

Its focus will be on solutions and preparedness for the impact of climate change to protect lives and assets. It will include behavioural changes and social aspects by addressing new communities beyond usual stakeholders, which help lead to a societal transformation.





# Restore our Ocean and Waters by 2030

Man-made, climate-driven changes are putting our ocean and waters and consequently our societies at a serious risk.

The mission's new, systemic approach will address the ocean and waters as one and play a key role in achieving climate neutrality and restoring nature.

The mission will help achieve the EU objectives of protecting **30% of the EU's sea area** as well as **restoring marine eco-systems** and 25.000 km of **free flowing rivers**, prevent and eliminate pollution by **reducing plastic litter at sea**, nutrient losses and use of chemical pesticides by 50% and make the blue economy climate-neutral and circular with net-zero maritime emissions.





# A Soil Deal for Europe: 100 living labs and lighthouses to lead the transition towards healthy soils by 2030

**Soils are the basis of 95%** of our food and other essential ecosystem services such as clean water, biodiversity and climate regulation. However, 60-70% of soils in the EU are considered to be “unhealthy”, making us more vulnerable to food insecurity and extreme weather events.

The mission will engage with people and create effective partnerships across sectors and territories to protect and restore soils in Europe and beyond.

The mission aims at **leading the transition towards healthy soils** by

- funding an ambitious research and innovation programme with a strong social science component
- putting in place an effective network of **100 living laboratories and lighthouses** to co-create knowledge, test solutions and demonstrate their value in real-life conditions

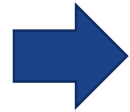




# La governance europea



*5 Mission Board + 5 Assemblies di esperti*



## STATI MEMBRI



*Comitato di Programma di Horizon Europe - Configurazione Strategica*



*Coinvolgimento dei cittadini*



*5 Mission Manager*



*5 sottogruppi / working group del Comitato di Programma*





# MISSION SOIL & OCEAN (2021+2022)

Overview della partecipazione italiana  
2021/2022



# OVERVIEW DELLA PERFORMANCE ITALIANA

	# Numerosità	€ Requested EU contribution
<b>Ocean</b>	<b>162</b>	<b>52.287.973 €</b>
Main list	50	16.299.437 €
Reserve list	62	17.667.258 €
Below Threshold	50	18.321.278 €
<hr/>		
<b>Soil</b>	<b>184</b>	<b>61.597.891 €</b>
Main list	58	17.503.809 €
Reserve list	15	6.075.975 €
Below available budget	24	10.474.437 €
Below Threshold	85	24.268.670 €
Ineligible	2	3.275.000 €
<b>Totale complessivo</b>	<b>346</b>	<b>113.885.863 €</b>

	Tasso di successo EU		Tasso di successo IT	
	#	€	#	€
<b>Ocean</b>	46,2%	43,5%	30,9%	31,2%
<b>Soil</b>	31,8%	26,3%	31,5%	28,4%

	Rientro nazionale	
	#	€
<b>Ocean</b>	9,3%	7,7%
<b>Soil</b>	10,8%	10,9%



## OVERVIEW DEI COORDINAMENTI NAZIONALI

- ▣ Coordinamenti IT Ocean:  $3/34 = 8,8\%$  → € 8,0%
- ▣ Coordinamenti IT Soil:  $3/28 = 10,7\%$  → € 10,1 %

### Ocean

CONSIGLIO NAZIONALE DELLE RICERCHE  
RINA CONSULTING SPA  
UNIVERSITA DEL SALENTO

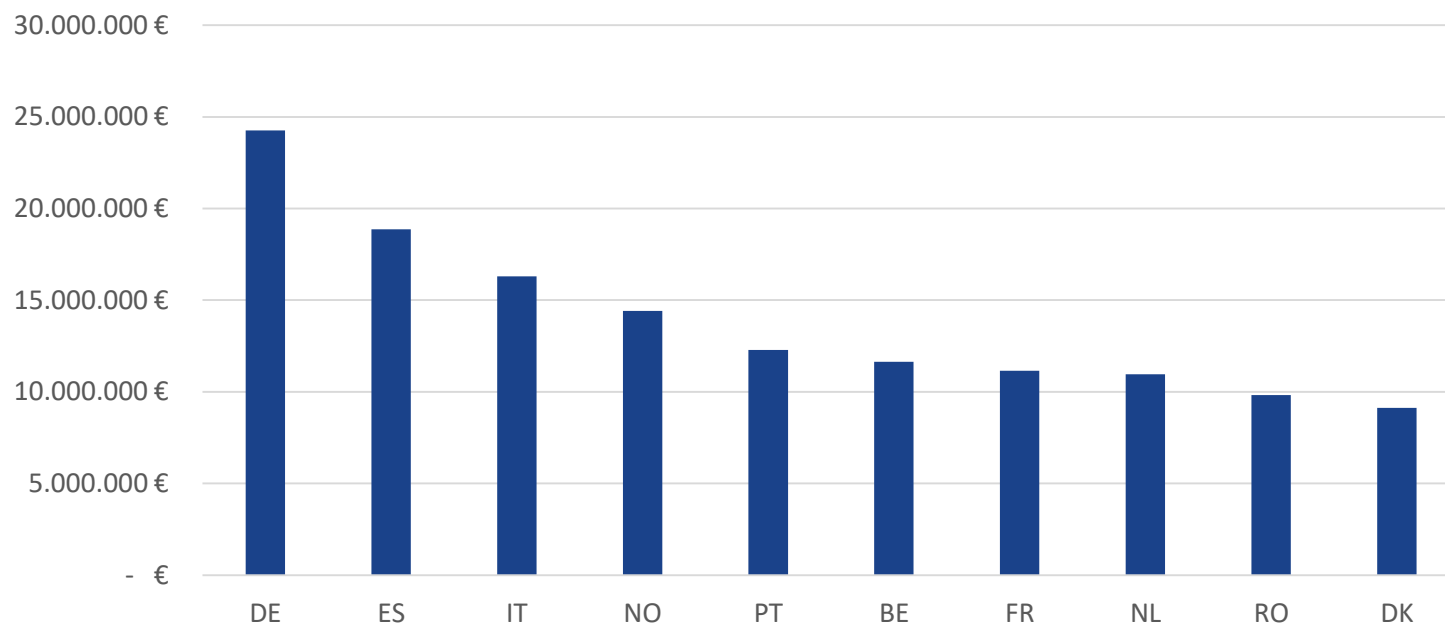
### Soil

ANCI TOSCANA ASSOCIAZIONE  
CONSORZIO ITALBIOTEC  
LIBERA UNIVERSITA DI BOLZANO



# COMPETIZIONE – Mission Ocean

Paesi	Partecipanti	Requested EU contribution
DE	67	24.254.246 €
ES	50	18.861.362 €
IT	50	16.299.437 €
NO	35	14.410.966 €
PT	41	12.276.913 €
BE	25	11.631.640 €
FR	35	11.146.680 €
NL	31	10.959.806 €
RO	42	9.815.027 €
DK	33	9.129.926 €



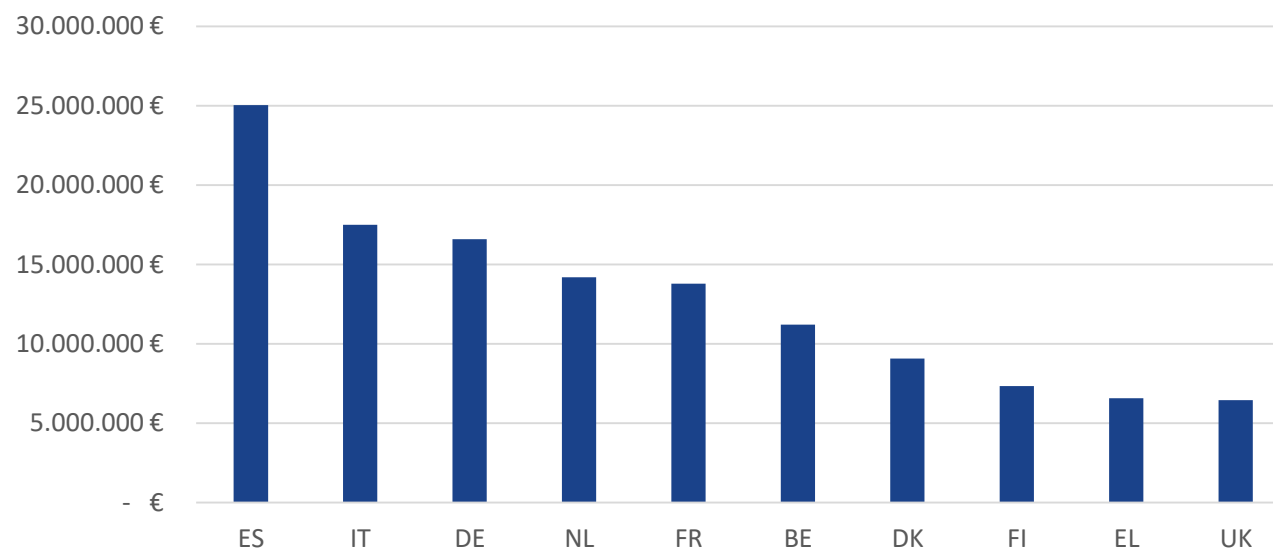
**ITALIA #  
2° posto**

**ITALIA €  
3° posto**



# COMPETIZIONE – Mission Soil

Paesi	Partecipanti	Requested EU contribution
ES	91	25.052.378 €
IT	58	17.503.809 €
DE	43	16.588.362 €
NL	39	14.198.119 €
FR	44	13.795.516 €
BE	46	11.219.562 €
DK	15	9.079.679 €
FI	17	7.344.393 €
EL	24	6.578.816 €
UK	16	6.461.736 €



