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Technical Assistance for Turkey in Horizon 2020 Phase-II
EuropeAid/139098/IH/SER/TR

Turkey in Horizon 2020 II

General Training (Webinar)

Horizon Europe Cluster 6 Info Day

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Training Coordinator



REPUBLIC OF TURKEY
MINISTRY OF INDUSTRY
AND TECHNOLOGY



Grigoris Chatzikostas

Training Coordinator in "Turkey in Horizon 2020 – Phase II" project



- “ Managing multi-national and cross-sectoral consortia, **writing proposals for EU funding and coordinating large-scale projects** that promote tech-enabled entrepreneurship in various sectors such as agrifood, ICT, environment, health, manufacturing, entrepreneurship etc.
- “ **Training, coaching, mentoring and supporting researchers and innovators** on issues related to proposal writing for EU funding opportunities, project management of EU funded projects, IPR management and entrepreneurship, in countries such as Greece, Serbia, Lithuania, Bulgaria, Turkey, Tunisia, Poland etc

17yrs

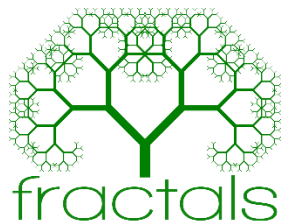
Experience in EU
projects

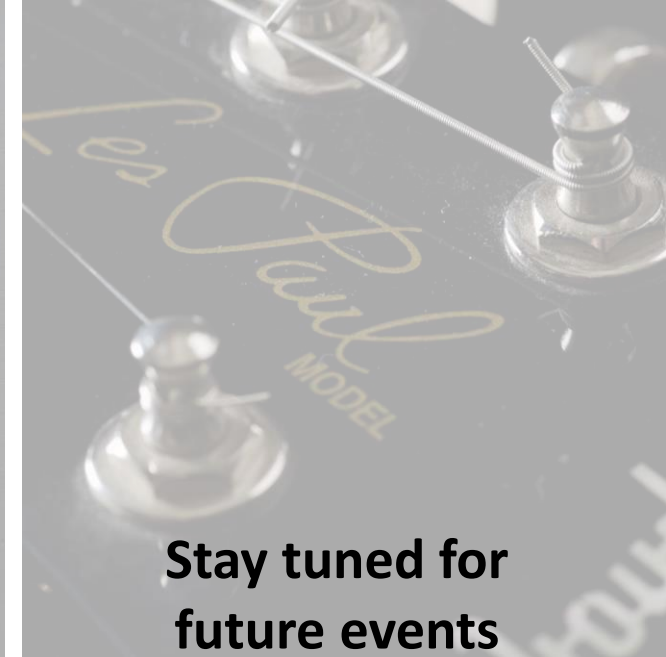
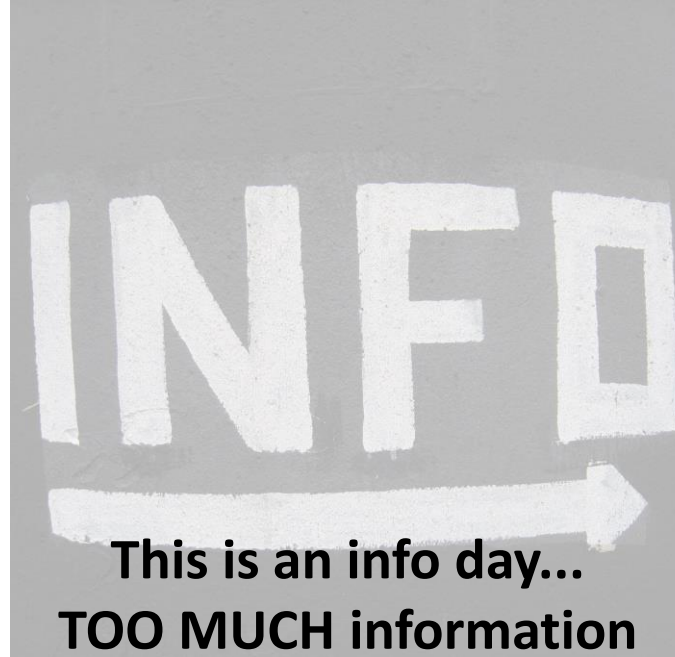


