



UNIVERSITÀ  
DI SIENA  
1240

# Horizon Europe e la Mission Cancer

A cura di:  
Donata Franzi

Responsabile Divisione Ricerca e Trasferimento  
Tecnologico

Università degli Studi di Siena  
30 Novembre 2023



# Il programma Horizon Europe

*In recent years we have had to come up with answers to challenges that tested the core values and principles of the EU as a community*

economic crises

increased global competition

climate change

environmental threats

The EU has stepped up to these challenges. We are using the moment to **accelerate the twin green and digital transitions** and associated transformation of our economy, industry and society.

(HORIZON EUROPE Strategic Plan 2021-2024)



# ...some key messages

Doubling the overall budget of the post-2020 EU research and innovation programme is the best investment the EU can make...reaching the 3 % target of GDP invested in R&I

To maximise impact, the R&I programme must act as a true investment programme. It should focus on purpose and impact of R&I instead of instruments, technological-readiness levels, disciplines, prescriptive topics or industry sectors

Foster ecosystems for researchers, innovators, industries and governments; promote and invest in innovative ideas with rapid scale-up potential through a European Innovation Council

Set research and innovation Missions that address global challenges and mobilise researchers, innovators and other stakeholders to realise them

Modernise, reward and resource the education and training of people for a creative and innovative Europe...through the EIT KIC

# Horizon Europe

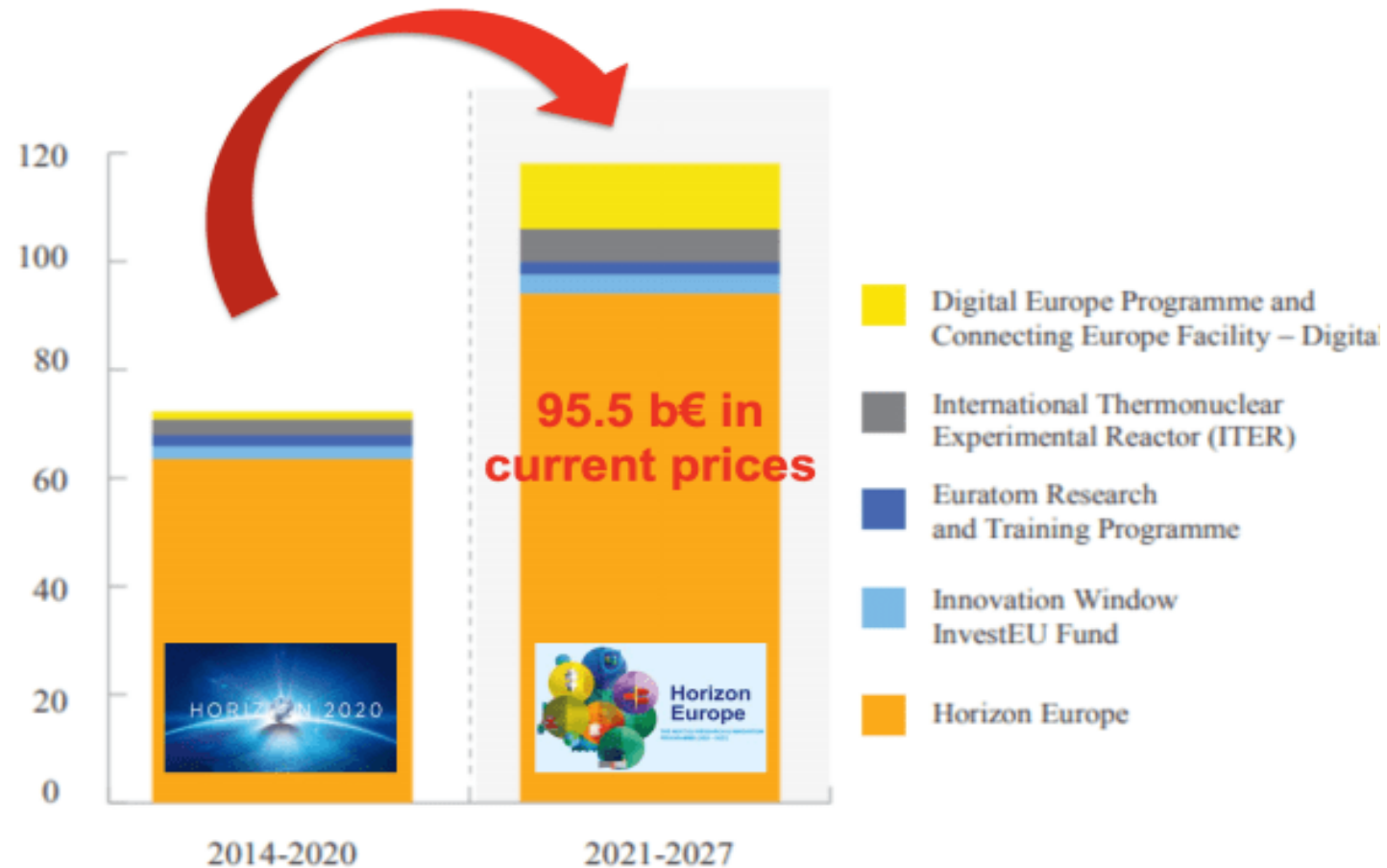
- Obiettivi specifici di programma definiti e basati soprattutto sui Sustainable Development Goals (Agenda 2030), sull'Accordo di Parigi sul clima, e sullo European Green Deal, consistono nel
  - rafforzare la posizione globale della UE in ricerca, innovazione e sviluppo tecnologico,
  - supportare l'attuazione delle priorità d'intervento dell'Unione Europea e affrontare le sfide globali che incidono sulla qualità della vita, promuovendo ricerca ed innovazione responsabili