**ITALIA #  
2° posto**

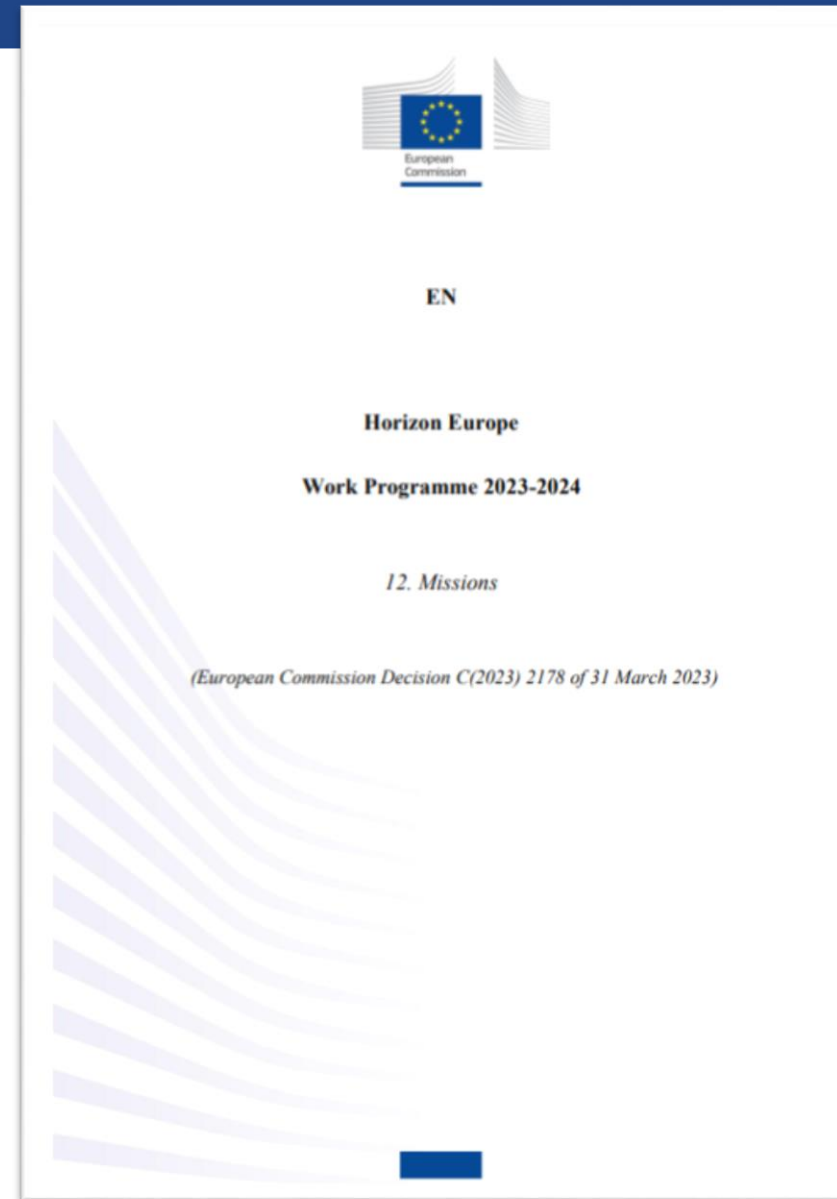
**ITALIA €  
2° posto**

## II WP 2023-24

**Scadenze:**

*Aprile – Settembre 2023*

[https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-12-missions\\_horizon-2023-2024\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-12-missions_horizon-2023-2024_en.pdf)





# EU Mission | WP 23 (29 topic)



Clima      WP 23  
Opening Jan23- Deadline: **20 Sep 2023**  
# topic: **3**  
Budget: **82,81** mln €

Cancer      WP 23  
Opening Jan23-Deadline: **12 aprile**  
**2023**  
# topic: **4**  
Budget: **110, 68** mln €



## EU Mission | WP 23 (29 topic)



Ocean and Waters WP 23

Opening Jan23–Deadline: **20 Sep 2023**

# topic: **11**

Budget: **87,7** mln €



Cities WP 23

Deadline: **27 aprile e 6 Sep 2023**

# topic: **2**

Budget: **75,00** mln €





# EU Mission | WP 23 (29 topic)



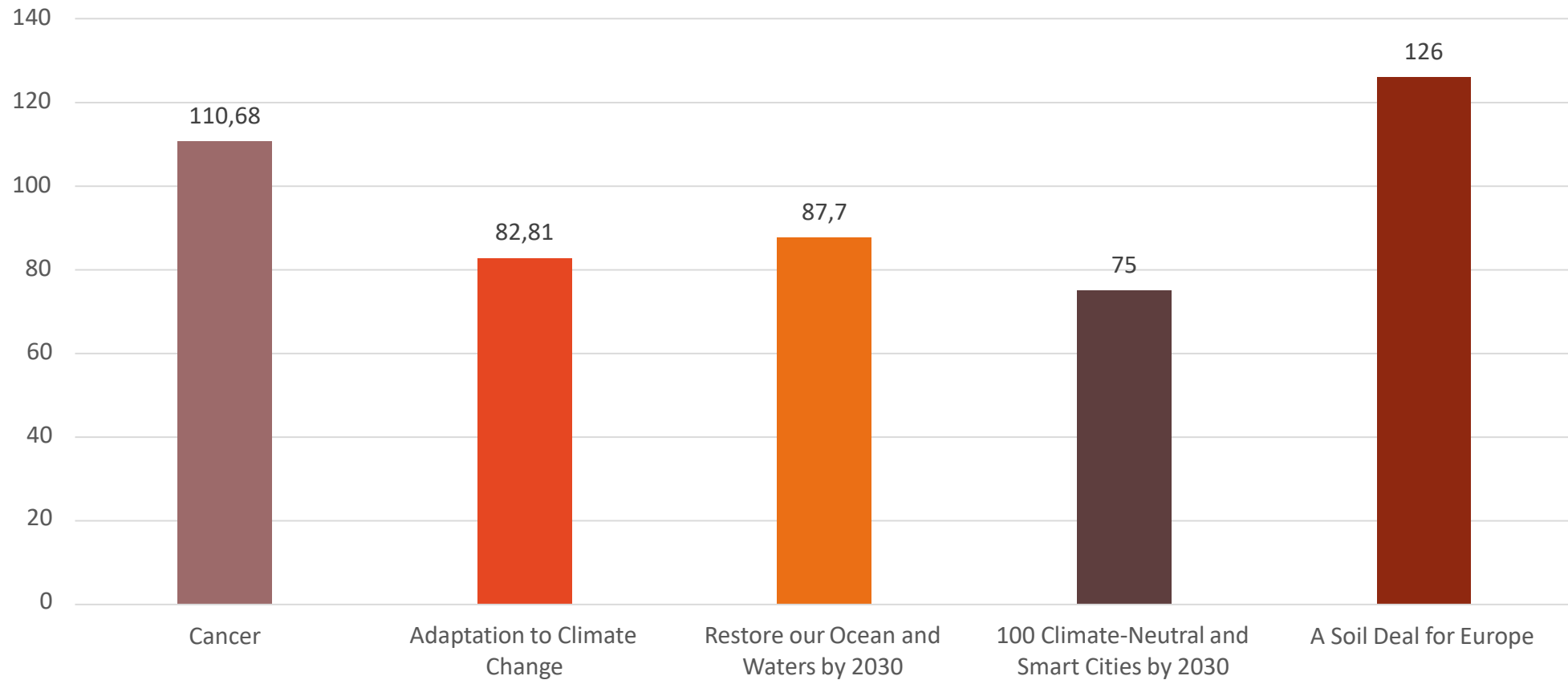
Soil      WP 23

Opening: Jan23-Deadline: **20 Sep 2023**

# topic: **9**

Budget: **126** mln €

## 5 MISSIONS – BUDGET 2023 (mIn €)





EUROPEAN UNION



# EU MISSIONS

**RESTORE OUR OCEAN & WATERS**

**Concrete solutions for our greatest challenges**

Francesco Regoli  
Università Politecnica delle Marche

Gianluca Sarà  
Università di Palermo

#EUmissions #HorizonEU #MissionOcean





EUROPEAN UNION

# What are EU Missions?

---

The European Commission launched **five new EU Missions** – including the Mission “Restore our Ocean and Waters by 2030”

---

European Missions are **new broad mobilisation initiatives** to face the greatest challenges of our time

---

Rooted in the Horizon Europe research and innovation programme, **Missions go beyond R&I** and the existing instruments, cutting across policies, programmes and different levels of governance

---

They will develop and demonstrate innovative **technological, social, business and governance solutions**, and promote new forms of co-operation, allowing everyone to play an active role





# Mission objectives and targets

## Restore our Ocean and Waters by 2030

### PROTECT AND RESTORE MARINE AND FRESHWATERS ECOSYSTEMS AND BIODIVERSITY

- Protect at least 30% and strictly protect 10% EU's sea areas
- Restore 25.000 km free flowing rivers
- Marine nature restoration targets (incl. degraded seabeds, coastal ecosystems)

### PREVENT AND ELIMINATE POLLUTION OF OUR OCEANS, SEAS AND WATERS

- Reduce by at least 50% plastic litter
- Reduce by at least 30% microplastics
- Reduce by at least 50% nutrient losses, chemical pesticides

### MAKE THE BLUE ECONOMY CARBON- NEUTRAL AND CIRCULAR

- Net zero maritime emissions
- Zero carbon aquaculture,
- Low carbon multipurpose use of marine space

### ENABLERS

Digital Ocean and Waters Knowledge system

Public mobilization and engagement



EUROPEAN UNION

Baltic & North sea basin



**MAKE THE BLUE ECONOMY CARBON-NEUTRAL AND CIRCULAR**

Mediterranean sea basin



**PREVENT AND ELIMINATE POLLUTION OF OUR OCEAN, SEAS AND WATERS**

Danube river basin



**PROTECT AND RESTORE MARINE AND FRESHWATERS ECOSYSTEMS AND BIODIVERSITY**

Atlantic & Arctic coast



**Mission lighthouses:** spaces of transformation to pilot, demonstrate, develop and deploy the Mission activities across EU.

Basin-level initiatives before being scaled up to European level in the second phase 2025-2030



# Missions: Work Programme 2023-2024

**Work Programme contains specific actions to support the implementation of Missions**

**Coordination among different Missions and other HE initiatives (European partnerships and Clusters)**

**Implemented in close synergy with funding, programmes and strategies both at Member State / Associated Country and regional levels, as well as with civil society and the private sector.**





# WP 2023-2024 - Mission Restore our Ocean and Waters by 2030

✓ **Single call** addressing 3 policy objectives as well the enabling activities:

- **Protect and restore marine and freshwater ecosystems and biodiversity**
- **Prevent and eliminate pollution of our oceans, seas and waters**
- **Sustainable, carbon-neutral and circular Blue economy**
- **Enabling activities: digital ocean & water knowledge system (DTO) and public mobilisation and engagement**

✓ **Indicative budget 2023:** EUR 87,7 million

✓ **Call closing date:** 20 September 2023



EN

Horizon Europe

Work Programme 2023-2024

12. Missions

(European Commission Decision C(2022)7550 of 6 December 2022)

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) <sup>1</sup>	Indicative number of projects expected to be funded
		2023		
Opening: 17 Jan 2023 Deadline(s): 20 Sep 2023				
HORIZON-MISS-2023-OCEAN-01-01	IA	8.80 <sup>2</sup>	Around 8.80	1
HORIZON-MISS-2023-OCEAN-01-02	IA	17.00 <sup>3</sup>	Around 8.50	2
HORIZON-MISS-2023-OCEAN-01-03	IA	16.00 <sup>4</sup>	Around 8.00	2
HORIZON-MISS-2023-OCEAN-01-04	IA	12.00 <sup>5</sup>	Around 4.00	3
HORIZON-MISS-2023-OCEAN-01-05	IA	12.00 <sup>6</sup>	Around 4.00	3
HORIZON-MISS-2023-OCEAN-01-06	RIA	4.50 <sup>7</sup>	Around 2.25	2
HORIZON-MISS-2023-OCEAN-01-07	RIA	1.40 <sup>8</sup>	Around 1.40	1
HORIZON-MISS-2023-OCEAN-01-08	RIA	10.00 <sup>9</sup>	Around 3.30	3
HORIZON-MISS-2023-OCEAN-01-09	CSA	2.00 <sup>10</sup>	Around 2.00	1
HORIZON-MISS-2023-OCEAN-01-10	CSA	2.00 <sup>11</sup>	Around 2.00	1
HORIZON-MISS-2023-OCEAN-01-11	CSA	2.00 <sup>12</sup>	Around 2.00	1
Overall indicative budget		87.70		

