



HORIZON EUROPE

THE EU RESEARCH & INNOVATION PROGRAMME

2021 – 2027

JIMENA ARANGO MONTANEZ (REA)

SmartCow Final meeting

Brussels 6th April 2022



Horizon Europe

The ambitious EU research and innovation framework programme (2021-2027)



fuel EU's **scientific and technological excellence** and the strengthen the European Research Area (ERA)

**Science
& technology**



tackle policy priorities, including **green and digital transitions** and Sustainable Development Goals

Society



boost Europe's **innovation uptake, competitiveness** and **jobs**

Economy

Five Missions Areas



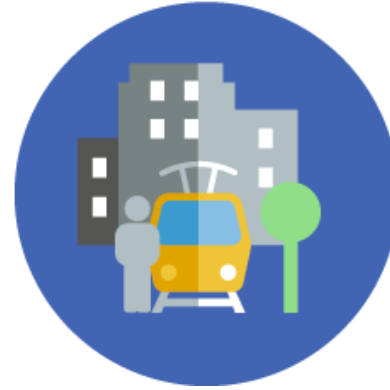
**Adaptation to
climate change,
including societal
transformation**



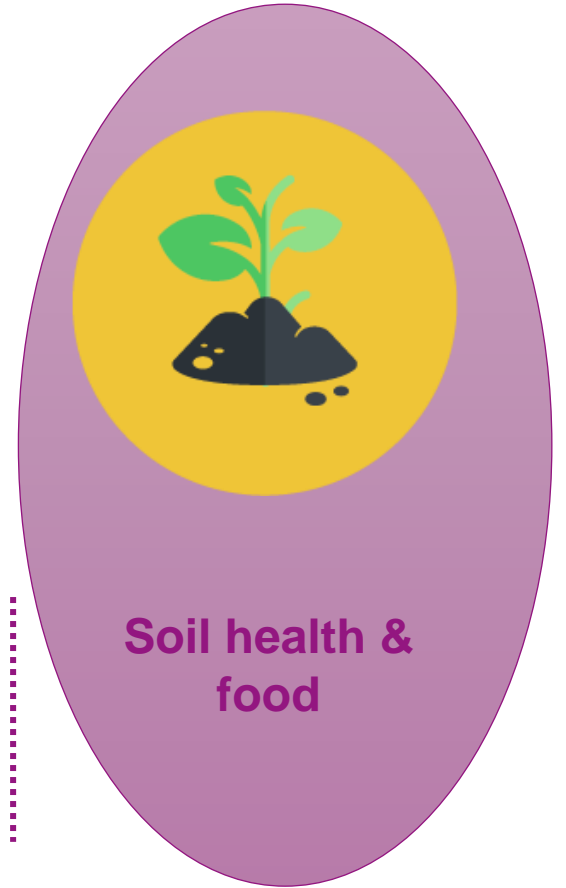
Cancer



**Healthy oceans,
seas, coastal &
inland waters**



**Climate-neutral
& smart cities**



**Soil health &
food**

Mission Board proposals Sept 2020

- **Conquering Cancer: Mission Possible**

Targets by 2030: more than 3 million more lives saved, living longer and better, achieve a thorough understanding of cancer, prevent what is preventable, optimise diagnosis and treatment, support the quality of life of all people exposed to cancer, and ensure equitable access to the above across Europe.

- **A Climate Resilient Europe - Prepare Europe for climate disruptions and accelerate the transformation to a climate resilient and just Europe by 2030**

Targets by 2030: prepare Europe to deal with climate disruptions, accelerate the transition to a healthy and prosperous future within safe planetary boundaries and scale up solutions for resilience that will trigger transformations in society.

- **Mission Starfish 2030: Restore our Ocean and Waters**

Targets by 2030: cleaning marine and fresh waters, restoring degraded ecosystems and habitats, decarbonising the blue economy in order to sustainably harness the essential goods and services they provide.