Il programma ha durata settennale (2021-2027).



# Horizon Europe

... Jumping from Horizon-2020 to Horizon Europe

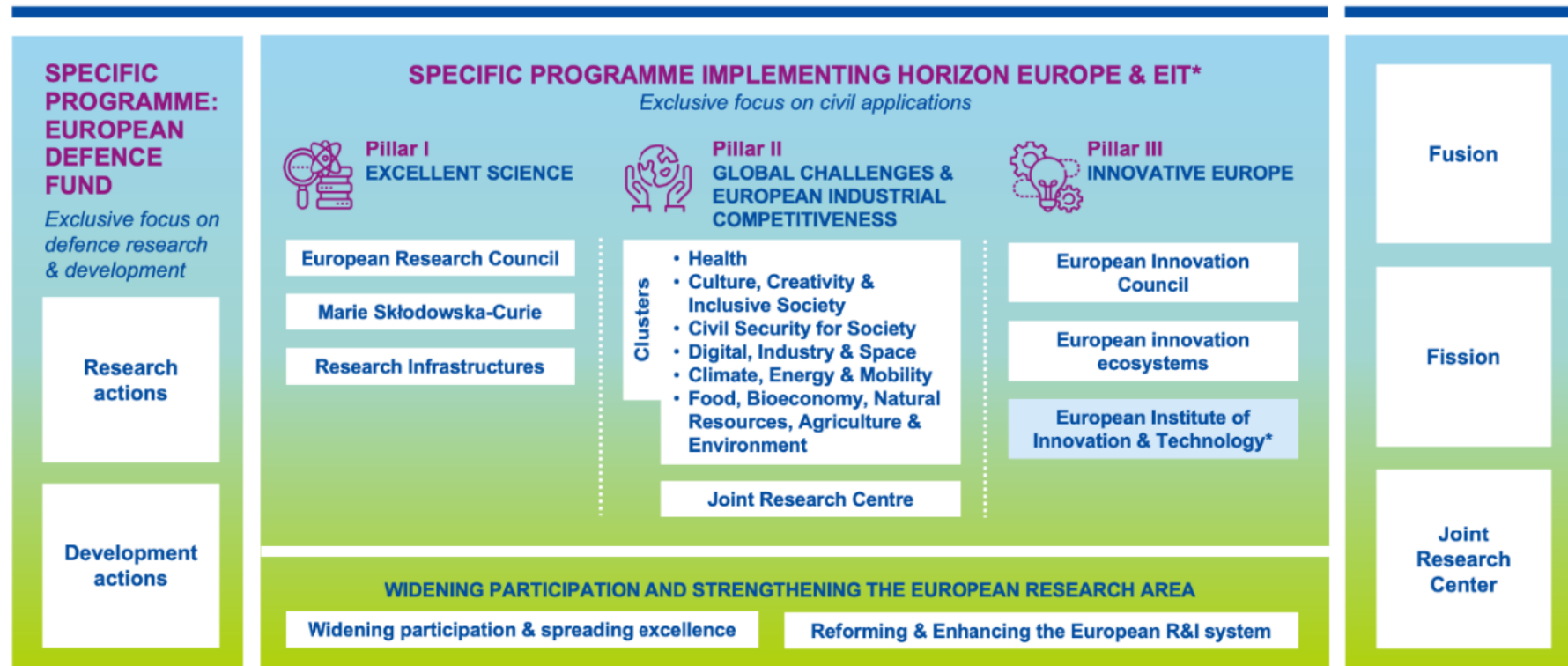




# Horizon Europe

## HORIZON EUROPE

## EURATOM



\* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme



# Pillar 2



# Strategic Plan 2021-2024

It is the result of an innovative co-design process which came out with  
**4 key strategic orientations - KSO**  
supported by **15 Impact areas**.

## IMPACTS

**Impacts** define the wider effects on society, the economy and science to be targeted by research and innovation activities, but not the manner in which to achieve them.

It is up to **project participants** achieve the expected impacts with their skills

Such impacts characterize the **6 Clusters** that make up Horizon Europe's second Pillar



# 4 Key Strategic Orientations

Promoting an open strategic autonomy by leading the development of key digital, enabling and emerging technologies, sectors and value chains to accelerate and steer the digital and green transitions through human-centred technologies and innovations;

Restoring Europe's ecosystems and biodiversity, and managing sustainably natural resources to ensure food security and a clean and healthy environment;

Making Europe the first digitally enabled circular, climate-neutral and sustainable economy through the transformation of its mobility, energy, construction and production systems;

Creating a more resilient, inclusive and democratic European society, prepared and responsive to threats and disasters, addressing inequalities and providing high-quality health care, and empowering all citizens to act in the green and digital transitions.

# Strategic Plan 2021-2024

Data la struttura di Horizon Europe in Pilastri, il piano strategico indica come i KSO vadano a caratterizzare i contenuti dei programmi di lavoro in particolare del Pilastro centrale di HE «Global challenges and European industrial competitiveness» e dei 6 Clusters che lo caratterizzano

DALLE PRIORITA' POLITICHE AL WORK PROGRAM





# Horizon Europe – Impact logic





## Clusters in 'Global Challenges and Industrial Competitiveness'

| Clusters  | Areas of intervention  |  |
|---|--|--|