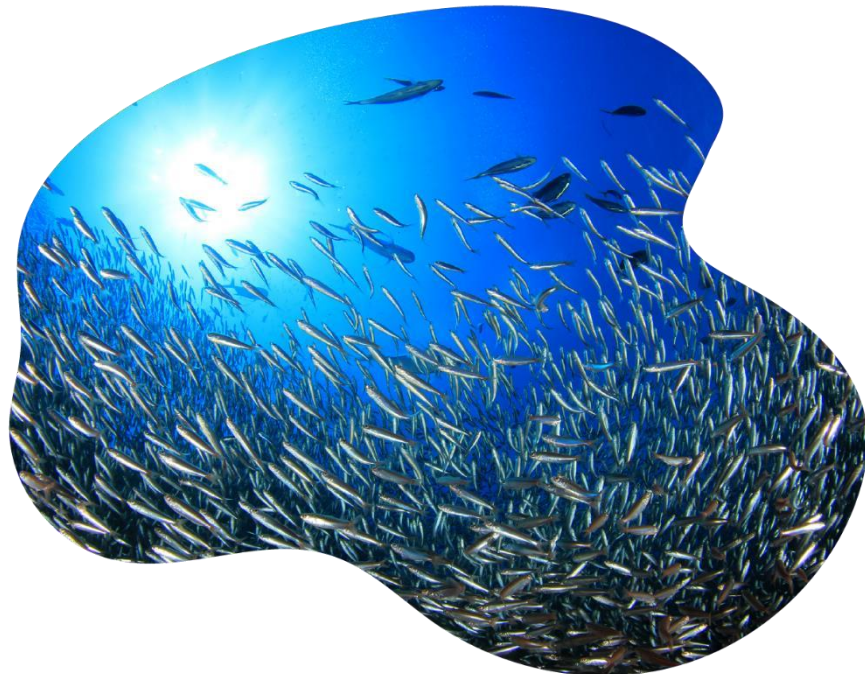
Call	Budgets (EUR million)	Deadline(s)
	2023	
HORIZON-MISS-2023-OCEAN-01	87.70	20 Sep 2023
Overall indicative budget	87.70	







# Mission objective 1 – protect and restore marine and freshwater ecosystems and biodiversity





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# HORIZON-MISS-2023-OCEAN-01-01

## European Blue Parks – Protection and restoration solutions for degraded coastal and marine habitats

European Blue Parks – Protection and restoration of marine habitats

HORIZON-MISS-2023-OCEAN-01-01

Call for proposal

Grant

Programme	Horizon Europe (HORIZON)	Status	Forthcoming
Type of action	HORIZON Innovation Actions	Deadline model	single-stage
Opening date	17 January 2023	Deadline date	20 September 2023 17:00:00 Brussels time



### INDICATIVE BUDGET

Total contribution: EUR 8,8 million

Per project : EUR 8.8 million

Expected TRL 5-7 (IA)



# HORIZON-MISS-2023-OCEAN-01-01

European Blue Parks – Protection and restoration solutions for degraded coastal and marine habitats

## SCOPE AND EXPECTED OUTPUTS

- **Develop protection and restoration solutions** to address the degradation of coastal and marine ecosystems.
- **Improve the management of marine protected areas**
- **Clear science-based conservation objectives and conservation measures** to achieve those objectives.
- **Address the whole marine ecosystem functioning** in the designated area, **including the seabed and its role in carbon storage** and as **fish spawning and nursery area**.
- **Site-specific, but with a significant replication potential.**
- **Ecosystem services** should be **resilient to climate change** and that the areas are adequately protected to **prevent new degradation**.
- Proposals are expected to contribute to the **implementation of the existing legislation** related to MPAs, and to **reach the targets of protecting 30%** of EU marine area by 2030
- National and local authorities and **coastal communities should be involved** to ensure that these **solutions** are **successfully implemented in the long-term**.



# HORIZON-MISS-2023-OCEAN-01-02

## Danube river basin lighthouse – Demonstration of effective and sustainable management of sediments in the Danube river-Black sea system

Danube river basin lighthouse – Demonstration of effective and sustainable management of sediments in the Danube river-Black sea system

HORIZON-MISS-2023-OCEAN-01-02

Call for proposal

Grant

Programme	Horizon Europe (HORIZON)	Status	Forthcoming
Type of action	HORIZON Innovation Actions	Deadline model	single-stage
Opening date	17 January 2023	Deadline date	20 September 2023 17:00:00 Brussels time



## INDICATIVE BUDGET

Total: EUR 17 million

Per project : EUR 8.5 million

Expected TRL 5-7 (IA)



# HORIZON-MISS-2023-OCEAN-01-02

Danube river basin lighthouse – Demonstration of effective and sustainable management of sediments in the Danube river-Black sea system

## SCOPE AND EXPECTED OUTPUTS

- **Sustainable and effective approaches for sediment management at a river basin scale**
- **Solutions for the restoration of sediment balance and flow in the Danube river-Black sea system and measures to improve sediment quality**
- **Holistic approach to sediment management, involving all relevant actors at a transnational/national scale, training and communication activities**
- **Integrate actions to support the social and economic transitions towards sustainable, inclusive and long term management of the restored and protected ecosystems**
- **Contribution to the implementation of the European Green Deal, the Water Framework Directive and the Updated River Basin Management Plan for Danube (2021)**
- **Active support to the Mission's Digital Ocean and Water Knowledge System**



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# HORIZON-MISS-2023-OCEAN-01-03

## Atlantic and Arctic sea basin lighthouse – Addressing climate change and human activities threats to marine biodiversity

Atlantic and Arctic sea basin lighthouse – Addressing climate change and human activities threats to marine biodiversity

HORIZON-MISS-2023-OCEAN-01-03

Call for proposal

Grant

Programme	Horizon Europe (HORIZON)	Status	Forthcoming
Type of action	HORIZON Innovation Actions	Deadline model	single-stage
Opening date	17 January 2023	Deadline date	20 September 2023 17:00:00 Brussels time

### INDICATIVE BUDGET

Total: EUR 16 million

Per project : EUR 8.0 million

Expected TRL 5-7 (IA)



# HORIZON-MISS-2023-OCEAN-01-03

Atlantic and Arctic sea basin lighthouse – Addressing climate change and human activities threats to marine biodiversity

## SCOPE AND EXPECTED OUTPUTS

- Developing and demonstrating **ecosystem-based conservation measures** for **reducing cumulative pressure** of human activities on marine biodiversity
- **Technological, logistical, social and economic innovations** on **sustainable fishery and shipping, pollution reduction**, prevention and control of **invasive species, marine and nursery habitat preservation**, establishment of **marine reserves, impacts of climate change**, application of **genomics methods** for **biodiversity status, long-term biomonitoring** of restorative interventions and ecosystem evolution
- **Citizen engagement** is a pillar concept for the Mission and activities will also support **evidence-based data and awareness raising on biodiversity** conservation
- **Implementation of the Biodiversity Strategy 2030 and the EU Arctic policy** in connection with **other relevant EU policies** enhancing **collaborative efforts** to address the challenges and benefit of all **communities of stakeholders** around the Atlantic and the Arctic Action Plan
- Active **support** to the **Mission's Digital Ocean and Water Knowledge System**



# HORIZON-MISS-2023-OCEAN-01-04


## European natural lakes: demonstration of integrated approaches for protection and restoration of natural lake ecosystems and their biodiversity

European natural lakes: demonstration of integrated approaches for protection and restoration of natural lake ecosystems and their biodiversity

HORIZON-MISS-2023-OCEAN-01-04

Call for proposal

Grant

Programme	Horizon Europe (HORIZON)	Status	Forthcoming
Type of action	HORIZON Innovation Actions	Deadline model	single-stage
Opening date	17 January 2023 	Deadline date	20 September 2023 17:00:00 Brussels time

### INDICATIVE BUDGET

**Total: EUR 12 million**

**Per project : EUR 4.0 million**

**Expected TRL 5-7 (IA)**





# HORIZON-MISS-2023-OCEAN-01-04

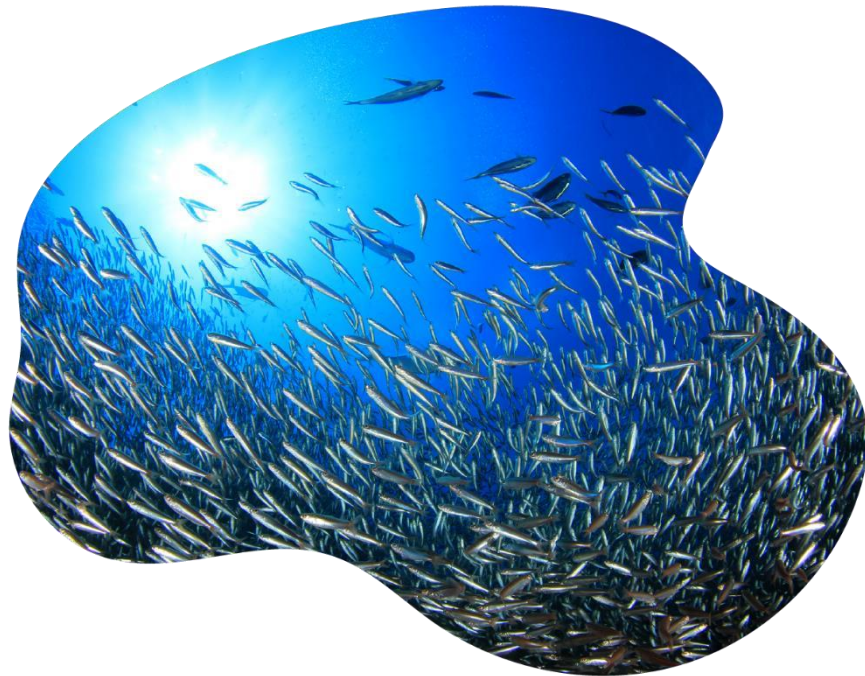
European natural lakes: demonstration of integrated approaches for protection and restoration of natural lake ecosystems and their biodiversity

## SCOPE AND EXPECTED OUTPUTS

- **Demonstrate** integrated and replicable approaches to **protect and restore natural lake ecosystems and their biodiversity**
- **Improve ecological and chemical status of European natural lakes** and maintain it in the **long-term**
- Actions to **support social and economic transitions** towards sustainable management, **involve local business communities**, in particular SMEs, **investors and other business stakeholders**
- **Citizen engagement, training, upskilling and communication activities**
- **Nature based solutions** for restoration and protection of European Lakes, **opportunities for scaling up of solutions**
- Implementation of the **European Green Deal**, the **EU Biodiversity Strategy**, the **EU Zero Pollution Action Plan**, the **EU Bioeconomy Strategy** and the **Water Framework Directive** as well as **other EU instruments and policies that concern freshwater ecosystems**
- Active **support** to the **Mission's Digital Ocean and Water Knowledge System**



# Mission objective 3 – Sustainable, carbon-neutral and circular Blue Economy





# HORIZON-MISS-2023-OCEAN-01-05

Lighthouse in the Baltic and the North Sea basins - Lighthouse in the Baltic and the North Sea basins - Green and energy-efficient small-scale fishing fleets

Lighthouse in the Baltic and the North Sea basins - Lighthouse in the Baltic and the North Sea basins - Green and energy-efficient small-scale fishing fleets

HORIZON-MISS-2023-OCEAN-01-05

Call for proposal Grant

Programme	Horizon Europe (HORIZON)	Status	Forthcoming
Type of action	HORIZON Innovation Actions	Deadline model	single-stage
Opening date	17 January 2023 	Deadline date	20 September 2023 17:00:00 Brussels time

## INDICATIVE BUDGET

**Total: EUR 12 million**  
**Per project : EUR 4.0 million**  
**Expected TRL 4-6 (IA)**



# HORIZON-MISS-2023-OCEAN-01-05

Lighthouse in the Baltic and the North Sea basins - Lighthouse in the Baltic and the North Sea basins - Green and energy-efficient small-scale fishing fleets

