OPENCALLS.SPACE

SPACE OPPORTUNITIES IN THE HORIZON EUROPE PROGRAM

Thursday 1 July, 2021

Agriculture

Netherlands Space Office

Groundstation SPACE

#HorizonEU

Developments 2021-2027

From Horizon 2020 to **Horizon Europe**

Missions – Clusters - Destinations:

- Health
- Civil Security for Society
- Climate, energy and Mobility
- Food, Bioeconomy, Natural Resources, Agriculture and Environment

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

Developments 2021-2027

EU funding instrument for the environment and climate action (and 2021-2027 also transition to clean energy)

Bridging the gap between development of new knowledge (Horizon Europe) and implementation (large-scale deployment finance).

Budget € 5.4 billion

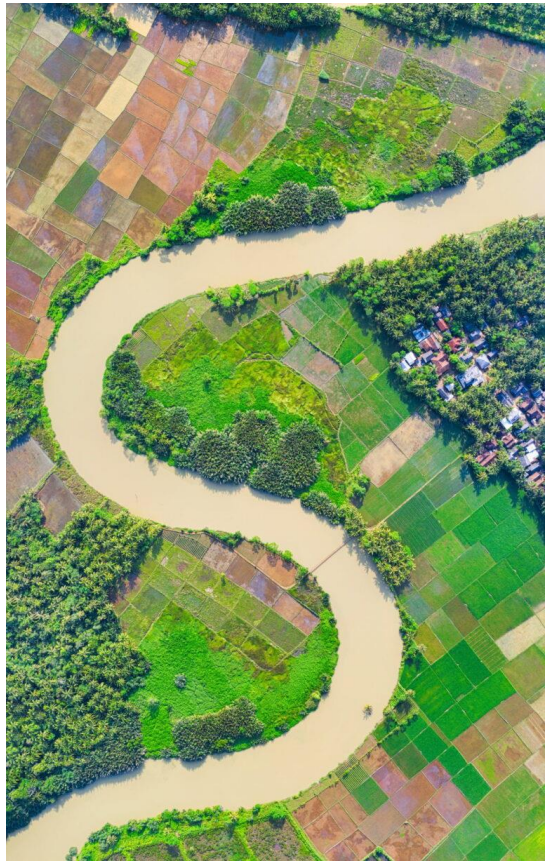
European Maritime and Fisheries Fund

Fund to invest in the maritime economy and support fishing communities

Digital Europe (DIGITAL)
Accelerate the recovery and drive the digital transformation of Europe.
Fill the gap between the research of digital technologies and their deployment, and to bring the results of research to the market – for the benefit of Europe's citizens and businesses – in particular SMEs.

Budget € 7.6 billion

Agriculture



Destination: Land, ocean and water for climate action

HORIZON-CL6-2021-CLIMATE-01-08: Agroforestry to meet climate, biodiversity and farming sustainability goals

Type of action: RIA
Budget (EUR million): 8
Expected EU contribution/project (EUR million): 4
Opening: 22 June 2021
Closing: 6 October 2021 17:00 Brussels time
Single Stage

Cluster 6: Food, Bioeconomy, Natural Resources, Agriculture and Environment (WP9)

Work programme year

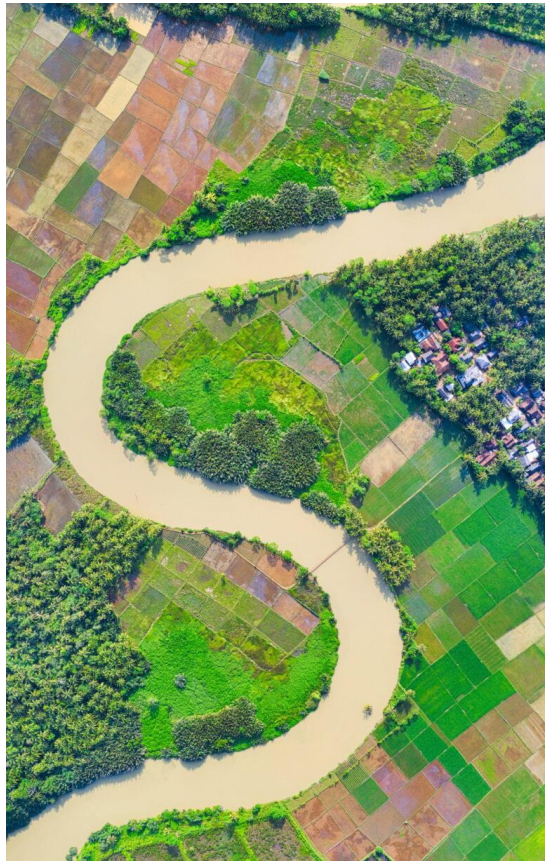
Topic description:

