



E U R O P E A N A L L I A N C E

**General presentation of the European research program  
Horizon Europe and  
presentation of successful projects within the partners**

Guadalupe Rubio (UEx) and Silvia Tavernini (UNIPR). Room 304. 28.06.23



**Funded by  
the European Union**

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**Pillar 1**  
Excellent Science

European Research Council

Marie Skłodowska-Curie  
Actions

Research Infrastructures

**Pillar 2**  
Global Challenges and  
European Industrial  
Competitiveness

Clusters

- Health
- Culture, Creativity and Inclusive Society
- Civil Security for Society
- Digital, Industry and Space
- Climate, Energy and Mobility
- Food, Bioeconomy, Natural Resources, Agriculture and Environment

Joint Research Centre

**Pillar 3**  
Innovative Europe

European Innovation Council

European innovation  
ecosystems

European Institute of  
Innovation  
and Technology

**Widening Participation and Strengthening the European Research Area**

Widening participation and spreading excellence

Reforming and Enhancing the European R&I system

- **European Innovation Council:** Support for innovations with potential breakthrough and disruptive nature with scale-up potential that may be too risky for private investors. This is 70% of the budget earmarked for SMEs.
- **Open science policy:** Mandatory open access to publications and open science principles are applied throughout the programme
- **Missions:** Sets of measures to achieve bold, inspirational and measurable goals within a set timeframe. There are 5 main mission areas as part of Horizon Europe.

## MISSION AREAS:

Soil health and food



Adaptation to climate change, including societal transformation



Climate-neutral and smart cities



Cancer



Healthy oceans, seas, coastal and inland waters



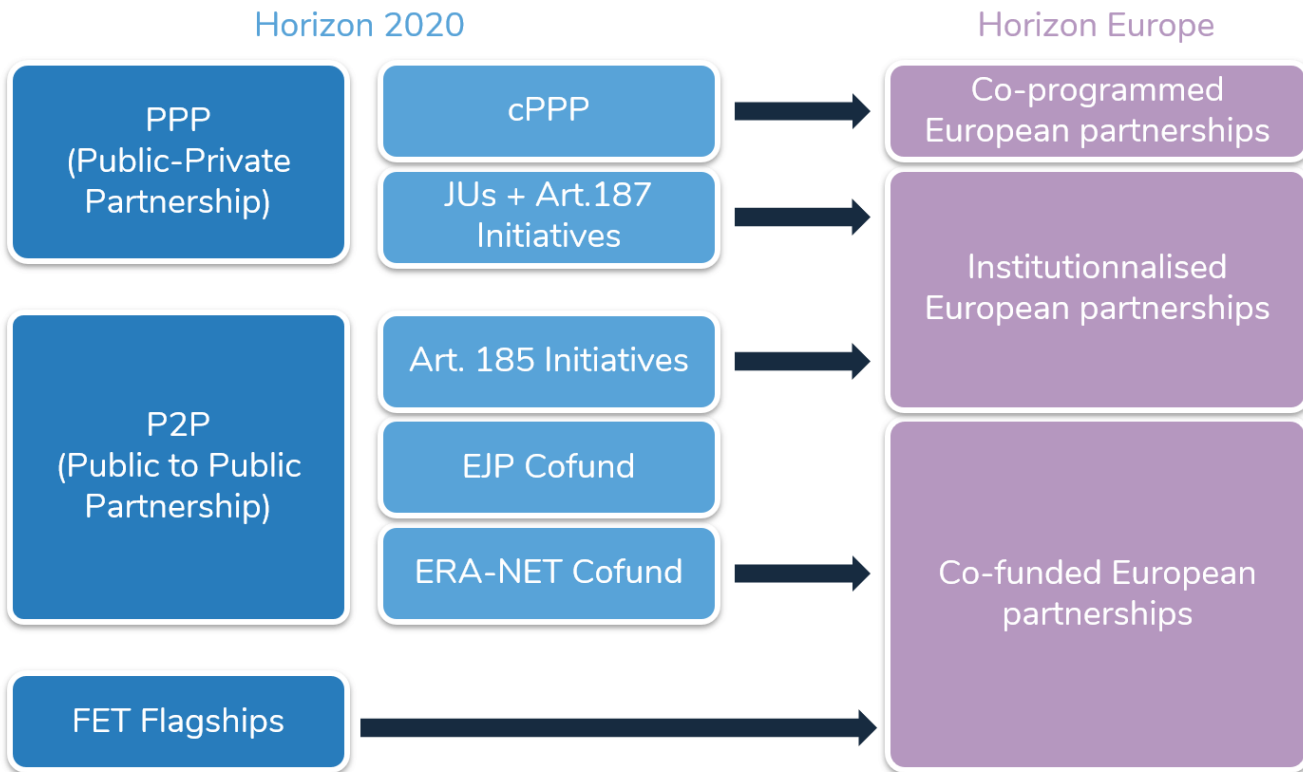
#HorizonEU



European  
Commission

- **European Innovation Council:** Support for innovations with potential breakthrough and disruptive nature with scale-up potential that may be too risky for private investors. This is 70% of the budget earmarked for SMEs.
- **Open science policy:** Mandatory open access to publications and open science principles are applied throughout the programme
- **Missions:** Sets of measures to achieve bold, inspirational and measurable goals within a set timeframe. There are 5 main mission areas as part of Horizon Europe.
- New approach to **partnerships:** Objective-driven and more ambitious partnerships with industry in support of EU policy objectives.

# PARTNERSHIPS



# Overview of 49 candidate 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	

<span style="color: orange;">■</span> Institutionalised Partnerships (Art 185/7)
<span style="color: green;">■</span> Institutionalised Partnerships / EIT KICs
<span style="color: blue;">■</span> Co-Programmed
<span style="color: teal;">■</span> Co-Funded

\* Calls with opening dates in 2023-24

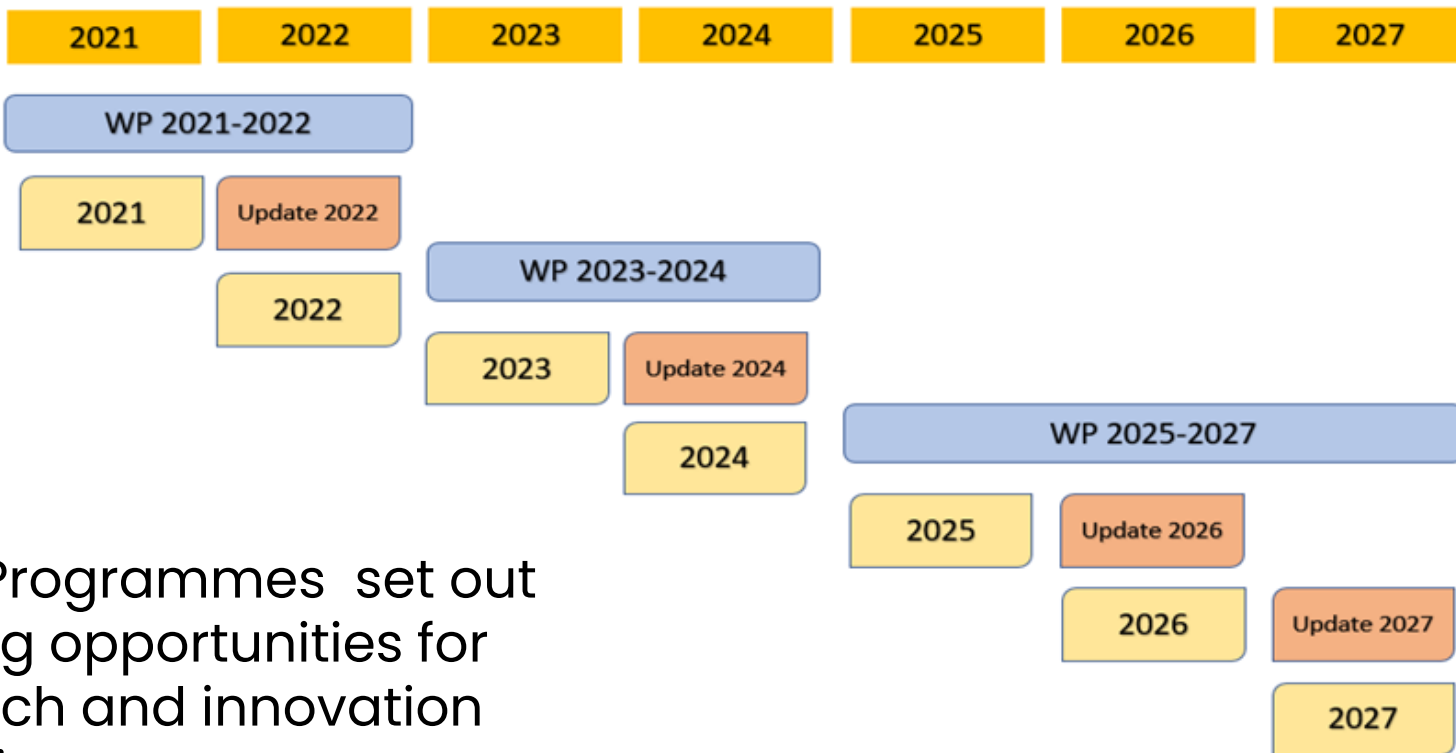
\*\* Calls with opening dates not before 2022

## PILLAR III - Innovative Europe

EIT (KNOWLEDGE & INNOVATION COMMUNITIES)	SUPPORT TO INNOVATION ECOSYSTEMS
InnoEnergy	Innovative SMEs
Climate	
Digital	
Food	
Health	
Raw Materials	
Manufacturing	
Urban Mobility	
Cultural and Creative Industries	

## CROSS-PILLARS II & III

European Open Science Cloud



- Work Programmes set out funding opportunities for research and innovation activities.



## Activities eligible for funding – Type of actions

Research and innovation action (RIA)

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

Innovation action (IA)

Activities to produce plans and arrangements or designs for new, altered or improved products, processes or services.

Coordination and support actions (CSA)

Activities that contribute to the objectives of Horizon Europe. This excludes R&I activities, except for 'Widening participation and spreading excellence'

Programme co-fund actions (CoFund)

A programme of activities established or implemented by legal entities managing or funding R&I programmes, other than EU funding bodies.