## SCOPE AND EXPECTED OUTPUTS

- **Innovative and sustainable solutions, technologies, practices and processes demonstrated** in real conditions to **reduce emissions and fuel consumption of small-scale fishing vessels**
- **Impact assessment** on the **marine environment** and its **biodiversity** should also be carried out as well as an analysis of the **obstacles, opportunities and recommendations** about good practices for reducing fuel consumption and emissions
- **Close cooperation** between the **fishing community, researchers and other stakeholders** is crucial to ensure that solutions and technologies are suitable for and acceptable by the end-users, economically viable
- **Accelerated transition** to greener fleets of small-scale fisheries thanks to **increased users' choices** and **better understanding of the problem and solution**
- Enhanced implementation of the **European Green deal objectives** and the **EU Biodiversity Strategy** for 2030;



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# HORIZON-MISS-2023-OCEAN-01-06

Cross-basin topic - Innovative nature-inclusive concepts to reconcile offshore renewables with ocean protection

Cross-basin topic - Innovative nature-inclusive concepts to reconcile offshore renewables with ocean protection

HORIZON-MISS-2023-OCEAN-01-06

Call for proposal

Grant

Programme

Horizon Europe (HORIZON)

Status

Forthcoming

Type of action

HORIZON Research and Innovation Actions

Deadline model

single-stage

Opening date

17 January 2023

Deadline date

20 September 2023 17:00:00  
Brussels time

## INDICATIVE BUDGET

Total: EUR 4.5 million

Per project : EUR 2.25 million

Expected TRL 3-4 (RIA)



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# HORIZON-MISS-2023-OCEAN-01-06

Cross-basin topic - Innovative nature-inclusive concepts to reconcile offshore renewables with ocean protection

## SCOPE AND EXPECTED OUTPUTS

- **Multidisciplinary approaches** for the development of **offshore renewable energy infrastructures** that meet **renewable energy targets**, **do not significantly harm** or even **contribute to restoration of the marine environment**
- Nature-inclusive concepts will address the **design and choice of materials**
- **Multiple-use concepts** should also be considered
- Enhanced implementation of the EU **Sustainable Blue Economy Strategy** and the achievement of **EU Green Deal** objectives and the **Paris Agreement** targets



# HORIZON-MISS-2023-OCEAN-01-07

Cross-basin topic - Analysis of the obstacles and opportunities for repurposing aged/unused offshore infrastructures

Cross-basin topic - Analysis of the obstacles and opportunities for repurposing aged/unused offshore infrastructures

HORIZON-MISS-2023-OCEAN-01-07

Call for proposal

Grant

Programme	Horizon Europe (HORIZON)	Status	Forthcoming
Type of action	HORIZON Research and Innovation Actions	Deadline model	single-stage
Opening date	17 January 2023 	Deadline date	20 September 2023 17:00:00 Brussels time

## INDICATIVE BUDGET

**Total: EUR 1.4 million**  
**Per project : EUR 1.4 million**  
**Expected TRL 4-5 (RIA)**



# HORIZON-MISS-2023-OCEAN-01-07

Cross-basin topic - Analysis of the obstacles and opportunities for repurposing aged/unused offshore infrastructures

## SCOPE AND EXPECTED OUTPUTS

- Proposals will analyze **options to decommissioning offshore platforms**, in light of **marine conservation** and **ecosystem protection**, identifying possible **business models** and assessing related **implications for policy/decision** making and for **public acceptance**.
- **Review of existing experiences**, strategies and programmes for **alternatives to offshore platforms decommissioning**;
- Design a **framework for cost-benefit analysis**, including **risk/benefit analysis** on **marine ecosystems and biodiversity**;
- Assess the **socio-economic benefits including job creation** of decommissioning versus repurposing;
- **Examine related legal, regulatory and policy issues** and carry out **informed discussions** among major **stakeholders, environmental organisations and NGOs**
- **Solutions for repurposing aged/unused offshore platforms** which **support marine restoration** in view of **sustainable business models** and enhance the **circular economy transition**





# WORK PROGRAMME 2023

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## MISSION ENABLING ACTIVITIES:

**Digital Ocean and Water Knowledge System**  
**Public mobilisation and engagement**  
**Dynamic investment ecosystem**



# HORIZON-MISS-2023-OCEAN-01-08:

## Integration of socio-ecological models into the Digital Twin Ocean

<b>Integration of socio-ecological models into the Digital Twin Ocean</b> HORIZON-MISS-2023-OCEAN-01-08		<a href="#">Call for proposal</a> <a href="#">Grant</a>	
<b>Programme</b>	Horizon Europe (HORIZON)	<b>Status</b>	<b>Forthcoming</b>
<b>Type of action</b>	HORIZON Research and Innovation Actions	<b>Deadline model</b>	single-stage
<b>Opening date</b>	17 January 2023 	<b>Deadline date</b>	20 September 2023 17:00:00 Brussels time

### INDICATIVE BUDGET

**Total: EUR 10 million**

**Per project : EUR 3.3 million**

**Expected TRL 3-5 (RIA)**



# HORIZON-MISS-2023-OCEAN-01-08:

## Integration of socio-ecological models into the Digital Twin Ocean

### SCOPE AND EXPECTED OUTPUTS

- Development of a **wide range of social-ecological models**, to **assess the impact and long-term effect of normative (what-if) scenarios**, evaluating environmental change, policy alternatives and management decisions to coastal and marine systems, **both environmentally and societally**
- Development of **new processes and tools for decision-support, participatory management and policy scenarios assessment**, including the methodological approaches to effective stakeholders' engagement
- Incorporation of **marine social-ecological modelling** in the framework of the **Digital Twin Ocean**, taking into consideration their complex nature, including **interoperability of transdisciplinary data** and integration of models with **different spatial and temporal resolutions** uncertainties and more
- **Better management of human activities**, responding to societal/ecological needs, **avoiding negative outcomes of policies**



# HORIZON-MISS-2023-OCEAN-01-09:

## Roadmap towards the integration of inland waters into the Digital Twin Ocean

Roadmap towards the integration of inland waters into the Digital Twin Ocean Call for proposal Grant

HORIZON-MISS-2023-OCEAN-01-09

Programme	Horizon Europe (HORIZON)	Status	Forthcoming
Type of action	HORIZON Coordination and Support Actions	Deadline model	single-stage
Opening date	17 January 2023	Deadline date	20 September 2023 17:00:00 Brussels time

### INDICATIVE BUDGET

Total: EUR 2 million  
Per project : EUR 2 million

CSA



# HORIZON-MISS-2023-OCEAN-01-09:

## Roadmap towards the integration of inland waters into the Digital Twin Ocean

### SCOPE AND OUTCOMES

- **Prepare the development of the inland waters part** (rivers, lakes, reservoirs, wetlands, snow and ice etc.) into the Digital Twin Ocean
- **Inventory of EU and international policies** relevant to inland waters; **requirements and links of relevant stakeholders** (researchers, users, industry); **data sources and sensing capacities** (environmental but as well socio-economic or citizen); **past or ongoing research projects**, information systems and **technical or operational programs**; **liaise with the national meteorological services**
- Critical analysis and preliminary design of **current technical achievements, functional and system digital architecture**, mature, high-quality, scientifically state-of-art and pre-operation digital twin component for inland waters
- **Roadmap** for the implementation of the Digital Twin for Inland waters including a preliminary work **breakdown with priorities, technical developments**, tentative **schedule, cost estimate** and **risk analysis, interfaces** to be considered, technical **governance**



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# HORIZON-MISS-2023-OCEAN-01-10:

## Choose your fish: a campaign for responsible consumption of products from the sea

Choose your fish: a campaign for responsible consumption of products from the sea

HORIZON-MISS-2023-OCEAN-01-10

Call for proposal

Grant

Programme	Horizon Europe (HORIZON)	Status	Forthcoming
Type of action	HORIZON Coordination and Support Actions	Deadline model	single-stage
Opening date	17 January 2023	Deadline date	20 September 2023 17:00:00 Brussels time



### INDICATIVE BUDGET

Total: EUR 2 million  
Per project : EUR 2 million  
CSA



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# HORIZON-MISS-2023-OCEAN-01-10:

**Choose your fish: a campaign for responsible consumption of products from the sea**

## **SCOPE AND OUTCOMES**

- **Help citizens** to make **responsible** and more **informed seafood and aquaculture products**, encourage **sustainability in consumption** patterns like reducing food waste and carbon footprint, considering **future viability of stocks**, support knowledge and consumption of **local and seasonal seafood and aquaculture products**
- **Awareness campaign** by using the most effective and creative media, tools and types of initiatives to ensure a broad outreach targeting different segments of consumers, including children
- **Broad geographical coverage** in all Member States and Associated Countries and **links with the “Taste the Ocean”** initiative as well as with **other** international, national or local **initiatives**



# HORIZON-MISS-2023-OCEAN-01-11:

## Ocean & water and arts: the contribution of creative sectors to Mission Ocean and waters

Ocean & water and arts: the contribution of creative sectors to Mission Ocean and waters

HORIZON-MISS-2023-OCEAN-01-11

Call for proposal **Grant**

Programme	Horizon Europe (HORIZON)	Status	<b>Forthcoming</b>
Type of action	HORIZON Coordination and Support Actions	Deadline model	single-stage
Opening date	17 January 2023	Deadline date	20 September 2023 17:00:00 Brussels time



### INDICATIVE BUDGET

**Total: EUR 2 million**  
**Per project : EUR 2 million**

**CSA**





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# HORIZON-MISS-2023-OCEAN-01-10:

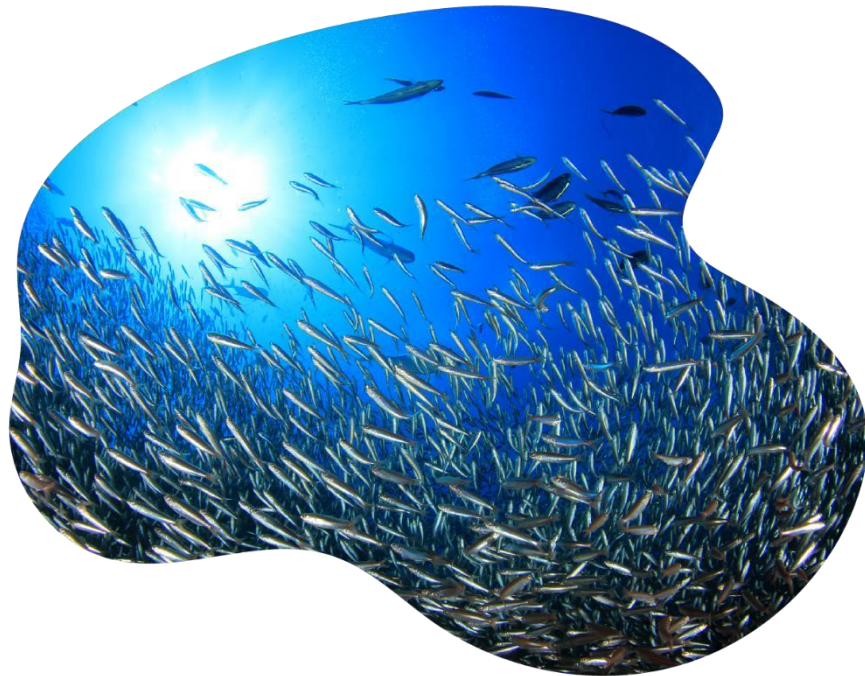
## Choose your fish: a campaign for responsible consumption of products from the sea