| <b>Health</b>   | <ul style="list-style-type: none"><li>• Health throughout the life course</li><li>• Non-communicable and rare diseases</li><li>• Tools, technologies and digital solutions for health and care, including personalised medicine</li></ul>                        | <ul style="list-style-type: none"><li>• Environmental and social health determinants</li><li>• Infectious diseases, including poverty-related and neglected disease</li><li>• Health care systems</li></ul>  |
| <b>Culture, creativity and inclusive society</b>                        | <ul style="list-style-type: none"><li>• Democracy and Governance</li><li>• Social and economic transformations</li></ul>   | <ul style="list-style-type: none"><li>• Culture, cultural heritage and creativity</li></ul>  |
| <b>Civil security for society</b>                                       | <ul style="list-style-type: none"><li>• Disaster-resilient societies</li><li>• Protection and Security</li></ul>   | <ul style="list-style-type: none"><li>• Cybersecurity</li></ul>  |
| <b>Digital, Industry and space</b>                                      | <ul style="list-style-type: none"><li>• Manufacturing technologies</li><li>• Advanced materials</li><li>• Next generation internet</li><li>• Circular industries</li><li>• Space, including Earth Observation</li><li>• Emerging enabling technologies</li></ul> | <ul style="list-style-type: none"><li>• Key digital technologies, including quantum technologies</li><li>• Artificial Intelligence and robotics</li><li>• Advanced computing and Big Data</li><li>• Low-carbon and clean industry</li><li>• Emerging enabling technologies</li></ul> |
| <b>Climate, Energy and Mobility</b>                                     | <ul style="list-style-type: none"><li>• Climate science and solutions</li><li>• Energy systems and grids</li><li>• Communities and cities</li><li>• Industrial competitiveness in transport</li><li>• Smart mobility</li></ul>                                   | <ul style="list-style-type: none"><li>• Energy supply</li><li>• Buildings and industrial facilities in energy transition</li><li>• Clean, safe and accessible transport and mobility</li><li>• Energy storage</li></ul>  |
| <b>Food, bioeconomy, natural resources, agriculture and environment</b> | <ul style="list-style-type: none"><li>• Environmental observation</li><li>• Agriculture, forestry and rural areas</li><li>• Circular systems</li><li>• Food systems</li></ul>  | <ul style="list-style-type: none"><li>• Biodiversity and natural resources</li><li>• Seas, oceans and inland waters</li><li>• Bio-based innovation systems in the EU Bioeconomy</li></ul>  |