Innovation and market deployment actions (IMDA)

Activities that embed an innovation action and other activities necessary to deploy an innovation on the market. (EIC)

Training and mobility actions (TMA)

Activities that aim to improve the skills, knowledge and career prospects of researchers, based on mobility between countries and, if relevant, between sectors or disciplines. (MSCA)

Pre-commercial procurement actions/ (PCP)

Activities that aim to help a buyers' group to strengthen the public procurement of research, development, validation and, possibly, the first deployment of new solutions

Public procurement of innovative solutions actions (PPI)

Activities that aim to strengthen the ability of a buyers' group to deploy innovative solutions early

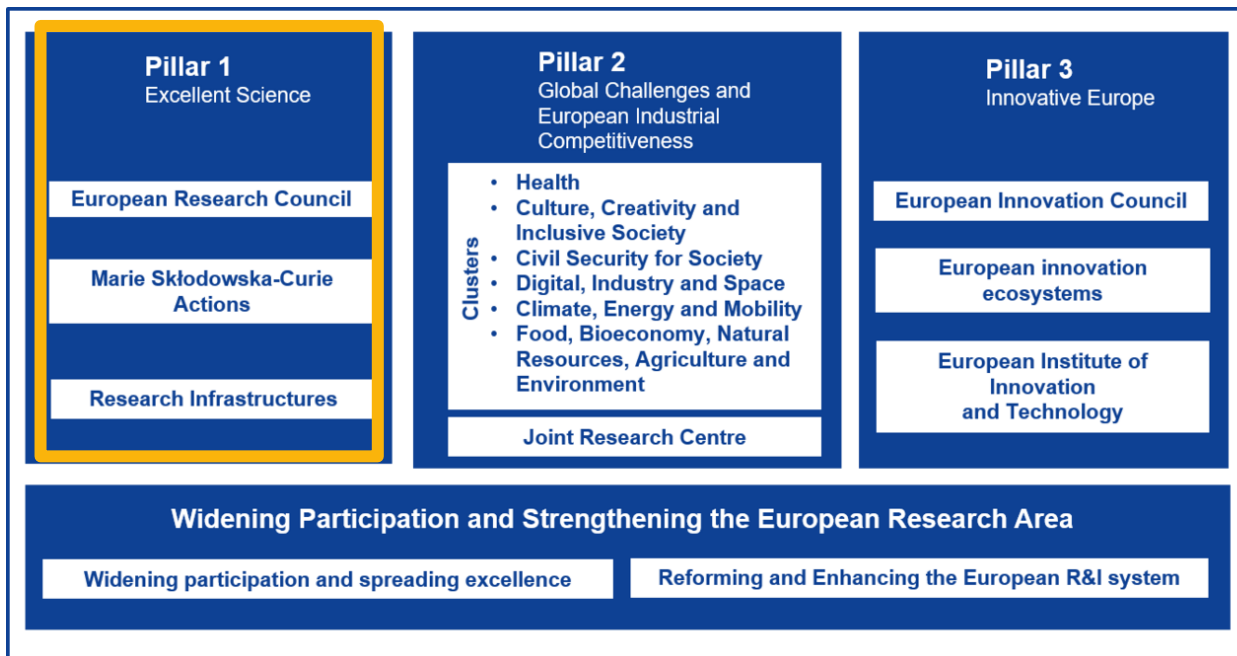
# WHO CAN PARTICIPATE?

## EU MEMBER STATES



## HORIZON EUROPE ASSOCIATED COUNTRIES

- |   |                        |   |                 |
|---|------------------------|---|-----------------|
|  | Albania                |  | Moldova         |
|  | Armenia                |  | Montenegro      |
|  | Bosnia and Herzegovina |  | North Macedonia |
|  | Faroe Island           |  | Norway          |
|  | Georgia                |  | Serbia          |
|  | Iceland                |  | Tunisia         |
|  | Israel                 |  | Turkey          |
|  | Kosovo                 |  | Ukraine         |



Its overall objective is to **strengthen and extend the excellence** of the European Union's science base.

- ERC is the leading European funding organization for excellent frontier research.
- ERC funds researchers of **all nationalities and ages**, to run projects based in Europe and associated countries.
- ERC encourages proposals of a **multidisciplinary/interdisciplinary nature**, which cross the boundaries between different research fields, pioneering proposals in new and emerging research fields or proposals which introduce unconventional and innovative approaches and scientific inventions.
- **Bottom-up approach.**
- **All scientific fields** are eligible for ERC funds.
- Projects are evaluated on the **sole basis of scientific excellence.**

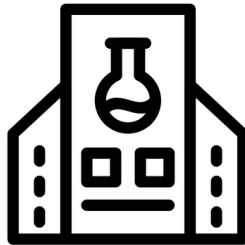


# PRINCIPAL INVESTIGATOR E HOST INSTITUTION

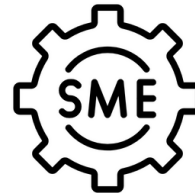
- **Principal Investigators (PI):** researchers of **any nationality** living in **any country** in the world at the time of application can apply for ERC funding.
- They have to carry out project activities at a **Host Institution** present in a Member State or Associated Country.



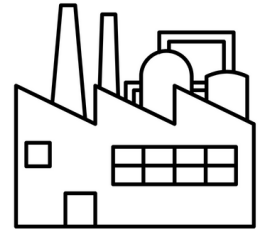
UNIVERSITIES



RESEARCH  
CENTRES



SMALL/MEDIUM  
ENTERPRISES



INDUSTRIES  
LABs



**Starting Grant:** up to €1.5 million. Duration: up to 5 years. 2-7 years of experience since completion of PhD.



**Consolidator Grant:** up to €2 million. Duration: up to 5 years. 7-12 years of experience since completion of PhD.



**Advanced Grant:** up to €2.5 million. Duration: up to 5 years. An excellent scientific track record of recognized achievements in the last 10 years.



**Synergy Grant:** 2-4 researchers (one can be based outside Europe). Up to a maximum of €10 million for a period of 6 years.



10,000+  
Projects funded  
since 2007



7 Nobel Prizes, 4 Fields  
Medals.

- Support for a small **group of 2–4 PIs to jointly address ambitious research problems** that could not be addressed by the individual PIs and their teams working alone.
- Synergy projects should enable substantial advances at the frontiers of knowledge, stemming, for example, from the cross-fertilisation of scientific fields, from new productive lines of enquiry, or new methods and techniques, including unconventional approaches and investigations at the interface between established disciplines. The transformative research funded by **Synergy Grants should have the potential of becoming a benchmark on a global scale.**
- PIs must demonstrate the ground-breaking nature, ambition, and feasibility of their research proposal.
- Up to EUR 10.000.000 for a period of 6 years. Additional funding up to EUR 4.000.000.

	Starting Grant	Consolidator Grant	Advanced Grant	Synergy Grant	Proof of Concept Grant
<b>Call opens</b>	11/07/2023	12/09/2023	29/05/2024	12/07/2023	16/11/2023
<b>Deadline to submit applications</b>	24/10/2023	12/12/2023	29/08/2024	08/11/2023	14/03/2024
					17/09/2024
<b>Budget</b>	€601m	€584m	€578m	€400m	€30m



- The Marie Skłodowska-Curie Actions (MSCA) are the European Union's main reference program for **excellent doctoral and post-doctoral training**.
- **3 main objectives:**
  1. Strengthen researchers' knowledge, skills and career prospects;
  2. Making organizations more attractive and performing in research;
  3. Strengthen and increase strategic cooperation.

RESEARCH AND  
TRAINING

EXCELLENCE AND  
INNOVATION

INTERSECTORIALITY

INTERDISCIPLINARY

MOBILITY AND  
SUPERVISION

# TYPES OF ACTIONS

## Doctoral Networks

*Doctoral programmes in and outside academia incl. joint & industrial doctorates*

## Postdoctoral Fellowships

*Support to excellent postdoctoral researchers*

## Staff Exchanges

*Support for research and innovation staff exchanges*

## COFUND

*Co-funding doctoral and postdoctoral programmes*

## MSCA and Citizens

*Public outreach events (Night)*

## Researchers

## Actions available

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Researchers without  
a PhD degree

Doctoral Networks  
Staff Exchanges  
COFUND-DP

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Researchers with  
a PhD degree

Postdoctoral Fellowships  
Staff Exchanges  
COFUND-PP

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Other staff (Research  
managers, technicians,  
etc.)

Staff Exchanges

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## Overview

		DN	DN-ID	DN-JD
<b>BENEFICIARY (IES)</b>	<b>Minimum Number of beneficiaries</b>	3	3	3
	<b>Minimum MS or AC</b>	3	3	3
	<b>Minimum MS (beneficiaries)</b>	1	1	1
	<b>Academic sector</b>	No restrictions	No restrictions	No restrictions
	<b>Non-academic sector</b>	No restrictions	No restrictions	No restrictions
	<b>Max no. of person months</b>	540	540	540
	<b>Max 40.0% budget for 1 country/international organisation</b>	Mandatory	Mandatory	Mandatory
<b>Beneficiary or associated partner/associated partner linked to a beneficiary awarding PhD</b>	Mandatory (beneficiary or associated partner/ associated partner linked to a beneficiary)	Mandatory (beneficiary or associated partner/ associated partner linked to a beneficiary)	Mandatory (please see minimum requirements for DN-JD)	
<b>Joint/double/multiple award of PhD</b>	Optional	Optional	Mandatory (Researchers must be enrolled in a doctoral programme leading to the award of a doctoral degree in at least 2 EU MS/AC)	
<b>Joint/double/multiple degree – letter of pre-agreement</b>	N/A	N/A	Mandatory	
<b>Joint supervision for researchers</b>	Encouraged	Mandatory (from the 2 sectors)	Mandatory	
<b>Researchers enrolment in the PhD</b>	Mandatory	Mandatory	Mandatory	
<b>Stay in non-academic sector</b>	Encouraged	Min. 50% of fellowship duration	Encouraged	
<b>Secondments</b>	≤ 1/3	No limitation	No limitation	
<b>Max Project duration</b>	48	48	60	
<b>Fellowship duration</b>	3-36 months	3-36 months	3-48 months	
<b>Ranking lists</b>	8 (Scientific) panels			
<b>Budget</b>	~€435 Million			

# DOCTORAL NETWORKS

MSCA Doctoral Networks	Contributions for recruited researchers per person-month					Institutional unit contributions per person-month	
	Living allowance	Mobility allowance	Family allowance (if applicable)	Long-term leave allowance (if applicable)	Special needs allowance (if applicable)	Research, training and networking contribution	Management and indirect contribution
	EUR 3 400	EUR 600	EUR 660	EUR 4 000 x % covered by the beneficiary	requested unit <sup>86</sup> x (1/number of months)	EUR 1 600	EUR 1 200



EN

Horizon Europe

Work Programme 2023-2024

2. Marie Skłodowska-Curie Actions

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

*Horizon Europe - Work Programme 2023-2024  
Marie Skłodowska-Curie Actions*

## MSCA Doctoral Networks

The MSCA Doctoral Networks aim to train creative, entrepreneurial, innovative and resilient doctoral candidates, able to face current and future challenges and to convert knowledge and ideas into products and services for economic and social benefit.