- **100 Climate-Neutral Cities by 2030 - by and for the citizens**

Targets by 2030: support, promote and showcase 100 European cities in their systemic transformation towards climate neutrality by 2030 and turn these cities into innovation hubs for all cities, benefiting quality of life and sustainability in Europe.

- **Caring for Soil is Caring for Life**

Targets by 2030: at least 75% of all soils in the EU are healthy for food, people, nature and climate. The proposed mission combines research and innovation, education and training, investments and the demonstration of good practices using “Living labs” (experiments and innovation in a laboratory on the ground) and “Lighthouses” (places to showcase good practices).

Pillar I

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

€16 billion

Marie Skłodowska-Curie Actions

Equipping researchers with new knowledge and skills through mobility and training

€6.6 billion

Research Infrastructures

Integrated and inter-connected world-class research infrastructures

€2.4 billion

Pillar II

Budget for clusters & JRC

in current prices

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

Clusters are including a budget for Partnerships and Missions
NGEU is Next Generation EU programme – Recovery Fund

EXPLOITATION & DISSEMINATION

[Dissemination & Exploitation - Open Access - H2020 Online Manual \(europa.eu\)](#)

Available public platforms for D&E results covering all research domains (non-exhaustive list):

- CORDIS (European Commission)
- *Horizon Results Platform (European Commission)
- OpenAire9 (Horizon 2020-supported project)

European Commission platforms

- * National Contact Point (NCP) events
- * H2020/ HE information roadshow
- * Project clustering meetings
- * Web seminars (Webex)

EXPLOITATION & DISSEMINATION

- Obligations of H2020 beneficiaries to continue to exploit and disseminate their project results up to four years after the end of the project as stipulated in articles 28 and 29 of the Model Grant Agreement.
- [Horizon Results Platform \(europa.eu\)](https://europea.eu).- Key Exploitable Results (KERs) - such as products, services, software, policy recommendations. Dedicated team to help you promote vis-à-vis various targeted audiences such as investors, public procurers, policy makers, as well as potential business partners.
- <https://open-research-europe.ec.europa.eu/> - Commission offers open access publishing platform. Service H2020 and HE beneficiaries. Original publications stemming from Horizon 2020 R&I activities during but also after the end of the project are eligible to be submitted to the platform at no cost for researchers.

Research Infrastructures



ERA Policy Agenda: Research Infrastructures

Deepening a truly functioning internal market for knowledge

Action 8 - Strengthen sustainability, accessibility and resilience of research infrastructures in the ERA

Set of foreseen activities

- **Strategic analysis** of the European Research Infrastructure **landscape**;
- Broader and more sustainable **access** for all countries to European research infrastructures and their services and revision of the European Charter of Access to Research Infrastructures;
- Update of the **ESFRI Roadmap** and implementation of the research infrastructures performance **monitoring** framework;
- Report on the **ERIC Framework**;
- Increased **cooperation** between research infrastructures, e-infrastructures and **stakeholders**, including through EOSC;

ERA Policy Agenda: R&I for the green/digital transition

Taking up together the challenges posed by the twin green and digital transition, and increasing society's participation in the ERA

Action 12 – Accelerate the green/digital transition of Europe's key industrial ecosystems

Set of foreseen activities

- Consultation process on R&I-related needs of industries, including skilling/upskilling needs, digitalisation, R&I driven standardisation, common technology roadmaps, and research and technology infrastructures
- Develop a robust policy framework to better support fundamental research at national and European levels to generate breakthrough knowledge and innovation
- Development of a policy approach to link industrial and R&I policies, notably on how to accelerate the industrial take-up of R&I results, and launch pilots in transport and energy industrial ecosystems
- Development of industrial technology roadmaps on low carbon technologies for energy-intensive industries and on circular industrial technologies
- Development of a coordination mechanism to provide industry with the technology infrastructures needed to test, validate and upscale innovations
- **Address the social adaptation of the green (and digital) transitions**

Challenges to be addressed

Strengthening and accelerating the transfer of R&I to the economy

Increase private and public investments on R&I in sectors where low-carbon technologies are needed

RIS IN HE – WP DESTINATIONS (23-24)