# Work Programmes

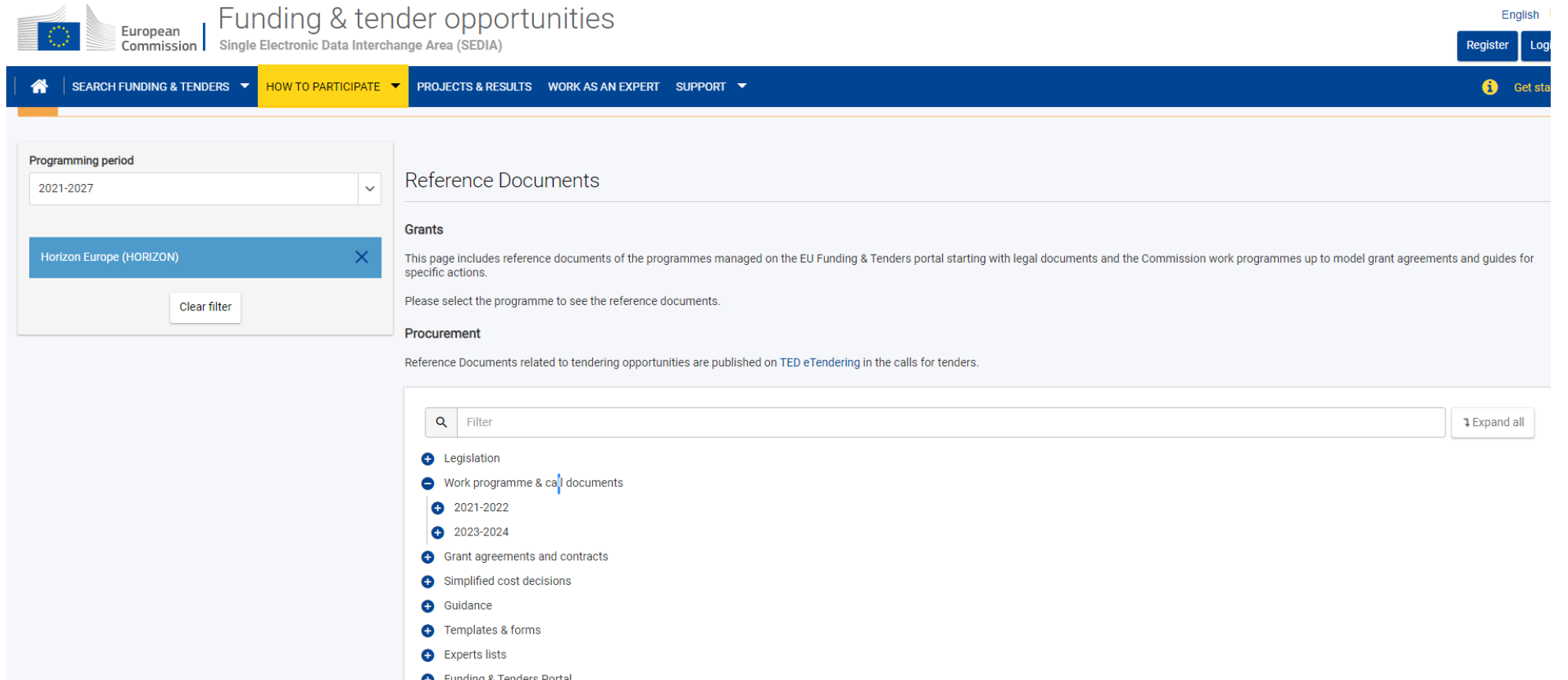
- La tematica di ricerca è ben delineata a monte e pubblicata in programmi di lavoro di durata biennale
- La ricerca in questa area di HE deve attenersi a quanto richiesto nel testo della call.