The MSCA Doctoral Networks will raise the attractiveness and excellence of doctoral training in Europe. They will equip researchers with the right combination of research-related and transferable competences and provide them with enhanced career perspectives in both the academic and non-academic sectors through international, inter-sectoral and interdisciplinary mobility combined with an innovation-oriented mind-set.

### Expected impact

Proposals under this Action should contribute to the following expected impacts:

- Strengthen Europe's human capital base in R&I by training highly-skilled doctoral candidates;
- Improve the attractiveness of researchers' careers notably through better working and employment conditions of doctoral candidates in Europe;
- Enhance talent and knowledge circulation across the R&I landscape, through international, inter-sectoral and interdisciplinary mobility;
- Increase Europe's attractiveness as a leading research destination;
- Enhance the quality of R&I contributing to Europe's sustainable competitiveness;
- Establish sustainable collaboration between academic and non-academic organisations;
- Foster the culture of open science, innovation and entrepreneurship.

# DN DEADLINES 2023

Call - MSCA Doctoral Networks 2023

*HORIZON-MSCA-2023-DN-01*

Conditions for the Call

Indicative budget(s)<sup>12</sup>

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Indicative number of projects expected to be funded
		2023		
Opening: 30 May 2023 Deadline(s): 28 Nov 2023				
HORIZON-MSCA-2023-DN-01-01	TMA Doctoral Networks	434.80		Not relevant
HORIZON-MSCA-2023-DN-01-01	TMA Doctoral Networks - Industrial Doctorates			Not relevant
HORIZON-MSCA-2023-DN-01-01	TMA Doctoral Networks - Joint Doctorates			Not relevant
Overall budget	indicative	434.80		

[Go to the call](#)



Proposals are invited against the following topic(s):

**HORIZON-MSCA-2023-DN-01-01: MSCA Doctoral Networks 2023**

**Expected Outcome** Project results are expected to contribute to the following outcomes:

For supported **doctoral candidates**

- New research and transferable skills and competences, leading to improved employability and career prospects within and outside academia;
- New knowledge allowing the conversion of ideas into products and services, where relevant;
- Enhanced networking and communication capacities with scientific peers, as well as with the general public that will increase and broaden the research and innovation impact.

For **participating organisations**

- Improved quality, relevance and sustainability of doctoral training programmes and supervision arrangements;
- Enhanced cooperation and transfer of knowledge between sectors and disciplines;
- Increased integration of training and research activities between participating organisations;
- Boosted R&I capacity;
- Increased internationalisation and attractiveness;
- Regular feedback of research results into teaching and education at participating organisations.

# DN DEADLINES 2024

*HORIZON-MSCA-2024-DN-01*

## Conditions for the Call

Indicative budget(s)<sup>17</sup>

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Indicative number of projects expected to be funded
		2024		
Opening: 29 May 2024 Deadline(s): 27 Nov 2024				
HORIZON-MSCA-2024-DN-01-01	TMA Doctoral Networks	451.15		Not relevant
HORIZON-MSCA-2024-DN-01-01	TMA Doctoral Networks - Industrial Doctorates			Not relevant
HORIZON-MSCA-2024-DN-01-01	TMA Doctoral Networks - Joint Doctorates			Not relevant
Overall indicative budget		451.15		

[Go to the call](#)



Proposals are invited against the following topic(s):

## HORIZON-MSCA-2024-DN-01-01: MSCA Doctoral Networks 2024

**Expected Outcome:** Project results are expected to contribute to the following outcomes:

For supported **doctoral candidates**

- New research and transferable skills and competences, leading to improved employability and career prospects within and outside academia;
- New knowledge allowing the conversion of ideas into products and services, where relevant;
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- Increased integration of training and research activities between participating organisations;
- Boosted R&I capacity;
- Increased internationalisation and attractiveness;
- Regular feedback of research results into teaching and education at participating organisations.



**GOAL:** Promote short **cross-sectoral and international exchanges of research staff** to develop collaborative projects between different academic and non-academic organizations

## WHO CAN APPLY:

Transnational partnerships, including at least 3 independent legal entities each based in a different EU Member State or Horizon Europe associated country.

STAFF MEMBER UNIT COST	
Top-up allowance	<b>2.300€</b>
Special needs allowance (if applicable)	
INSTITUTIONAL UNIT COSTS	
Research, training and networking contributions	<b>1.300€</b>
Management and indirect contributions	<b>1.000€</b>

*Horizon Europe - Work Programme 2023-2024  
Marie Skłodowska-Curie Actions*



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**Horizon Europe**

**Work Programme 2023-2024**

*2. Marie Skłodowska-Curie Actions*

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

## MSCA Staff Exchanges

MSCA Staff Exchanges promote innovative international, inter-sectoral and interdisciplinary collaboration in research and innovation through exchanging staff and sharing knowledge and ideas at all stages of the innovation chain. The scheme fosters a shared culture of research and innovation that welcomes and rewards creativity and entrepreneurship and helps turn ideas into innovative products, services or processes. It is open to research, technical, administrative and managerial staff supporting R&I activities.

### Expected impact

Proposals under this Action should contribute to the following expected impacts:

- Increase international, inter-sectoral and interdisciplinary mobility of research staff within Europe and beyond through collaborative research networks and activities;
- Strengthen the R&I human capital base in Europe and beyond;
- Increase Europe's attractiveness as a leading destination for R&I;
- Contribute to Europe's competitiveness and growth through high-quality R&I;
- Foster the culture of open science, innovation and entrepreneurship.

Call - MSCA Staff Exchanges 2023

*HORIZON-MSCA-2023-SE-01*

Conditions for the Call

Indicative budget(s)<sup>40</sup>

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)	Indicative number of projects expected to be funded
		2023		
Opening: 05 Oct 2023 Deadline(s): 28 Feb 2024				
HORIZON-MSCA-2023-SE-01-01	TMA Staff Exchanges	78.50		Not relevant
Overall indicative budget		78.50		

[Go to the call](#)



**HORIZON-MSCA-2023-SE-01-01: MSCA Staff Exchanges 2023**

**Expected Outcome:** Project results are expected to contribute to the following outcomes:

**For staff members**

- Increased set of research and transferable skills and competences, leading to improved employability and career prospects within and outside academia;
- More knowledge and innovative ideas converted into products, processes and services;
- More entrepreneurial mind-sets, testing new and innovative ideas;
- Increased international exposure leading to extended networks and opportunities;
- Enhanced networking and communication capacities with scientific peers, as well as with the general public that will increase and broaden the research and innovation impact.

**For participating organisations**

- Innovative ways of cooperation and transfer of knowledge between sectors and disciplines;
- Strengthened and broader international, inter-sectoral and interdisciplinary collaborative networks;
- Boosted R&I capacity.

- Research infrastructures are facilities that provide resources and services for the research communities to conduct research and foster innovation in their fields. These include major equipment or sets of instruments, knowledge-related facilities such as collections, archives or scientific data infrastructures, computing systems...
- They can be single-sited, distributed or virtual
- HE funds will help to create world-class sustainable research infrastructures open and accessible to the best researchers from Europe and beyond, it will also encourage the use of existing research infrastructures



**Pillar 1 in a nutshell**

## Pillar 2

Global Challenges and  
European Industrial  
Competitiveness

- Clusters
- Health
  - Culture, Creativity and Inclusive Society
  - Civil Security for Society
  - Digital, Industry and Space
  - Climate, Energy and Mobility
  - Food, Bioeconomy, Natural Resources, Agriculture and Environment

Joint Research Centre

- «**GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS**» tackles major **global challenges** and addresses Sustainable Development Goals (SDGs) to ‘improve people’s lives and to protect the planet for future generation’.
- At the same time, the calls under Pillar II address **Europe’s competitiveness in technology**, embracing challenges which are often complex and require interdisciplinary solutions and activities from research to innovation.
- Pillar II is organized into **six clusters with a top-down approach** with a supporting area (JRC activities), and crosscutting ‘Missions’.



## TOP DOWN APPROACH

The EC binds your R&I activities in relation to the topics

## CROSS-SECTOR AND CROSS- BORDER COLLABORATION

The collaboration with the European Partnerships, the participation of the industrial sector, the international cooperation for access to resources, know-how and markets even outside the EU are strengthened in order to achieve the maximum impact from the actions implemented.

## IMPACT

Impact has a predominant role in all Horizon Europe programmes, but in Pillar II it assumes an even more central role (especially for Innovation Actions).

**WORK PROGRAMS (WPs)** define funding opportunities within HE

Each cluster is divided into **Destinations**. They are coherent packages of actions that reflect the expected impacts on science, economy and society in the Strategic Plan.

Within the WP of each cluster there are **several calls for proposals** for each destination. Each call establishes the overall budget available, the general conditions of participation, the expected outcomes and the scope.

**TOPICs** are subdivisions of a call, each. Each topic finances a specific type of action and has a defined budget, an indicative number of proposals that will be financed and a deadline date for submitting proposals.