Expected outcome: description of the concrete results the project is expected to deliver (during the project lifespan) and the outcome (medium-term effect of the project results)
Scope: what activities should be included in the project

NEW

Destination description (policy context and targets)
Expected impacts: credible pathways towards scientific, societal and economic impact of the project (longer-term)

Agriculture



HORIZON-CL6-2021-**COMMUNITIES**-01-03: Smart XG, last-mile and edge solutions for remote farming, forestry and rural areas

- TRL 4-5 at end of project
- Satellite-based and drone-assisted broadband

Type of action: RIA
Budget (EUR million): 10
Expected EU contribution/project (EUR million): 5
Opening: 22 June 2021
Closing: 6 October 2021 17:00 Brussels time
Single Stage

HORIZON-CL6-2021-**ZEROPOLLUTION**-01-02: Optimization of nutrient budget in agriculture

- TRL 5 at end of project
- Remote sensing tools

Type of action: RIA
Budget (EUR million): 7
Expected EU contribution/project (EUR million): 7
Opening: 22 June 2021
Closing: 6 October 2021 17:00 Brussels time
Single Stage

HORIZON-CL6-2021-**FARM2FORK**-01-11: Digital transition supporting inspection and control for sustainable fisheries

- TRL 6-8 at end of project
- High-res satellite imagery

Type of action: IA
Budget (EUR million): 10
Expected EU contribution/project (EUR million): 5
Opening: 22 June 2021
Closing: 6 October 2021 17:00 Brussels time
Single Stage

HORIZON-**EUSPA**-2021-**SPACE**-02-51: EGNSS and Copernicus applications fostering the European Green deal

- Preserving and restoring biodiversity
- TRL 7-9 at end of project

Type of action: IA
Budget (EUR million): 14
Expected EU contribution/project (EUR million): 2-3
Opening: ?
Closing:?
Single Stage

Agriculture

HORIZON-CL6-2021-CLIMATE-01-08: Agroforestry to meet climate, biodiversity and farming sustainability goals

Policy context: European Green Deal (farm to fork strategy) and international objectives
Impact of agriculture and forestry on and for climate change (both negative & positive)
Do No Significant Harm principle – EU Taxonomy Regulation

Project results are expected to contribute to at least two of the following expected outcomes (depending on the activities covered)

- Improved qualitative and quantitative data availability of the contribution of agroforestry to climate change (mitigation and ada (including genetic diversity within species) and to greater economic, environmental and social sustainability of farming;
- Improved configuration and management of agroforestry systems, including systems involving animal production, through moc
- Enhanced capacities of various actors to measure the economic, environmental and social performance of agroforestry, in part

Expected impact

Proposals for topics under this destination should set out a credible pathway to contributing to climate action on land, oceans and water and more specifically to one or several of the following impacts:

- Better understanding and enhancing the mitigation potential of ecosystems and sectors based or
- Advanced understanding and science to support adaptation and resilience of natural and manage changing climate;
- Efficient monitoring, assessment and projections related to climate change impacts, mitigation ar and support decision-making in climate change mitigation and adaptation policies at European ar
- Fostered climate change mitigation in the primary sector , including by the reduction of GHG emis storage of carbon in ecosystems;
- Improved adaptive capacity of water and soil systems and sectors including by unlocking the pote

Proposals should address at least five of the following activities:

- Design agroforestry systems for climate change (mitigation and adaptation) and ir and socio-economic conditions, farm income stability and enhanced ecosystem se
- Develop methods and indicators that allow the identification of newly established a (e.g. between ecosystem services and between the environmental and socio-econ
- Develop models and tools adapted to real farm conditions and considering the full produced, to allow the configuration and efficient management of agroforestry sys selection and improvement of agricultural varieties and animals most suited for ag