### SCOPE AND OUTCOMES

- Bring together **citizens, museums, aquaria, research institutions, engineers, architects, the civil society with artists and other creative sectors**
- **enhance mobilization** for the protection and restoration of the ocean and inland waters  
**stimulate the citizens' interest** in and fascination by ocean and waters  
**boost interest in working in the blue economies**  
increase **awareness** about the **challenges and pressures** faced by the ocean and inland waters  
mobilize **artistic communities and creative sectors** for the protection and restoration of waters
- Mobilization, cooperation and coordination should be envisaged at **interregional/transnational level**
- Proposals should include **at least three calls for the selection of art and creative sectors projects**, which will be supported through Financial Support to Third Parties under this topic



# Missions Joint Calls





# HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01:


## Mission Climate adaptation, Mission Ocean & waters and Mission Soil Deal for Europe – Joint demonstration of an integrated approach to increasing landscape water retention capacity at regional scale

Mission Climate adaptation, Mission Ocean & waters and Mission Soil Deal for Europe – Joint demonstration of an integrated approach to increasing landscape water retention capacity at regional scale

HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01-01

Call for proposal

Grant

Programme	Horizon Europe (HORIZON)	Status	Forthcoming
Type of action	HORIZON Innovation Actions	Deadline model	single-stage
Opening date	17 January 2023 	Deadline date	20 September 2023 17:00:00 Brussels time

### INDICATIVE BUDGET

**Total: EUR 15 million**  
**Per project : EUR 15 million**  
**Expected TRL 6-7 (IA)**



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# HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01:

**Mission Climate adaptation, Mission Ocean & waters and Mission Soil Deal for Europe – Joint demonstration of an integrated approach to increasing landscape water retention capacity at regional scale**

## SCOPE AND KEY EXPECTED OUTPUTS

- Development of **socio-ecological approaches** and **nature-based solutions** to increase landscape and **soil water retention capacity**, leading to **improvement of quality and quantity of ground and surface waters** in the area where they are deployed, and **ensuring their long term sustainability**.
- Better **information** and **mobilization** of **all relevant actors**, including citizens, local and regional authorities, farmers, land owners, economic operators, etc
- Enhanced **implementation** of the **European Green Deal**, the **EU Adaptation Strategy**, the **EU Biodiversity Strategy**, EU legislation for the protection of freshwaters (such as the EU Water Framework Directive and EU Groundwater Directive) and the **EU Soil Strategy for 2030**;



# HORIZON-MISS-2023-OCEAN-SOIL-01:


## Mission Ocean & waters and Mission Soil Deal for Europe Joint demonstration of approaches and solutions to address nutrient pollution in the landscape-river-sea system in the Mediterranean sea basin

Mission Ocean and Waters and Mission A Soil Deal for Europe – Joint demonstration of approaches and solutions to address nutrient pollution in the landscape-river-sea system in the Mediterranean sea basin

HORIZON-MISS-2023-OCEAN-SOIL-01-01

Call for proposal

Grant

Programme	Horizon Europe (HORIZON)	Status	Open for submission
Type of action	HORIZON Innovation Actions	Deadline model	single-stage
Opening date	17 January 2023 	Deadline date	20 September 2023 17:00:00 Brussels time

### INDICATIVE BUDGET

**Total: EUR 16 million**  
**Per project : EUR 8 million**  
**Expected TRL 6-7 (IA)**



# HORIZON-MISS-2023-OCEAN-SOIL-01:

**Mission Ocean & waters and Mission Soil Deal for Europe Joint demonstration of approaches and solutions to address nutrient pollution in the landscape-river-sea system in the Mediterranean sea basin**

## **SCOPE AND KEY EXPECTED OUTPUTS**

- Development of **innovative**, reproducible solutions to **prevent, minimize and remediate soil and water pollution from excess nutrients** (especially nitrogen and phosphorus) in the **landscape-river catchment-sea system and transition waters in the Mediterranean Sea basin**
- **Innovative solutions to reduce the use of fertilisers**
- Empowerment of **citizens to take action against pollution of soils, waters and the ocean**
- Active support to the Ocean and Water Knowledge System by contributing to new data collection

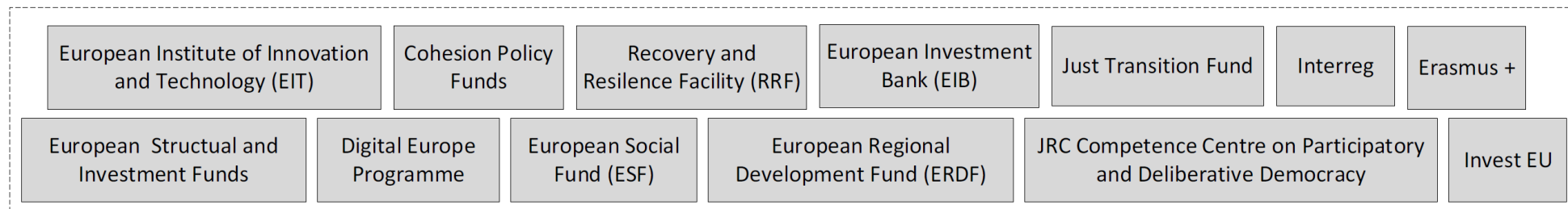
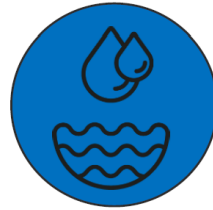


# Conditions common to Innovation Actions for Mission lighthouses

- Consortium must involve and include partners from at least **three countries of the given basin, in which demonstration activities** will be taking place
- Identify **areas** where the **proposed solutions are replicable** and draw up an **action plan and roadmap** needed for the **scale up of the solutions**
- Engage at least **5 ‘associated regions’** to **showcase** the **feasibility, replicability** and **scalability** of the solutions developed

# Synergies with other EU programmes

## Common to all 5 missions



### EU funds & Instruments

- Horizon Europe;
- EMFAF, LIFE, ESIFs, CEF, (+ INTERREG), COPERNICUS, Digital Europe Financial Facility, EFSI, INTPA NDICI, Innovation Fund, Erasmus, InvestEU, Innovation Fund, BlueInvest, etc.

### National/regional funds

- **National Recovery and Resilience Plans, National and Regional Public Funds, Other national and regional funds, programmes, and initiatives**

### Private funds

- **Impact funding** (Credit Suisse, AXA Impact Fund..)
- **European Investment Bank Group**
- VENTURES EUROPE FUND,
- **Venture Capital funds**

### Philanthropy

- **Foundations:** Oceano Azul, Ellen McArthur Foundation, The Prince Albert II of Monaco Foundation,, Ocean Cleanup...
- **Private funds** (Ocean Conservation Fund)
- **Multidonor trust funds** (World Bank PROBLUE)
- **Crowdfunding**





**EUROPEAN UNION**

17 - 18 JANUARY  
2023

INFO DAYS  
**EU**  
**MISSIONS**

**SOIL DEAL FOR EUROPE**





# The Mission A Soil deal for Europe

100 living labs and lighthouses  
to lead the transition towards healthy soils by 2030

## Specific objectives:

1. Reduce desertification
2. Conserve soil organic carbon stocks
3. Stop soil sealing and increase re-use of urban soils
4. Reduce soil pollution and enhance restoration
5. Prevent erosion
6. Improve soil structure to enhance soil biodiversity
7. Reduce the EU global footprint on soils
8. Improve soil literacy in society

## POLICY CONTEXT

- European Green Deal strategies
- International level: the UN Sustainable Development Goals

Our soils are threatened due to current management practices, pollution, urbanization, effects of climate change, etc.

24% of land with unsustainable water erosion rates

2.8 million potentially contaminated sites posing major health risks

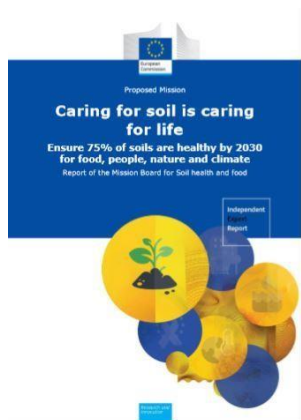
60-70% of soils in Europe are considered to be unhealthy





# Mission roll-out

Mission Board's report  
Sept. 2020



Implementation Plan  
Sept. 2021



1st Call for proposals  
e.g. on **soil monitoring indicators, engage businesses, regions and municipalities, soil advisors**

Work Programme 2021  
Deadline: 24 March 2022  
**Budget: 67M€**

2nd Call for proposals e.g. on **decontamination and spatial planning, carbon farming, soil education, citizen science**

Work Programme 2022  
Deadline: 27 Sept. 2022  
**Budget: 95M€**

3rd Call for proposals for **EU and international partners**  
**First call for Living labs**

Work Programme 2023  
**Budget: 126 M€**  
**Open: 17 January 2023**  
**Deadline: 20 September 2023**



Started in October 2022: **Soil Mission Board 2022-2025**



# Living Labs and Lighthouses

## Living labs are a core element of the mission

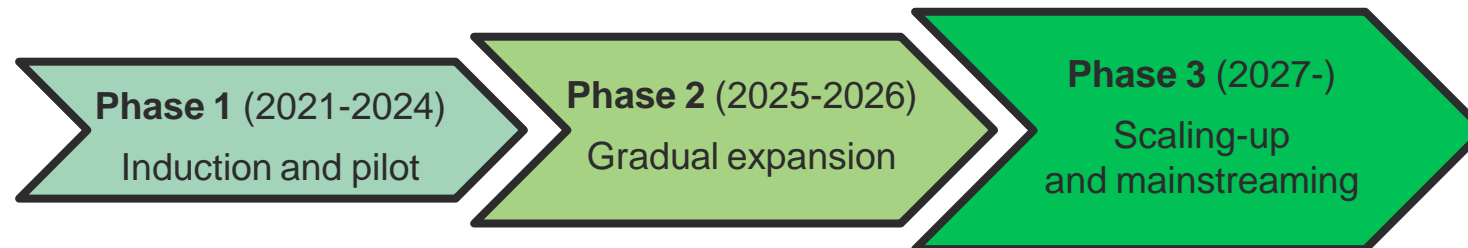
- They are real-life sites in rural or urban areas in which people from various sectors and backgrounds experiment and test solutions in a co-creative manner.
- Each living lab is composed of a group of sites (e.g. farms, forest stands, urban green areas) working together at regional or sub-regional level.

## Lighthouses are sites of exemplary performance with regards to a certain practice

- They are individual sites, such as a single farm, to showcase good practices.
- They are places for demonstrations, training and communication.



## Network of 100 Living labs and lighthouses to be built up gradually.



Living labs and lighthouses are key to accelerate the adoption of sustainable practices by users and co-developed methods adapted to the local conditions.