**Any legal entity** from Member States and/or HE Associated Countries, including those from third countries not associated to HE or international organizations is eligible to participate, subject to any exceptions set out in the Work Program or in the specific call.



The consortium must be composed of **at least three independent legal entities**, each of which is established in a different Member State or associated country, provided that at least one of the entities is established in a Member State.



Exceptions are Coordination and Support Actions (**CSA**) for which the proposal can also be submitted **by a single legal entity** (minimum requirement), which can be established in a Member State, Associated Country or, in exceptional cases, in a third country.



# FUNDING SCHEME



## Actual costs

Estimated Eligible Costs						
(A) Personnel Costs	(B) Subcontract ing Costs	(C) Purchase Cost			(E) Indirect Costs <i>25%*(A+C)</i>	(H) Total Eligible Costs <i>A+B+C+E</i>
		(C1) Travel and Subsistanc e	(C2) Equipment	(C3) Other Goods, Work & Services		

## Lump sums

- Horizon Europe uses lump sum funding **to reduce administration and financial errors**
- Lump sums make the **programme simpler by removing the need to report actual costs**
- Lump sums are defined **up-front and fixed in the grant agreement**. They are **paid upon completion** of the activities in work package

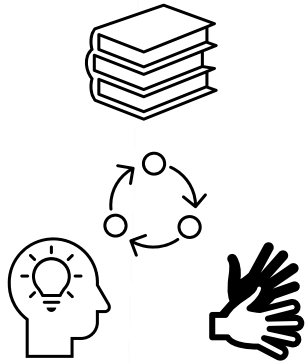


The aims of this cluster include improving and protecting the health and well-being of citizens of all ages by generating new knowledge, developing innovative solutions and integrating, where relevant, a gender perspective to prevent, diagnose, monitor, treat and cure diseases.

## DESTINATIONS

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

# CLUSTER 2 – CULTURE, CREATIVITY AND INCLUSIVE SOCIETY



This cluster aims to strengthen democratic values, including rule of law and fundamental rights, safeguarding our cultural heritage, and promoting socio-economic transformations that contribute to inclusion and growth. .

## DESTINATIONS

1. Innovative Research on Democracy and Governance
2. Innovative research on the European cultural heritage and the cultural and creative industries
3. Innovative research on social and economic transformations

# CLUSTER 3 – CIVIL SECURITY FOR SOCIETY

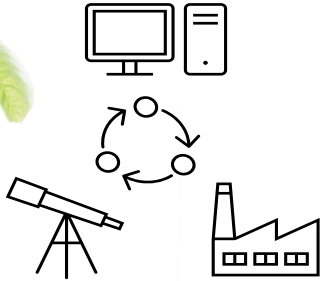


This cluster responds to the challenges arising from persistent security threats, including cybercrime, as well as natural and man-made disasters.

## DESTINATIONS

1. Better protect the EU and its citizens against crime and terrorism
2. Effective management of EU external borders
3. Resilient infrastructure
4. Increased cybersecurity
5. Disaster-resilient society for Europe
6. Strengthened security research and innovation

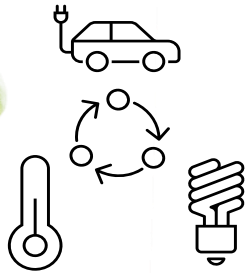
# CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE



Cluster 4 aims to enhance European capacity in key enabling technologies. Research & development on digital, industry and space technologies are combined to support a competitive, green, digitized and circular European industry.

## DESTINATIONS

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



Cluster 5 aims to fight climate change by better understanding its causes, evolution, risks, impacts and opportunities, and by making the energy and transport sectors more climate and environment-friendly, more efficient and competitive, smarter, safer and more resilient.

## DESTINATIONS

1. Climate sciences and responses
2. Cross-sectoral solutions for the climate transition
3. Sustainable, secure and competitive energy supply
4. Efficient, sustainable and inclusive energy use
5. Clean and competitive solutions for all transport modes
6. Safe resilient transport and smart mobility services for passengers and goods

# CLUSTER 6 – FOOD, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE & ENVIRONMENT



The HE mandate for Cluster 6 is to provide opportunities to strengthen and balance environmental, social and economic goals and to set human economic activities on a path toward sustainability

## DESTINATIONS

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



- Pillar III addresses innovation performance, innovation transfer and innovation scale-up in Europe.
- It aims to stimulate and support the creation and diffusion of breakthrough innovations, developing Europe as a world leader in transferring science into innovative companies.
- There are 3 instruments:
  1. EIC
  2. EIE
  3. EIT

**Pillar 3**  
Innovative Europe

European Innovation Council

European innovation  
ecosystems

European Institute of  
Innovation  
and Technology



# European Innovation Council

Support to innovations with breakthrough and disruptive nature and scale up potential that are too risky for private investors (**70% of the budget earmarked for SMEs**)

**European  
Innovation Council –  
a one-stop-shop**

- Helping researchers and innovators create markets of the future, leverage private finance, scale up their companies
- Innovation centric, risk taking & agile, pro-active management and follow up
- Mostly 'bottom up', but also targeting strategic challenges
- EIC Programme Managers to develop visions for breakthroughs and steer portfolios

Complementary instruments bridging the gap from idea to market

## **PATHFINDER**

R&I grants  
(from early technology  
to proof of concept)

## **TRANSITION**

R&I grants  
(proof of concept to  
pre-commercial)

## **ACCELERATOR**

Grants & investment (via EIC Fund) for  
single SMEs & start-ups  
(from pre-commercial to market & scale-up)

**the European Institute of  
Innovation and Technology (EIT)**

strengthens Europe's innovation  
ability by powering solutions to  
pressing global challenges and by  
nurturing entrepreneurial talent.

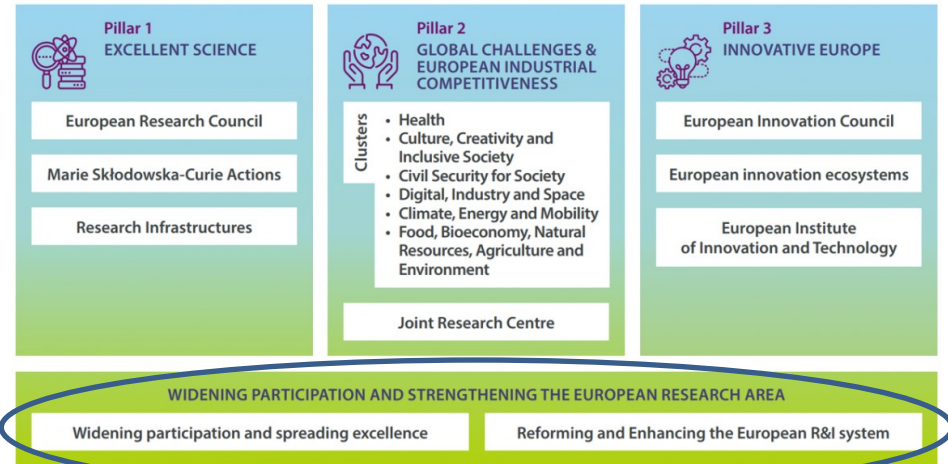
**the European Innovation  
Ecosystems**

focus on building an  
interconnected, inclusive  
innovation ecosystem that  
encompasses European, national,  
regional and local initiatives  
as well as under-represented  
actors and territories, while  
also reinforcing the ecosystems'  
innovation capacity.

EIT provides opportunities for students, innovators and entrepreneurs across Europe: entrepreneurial education courses, business creation and incubation services, innovation driven research projects.

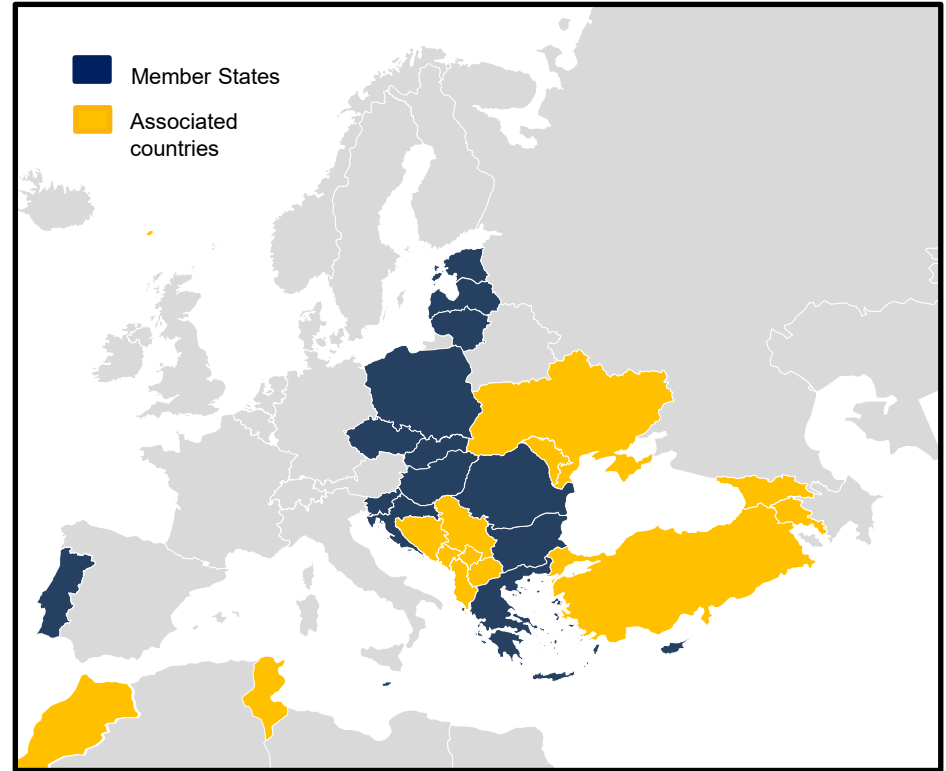
- Fostering innovation procurement initiatives with the aim of increasing the use of public procurement of innovation.
- Supporting joint programmes for mentoring, coaching, technical assistance for innovators.
- Promoting and co-funding joint innovation programmes managed by national authorities.