INFRADEV : Developing, consolidating and optimising European RIs landscape, maintaining global leadership –

INFRASERV : RI services to support health research, accelerate the green and digital transformation, and advance frontier knowledge

INFRATECH : Next generation of scientific instruments, tools and methods and advanced digital solutions

INFRAEOSC : Enabling an operational, open and FAIR EOSC ecosystem

INFRANET : Network connectivity - enabler for collaboration without boundaries



Destination INFRADEV: Developing, consolidating and optimising the European RI landscape, maintaining global leadership

Objective: develop a European **strategy** for RI and create a **coherent, responsive, sustainable and attractive RI landscape**, by strengthening existing facilities, reducing the fragmentation at national and regional level, ensuring coordination among MS/AC, and strengthening national and regional R&I ecosystems. Enhance the role of RIs for international cooperation.

Expected impact:

- Disruptive research and breakthrough science and innovation through cutting-edge, interconnected and sustainable Research Infrastructures;
- Strengthened scientific excellence and performance and efficiency of the European Research Area, increasing its attractiveness to researchers from all over the world;
- Coordinated research infrastructure capacity among countries and regions, also by exploiting possibilities given by the smart specialisation processes;
- Reinforced R&I capacities enabling systemic changes needed for a truly transformative societal and economic recovery and a strengthened resilience of critical sectors, as outlined in the Recovery Plan;
- Improved European response, in cooperation with international players, to emerging socio-economic and related scientific and technological challenges at global level.

Destination INFRA SERV: main features of all topics

- Focus on **trans-national access** in-person or remote and **virtual** access
- Bring together **several complementary and interdisciplinary** RIs
- Access includes **ad-hoc training** and scientific and technical **support to users**
- **Harmonisation, customisation** and **virtualisation** of RI services, and activities to facilitate and integrate the access procedures, also supported
- Access is provided to existing services, but **limited development of new services**, relevant to the challenges, can be supported, including joint/cross-RI services, provided that they are **offered already under the actions** and that their **LTS** is ensured by the participant RIs
- Access provision in line with the [European Charter for Access to Research Infrastructures](#)
- Address data management, interoperability and connection of digital services to the **EOSC**
- **Access can be provided**, under certain conditions, **to researchers in third countries**. **Third countries' RIs** may be **involved and funded** when there is an **EU benefit**, e.g. they offer complementary or more advanced services than those available in MS/AC.
- Include an outreach and engagement plan to actively advertise services to targeted research communities and, if applicable, to relevant industries/SMEs.

Destination INFRATECH: Next generation of scientific instrumentation, tools and methods and advanced digital solutions

Objective: Develop ground-breaking **RI technologies**, i.e. scientific instrumentation, tools, methods, and advanced digital solutions which underpin the provision of improved and advanced RI services to **enable new discoveries** and keep Europe's RIs at the highest level of excellence in science, while paving the way to innovative solutions to societal challenges and new industrial applications, products and services.

Expected impact:

- **Enhanced global competitiveness and technological excellence** of Europe in an extremely fast-moving environment through investments into the development.
- **Enhanced competitiveness of European industry** through co-development with industrial actors of advanced RI technologies and technology transfer;
- Opening up of **new areas of research and development** of new industrial applications/products;
- **Development of skills of RI staff** aligned with the advancements of the RI technologies
- Trans-disciplinarity, cross-fertilisation and a wider **sharing of knowledge and technologies between academia and industry**;
- Wider use of AI in research and enhanced data based research across Europe.

REFERENCES



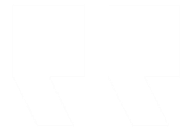
[ESFRI Roadmap 2021 - Strategy Report on Research Infrastructures](#)

[MAKING SCIENCE HAPPEN - A new ambition for Research Infrastructures in the European Research Area - ESFRI WHITE PAPER 2020](#)

[Supporting the transformative impact of research infrastructures on European research](#)

[ESFRI Report 'Monitoring of Research Infrastructures Performance'](#)





Thank you!

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<http://ec.europa.eu/horizon-europe>



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