1st position in
Serbia in attracting
H2020 funds

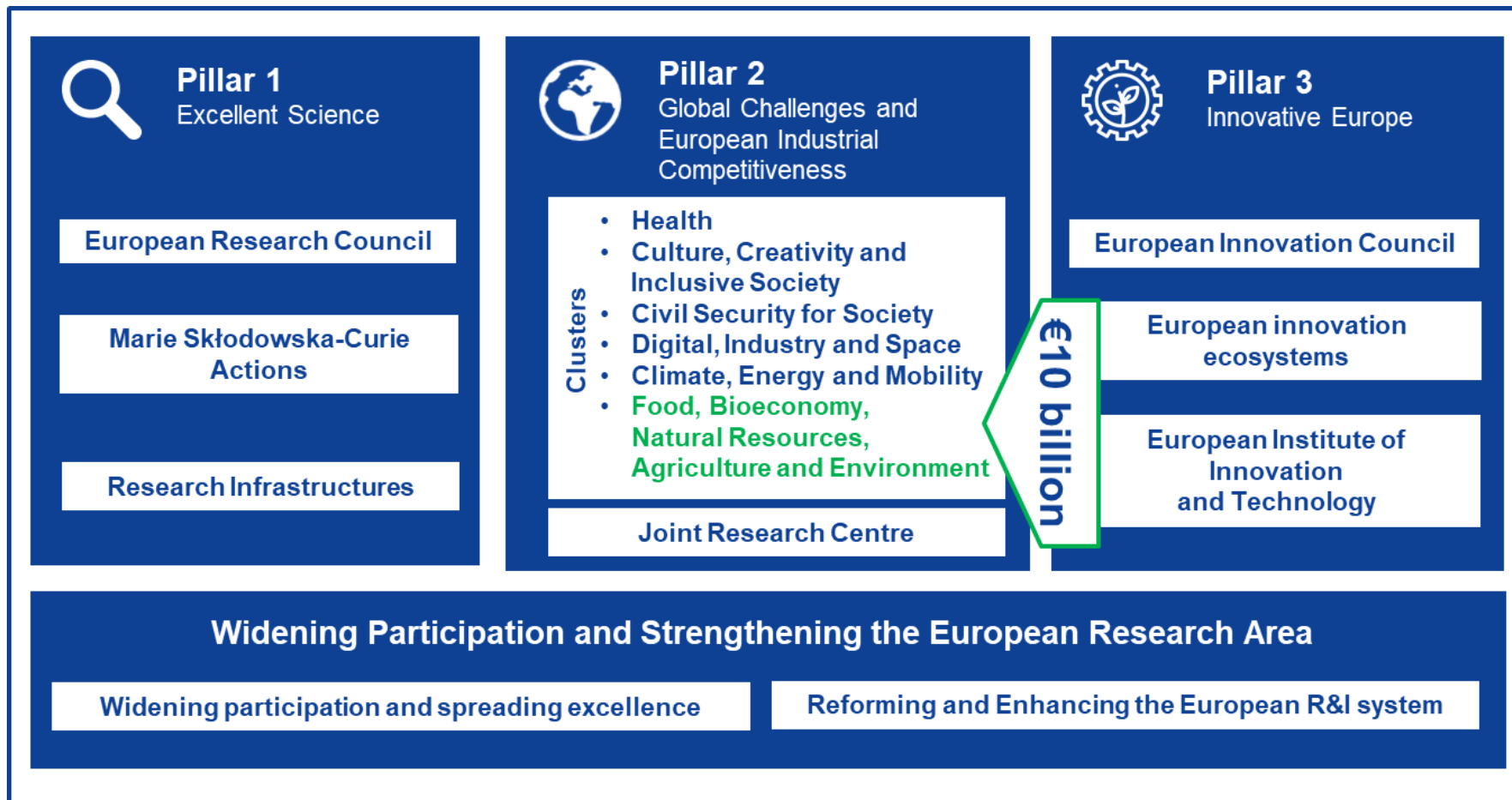
100+ m€

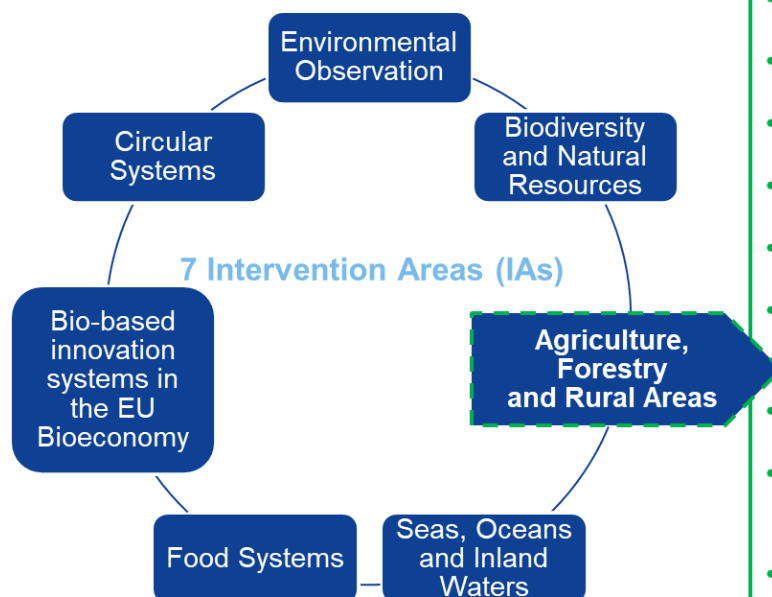
Total value of
projects managed



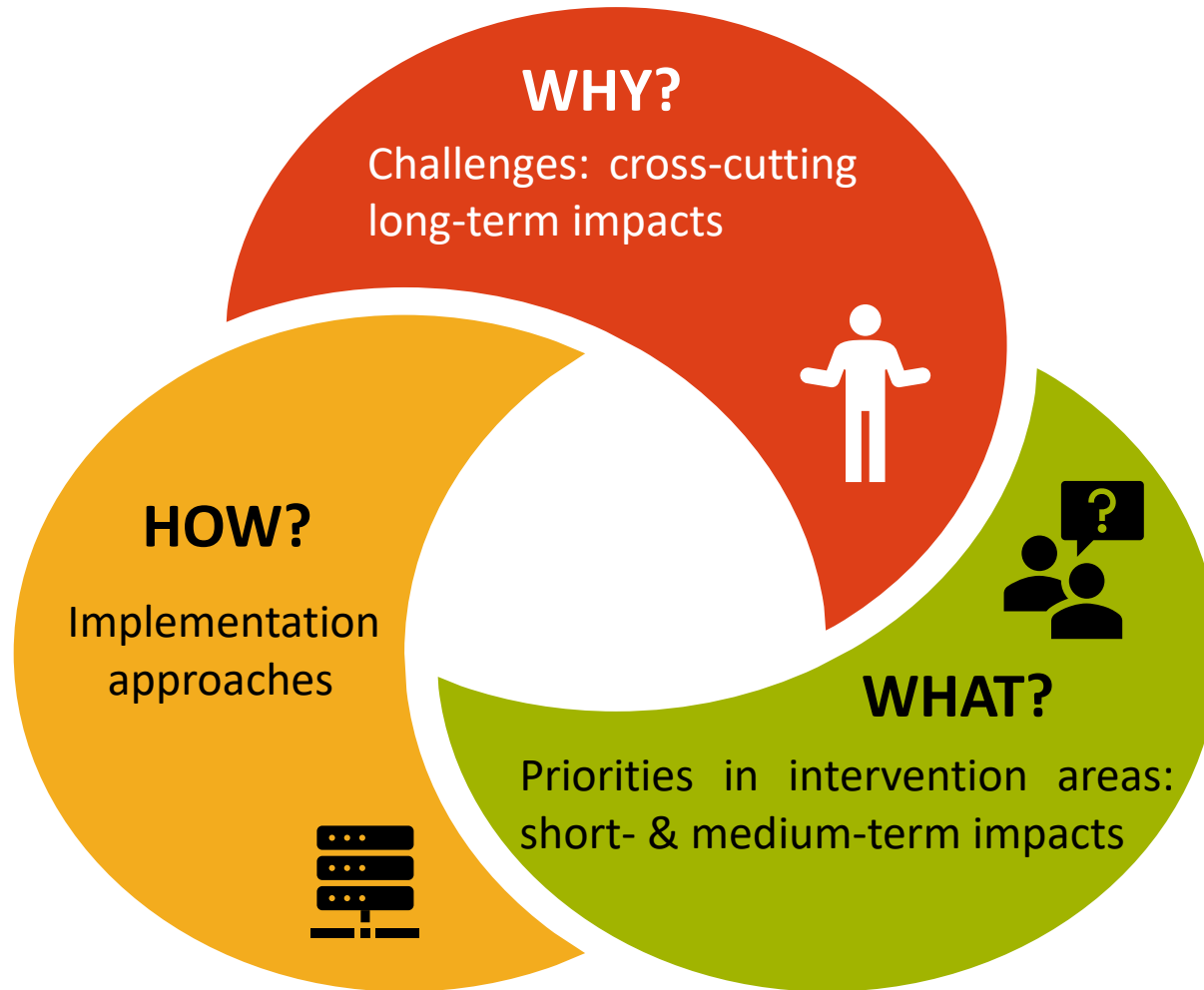


 **This presentation covers ONLY 2021 !!**





- Sustainable management and efficient use of natural resources
- Climate mitigation and adaptation
- Plant health
- Animal health and welfare
- Use and delivery of ecosystem services
- Sustainable forest management
- EU plant protein production
- Sustainable land use, rural development and territorial linkages
- Digital innovations
- AKIS; advice, building skills, participatory approaches and information sharing
- International partnerships for sustainable agriculture for food and nutrition security



SIX CROSS-CUTTING LONG-TERM IMPACTS



Environmental
Observation

Biodiversity
and Natural Resources

Agriculture, Forestry
and Rural Areas

Seas, Oceans
and Inland Waters

Food Systems

Bio-based innovation
systems in the EU
Bioeconomy

Circular Systems

- ☐ **Research and Innovation Action** – 100% funding of all activities and participants
- ☐ **Innovation Action** – 70% funding of all activities and participants –except non-profit (still 100%)
- ☐ **Coordination and Support Actions** – 100% funding of all activities and participants
- ☐ **COFUND Action** - Co-funding of regional, national and international programmes

A multi-actor project needs to **demonstrate**:

- how the project proposal's **objectives** and planning are **targeted to needs / problems and opportunities of end-users**;
- **complementarity** with existing research and best practices.

*[What is the project's **added value**? - **Avoid recycling** projects: repetition and continuation of former projects – more of the same]*

- sufficient involvement of **key actors with complementary types of knowledge** (scientific and practical) should be **reflected in the composition of the project consortium** to reach the project objectives and make its results broadly implemented.