- To contribute to building research and innovation capacity for countries lagging behind.
- To strengthen their potential for successful participation in transnational research and innovation processes, promote networking and access to excellence.
- To upgrade the participants' research and innovation systems, in line with the policy objectives of the European Research Area

# WIDENING PARTICIPATION AND SPREADING EXCELLENCE COUNTRIES



# TYPE OF ACTIONS

Actions	Consortium structure	Policy objectives
<b>TEAMING</b>	Main beneficiary + 1 or 2 strategic advanced partners	Develop <b>role models</b> to <b>stimulate excellence, new investments and reforms</b>
<b>TWINNING</b>	Main beneficiary and network of partnering organisations	Develop excellence in a chosen domain, increase <b>visibility and upskill staff</b>
<b>ERA CHAIRS</b>	One host organisation to the selected ERA chair with optional partner organisation	Help excellent scientists to <b>become game changers</b>
<b>COST*</b>	Cross-border scientific network	Help excellent researchers and innovators <b>get access to the European and international networks</b>

\* European Cooperation in Science and Technology (COST)

- Support centres of excellence
- Enhance capacity to access research networks
- Attract talents
- Improve skills of researchers

# Synergies with other Union programmes

## HORIZON EUROPE

### Other Union Programmes, including

Common Agricultural Policy	InvestEU	ESF+	Innovation Fund
External Instrument	LIFE	Digital Europe	Internal Security Fund and Instrument for Border Management
Maritime & Fisheries Fund	EU4Health	Space Programme	
Connecting Europe Facility	ERDF	ERASMUS+	Single Market Programme
Just Transition Mechanism		Creative Europe	Recovery and Resilience Facility

### Enhanced synergies

#### COMPATIBILITY

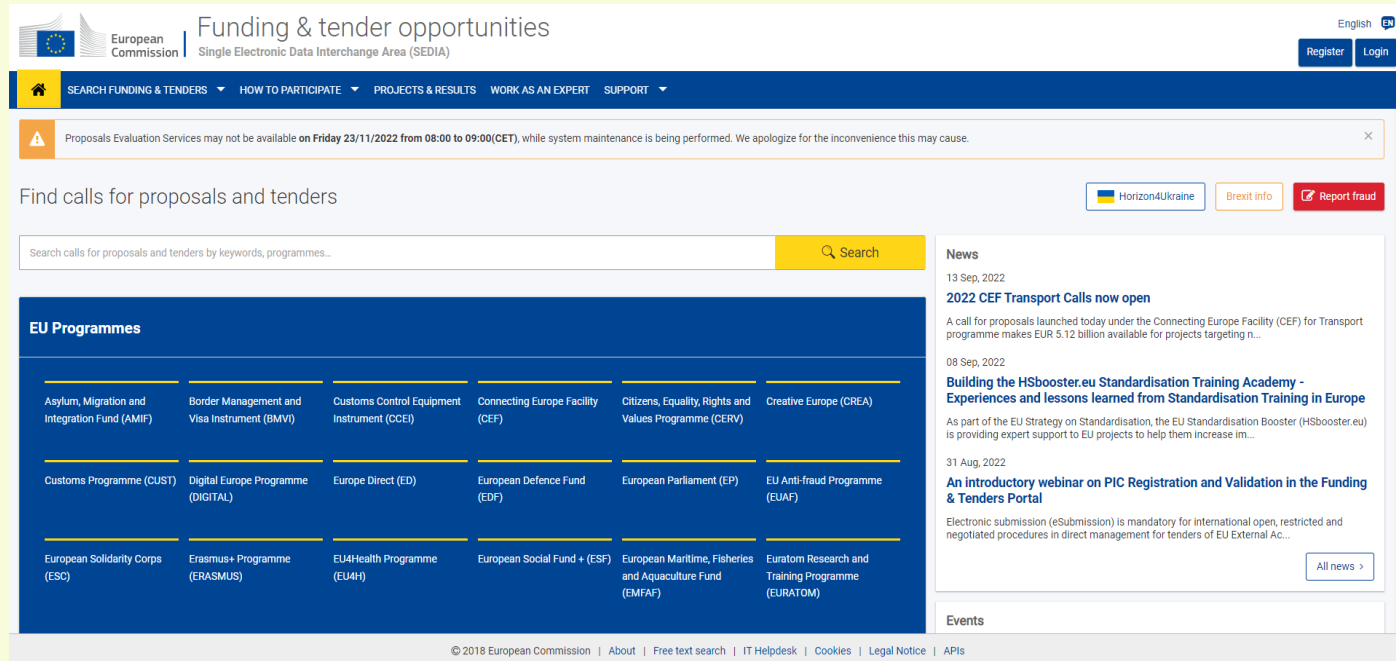
Harmonisation of funding rules; flexible co-funding schemes; pooling resources at EU level

#### COHERENCE & COMPLEMENTARITY

Alignment of strategic priorities in support of a common vision

# HOW TO FIND CALLS AND SUBMIT PROPOSALS

- Official portal managed by the European Commission and other EU bodies
- Main services: database of EU calls, partner search, submission and management of projects



The screenshot shows the 'Funding & tender opportunities' portal. At the top, it features the European Commission logo and the text 'Single Electronic Data Interchange Area (SEDIA)'. Navigation tabs include 'SEARCH FUNDING & TENDERS', 'HOW TO PARTICIPATE', 'PROJECTS & RESULTS', 'WORK AS AN EXPERT', and 'SUPPORT'. A notification banner states: 'Proposals Evaluation Services may not be available on Friday 23/11/2022 from 08:00 to 09:00(CET), while system maintenance is being performed. We apologize for the inconvenience this may cause.' Below this, there are buttons for 'Horizon4Ukraine', 'Brexit info', and 'Report fraud'. A search bar is present with the placeholder text 'Search calls for proposals and tenders by keywords, programmes...'. The main content area is titled 'EU Programmes' and displays a grid of 18 program categories:

Asylum, Migration and Integration Fund (AMIF)	Border Management and Visa Instrument (BMVI)	Customs Control Equipment Instrument (CCEI)	Connecting Europe Facility (CEF)	Citizens, Equality, Rights and Values Programme (CERV)	Creative Europe (CREA)
Customs Programme (CUST)	Digital Europe Programme (DIGITAL)	Europe Direct (ED)	European Defence Fund (EDF)	European Parliament (EP)	EU Anti-fraud Programme (EUIAF)
European Solidarity Corps (ESC)	Erasmus+ Programme (ERASMUS)	EU4Health Programme (EU4H)	European Social Fund + (ESF)	European Maritime, Fisheries and Aquaculture Fund (EMFAF)	Euratom Research and Training Programme (EURATOM)

On the right side, there is a 'News' section with the following items:

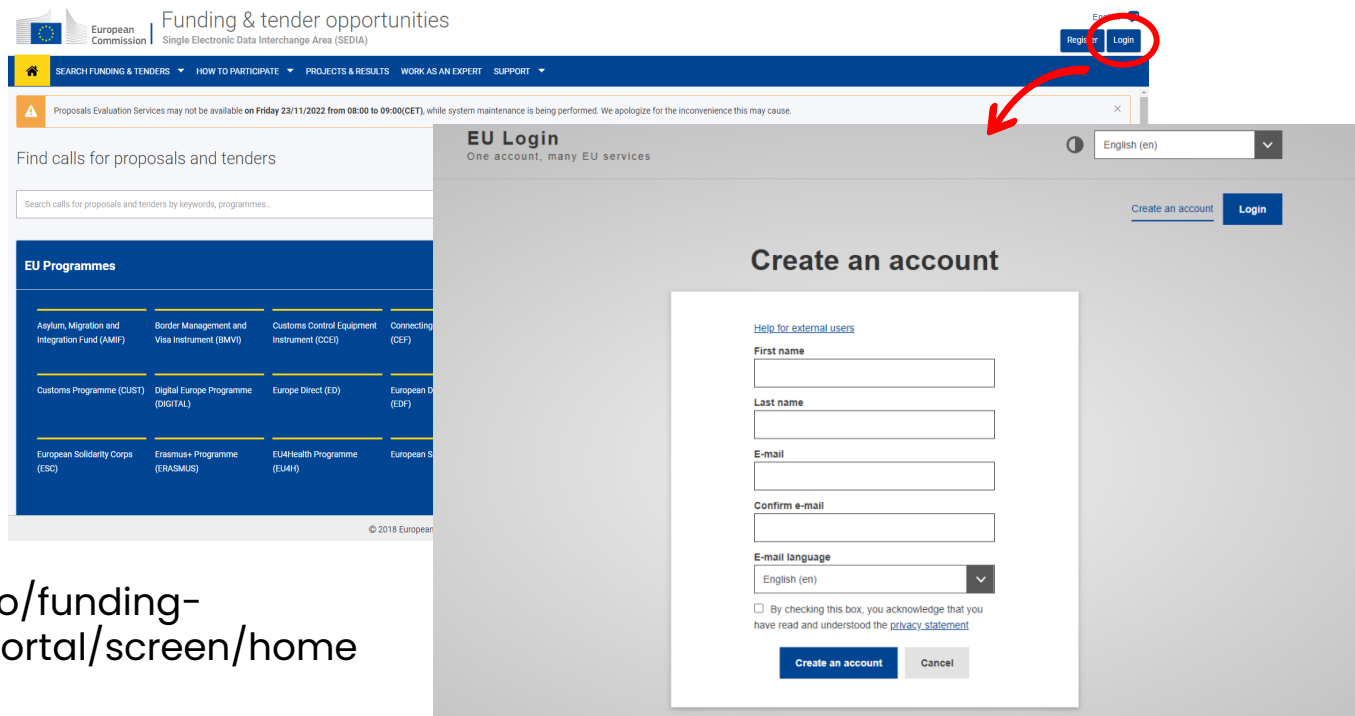
- 13 Sep, 2022: **2022 CEF Transport Calls now open**  
A call for proposals launched today under the Connecting Europe Facility (CEF) for Transport programme makes EUR 5.12 billion available for projects targeting n...
- 08 Sep, 2022: **Building the HSbooster.eu Standardisation Training Academy - Experiences and lessons learned from Standardisation Training in Europe**  
As part of the EU Strategy on Standardisation, the EU Standardisation Booster (HSbooster.eu) is providing expert support to EU projects to help them increase im...
- 31 Aug, 2022: **An introductory webinar on PIC Registration and Validation in the Funding & Tenders Portal**  
Electronic submission (eSubmission) is mandatory for international open, restricted and negotiated procedures in direct management for tenders of EU External Ac...