...aspetti trasversali sono la collaborazione tra settori e discipline, la valorizzazione del potenziale innovativo delle skills in campo, il ruolo dell'industria, l'approccio di genere, gli aspetti etici, il rispetto e al tutela dell'ambiente, la rilevanza delle scienze sociali e umane.

Gender Equality  
Ethics & Integrity  
Open Science  
SSH &  
Social innovation



# Work Programmes 2023-2024



The screenshot shows the 'Funding & tender opportunities' portal. The header includes the European Commission logo and the text 'Single Electronic Data Interchange Area (SEDIA)'. The navigation bar has a yellow 'HOW TO PARTICIPATE' tab selected. On the left, a 'Programming period' filter is set to '2021-2027', and a 'Horizon Europe (HORIZON)' filter is active. The main content area is titled 'Reference Documents' and contains two sections: 'Grants' and 'Procurement'. The 'Grants' section includes a paragraph about reference documents and a prompt to select a programme. The 'Procurement' section states that reference documents are published on TED eTendering. At the bottom, there is a search bar with the word 'Filter' and an 'Expand all' button. A list of filter categories is shown, with 'Work programme & call documents' expanded to show '2021-2022' and '2023-2024'.

European Commission | Funding & tender opportunities  
Single Electronic Data Interchange Area (SEDIA)

English | Register | Log

SEARCH FUNDING & TENDERS | HOW TO PARTICIPATE | PROJECTS & RESULTS | WORK AS AN EXPERT | SUPPORT | Get sta

Programming period  
2021-2027

Horizon Europe (HORIZON)