# Communication and engagement beyond the Work Programme



250+ communication, co-creation and engagement events since Sept 2019



Social media campaigns including 2 campaigns #EIPAgriSoil; **on-going 2022-2023 on best practices**



Several articles, press releases, newsletters, 4+ videos, 2 factsheets



2 Podcast episodes



1 Soil health results pack – **new publication on Soil, communication&citizen engagement**



Interactive games for kids and adults, including composting training, Soil Panorama



Survey sent to **7000+** contacts across Europe and 2500+ contributions received





# Soil Mission 2023 Calls for proposals topics:

- 01: Discovering the **subsoil**
- 02: **Soil pollution processes** – modelling and inclusion in advanced digital decision-support tools
- 03: **Onsite digital technologies to monitor** nutrients and chemical or biological stressors in soil and plants with relevance for food safety and nutrition
- 04: Innovations to prevent and combat **desertification**
- 05: Soil-friendly practices in **horticulture**, including alternative growing media
- 06: Soils in **spatial planning**
- 07: Back to earth: bringing **communities and citizens** closer to soil
- 08: **Co-creating solutions for soil health in Living Labs**
- 09: **Carbon farming** in **living labs**
- **Joint topic:** Mission **Climate** adaptation, Mission **Ocean** & waters and Mission **Soil** Deal for Europe - Joint demonstration of an integrated approach to increasing landscape **water retention capacity** at regional scale
- **Joint Topic:** Mission **Ocean** and Waters and Mission A **Soil** Deal for Europe - Joint demonstration of approaches and solutions to address **nutrient pollution** in the landscape-river-sea system in the Mediterranean sea basin

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# Mission Soil Calls for proposals 2023



Opening date: **17 January 2023**

Closing date: **20 September 2023**

Apply in the Funding and Tenders Portal in the official EU website: <https://ec.europa.eu/>

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HORIZON-MISS-2023-SOIL-01-01

# Discovering the subsoil

***Type of Action:*** Research and Innovation Action (RIA)

***Indicative budget:*** 12 M€ in total  
(6 M€ per project)







# HORIZON-MISS-2023-SOIL-01-01



## POLICY CONTEXT

- European Green Deal, in particular:
  - Soil Strategy
  - Farm to fork
- Europe fit for the digital age
- Fit for 55
- Bioeconomy strategy



## EXPECTED OUTCOMES

- Improved **access to data and knowledge** on the conditions and dynamics of processes in **subsoils**.
- Support the development of **sustainable soil management practices** as well as financial and policy incentives.
- Accelerated deployment of sustainable management practices for **protecting and restoring subsoils**, while increasing relevant soil-dependent **ecosystem services**.
- Improved understanding of the role of the subsoil in climate change adaptation and mitigation, e.g. regarding **carbon and water storage**.



# HORIZON-MISS-2023-SOIL-01-01



## SCOPE

- **Increase knowledge on the properties** as well as the chemical, physical and biological **process dynamics** and their relationships in subsoils, and how these contribute to overall soil health and the delivery of **ecosystem services**. **Explore the potential of modelling subsoil processes** and dynamics.
- **Identify pressures on the subsoil** that impair soil functions and ecosystem services.
- **Identify indicators** to assess subsoil driven changes in soil functioning.
- **Identify the potential of subsoils** to store and maintain **carbon**, and to contribute to **mitigating other GHG**, accounting for potential barriers and the synergies and trade-offs between **climate regulation and other ecosystem services**. Consideration of existing and future **land use options**.



# HORIZON-MISS-2023-SOIL-01-01



## SCOPE

- **Identify and test sustainable management practices** to improve the conditions and functions of subsoils in close **cooperation with land managers** and allow for wide demonstration and dissemination of practices.
- **Develop tools/methods for risk assessment** as regards **subsoil degradation**, reflecting diverse soil uses. Demonstrate practical approaches for the use of these tools and methods by land managers and policy-decision makers.
- Establish robust **methods to improve data collection and monitor** the chemical, physical and biological characteristics of subsoils. Sampling methods for subsoil should be harmonised in order to provide comparable and reliable data.



## KEEP IN MIND

- The term “subsoil” refers to the horizons immediately below the topsoil.
- Topsoil is defined as the uppermost layer of natural soil, generally 10-30 cm thick, although this can vary according to soil type.
- Contribute to the EU Soil Observatory (EUSO) of the European Commission Joint Research Centre

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**HORIZON-MISS-2023-SOIL-01-02**

# Soil pollution processes – modelling and inclusion in advanced digital decision-support tools

***Type of Action:*** Research and Innovation Action (RIA)

***Indicative budget:*** 14 M€ in total  
(7 M€ per project)



# HORIZON-MISS-2023-SOIL-01-02



## POLICY CONTEXT

- European Green Deal, in particular:
  - Soil Strategy
  - Farm to fork
  - Zero Pollution Action Plan
- Europe fit for the digital age
- Bioeconomy strategy
- Chemical Strategy



## EXPECTED OUTCOMES

- Increased understanding of the **impact of pollution on soil processes**, soil functions and related ecosystem services along with responds to land-use dynamics and soil- management practices, restoration mechanisms & climate extremes.
- Enhanced access to knowledge and data for stakeholders that can **inform practices and policies** for reduced levels of pollution and restoration of polluted soils, especially those with high risk to human health and environmental wellbeing.
- Enhanced capacities to **integrate diverse data streams** (including from Earth Observation) to model and predict soil-related processes and their interactions with soil pollutants to demonstrate the effectiveness of policy measures (for air, water, soils).



# HORIZON-MISS-2023-SOIL-01-02



## SCOPE

- Integrate and improve existing **models**, develop and test new models of **soil processes** that allow for better and easier integration of, and reduced uncertainty about soil-related processes (physical, chemical and biological), on different forms of pollution and with a view to its prevention and reduction.
- Integrate **soil processes modelling** for quantification of soil **ecosystem services** with assessments of threats from **diverse pollution sources**.
- Develop **use cases** for **soil modelling on the integration of local soil management practices**. For example, the role of water and wind erosion in the movement of pollutants, nutrient flows in the context of circular economy, interactions between surface-subsurface groundwater-air components, and links with the objectives of the Oceans and Climate Missions.
- Develop **scenarios** based on **integrated models** that show a) how changes in land management practices can reduce soil pollution (and in consequence air and water pollution) and b) the effects of policies on land management practices that avoid/reduce soil pollution.



## KEEP IN MIND

- Data and tools can feed effectively and further advance the **“Destination Earth”** initiative
- Ensure **inter-operability** between existing databases and their integration into Destination Earth and the **EU Soil Observatory**.

HORIZON-MISS-2023-SOIL-01-03

# Onsite digital technologies to monitor nutrients and chemical or biological stressors in soil and plants with relevance for food safety and nutrition

*Type of Action: Innovation Action (IA)*

*Indicative budget: 12 M€ in total  
(6 M€ per project)*



Questions?

[www.slido.com](http://www.slido.com)

#MISSIONSINFODAY





# HORIZON-MISS-2023-SOIL-01-03



## POLICY CONTEXT

- European Green Deal, in particular:
  - Farm to fork
- Europe fit for the digital age
- EU FOOD 2030 initiative
- Bioeconomy strategy



## EXPECTED OUTCOMES

- Increased scale-up, availability and use of **onsite digital tools** (e.g., **light-based technologies, remote sensing, Artificial Intelligence (AI)**) to monitor nutrients, micronutrients, chemical and biological stressors in soil, plants and subsequently in food in various stages of the production process (**from farm to processing stages**).
- Improved capacities for **food safety risk mitigation** and management throughout the various food production stages.





# HORIZON-MISS-2023-SOIL-01-03



## SCOPE

- Advance and/or develop **onsite digital technologies** and applications to analyse nutrients and pollutants that could support appropriate interventions at the various food production stages **to enrich soil or remove excess nutrients and micronutrients**
- Advance and/or develop **innovative digital technologies including exploratory modelling** for calibration and prediction, to detect **nutrients** and micronutrients, chemical and biological **contaminants** which have a bearing on food quality and safety.
- Advance and/or develop digital technologies and applications for **in-field detection of soil parameters** with relevance for food safety and nutrition to improve soil management practices
- Identify challenges to the scale-up of existing digital technologies related to the soil-food nexus.



## KEEP IN MIND

- Use **Copernicus** and/or Galileo/EGNOS (if projects use satellite-base earth observation)
- Contribute to the EU Soil Observatory (**EUSO**) of the European Commission Joint Research Centre

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HORIZON-MISS-2023-SOIL-01-04

# Innovations to prevent and combat desertification

*Type of Action: Innovation Action (IA)*

*Indicative budget: 14 M€ in total  
(7 M€ per project)*



# HORIZON-MISS-2023-SOIL-01-04



## POLICY CONTEXT

- Soil Mission **Implementation Plan**
  - Specific Objective 1, Target 1.1: “Halt desertification to help achieve land degradation neutrality and start restoration”
- At the **science-policy interface**, see also:
  - JRC 2018 World Atlas of Desertification
  - IPCC 2019 Special Report "Climate Change and Land"



## EXPECTED OUTCOMES

- **Understanding** and **measurement** of desertification **drivers**, extent and impacts, in connection with specific **land uses**; **sharing** of knowledge
- **Demonstration** of **solutions** for the **prevention** of desertification and for the **restoration** of degraded land, re. **economic viability** and environmental effectiveness
- Enhanced **access** to effective, **context-specific** restoration and prevention **solutions** and to information about the **conditions** under which they are effective
- More, **bigger areas** under sustainable soil and water **management**
- Dryland soils become **more resilient** and less vulnerable to drought and desertification



# HORIZON-MISS-2023-SOIL-01-04



## SCOPE

- Synthesise and gather **evidence** on drivers and impacts of land degradation, using diverse **data** flows and where relevant **models**, with a view to **supporting** alternative land **management** actions (**scenarios**)
- Identify, **demonstrate** the effectiveness, and promote the **scale-up** of **measures against desertification**, at different scales and addressing various types of land use/land use changes
- **Agricultural** land: identify, demonstrate **land-use practices** which are more resilient and are suitable for combatting desertification while sustaining ecosystem services and preventing land abandonment
- Facilitate **learning** and **exchange** among relevant actors, incl. across sectors, by promoting **various types** of innovations and/or land use
- **Policy recommendations** for creating incentives, overcoming obstacles for widespread **uptake** of measures demonstrated to be effective and suitable for scaling up
- **Awareness-raising** on desertification and for demonstration and dissemination of solutions



## KEEP IN MIND

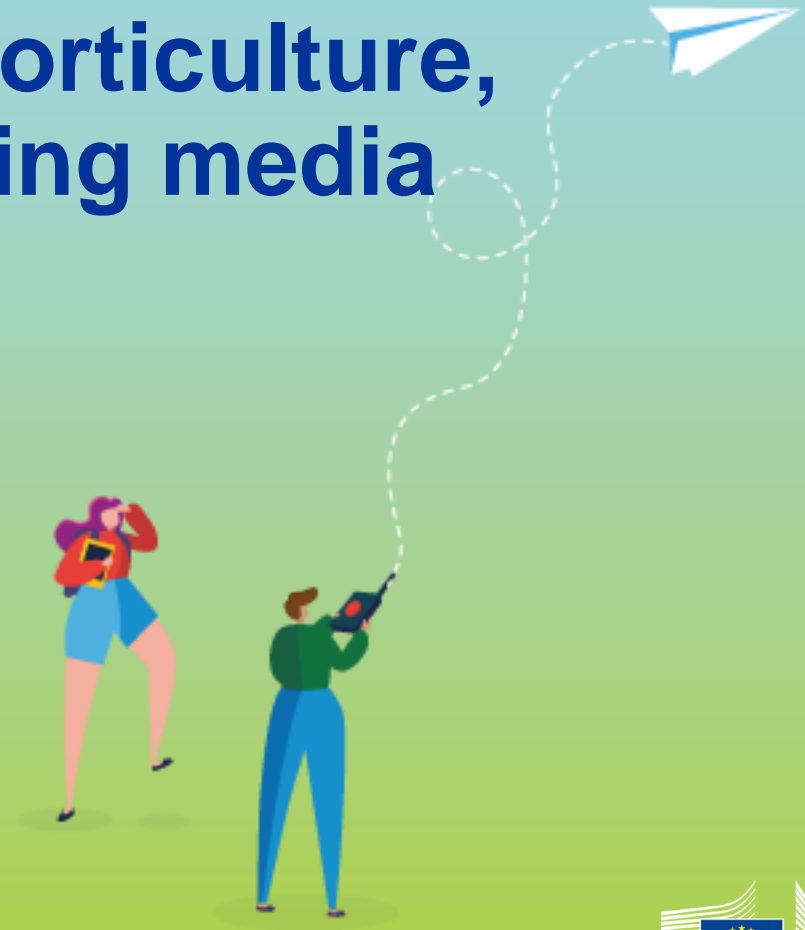
- **Multi-actor** approach
- **TRL 5-7** by end of project
- **Collaboration** esp. with **PRIMA** and **NewLIFE4Drylands**
- **International** cooperation, esp. with **non-EU Mediterranean**