At the bottom of the page, there is a footer with copyright information: '© 2018 European Commission | About | Free text search | IT Helpdesk | Cookies | Legal Notice | APIs'.



## Step 1

You have to register (i.e., create your EU Login account) in order to access all portal features.



The screenshot shows the EU Login portal interface. At the top, the European Commission logo and 'Funding & tender opportunities' are visible. A navigation bar contains links for 'SEARCH FUNDING & TENDERS', 'HOW TO PARTICIPATE', 'PROJECTS & RESULTS', 'WORK AS AN EXPERT', and 'SUPPORT'. A red circle highlights the 'Login' button in the top right corner, with a red arrow pointing to the 'Create an account' button on the right side of the 'EU Login' overlay. The 'EU Login' overlay features the text 'One account, many EU services' and a language dropdown set to 'English (en)'. Below this, there are buttons for 'Create an account' and 'Login'. The main content area is titled 'Create an account' and includes a 'Help for external users' link, followed by input fields for 'First name', 'Last name', 'E-mail', and 'Confirm e-mail'. There is also an 'E-mail language' dropdown set to 'English (en)' and a checkbox for 'By checking this box, you acknowledge that you have read and understood the [privacy statement](#)'. At the bottom of the form are 'Create an account' and 'Cancel' buttons.

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home>

## Step 2

Log in to the portal and search the program and the related call(s) of interest for you.



Match whole words only

GRANTS  TENDERS

**Submission status**

Forthcoming  Open for submission (2)  Closed

**Programming period**

2021 - 2027 (2)

Horizon Europe (HORIZON)

### Funding and tenders (2)

Sort by:

Deadline desc

#### MSCA Postdoctoral Fellowships 2023

HORIZON-MSCA-2023-PF-01-01

<b>Programme</b>	Horizon Europe (HORIZON)	<b>Status</b>	Open for submission
<b>Type of action</b>	HORIZON TMA MSCA Postdoctoral Fellowships - European Fellowships, HORIZON TMA MSCA Postdoctoral Fellowships - Global Fellowships	<b>Deadline model</b>	single-stage
<b>Opening date</b>	12 April 2023	<b>Deadline date</b>	13 September 2023 17:00:00 Brussels time

#### MSCA Feedback To Policy 2023

HORIZON-MSCA-2023-FTP-01-01

<b>Programme</b>	Horizon Europe (HORIZON)	<b>Status</b>	Open for submission
<b>Type of action</b>	HORIZON Coordination and Support Actions	<b>Deadline model</b>	single-stage

<b>General information</b>	General information	
Topic description	Programme <b>Horizon Europe Framework Programme (HORIZON)</b>	
Destination	Call <b>MSCA Postdoctoral Fellowships 2023 (HORIZON-MSCA-2023-PF-01)</b>	
Conditions and documents	<a href="#">See budget overview</a>	
Partner search announcements	Type of action	Type of MGA
Submission service	HORIZON-TMA-MSCA-PF-EF HORIZON TMA MSCA Postdoctoral Fellowships - European Fellowships	HORIZON Unit Grant [HORIZON-AG-UN]
Topic related FAQ	HORIZON-TMA-MSCA-PF-GF HORIZON TMA MSCA Postdoctoral Fellowships - Global Fellowships	HORIZON Unit Grant [HORIZON-AG-UN]
Get support	Deadline model	Opening date
Call updates	single-stage	12 April 2023
<a href="#">Go back</a>		Deadline date
		13 September 2023 17:00:00 Brussels time

The Work Programme sets out the general objectives of HE and the thematic areas to be funded in 2023 and 2024.

**OUTCOMES:** The expected effects, over the medium term, of projects.

**IMPACTS:** Wider long-term effects on society, environment, economy and science, enabled by the outcomes of R&I investments.

### General information

Topic description

Destination

Conditions and documents

Partner search announcements

Submission service

Topic related FAQ

Get support

Call updates

 [Go back](#)

## Documents

### Call documents:

Standard application form – call-specific application form is available in the Submission System

[Standard application form \(HE MSCA PF\)](#)

Standard evaluation form – will be used with the necessary adaptations

[Standard evaluation form \(HE MSCA\)](#)

MGA

[HE Unit MGA v1.0](#)

Call-specific instructions

[HE-MSCA-PF Guide for Applicants](#)

### Additional documents:

[HE Main Work Programme 2023–2024 – 1. General Introduction](#)

[HE Main Work Programme 2023–2024 – 2. Marie Skłodowska-Curie Actions](#)

[HE Main Work Programme 2023–2024 – 13. General Annexes](#)

General information

Topic description

Destination

Conditions and documents


Partner search announcements

Submission service

Topic related FAQ

Get support

Call updates

 Go back

## Start submission

To access the Electronic Submission Service, please click on the submission-button next to the **type of action** and the **type of model grant agreement** that corresponds to your proposal. You will then be asked to confirm your choice, as it cannot be changed in the submission system. Upon confirmation, you will be linked to the correct entry point.

To access existing draft proposals for this topic, please login to the Funding & Tenders Portal and select the My Proposals page of the My Area section.

Please select the type of your submission:

- HORIZON TMA MSCA Postdoctoral Fellowships - European Fellowships [HORIZON-TMA-MSCA-PF-EF], HORIZON Unit Grant [HORIZON-AG-UN]
- HORIZON TMA MSCA Postdoctoral Fellowships - Global Fellowships [HORIZON-TMA-MSCA-PF-GF], HORIZON Unit Grant [HORIZON-AG-UN]

Start submission

 Need help?

Once you choose and start submission, you cannot change it from the Submission Service. If you want to change the type, you need to start a new submission.



Login



Topic selection



Create proposal



Participants



Proposal forms



Submit

## Create proposal


**Deadline**  
13 September 2023 17:00:00 Brussels Local Time  
139 days left until closure

**Call data**

Call: HORIZON-MSCA-2023-PF-01  
Topic: HORIZON-MSCA-2023-PF-01-01  
Type of action: HORIZON-TMA-MSCA-PF-GF  
Type of MGA: HORIZON-AG-UN

**Warning:** Topic and type of action can only be changed by creating a new proposal.

**Download Part B templates**

 Download part B templates

**Support & Helpdesk**

[Online Manual](#) [IT How To](#)

[IT Helpdesk](#) [FAQ](#)

**Service Desk:**  
[EC-FUNDING-TENDER-SERVICE-DESK@ec.europa.eu](mailto:EC-FUNDING-TENDER-SERVICE-DESK@ec.europa.eu)  
+32 2 29 92222

**Warning:** Please submit your proposal at the latest **48 hours before the deadline** (to avoid system congestion or system incompatibility issues). Late proposals will not be accepted. Don't wait until the end because you are worried about confidentiality – we will not open the proposals before the deadline. **You can submit the proposal as many times as you wish up until the deadline.** Each new submitted version will replace the previous one.

**Find your organisation**

PIC \*  Short name \*  [Search](#)

Organisations you have been previously associated with. (Click to select)

**PIC: 999846028**  
UNIVERSITA DEGLI STUDI DI PARMA  
VIA UNIVERSITA 12  
PARMA.IT  
VAT: IT00308780345

**Your role**

Please indicate your role in this proposal \*

Supervisor (Main Contact Person)  
 Researcher  
 Contact person

**Your proposal**

It will appear also in the "General Information" section of the Application Form Part A and can also be updated there.

Acronym \*  (20)

Short Summary \*  (2000)

Scientific Panel \*

SAVE AND GO TO NEXT STEP



**Part B:** applicants must use the Part B template available on the call page and in the Submission Service

#### Find your organisation

PIC ⓘ \*  Short name ⓘ \*

Organisations you have been previously associated with. (Click to select)

PIC: 999846028  
UNIVERSITA DEGLI STUDI DI PARMA  
VIA UNIVERSITA 12  
PARMA.IT  
VAT: IT00308780345

#### Your role

Please indicate your role in this proposal \*

- Supervisor (Main Contact Person)  
 Researcher  
 Contact person

#### Your proposal

It will appear also in the "General Information" section of the Application Form Part A and can also be updated there.

Acronym \*

Short Summary \*

Scientific Panel \*

SAVE AND GO TO NEXT STEP

You will be able to modify and/or update these data later on, in section A



Login



Topic selection



Create proposal



Participants



Proposal forms



Submit

## Participants



### Deadline

13 September 2023 17:00:00 Brussels Local Time

127 days left until closure

### Call data

Call: HORIZON-MSCA-2023-PF-01

Topic: HORIZON-MSCA-2023-PF-01-01

Type of action: HORIZON-TMA-MSCA-PF-EF

Type of MGA: HORIZON-AG-UN



Topic and type of action can only be changed by creating a new proposal.

### Proposal data

Acronym: prova

Draft ID: SEP-210947219



In this step, the coordinator can manage and review the participants.

Note: The changes will be applied only after you click the "Save Changes" button.

Number of participants: 1

Reorder



### Applicant (FUTURE BENEFICIARY)

UNIVERSITA DEGLI STUDI DI PARMA



UNIVERSITA DEGLI STUDI DI PARMA

Contacts

1



Add contact

UNIVERSITA DEGLI STUDI DI PARMA

PARMA, IT

PIC: 999846028

Change organisation

Contact organisation

Researcher

Mila Lazzari



Add Partner

Add Associated partner



Proposal forms

**Deadline**  
13 September 2023 17:00:00 Brussels Local Time  
127 days left until closure

**Call data**  
Call: HORIZON-MSCA-2023-PF-01  
Topic: HORIZON-MSCA-2023-PF-01-01  
Type of action: HORIZON-TMA-MSCA-PF-EF  
Type of MGA: HORIZON-AG-UN  
⚠️ Topic and type of action can only be changed by creating a new proposal.

**Proposal data**  
Acronym: prova  
Draft ID: SEP-210947219

⚠️ Your proposal contains changes that have not yet been submitted.