Clear filter

### Reference Documents

#### 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.

Filter

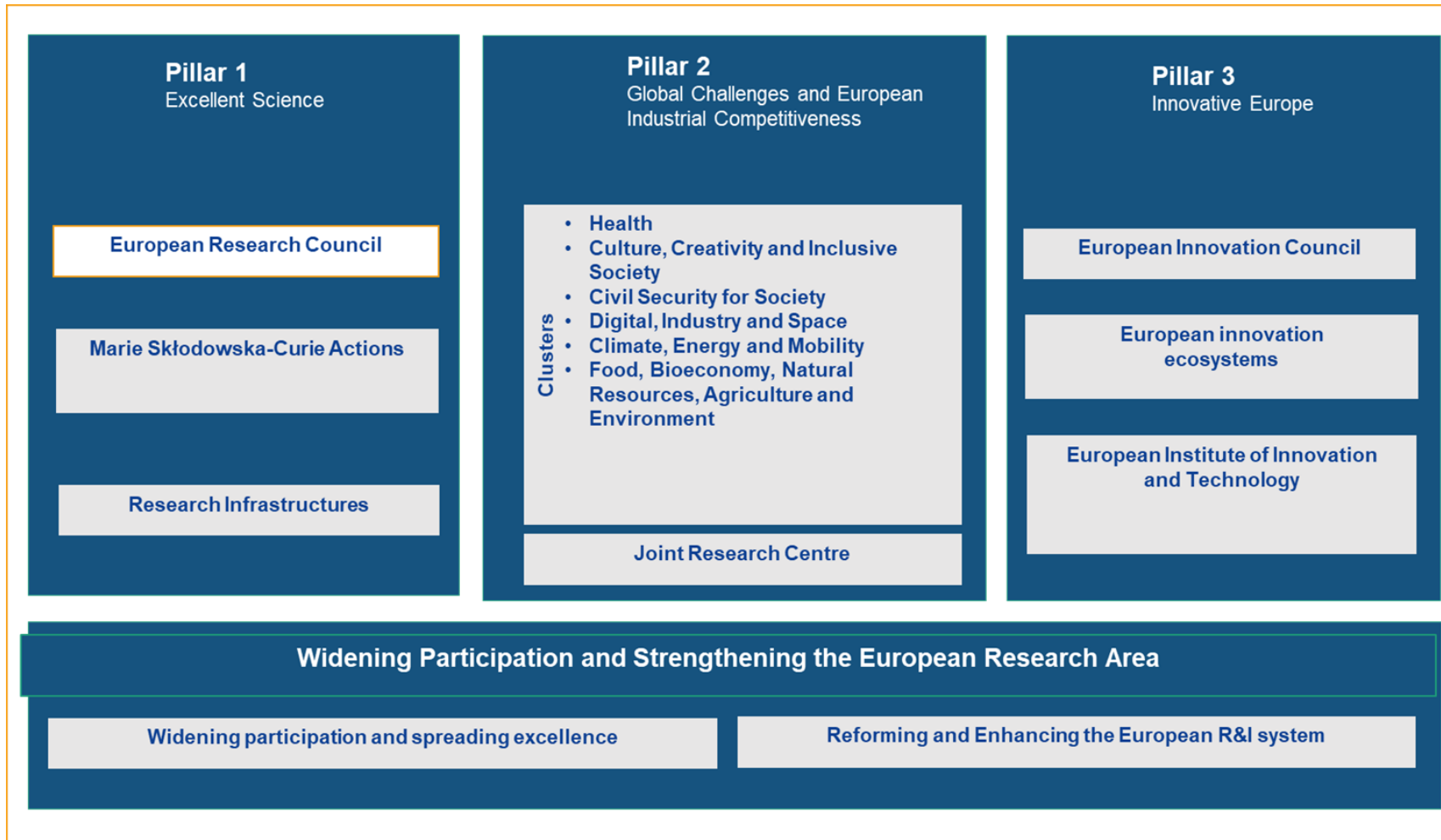
Expand all

- Legislation
- Work programme & call documents
  - 2021-2022
  - 2023-2024
- Grant agreements and contracts
- Simplified cost decisions
- Guidance
- Templates & forms
- Experts lists
- Funding & Tenders Portal

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/reference-documents;programCode=HORIZON>



# Pillar 1





## Pillar 1

# EXCELLENT SCIENCE:

reinforcing and extending the excellence of the Union's science base

## European Research Council

Frontier research by the best researchers and their teams

**Commission proposal:**  
**€ 16.6 billion**

## Marie Skłodowska-Curie Actions

- Equipping researches with new knowledge and skills through mobility and training

**Commission proposal:**  
**€ 6.8 billion**

## Research Infrastructures

- Integrated and inter-connected world-class research infrastructures

**Commission proposal:**  
**€ 2.4 billion**

Gender Equality  
Ethics & Integrity  
Open Science  
SSH &  
Social innovation





# ERC Grant Schemes

## Discover the ERC funding schemes

### ERC Starting Grant

Grant up to 1.5€ million for 5 years  
For promising early-career researchers with 2 to 7 years experience after PhD

[View more >](#)

### ERC Consolidator Grant

Grant up to 2€ million for 5 years  
For promising early-career researchers with 7 to 12 years experience after PhD

[View more >](#)

### ERC Advanced Grant

Grant up to 2.5€ million for 5 years  
For established research leaders with a recognised track record of research achievements

[View more >](#)

### ERC Proof of Concept

Lump Sum Grant of 150.000€  
For ERC grant holders to explore the commercial or societal potential innovation of their ERC frontier research project

[View more >](#)

### ERC Synergy Grant

Grant up to 10€ million for 6 years  
To address ambitious research questions that can only be answered by the coordinated work of a small group of 2-4 principal Investigators

[View more >](#)

### Additional opportunities

For researchers wishing to work or gain experience in an ERC grantee's team

[View more >](#)



# MSCA Opportunities

## 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)*



# Pillar 3





# Pillar 3

## Bringing in the next wave of innovation through a connected and inclusive ecosystem

Horizon Europe's Pillar III features three distinctive and complementary instruments:



## **Widening Participation and Spreading Excellence**

- contribute to building research and innovation capacity for countries lagging behind.
- strengthen the potential for successful participation in transnational research and innovation processes, promote networking and access to excellence.

## **Strengthening ERA**

- strengthening the evidence base for research and innovation policy, for a better understanding of the different dimensions and components of national and regional research and innovation ecosystems, including drivers, impacts, associated policies
- coordinate and co-design res. policy with national agencies and future-oriented stakeholders
- support for policy makers, funding bodies, research performing organisations



# MISSION oriented research

Una ulteriore novità della programmazione 2021-2027  
finalizzata a capitalizzare i risultati dei progetti di ricerca  
per una Europa più forte, coesa, green e soprattutto per un  
ambiente europeo sano





UNIVERSITÀ  
DI SIENA  
1240



## MISSIONS

# Mission-Oriented Research & Innovation in the European Union

A problem-solving approach to fuel innovation-led growth

*by Mariana MAZZUCATO*



# ...*some key messages*

Mission-oriented policies can be defined as systemic public policies that draw on frontier knowledge to attain specific goals

Missions provide a solution, an opportunity, and an approach to address the numerous challenges that people face in their daily lives

To engage research and innovation in meeting such challenges, a clear direction must be given, while also enabling bottom-up solutions.