HORIZON-MISS-2023-SOIL-01-05

# Soil-friendly practices in horticulture, including alternative growing media

*Type of Action: Innovation Action (IA)*

*Indicative budget: 13 M€ in total  
(6.5 M€ per project)*



# HORIZON-MISS-2023-SOIL-01-05



## POLICY CONTEXT

- Soil Mission Implementation Plan, specific objectives:
  - 2) “Conserve and increase **soil organic carbon stocks**”
  - 4) “Reduce **soil pollution** and enhance restoration”
  - 6) “Improve **soil structure** to enhance habitat quality for soil biota and crops”
- Other relevant European Green Deal instruments
  - **Organic Action Plan**
  - Biodiversity Strategy for 2030
  - Proposed Nature Restoration Law



## EXPECTED OUTCOMES

- Reduced carbon/environmental **footprint** of the horticultural sector and more sustainable **production systems**, reducing negative impacts on **soil health**
- **Novel products, production processes, management options** developed and tested, with improved environmental, social, health and safety performance
- Sustainable **alternatives to peat** are more widely available and used in horticulture
- **Policy measures** and other **incentives** explored and elaborated to further the uptake of sustainable alternatives to peat



# HORIZON-MISS-2023-SOIL-01-05



## SCOPE

- Identify, develop and promote horticultural **practices and production systems** that conserve or improve **soil health**, incl. **alternative materials** to be used as sustainable **substitutes for peat** as substrate or soil improver
- Demonstrate **feasibility** and **economic viability** of newly developed alternatives to the use of peat
- Generate **data** to support improved environmental, social, health and safety **performance** of alternative **growing media, in a life-cycle perspective** and taking into account potential trade-offs and indirect consequences
- Develop and/or improve sustainable management practices in horticulture (including **digital technologies** and infrastructures) to **reduce the use of inputs** (plant protection products, fertilisers, water, ...)
- Identify and analyse **barriers** against **uptake** of soil-friendly practices; suggest suitable **measures** to overcome them
- Develop and test material for **awareness raising, dissemination** and **training** to promote the uptake of soil-friendly horticultural practices



## KEEP IN MIND

- **Multi-actor** approach
- **TRL 5-7** by end of project
- **SSH** involvement
- **Collaboration** with EU Soil Observatory (EUSO) and with other Mission projects

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**HORIZON-MISS-2023-SOIL-01-06**

# Soils in spatial planning

***Type of Action: Research and Innovation Action***

***Indicative budget: 7 M€  
(1 project to be funded)***





# HORIZON-MISS-2023-SOIL-01-06



## POLICY CONTEXT

- Global commitment for **land degradation neutrality** (LDN) under UNCCD
  - LDN principle 6: “Apply an integrated land use planning principle that embeds the neutrality mechanism in land use planning”
- EU Soil Strategy
  - Roadmap towards no net land take; apply principles of land take hierarchy
- Long Term Vision for Rural Areas
  - Sustain ecosystems in urban and rural areas



Balanced development of the EU territory



## EXPECTED OUTCOMES

- More systematic recognition of the value of **soil functions** in spatial planning and land use decisions
- Improved access to **information and planning tools** for more adaptive land management
- Promotion of **nature based solutions** to support soil functions
- Approaches for **rezoning, restoration and de-sealing** are more widely applied to land infrastructure for reuse.



# HORIZON-MISS-2023-SOIL-01-06



## SCOPE

- Undertake a **systematic review and analysis** of how soils, their **functions** and **ecosystem services** are considered in the various levels of spatial planning in the EU and Associated Countries.
- **Improve the knowledge on potential trade-offs** between the provision of ecosystem services and the further **expansion of urban, peri-urban and rural areas.**
- **Identify good planning practices** that integrate soils and their ecosystem services into **spatial planning**. **Show the impact of these practices** on actual land use in urban and rural areas.
- **Develop strategies to progress towards zero net land take by 2050.** **Provide practical recommendations** and **identify bottlenecks** for a better integration of soils into existing spatial planning practices.
- **Provide opportunities for training and skill development of planners** as well as for the **exchange of experiences** between the various actors involved in planning processes and land use decisions at various levels.



## KEEP IN MIND

- Selected projects should **liaise with the Joint Research Centre** as relevant to populate the European Soil Observatory with data and information
- **Seek to build synergies** between the integration of soils in planning practices with the **management of other resources such as water**
- Build on **good practices from Third Countries**, as appropriate

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**HORIZON-MISS-2023-SOIL-01-07**

# Back to earth: bringing communities and citizens closer to soil

***Type of Action:*** Coordination and support action

***Indicative budget:*** 6 M€ in total  
(6 M€ per project)





# HORIZON-MISS-2023-SOIL-01-07



## POLICY CONTEXT



- Mission ‘A Soil Deal for Europe’, specific objective 8 “Increase soil literacy across society”



- Education for Climate Coalition



- Long-term vision for EU’s rural areas as the Mission is one of its flagship initiatives



## EXPECTED OUTCOMES

- Increased **societal awareness** on the importance of soil and the challenges it faces and of the **impact of individual decisions** on soils >> **increased engagement** in the protection and restoration of soil health.
- **Opportunities for engaging in creative ways in soil protection are widely available** and supported by soil-related **arts products** and innovative methodologies
- **Cultural and creative industries (CCIs), artists and civil society organisations are mobilised** and work together alongside with universities, research institutes and public institutions and citizens **to increase soil literacy in society**
- **Increased capacity of public and private institutions at different levels to engage with the wide public** in creative ways to promote sustainable soil management



# HORIZON-MISS-2023-SOIL-01-07



## SCOPE

- **Establish a network** of relevant actors and projects around art, humanities, cultural and creative industries and carry-out activities and campaigns **to increase people's awareness on soils**, as well as ensure meaningful **citizens' engagement**. -> the network should gradually expand
- **Coordinate, monitor and evaluate** the actions of the projects and initiatives from **third parties** receiving financial support. Support and **scale up successful initiatives**.
- **Design and provide tools and material** as well as **build capacities and skills** for supporting public and private institutions at different levels to **engage with citizens in creative ways** in the protection and restoration of soil health.
- **Organise regular festivals** (at least two) **open to the public** with the participation of the projects and initiatives financed through the financial support to third parties.

**The projects and initiatives financed through the financial support to third parties** should:

- **Run innovative communication campaigns** through different tools to raise awareness on the importance of soil; and **organise and promote artistic, soil-related activities and events**
- **Engage citizens** in the protection and preservation of soil as well as in **tackling soil challenges** (including the ones addressed by the specific objectives of the Soil Deal Mission), **through innovative, participatory and creative methodologies**



# HORIZON-MISS-2023-SOIL-01-07



## KEEP IN MIND

- **International organisations** with headquarters in a Member State or associated country are exceptionally eligible for funding
- **Legal entities established in non-associated third countries** may exceptionally participate in this CSA
- Must: **multi-actor approach, SSH (social science and humanities)**
- **Financial support to third parties** (grants) max EUR 150 000 each – in total not exceed 40% of the EU funding (approx. 2,4 M euro)
- Should: create synergies with **HuMUS** and **HORIZON-MISS-2022-SOIL-01-07 “Foster soil education across society”**
- Suggestion: Creative Europe programme  
<https://culture.ec.europa.eu/creative-europe/about-the-creative-europe-programme>

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**HORIZON-MISS-2023-SOIL-01-08**

# Co-creating solutions for soil health in Living Labs

***Type of Action: Research and Innovation Action (RIA)***

***Indicative budget: 36 M€ in total  
(12 M€ per project)***



# HORIZON-MISS-2023-SOIL-01-08



## POLICY CONTEXT

- **European Green Deal and several strategies**, such as those related to soil, food and nutrition security, climate, biodiversity, environment and rural areas:
  - Soil strategy
  - Farm to Fork strategy
  - EU Biodiversity Strategy for 2030
  - Climate Adaptation Strategy
  - Zero Pollution Action Plan
  - Long-term Vision for Rural Areas
  - Forest Strategy
  - Organic Action Plan
- **Soil Deal Mission goal** of setting up **100 living labs** to lead the transition to healthy soils by 2030.
- **Soil Deal Mission objectives**, except number 2
- **SDG**



## EXPECTED OUTCOMES

- **Fully operational Living labs (LL)** are established, where **co-creation and testing of solutions** for soil health in rural and urban areas takes place;
- Increased capacities for **participatory, interdisciplinary and transdisciplinary** R&I approaches; allowing for effective cooperation between **science, practice and policy**;
- Practice oriented **knowledge and tools** are **more easily available** to land managers and **contribute to an enhanced uptake of solutions** for soil health and related ecosystem services;
- **Strengthened collaborations** and increased consideration of **effective solutions** for soil health;
- **Policy makers** are more **aware** of local needs regarding soil health and can use this knowledge to design more **effective policies**.





# HORIZON-MISS-2023-SOIL-01-08



## SCOPE

- Set up **four to five LL** to work together under **one project**, sharing related **soil health challenges**;
- Establish a detailed **work plan** with the activities to be undertaken ensuring the **co-design, co-development, and co-implementation** of solutions;
- Demonstrate how they do research, considering the relevant **drivers and pressures** as well as **the scaling up and the transferability of solutions**;
- **Establish** for each LL a **baseline** for the selected soil health challenge(s), in order to allow **for an accurate assessment and monitoring** of progress towards the objectives of the LL and the objectives of the project overall;
- **Monitor** and carry out an **assessment of the effects** of the innovative solutions **on soil health and related ecosystem services**. This should include a **demonstration of the viability** of the proposed solutions;
- Propose **strategies to ensure long-term sustainability** and continuity of the living labs beyond the Horizon Europe (e.g. possible business models);
- **Document** in an easy and accessible way the **developed solutions** in order to facilitate their uptake and transfer to relevant actors.



## KEEP IN MIND

- **Multi-actor approach**;
- Beneficiaries may provide **financial support to third parties** (max. EUR 200 K);
- Capitalize from **ongoing projects** such as PREPSOIL, NATI00NS, NBSSOIL and the **future Support Structure** under the SGA;
- Interact with networks active at local level, such as **EIP-AGRI OG**;
- Close collaboration with **EUSO**;
- Agricultural activities should benefit both **conventional and organic farming**.