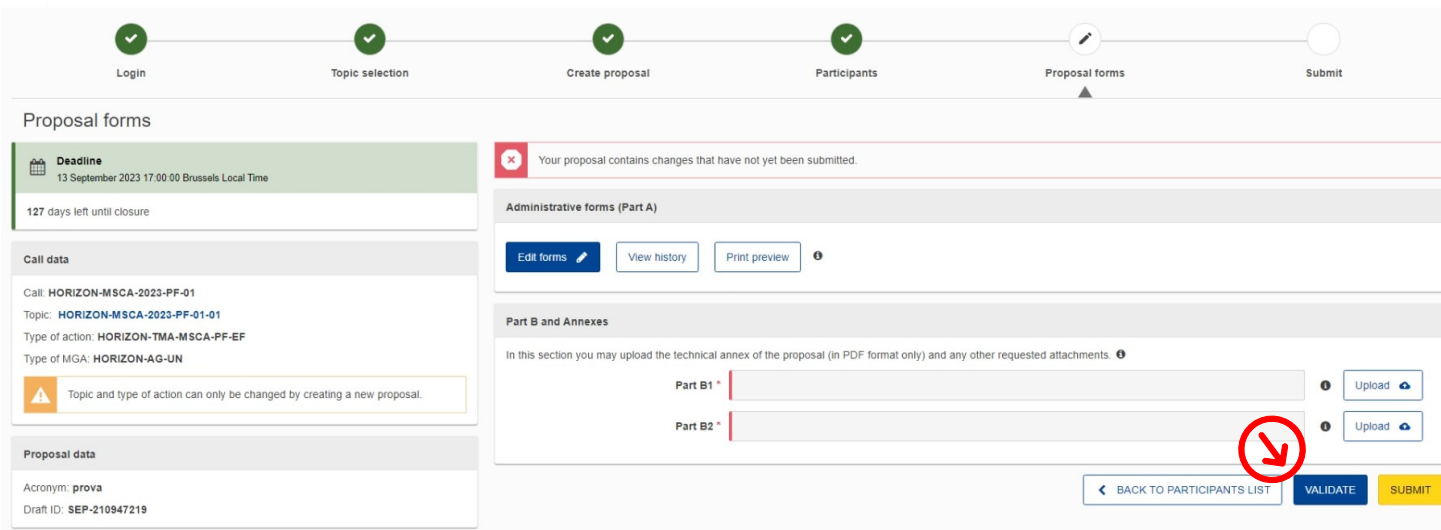
**Administrative forms (Part A)**  
Edit forms | View history | Print preview | administrative forms to be completed on the portal

**Part B and Annexes**  
In this section you may upload the technical annex of the proposal (in PDF format only) and any other requested attachments. ⓘ  
Part B1 \* [ ] Upload  
Part B2 \* [ ] Upload

technical and scientific forms to download and reload as PDF

⏪ BACK TO PARTICIPANTS LIST | VALIDATE | SUBMIT

- **Submit your proposal as early in the process as possible – you can update and resubmit an improved version many times before the call closure.**
- Submitting a proposal will overwrite any previous versions of this same proposal – this process is irreversible. Any changes made to the proposal will not be available to the European Commission service unless resubmitted before the call closure.



The screenshot shows a progress bar at the top with six steps: Login, Topic selection, Create proposal, Participants, Proposal forms (highlighted with a pencil icon), and Submit. Below the progress bar, the 'Proposal forms' section is active. It includes a 'Deadline' box showing '13 September 2023 17:00:00 Brussels Local Time' and '127 days left until closure'. A 'Call data' section lists call, topic, and action codes, along with a warning: 'Topic and type of action can only be changed by creating a new proposal.' The 'Administrative forms (Part A)' section has buttons for 'Edit forms', 'View history', and 'Print preview'. The 'Part B and Annexes' section contains two upload fields for 'Part B1' and 'Part B2', each with an 'Upload' button. A red circle with a downward arrow points to the 'VALIDATE' button in the bottom right corner. A red error message at the top states: 'Your proposal contains changes that have not yet been submitted.'



Before submitting the proposal click on "Validate" to make sure that you have included all the necessary data and that the files conform to the required formats



Up to the call deadline date and time you can review the proposal or re-upload a new version, but avoid last minute uploads as the portal often crashes within minutes before the deadline





Login



Topic and ToA selection



Create draft



Participants



Fill in proposal



Submit

## Manage proposal



### Deadline

28 February 2021 15:00:00 Brussels Local Time

18 days left until closure

### Call data:

Call: [REDACTED]

Topic: [REDACTED]

Type of action: [REDACTED]

Type of MGA: [REDACTED]

### Proposal data:

Acronym: TEST

Draft ID: [REDACTED]

Final ID: 10000699



Your proposal was submitted on: **09 February 2021 23:36:46 (Brussels Local Time)**

Your proposal is part of call [REDACTED]. The call deadline is 28 February 2021 15:00:00 (Brussels Local Time).

Your proposal ID is **10000699**. This number is important and will be used as future reference during the evaluation process.

### Revisit your proposal

You may edit your proposal and re-submit at any time before the deadline 28 February 2021 15:00:00 (Brussels Local Time) by clicking the "Update proposal" button.

Update proposal

You may download a digitally signed and time-stamped version of your submitted proposal.

Download

You may withdraw your proposal at any time before call closure. When withdrawing, your proposal will not be considered in the evaluation stage.

Withdraw proposal

Manage my area | SEARCH FUNDING & TENDERS | HOW TO PARTICIPATE | PROJECTS & RESULTS | WORK AS AN EXPERT | SUPPORT

My Proposal(s)

Results: 1

PROGRAMME	CALL	FUNDING SCHEME	PROPOSAL ID	ACRONYM	STATUS	REMAINING TIME	CLOSURE DATE (Brussels time)	ACTIONS
HORIZON	HORIZON-MSCA-2023-PF-01	HORIZON-TMA-MSCA-PF-EF	SEP-210947219	proa	Draft	127	13/09/2023 17:00:00	Actions

By accessing your personal area, you can always see the status of your proposal and – only during the opening window – check the remaining time before the deadline.

Actions

- Edit Draft
- Delete Proposal



# Funding & tender opportunities

Single Electronic Data Interchange Area (SEDIA)

- SEARCH FUNDING & TENDERS
- Asylum, Migration and Integration Fund (AMIF)
- Border Management Visa Ins
- Customs Programme (CUST)
- Digital E (DIGITA
- European Solidarity Corps (ESC)
- Erasmus (ERASM
- Fiscals Programme (FISC)
- Innovati (INNOV
- EU External Action (RELEX)
- Interreg Investm



SEARCH FUNDING & TENDERS

HOW TO PARTICIPATE

PROJECTS & RESULTS

WORK AS AN EXPERT

SUPPORT

Key steps

Reference documents

onavirus-crisis.

ase see the [Horizon Europe](#) web site.

## Reference Documents

Find c

### Grants

This page includes reference documents of the programmes managed on the EU Funding & Tenders portal starting with legal documents and the Commission work programmes up to model grant agreements and guides for specific actions.

Please select the programme to see the reference documents.

### Procurement

Reference Documents related to tendering opportunities are published on TED eTendering in the calls for tenders.



Cal

Filter  Expand all

- + Legislation
- Work programme & call documents
  - + 2021-2022
  - + 2023-2024
- + Grant agreements and contracts
- + Simplified cost decisions
- + Guidance

024)

GREEN

Any questions?



## PULSE

### 3D Printing of Ultra-fidelity tissues using Space for anti-ageing solutions on Earth

HORIZON-EIC-2022-PATHFINDEROPEN-01-01

Develop a radical **new bioprinting technology** based on multiple **levitation principles** and to use **space as an accelerator** of ageing on Earth.

As a **proof of concept study**, this newly developed bioprinting technology will be used to create **cardiac 3D in vitro models** able to better mimic cardiac physiology compared to organoids.

Such models Will be used to study **cardiac ageing** and test the **efficacy of antiinflammatory/ anti-oxidative drugs** with anti-ageing potential.



Daniela Grimm

[daniela.grimm@med.ovgu.de](mailto:daniela.grimm@med.ovgu.de)

7 partners

3,9 M€

## TREADS

A Holistic Fire Management Ecosystem for Prevention, Detection and Restoration of Environmental Disasters

H2020-LC-GD-2020 (Green Deal Actions)

TREADS will tackle a number of major challenges that wildfires pose by building **upon state-of-the-art high TRL products** and unite them in a holistic **Fire Management Ecosystem** consisting of various innovative technologies and systems to optimize and reuse the available Socio-technological Resources in all three main phases of Wildfires.

By adopting a multi-stakeholder, multi-actor approach at its core, the TREADS solutions will contribute to sustainable development as an inclusive societal process and secure **sustainability and resilience of natural environment**, as well as local human societies.



Andrea Klippel

[andrea.klippel@ovgu.de](mailto:andrea.klippel@ovgu.de)



47 partners

22,9 M€



## CASTLE

Chirality and spin selectivity in electron transfer processes:  
from quantum detection to quantum enabled technologies

ERC-2022-SYG



UNIVERSITÀ  
DI PARMA

Stefano Carretta  
[stefano.carretta@unipr.it](mailto:stefano.carretta@unipr.it)

CASTLE can establish **chiral molecules** as a novel material in quantum technologies, with the potential for high temperature operation. Also, CISS and spin polarization transfer could enhance the **sensitivity of NMR**. Furthermore, the development of protocols that make magnetic resonance sensitive to chirality has high relevance for the **pharmaceutical industry**.

The proposed multifunctional molecules may be used in **spintronic applications**, e.g., spin-organic light-emitting diodes, photovoltaic applications, or quantum sensing. At last, these findings could lead to a new understanding of **how information is transferred in biological systems**.

4 partners  
8,9 M€

## REWET

REstoration of WETlands to minimise emissions and maximise carbon uptake – a strategy for long term climate mitigation

HORIZON-CL5-2021-D1-01

The REWET project will facilitate the sustainable **restoration and conservation of terrestrial wetlands** by applying fit-for-purpose technologies to monitor greenhouse gas emissions, biodiversity, meteorological events, and social aspects of sustainability.