What the mission approach can add to the European Framework Programme for Research and Innovation is a new lens to help steer investment towards tackling challenges but in a more focussed, problemsolving manner.





UNIVERSITÀ  
DI SIENA  
1240

# What are EU Missions in EC words?

- EU Missions are a new way to bring concrete solutions to some of our greatest challenges. They have ambitious goals and will deliver tangible results by 2030.
- They will deliver impact by putting research and innovation into a new role, combined with new forms of governance and collaboration, as well as by engaging citizens.





# Missions Areas

## MISSION AREAS:

Soil health and food



Cancer



Adaptation to climate change, including societal transformation



Climate-neutral and smart cities



Healthy oceans, seas, coastal and inland waters



#HorizonEU



European  
Commission

# Mission Cancer



*Improving the lives of more than 3 million people by 2030, through prevention, cure and for those affected by cancer including their families, to live longer and better*

# Europe's Beating Cancer Plan



*Europe urgently needs a renewed commitment to cancer prevention, treatment and care that recognises the growing challenges, and opportunities to overcome them, including the developments in cancer care*

The aim of Europe's Beating Cancer Plan is to tackle the entire disease pathway.

**4 key action areas:** prevention; early detection; diagnosis and treatment; and quality of life of cancer patients and survivors

**10 Flagship Initiatives**

# Mission Cancer



- Cancer affects everyone regardless of age, gender or social status and represents a tremendous burden for patients, families, and societies at large.
- If no further action is taken, the number of people newly diagnosed with cancer every year in Europe will increase from the current 3.5 million to more than 4.3 million by 2035.
- A mission in this area will help set common goals aiming to reverse these frightening trends in cancer.
- By joining efforts across Europe, the Mission on Cancer together with the Europe's Beating Cancer Plan will provide a better understanding of cancer, allow for earlier diagnosis and optimise treatment and improve cancer patients' quality of life during and beyond their cancer treatment.



UNIVERSITÀ  
DI SIENA  
1240

# Mission Cancer will

- provide clear guidance on the priority areas and drivers for research, which will help develop the Horizon Europe work programmes with regard to cancer for 2021-2027. It will set a common strategic R&I agenda on cancer at EU level
- enable researchers to analyse combined research, health and any other relevant data at an unprecedented scale, which will be accessible through the creation of the EU platform UNCAN.eu by 2023, leading to more rapid breakthroughs in understanding cancer.
- integrate care, research, as well as training and awareness activities in a structured and equitable manner through the creation of a network of Comprehensive Cancer Infrastructures by 2025, enhancing not only the quality of care but also decreasing inequalities in access to care.



European  
Missions

## Cancer



Improving the lives of more than 3 million people by 2030 through prevention, cure and for those affected by cancer including their families, to live longer and better

Implementation Plan



# Mission Cancer

Understanding

Prevention

Diagnosis and  
treatment

Quality of life

- Improve understanding of the development of cancer (environment, work, and lifestyle)
- Enhance cross-policy cancer prevention strategies
- Optimise the diagnostics and treatment of cancer based on the principle of equitable access
- Improve the quality of life of cancer patients, survivors and their families
- Accelerate the digital transformation of research, innovation and health systems

## ACTIONS AIMED AT

- address tumour-host interactions to enhance prevention, treatment and care interventions
- change behaviour
- improve quality of life through minimally invasive diagnostics
- improve the quality of life of cancer patients, survivors and their families
- enhance the quality of life for survivors of childhood cancer by setting up oncology-centred living labs



# Opportunità nell'ambito della Misison Cancer

Utilizziamo assieme il Funding and Tenders Portal!