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HORIZON-MISS-2023-SOIL-01-09

# Carbon farming in living labs

*Type of Action: Research and Innovation Action (RIA)*

*Indicative budget: 12 M€ in total  
(12 M€ per project)*



# HORIZON-MISS-2023-SOIL-01-09



## POLICY CONTEXT

- **European Green Deal** ambitious and targets,
- Commission's Communication on **Sustainable Carbon Cycle**, and upcoming regulatory proposal on the **certification of carbon removals**;
- **Soil Deal Mission goal** of setting up **100 living labs** to lead the transition to healthy soils by 2030.
- **Soil Deal Mission objective 2**, “**Conserve and increase soil organic carbon stocks**”.
- **SDG # 13** on climate action



## EXPECTED OUTCOMES

- Increased **carbon sequestration** and protection of **carbon in soils, living biomass and dead organic matter**
- Increased capacities for **participatory, interdisciplinary and transdisciplinary** R&I approaches
- Practice-oriented **knowledge and tools are more easily available to land managers** and contribute to an enhanced uptake of carbon farming.
- **Strengthened collaborations** and increased consideration of **effective solutions for carbon farming** in regions where the selected LL are operating.
- **Policy makers** are more **aware** of local needs regarding soil health and can use this knowledge to design more effective policies.



# HORIZON-MISS-2023-SOIL-01-09



## SCOPE

- Set up **four to five LL** to work together **on carbon farming**, covering one or several land use types. Proposals should **describe the rationale for cooperation** across the various LL.
- Establish a detailed **work plan** with the activities to be undertaken ensuring the **co-design, co-development, and co-implementation of solutions**.
- Carry out **participatory and transdisciplinary** research in LL, considering relevant **drivers and pressures** as well as the **scaling up** and the **transferability of solutions to carbon farming challenges**;
- Establish for each LL a **baseline for carbon farming** to monitor the progress towards the objective of the LL and of the project overall. **Make use of relevant accounting methodologies for quantification of carbon removals**.
- Monitor and carry out an **assessment of the innovative practices** for carbon farming, considering the effects of ongoing climate change on carbon sequestration potential and dynamics.
- Propose **strategies to ensure long-term sustainability** and continuity of the living labs beyond the Horizon Europe (e.g. possible business models).



## KEEP IN MIND

- **Multi-actor approach**;
- Beneficiaries may provide **financial support to third parties** (max. EUR 200 K);
- Capitalize from **ongoing projects** such as PREPSOIL, NATI00NS, NBSSOIL and the **future Support Structure** under the SPECIFIC GRANT AGREEMENT (SGA);
- Interact with networks active at local level, such as **EIP-AGRI** OG;
- Close collaboration with **EUSO**;
- Agricultural activities should benefit both **conventional and organic farming**.

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HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01-01

# Joint demonstration of an integrated approach to increasing landscape water retention capacity at regional scale

*Type of Action: Innovation Action (IA)*

*Indicative budget: 15 M€ in total  
(one project)*



# HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01-01



## POLICY CONTEXT

- European **Green Deal** (EGD) and related policies/strategies
- **Soil Mission** Implementation Plan: Specific Objectives
  - 3) No net soil sealing
  - 5) Prevent erosion



## EXPECTED OUTCOMES

- Increased **resilience to climate change impacts** on soils, waters, habitats and biodiversity
- Increased landscape/soil **water retention capacity**
- Enhanced **mobilization** of relevant **actors** (local/regional authorities, planning bodies, farmers, foresters, land owners, economic operators, citizens)
- **Enhanced implementation** of EU legislation/policies: EGD, Adaptation Strategy, Biodiversity Strategy, Water Framework and Groundwater Directives, Soil Strategy



# HORIZON-MISS-2023-CLIMA-OCEAN-SOIL-01-

01



## SCOPE

- Full-scale **demonstration** of **socio-ecological approaches and nature-based solutions** to increase the landscape and soil water retention capacity, resilience to climate change, surface and ground water quality, soil health, and biodiversity protection/conservation
  - **At least 75 demonstrations**
  - In **at least three Member States** or Associated Countries
- Demonstration activities at the level of socio-ecological **territorial units** large enough to comprise different living/non-living systems (soil, waters, vegetation/biota, human communities)
- **Planning, implementation** and management of effective measures with the **involvement** of relevant authorities, stakeholder and local communities



## KEEP IN MIND

- **TRL 6-7** by end of project
- **Multi-actor** approach
- Third-party cascaded grants to '**associated regions**' (at least five)
- **Dissemination** of best practices to end-users as well as action plan for replication/scalability

# HORIZON-MISS-2023-OCEAN-SOIL-01-01

Joint demonstration of approaches and solutions to address nutrient pollution in the landscape-river-sea system in the Mediterranean sea basin

***Type of Action: Innovation Action (IA)***

***Indicative budget: 16 M€ in total  
(8 M€ per project)***





# HORIZON-MISS-2023-OCEAN-SOIL-01-01



## POLICY CONTEXT

- European **Green Deal** and related policies/strategies
- **Soil Mission** Implementation Plan, Specific Objective 4: "Reduce soil pollution and enhance restoration"
  - Target 4.2 – reduce fertiliser use by at least 20%
  - Target 4.3 – reduce nutrient losses by at least 50%



## EXPECTED OUTCOMES

- **Uptake** of innovative and reproducible approaches to:
  - Prevent/minimize/remediate soil and water **pollution** from **excess nutrients**
    - Reduce **use of fertilisers**, inland water and ocean **eutrophication**
- **Empowerment of citizens** to take action against pollution
- Support to **implementation** of Marine Strategy Framework, Water Framework and Maritime Spatial Planning **Directives**

# HORIZON-MISS-2023-OCEAN-SOIL-01-

## 01



### SCOPE

- **Demonstration** activities addressing the **landscape-river catchment-sea system, including coastal ecosystems, in the Mediterranean sea basin**
  - Upstream prevention and reduction of **nutrient losses** from soil
  - Prevention/reduction of **entry of nutrients** in rivers, catchment areas and estuary/sea
  - Measures to **reduce/eliminate excess nutrients** in/from the estuary/sea
- **Demonstration activities** at the level of **territorial units** (rural areas, urban communities, region, river basin, estuary) and considering local conditions
- **Involvement of users** (land owners, soil/water managers, river manager authorities)



### KEEP IN MIND

- **TRL 6-7** by end of project
- **Multi-actor** approach
- Third-party cascaded grants to '**associated regions**' (at least five)
- **Dissemination and training/communication** activities for potential users
- Cooperation with European Soil Observatory (JRC-**EUSO**)



GRAZIE PER L'ATTENZIONE!

Serena Borgna  
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## FOCUS TOPIC

# HORIZON-CL4-2024-TWIN-TRANSITION-01-44: Digital transformation and ensuring a better use of industrial data, which can optimise steel supply chains (Clean Steel Partnership) (IA)

Specific conditions	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of between EUR 3.00 and 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 10.00 million.
<i>Type of Action</i>	Innovation Actions
<i>Eligibility conditions</i>	The conditions are described in General Annex B. The following exceptions apply:  If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
<i>Technology Readiness Level</i>	Activities are expected to start at TRL 5 and achieve TRL 6-7 by the end of the project – see General Annex B.
<i>Legal and financial set-up of the Grant Agreements</i>	The rules are described in General Annex G. The following exceptions apply:  Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the





## FOCUS TOPIC

### HORIZON-CL4-2024-TWIN-TRANSITION-01-44: Digital transformation and ensuring a better use of industrial data, which can optimise steel supply chains (Clean Steel Partnership) (IA)

**Expected Outcome:** As mentioned in the Clean Steel Partnership (CSP) Strategic Research and Innovation Agenda (SRIA) digitalisation and social aspects are both addressed in the Building Block (BB) because of their strong role of enabling the carbon neutral transition. In particular, digitalisation enables all the other BBs, as evidenced in Table 12 of the CSP SRIA. **So, the optimal deployment of digitalisation implementing the integrated approach along the steel value chain must be provided according to outcomes and scopes defined below.** Projects are expected to contribute to one or more of the following outcomes:

- Increasing awareness and effectivity leading to total safety of steel manufacturing processes and CO<sub>2</sub> reduction through digital transition with better use of industrial data;
- Extension of inline and real-time tools to monitor and control sustainability of the running process conditions, to set up countermeasures to stay into the optimal process window; this includes, but is not limited to, energy and (intermediate) product quality forecasting, online comparison between forecast and realisation, control of metal slag;
- Enhancement of the in-line classification of feedstock and intermediate products through the continuous analysis of composition and bulk properties by applying holistic soft sensor approaches considering the assembly of sensors, specific models, and advanced data processing according to SRIA (specifically see page 41, 42 of the SRIA);
- Increasing effective and secure data sharing in steel plants to realise the seamless digital integration of the value chain and the interoperability of systems and tools by implementation of existing and enhanced standardised protocols;



## FOCUS TOPIC

### HORIZON-CL4-2024-TWIN-TRANSITION-01-44: Digital transformation and ensuring a better use of industrial data, which can optimise steel supply chains (Clean Steel Partnership) (IA)

- Novel sensors and models for real-time process control (see page 41, 42 of the SRIA), such as, but not limited to, metal slag parameters (e.g., composition) and temperature measurement, slag analysis, off-gas analysis, energy forecasting to match demand and offered mix in the power grid considering energy generated from renewable sources; the latter could require cooperation between steel experts and electric power players in the market. The expected outcome is an enhanced merging of planning activities and approaches to run plant processes;
- Application of digital technologies such as, for example, Digital Twins and/or enhanced statistical analysis, machine learning (ML) algorithms, or artificial intelligence (AI) to develop decision-supported planning and process monitoring tools operable in offline or online modes;
- Traceability of materials and process information throughout the value chain to promote improved product quality, efficiency and process integration control (including multi-scale modelling of structure, and structure vs. properties correlations).



## FOCUS TOPIC

### HORIZON-CL4-2024-TWIN-TRANSITION-01-44: Digital transformation and ensuring a better use of industrial data, which can optimise steel supply chains (Clean Steel Partnership) (IA)

**Scope:** Multidisciplinary research activities should address one or more of the following topics:

- Novel sensors, soft sensors and related models and approaches to reduce the carbon footprint by merging the use of sensors and data processing capabilities for huge volumes of heterogeneous data streams; systems / tools enabling the transition from legacy into new architectures capable to supply data in a seamless way “when, where and what” including the development and testing of implementation guidelines. This should enable the traceability of materials and process information throughout the value chain to promote improved product quality, efficiency and integrated process control and management (including multi-scale modelling of structure, and structure vs. properties correlations);
- Statistics coupled with outstanding analytical capabilities to improve data quality and to help steel plant operators to increase the process yield and to improve the quality of intermediates and final steel products, while addressing the best approach to limit carbon emissions;
- The application of combinations of advanced digital technologies, such as but not limited to model-based, knowledge-based and data-based methods, artificial intelligence (AI), supercomputing, edge computing, cloud systems and internet of things (IoT) to develop decision-supported planning and process monitoring tools for clean steel manufacturing operable in offline or online modes;
- Involvement of operators and process experts in the design and development phases of digital technology integration, ensuring the uptake of human experiences and a user-friendly processing of results for easier industrial integration (see Table 12 row 3 of the CSP SRIA<sup>[2]</sup>). This may also include issues of skilling and standardisation and man-machine interaction by deploying Virtual and Augmented Reality techniques.