REWET project focuses on determining how the restoration and management of wetlands can be optimised to **maximise their carbon uptake** while in balance with type-specific natural processes and biodiversity.

Set a network of carefully selected **seven demonstrators** (Open Labs  $\geq$  2400 ha in total) that cover a range of conditions.



UNIVERSITÀ  
DI PARMA

Marco Bartoli

[marco.bartoli@unipr.it](mailto:marco.bartoli@unipr.it)



18 partners

8,9 M€

## ROBOCOOP

circular bioeconomy Business models owned  
by agroCOOPERatives

HORIZON-JU-CBE-2022-IA-02

ROBOCOOP proposes a breakthrough cultural change in the agrosector, by deploying effective regional and **circular biobased Business Models** for the **valorisation of waste streams** from 3 agricultural sectors: grape, olive and stone fruit.

This will expand real scenarios of **commercial opportunities** to diversify the economy of small and medium scale farmers, enabling a more versatile biorefinery with a **portfolio of biobased products**.

This model will allow the integration of **secondary streams** in a holistic closed loop, thus improving the **ecological footprint** and revenues with social impact.



Andrés Álvarez  
[andalvarez@unex.es](mailto:andalvarez@unex.es)

20 partners

6,29 M€

## RESIST

Regions for climate change resilience through  
Innovation, Science and Technology

HORIZON-MISS-2021-CLIMA-02-04

RESIST has emerged from the need to make regions more **resilient to climate change** and accelerate the transformation and increase adaptive capacity of 12 climate-vulnerable EU regions, implementing **4 large-scale demonstrators** of resilient innovations for **Climate Change Adaptation (CCA)**

The project will adopt a new practical framework in which **climate adaptation pathways** will be **tested in twelve European regions** with different socioeconomic profiles that will test **adaptation solutions** to five key climate challenges: floods, droughts, heatwaves, wildfires, and soil erosion.



Fernando Pulido  
[nando@unex.es](mailto:nando@unex.es)



56 partners

25 M€

## REMODEL

Strengthening the Research capacity of Turkey in innovative business models for the Hospitality sector



Padraig Gallagher  
[padraig.gallagher@atu.ie](mailto:padraig.gallagher@atu.ie)

HORIZON-WIDERA-2021-ACCESS-03-01

REMODEL aims to strengthen **R&I capacity** and skills of **Bursa Uludağ University** (BUU) through leveraging the experience and state-of-the-art knowledge and tools made available by **twinning partners**.

A novel **Business Model Innovation** (BMI) laboratory will be created and become instrumental for the execution of the Research part of the project.

A long-term **scientific strategy** will be developed including **staff exchanges**, joint R&I programmes and the creation of an international master on business management in the **hospitality sector**.



3 partners

1,49 M€

## EMPOWER US

### Socio-economic empowerment of the users of the sea

HORIZON-CL6-2021-COMMUNITIES-01-04

EmpowerUs will support **coastal communities** to create multiple, integrated and flexible solutions to support their transition towards more sustainable, inclusive and resilient coastal development.

Coastal communities face many challenges including **extreme weather** associated with climate change, increased pressures from **urban development** and **tourism**, as well as changes in **traditional and cultural practices**.

The project will create, test and monitor **six pilots** for collaborative adaptive empowerment as transformation mechanisms and improve skills in **ocean literacy** education and awareness-raising and uptake of solutions.



Salem Gharbia  
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16 partners

6,2 M€

## PHENET

Tools and methods for extended plant  
PHENotyping and EnviroTyping services

HORIZON-INFRA-2022-TECH-01

Ambitioning to go beyond current highly instrumented but often spatially and temporally limited RI installations, PHENET derived services will allow wide access to enlarged sources of **in-situ phenotypic and environmental data** thanks to new **AI-based** multi (agroecology-related) traits **multi-sensors devices** to unleashed access to high resolution **Earth Observation** data connected to ground based data, FAIR data support for connection with new generation of **predictive modeling solutions** encompassing AI and digital twins.

PHENET will increase **scientific competitiveness** of its involved **Ris** and will contribute to the **development of innovative companies** through national and EU projects, initiatives, living labs etc.



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PHENET  
PHENOTYPING & ENVIROTypING  
SOLUTIONS FOR AGROECOLOGY

27 partners  
10,2 M€

## VALESOR

### Valuation Of Environmental Stressors

HORIZON-HLTH-2022-ENVHLTH-04



Gildas Appere

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Calculating **economic values associated with pollution** is important to guide policymaking. This is the case with chemicals and air pollutants transmitted via air, water and soil vectors.

In this context, VALESOR project will promote the consideration **of environmental stressors** in economic decision-making. It will develop a website tool for stakeholders to **assess health and economic consequences**.

VALESOR will develop a **state-of-the-art environmental economic model** that will be as complete as theoretically possible in its representation of **economic values of pollution**. It will clarify which input knowledge is important prior to calculating economic values.



11 partners

2,9 M€



## GATHERS

Integration of Geodetic and imAging TechIques for monitoring and modelling the Earth's surface defoRmations and Seismic risk



WROCLAW UNIVERSITY  
OF ENVIRONMENTAL  
AND LIFE SCIENCES

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H2020-WIDESPREAD-3-2018 (Twinning)

The aim of GATHERS project is to rise the **research staff competence** in the field of monitoring of **anthropogenic ground surface deformation** and risk due to induced **seismicity**, by improvement and extension of the methodological background of three advanced geodetic techniques used in this project for terrain deformation observations, namely **radar remote sensing (InSAR)**, **laser scanning (LiDAR)** and **GNSS (GNSSseismology)**.

The objective is to become a leading **centre of excellence in the geospatial sciences** and create the **Leading Research Working Groups**, using the reinforced scientific networks between GATHERS project partners



3 partners

0,79 M€

## WATERAGRI

Water retention and nutrient recycling in soils and streams for improved agricultural production

H2020-SFS-2018-2020

The project will generate a deeper, more detailed and integrated understanding of the **hydrological processes shaping water** resources in Europe. To do this the observation network was installed in the case-study site composed of sensors measuring in real time the wheater conditions, surface and groundwater levels and soil moisture up to 80 cm depth.

Additionally phisical based **hydrogeological model** was developed for management of water resources in agricultural catchment. Some innovative technologies were tested such as **Water Retainer** product or using Sentinel-1 data to generate maps of surface soil moisture or phenological stages of crops.



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22 partners

6,9 M€

## GROUND-MED

Advanced ground source heat pump systems for heating and cooling in Mediterranean climate

FP7-ENERGY-2007-2-TREN

The GROUND-MED project demonstrates the next generation of **geothermal heat pump (GSHP)** systems for heating and cooling in **8 demonstration sites** of South Europe.

A measured seasonal performance (SPF) higher than 5,0 will be demonstrated. As the SPF is determined not only by the heat pump unit, but by its **operating conditions** imposed by both the **ground heat exchanger** and the **heating/cooling system of the building**, integrated GSHP systems incorporating technological solutions will be developed, designed, constructed, installed, monitored and evaluated.



Marcel Rosca  
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ground  
U med

24 partners

7,6 M€

## NEXT FOOD

### Educating the Next Generation of Professionals in the Agrifood System

H2020-RUR-2016

NEXTFOOD drives the crucial transition to more **sustainable and competitive agrifood and forestry systems** development by designing and implementing **education and training systems** to prepare budding or already practising professionals with competencies to push the green shift in our rapidly changing society.

NEXTFOOD challenges the linear view of knowledge transfer as a top-down process from research to advice and practice, and support the transition to more **learner-centric, participatory, action-based and action-oriented education** and learning in agrifood and forestry systems.



Adrian Timar



19 partners

7 M€

## SD-WISHEES

Supporting and Developing Widening Strategies to tackle Hydroclimatic Extreme Events: impacts and Sustainable solutions for cultural heritage

HORIZON-WIDERA-2022-ERA-01

The aim of this project is to enhance **transnational cooperation** (enabling collaboration between national research and innovation funding members) for the protection of **cultural heritage** in Europe and beyond in response to **hydroclimatic** extreme events.

SD-WISHEES will develop a **Joint Vision document** that identifies common R&I priorities and pave the way for long-term **collaborations** with “EU widening countries” and third parties of the EU e.g. Balkans region, Africa to contribute to EU and international **policy frameworks** related to the SDGs, widening strategies and policies.



Ana Isabel Mendes  
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16 partners

3 M€

## NaturaConnect

Designing a resilient and coherent Trans-European Network for Nature and People

HORIZON-CL6-2021-BIODIV-01

NaturaConnect aims to design and develop a blueprint for a truly coherent **Trans-European Nature Network (TEN-N)** of **conserved areas** that protect at least 30% of land in the European Union, with at least one third of it under strict protection.

The project unites universities and research institutes, government bodies and non-governmental organizations, working together with key stakeholders to create **targeted knowledge and tools**, and build the capacity needed to support European Union Member States in realizing an ecologically representative, resilient and well-connected **network of conserved areas across Europe**.



Miguel Bastos Araújo  
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22 partners

7 M€

## SKIN

### Designing a resilient and coherent Trans-European Network for Nature and People

H2020-RUR-2016-1

SKIN built and animate a community of about **500 stakeholders**, with the strategic objective of setting up, at the conclusion of the project, a **European association** permanently working for the improvement of **short food supply chains** (SFSCs) efficiency and for the benefit of stakeholders and growth in the sector.

It intends to systematise and bring knowledge to practitioners, promote collaboration within a demand-driven innovation logic and provide inputs to policymaking through links to the EIP-AGRI.



23 partners

2,2 M€

## ACCELERATE

### ACCELERATING Europe's Leading Research Infrastructures

H2020-INFRADEV-2016-1

ACCELERATE will provide for the acceleration of the projects of EU's **ICT industry** a more systematic and repeatable approach that will lead to more successful **market introduction** of both start-ups and new product development initiatives in established companies.

Accelerate will establish a **new value chain** for the acceleration services in the EU ICT sector and enable a wide-scale **knowledge transfer** by utilising advanced technologies and thus supporting companies in their go-to-market process. To achieve this goal, the project will define and deliver innovative **ICT technology-based solution** to support the transfer of acceleration knowledge in Europe.



23 partners

2,2 M€





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**Funded by  
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