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/reference-documents?selectedProgrammePeriod=2021-2027&selectedProgramme=HORIZON>





## Conditions for the Call

### Indicative budget(s)<sup>30</sup>

| Topics | Type of Action | Budgets (EUR million) | Expected EU contribution per project (EUR million) <sup>31</sup> | Indicative number of projects expected to be funded |
|--------|----------------|-----------------------|--|---|
|        |                | 2023                  |  |   |

Opening: 12 Jan 2023

Deadline(s): 12 Apr 2023

|                                |     |                     |               |   |
|--------------------------------|-----|---------------------|---------------|---|
| HORIZON-MISS-2023-CANCER-01-01 | RIA | 36.68 <sup>32</sup> | 7.00 to 12.00 | 4 |
| HORIZON-MISS-2023-CANCER-01-02 | RIA | 25.00 <sup>33</sup> | 4.00 to 6.00  | 5 |
| HORIZON-MISS-2023-CANCER-01-03 | RIA | 43.00 <sup>34</sup> | 6.00 to 8.00  | 7 |
| HORIZON-MISS-2023-CANCER-01-04 | IA  | 6.00 <sup>35</sup>  | Around 6.00   | 1 |
| Overall indicative budget      |     | 110.68              |               |   |



UNIVERSITÀ  
DI SIENA  
1240

# Aderire a un Progetto Horizon Europe

# Il Work programme

- Riporta indicazione dettagliata di
  - Topic Calls,
  - condizioni di partecipazione,
  - budget disponibile,
  - enti ammissibili,
  - Scadenza Call
  - Ha durata biennale
- Work programme MISSION 2023-24



UNIVERSITÀ  
DI SIENA  
1240

# Paesi partecipanti ad Horizon Europe

...oltre ai paesi della UE

# Requisito minimo di partecipazione

- Almeno 3 enti da 3 paesi diversi
- Occorre sempre verificare quanto nel programma di lavoro per l'ammissibilità dei partners da determinati paesi
- Paesi competitor commerciali della UE possono partecipare ma solitamente non sono ammissibili a contributo finanziario...spesso le rispettive agenzie nazionali finanziano la loro partecipazione.
- ...ad HE partecipano non solo gli enti (soggetti giuridici) ma anche persone fisiche (MSCA, ERC, SME owners)...

# Paesi Associati

*Legal entities from associated countries can participate under equivalent conditions as legal entities from the EU Member States, unless specific limitations or conditions are laid down in the work programme and/or call/topic text.*

1. Albania
2. Armenia
3. Bosnia and Herzegovina
4. Faroe Islands
5. Georgia
6. Iceland
7. Israel
8. Kosovo
9. Moldova
10. Montenegro
11. New Zealand (associated to Pillar II 'Global Challenges and European Industrial Competitiveness' as from the Work Programmes 2023 onwards, including for the institutionalised European partnerships)
12. North Macedonia
13. Norway
14. Serbia
15. Tunisia
16. Türkiye
17. Ukraine

# Regimi di adesione «Transitori» & Cooperazione internazionale

**Transitional arrangements apply to**  
**Morocco (applicable for the entire Programme)**  
**United Kingdom (applicable for the entire Programme)**

Legal entities established in **Switzerland are currently not covered** by the transitional arrangement.

**Liechtenstein** does **not intend to associate** to Horizon Europe.

*Other countries are directly eligible for funding if their participation is defined in the work programmes although Association Agreements do not exist.*

# Regimi di adesione «Transitori» & Cooperazione internazionale

- UK: associato
- USA: paese terzo non associato, ma eleggibile al finanziamento EU solo per quanto riguarda il Cluster Health
- Cina: paese terzo non associato, competitor della UE, ma ammissibile in alcuni casi (es. Azioni Marie Sklodovska Curie)
- Russia e Biolorussia: partecipazione sospesa
- Canada: associazione prevista nel primo trimestre del 2023
- Marocco: negoziazioni in corso
- Corea del Sud: colloqui esplorativi in corso
- Giappone: colloqui esplorativi in corso





UNIVERSITÀ  
DI SIENA  
1240

# HORIZON EUROPE PROGRAMME GUIDE

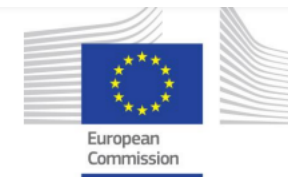
[https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/programme-guide\\_horizon\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/programme-guide_horizon_en.pdf)



**Horizon Europe (HORIZON)**

Programme Guide

# EU Grants AGA – Annotated Model Grant Agreement



**EU Grants**

**AGA – Annotated Model Grant Agreement**

EU Funding Programmes 2021-2027



UNIVERSITÀ  
DI SIENA  
1240

GRAZIE DELLA VOSTRA  
ATTENZIONE

DONATA FRANZI

[donata.franzi@unisi.it](mailto:donata.franzi@unisi.it)