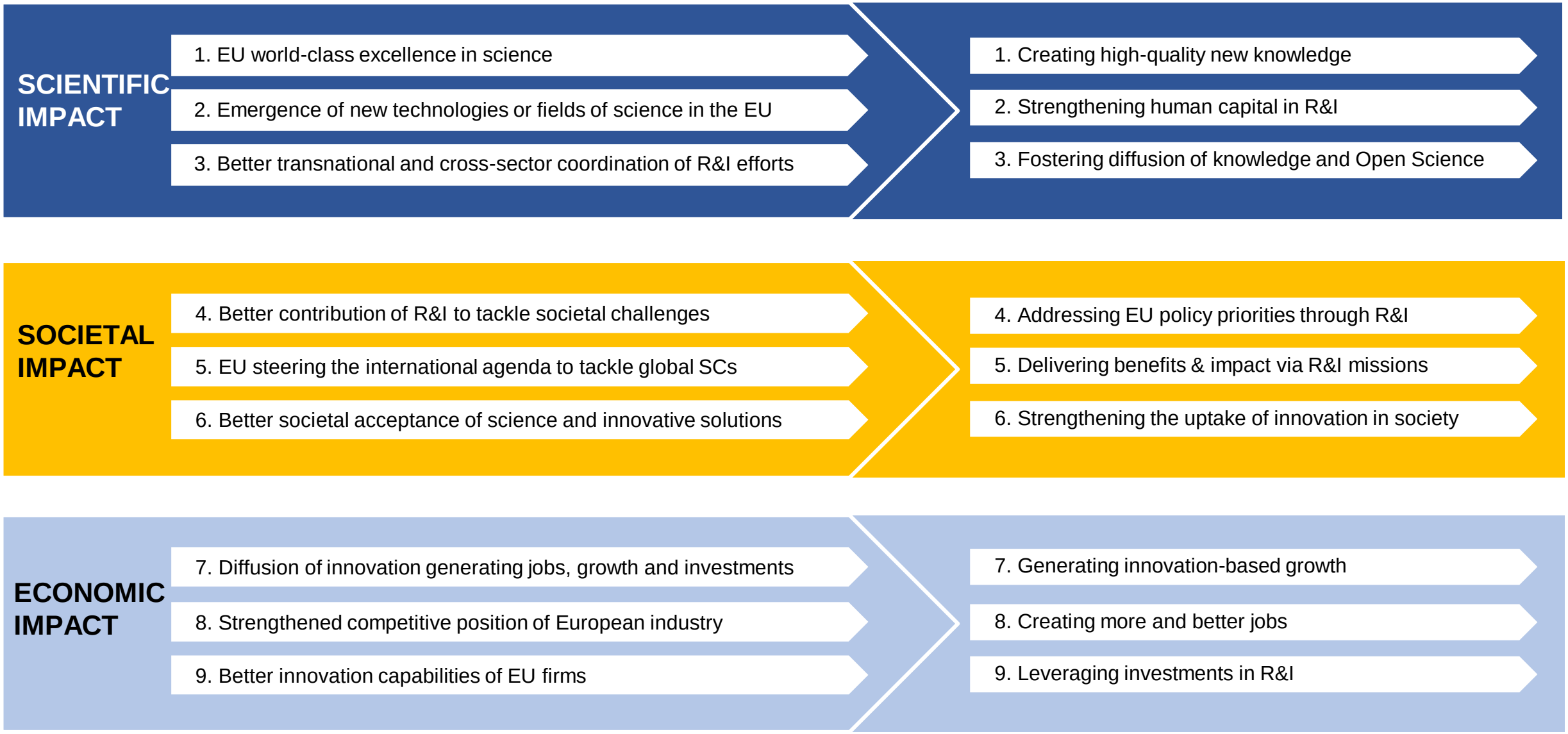
Further information

Horizon Europe Info Days 2021

June 28 – July 9

NL Enterprise Agency (RVO) national contact points / advisors (NL organisations)

Impact Pathways – evolution Horizon 2020 to Horizon Europe



Indicators scientific impact

Toward scientific impact	Short-term	Medium-term	Longer-term
Creating high-quality new knowledge	Publications – Number of FP peer reviewed scientific publications	Citations – Field-Weighted Citation Index of FP peer reviewed publications	World-class science – Number and share of peer reviewed publications from FP projects that are core contribution to scientific fields
Strengthening human capital in R&I	Skills – Number of researchers having benefitted from upskilling activities in FP projects	Careers – Number and share of upskilled FP researchers with more influence in their R&I field	Working conditions – Number and share of upskilled FP researchers with improved working conditions
Fostering diffusion of knowledge and Open Science	Shared knowledge – Share of FP research outputs (open data / publication / software etc) shared through open knowledge infrastructures	Knowledge diffusion – Share of open access FP research outputs actively used / cited	New collaborations – Share of FP beneficiaries having developed new transdisciplinary / trans-sectoral collaborations with users of their open FP R&I outputs

Indicators societal impact

Toward societal impact	Short-term	Medium-term	Longer-term
Addressing EU policy priorities through R&I	Outputs – Number and share of outputs aimed at addressing specific EU policy priorities	Solutions – Number and share of innovations and scientific results addressing specific EU policy priorities	Benefits – Aggregated estimated effects from use of FP funded results, on tackling specific EU policy priorities, including contribution to the policy and law-making cycle
Delivering benefits and impact through R&I missions	R&I mission outputs – Outputs in specific R&I missions	R&I mission results – Results in specific R&I missions	R&I mission targets met – Targets achieved in specific R&I missions
Strengthening the uptake of innovation in society	Co-creation – Number and share of FP projects where EU citizens and end-users contribute to the co-creation of R&I content	Engagement – Number and share of FP beneficiary entities with citizen and end-users engagement mechanisms after FP project	Societal R&I uptake – Uptake and outreach of FP co-created scientific results and innovative solutions

Indicators economic impact

Toward economic impact	Short-term	Medium-term	Longer-term
Generating innovation-based growth	Innovative outputs – Number of innovative products, processes or methods from FP (by type of innovation) & Intellectual Property Rights applications	Innovations – Number of innovations from FP projects (by type of innovation) including from awarded IPRs	Economic growth – Creation, growth & market shares of companies having developed FP innovations
Creating more and better jobs	Supported employment – Number of FTE jobs created, and jobs maintained in beneficiary entities for the FP project (by type of job)	Sustained employment – Increase of FTE jobs in beneficiary entities following FP project (by type of job)	Total employment – Number of direct and indirect jobs created or maintained due to diffusion of FP results (by type of job)
Leveraging investments in R&I	Co-investment – Amount of public & private investment mobilised with the initial FP investment	Scaling up – Amount of public & private investment mobilised to exploit or scale up FP results	Contribution to '3% target' – EU progress towards 3% GDP target due to FP

Canvas part 1

SPECIFIC NEEDS

What are the specific needs that triggered this project?

Example 1
Most airports use process flow-oriented models based on static mathematical values limiting the optimal management of passenger flow and hampering the accurate use of the available resources to the actual demand of passengers.

Example 2
Electronic components need to get smaller and lighter to match the expectations of the end-users. At the same time there is a problem of sourcing of raw materials that has an environmental impact.

EXPECTED RESULTS

What do you expect to generate by the end of the project?

Example 1
Successful large-scale demonstrator: Trial with 3 airports of an advanced forecasting system for proactive airport passenger flow management.

Algorithmic model:
Novel algorithmic model for proactive airport passenger flow management.

Example 2
Publication of a **scientific discovery on transparent electronics.**

New product: More sustainable electronic circuits.

Three PhD students trained.

D & E & C MEASURES

What dissemination, exploitation and communication measures will you apply to the results?

Example 1
Exploitation: Patenting the algorithmic model.

Dissemination towards the scientific community and airports: Scientific publication with the results of the large-scale demonstration.

Communication towards citizens: An event in a shopping mall to show how the outcomes of the action are relevant to our everyday lives.

Example 2
Exploitation of the new product: Patenting the new product; Licencing to major electronic companies.

Dissemination towards the scientific community and industry: Participating at conferences; Developing a platform of material compositions for industry; Participation at EC project portfolios to disseminate the results as part of a group and maximise the visibility vis-à-vis companies.

Canvas part 2

TARGET GROUPS

Who will use or further up-take the results of the project? Who will benefit from the results of the project?

Example 1
9 European airports:
Schiphol, Brussels airport, etc.

The European Union aviation safety agency.

Air passengers (indirect).

Example 2
End-users: consumers of electronic devices.

Major electronic companies: Samsung, Apple, etc.

Scientific community (field of transparent electronics).

OUTCOMES

What change do you expect to see after successful dissemination and exploitation of project results to the target group(s)?

Example 1
Up-take by airports: 9 European airports adopt the advanced forecasting system demonstrated during the project.

Example 2
High use of the scientific discovery published (measured with the relative rate of citation index of project publications).

A **major electronic company** (Samsung or Apple) **exploits/uses the new product** in their manufacturing.

IMPACTS

What are the expected wider scientific, economic and societal effects of the project contributing to the expected impacts outlined in the respective destination in the work programme?

Example 1
Scientific: New breakthrough scientific discovery on passenger forecast modelling.

Economic: Increased airport efficiency
Size: 15% increase of maximum passenger capacity in European airports, leading to a 28% reduction in infrastructure expansion costs.

Example 2
Scientific: New breakthrough scientific discovery on transparent electronics.

Economic/Technological: A new market for touch enabled electronic devices.

Societal: Lower climate impact of electronics manufacturing (including through material sourcing and waste management).