[Include partners beyond scientists, such as farmers, farmers' groups, advisors etc - Don't forget to think about involving multipliers to strengthen impacts]

A multi-actor project:

- **As a minimum**, should result in **substantial** easily understandable practical knowledge for broad dissemination in the **common EIP format**;
[focus on concrete and concisely written results (not project activities description): possibly some 100 EIP practice abstracts in a practitioners/farmers' language, best practices resulting from the projects' work, some qualitative audio-visual material, etc.
Do not reinvent the wheel : use existing long term available dissemination channels for practitioners, lasting beyond the project period, eg websites of Ministries, farmers' organisations, advisors...]
- Facilitation/**mediation** between actors and involving for instance **RD operational groups**, are strongly recommended;
[but don't make impossible promises and mix up funding sources and policies: H2020 consortia cannot start up Operational Groups]



"Use not only your brains,
but all that you can borrow"

Woodrow Wilson, 28th U.S. president

"The value of an idea lies in
the using of it"

Thomas Alva Edison,
inventor of the light bulb

"Enlightenment comes
when views collide"

Nicolas Boileau, French philosopher

- "multi-actor" is more than a strong dissemination requirement or a broad actors/ stakeholders' board;
- "all along the project" *: **a clear role for the different actors** in the work plan, from the participation in the planning of work and experiments, their execution up until the dissemination of results and the possible demonstration phase;
- Project proposals should illustrate sufficient quantity and quality of knowledge exchange activities.

Actor: an organization taking part in project **activities**.

Stakeholder: person/ organization expressing a view/stake at a certain moment during the project.



Target **real-life needs, problems or opportunities**



Choose consortium partners with **complementary types of knowledge and skills** (for "cross-fertilisation")



including **farmers, foresters or other end-users** to benefit from their entrepreneurial skills



Involve “multipliers” - people who can bring in practical knowledge and help disseminate the results in the long term



Set up a plan with a **clear role for each of the different partners**



Organise **knowledge exchange activities** between the partners



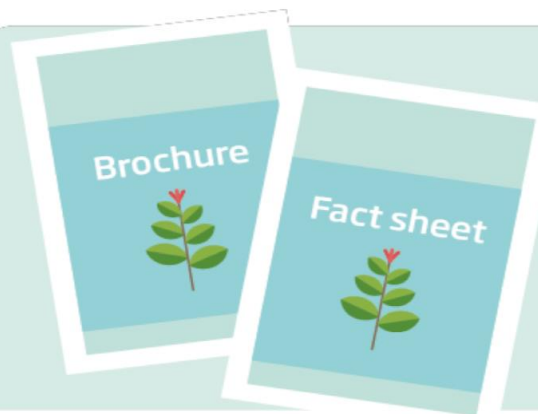
Bridge the gap between research and practice **by facilitating discussions**



Involve interactive innovation groups such as **EIP-AGRI Operational Groups**



All partners must **co-create and co-decide throughout the project**



Destination 1 – Biodiversity and Ecosystem Services

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

Destination 3 – Circular economy and bioeconomy sectors

Destination 4 – Clean environment and zero pollution

Destination 5 – Land, oceans and water for climate action

Destination 6 – Resilient, inclusive, healthy and green rural, coastal and urban communities

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

2021

Opening: 15 Apr 2021

Deadline: 02 Sep 2021

2022

Opening: 28 Oct 2021

Deadline(s): 15 Feb 2022 (First Stage),
06 Sep 2022 (Second Stage)



Destination 1: Biodiversity and Ecosystem Services



Destination 1: Biodiversity and Ecosystem Services

HORIZON-CL6-2021-BIODIV-01-01: European participation in global biodiversity genomics endeavours aimed at identifying all biodiversity on Earth (RIA)

- Proposals will:
 - contribute to create and maintain European nodes and networks integrated into **global biodiversity genomics initiatives**, to better understand **biodiversity decline**, its main direct drivers and their interrelations;
 - leverage resources and expertise to advance in the completion the **barcoding and/or sequencing of European biodiversity** in a smart and efficient way, taking advantage of existing networks, infrastructures and expertise.

| | |
|---------------------------------|---------------------|
| Budget | 20 mEUR |
| EU contribution | Aprox. 10 – 20 mEUR |
| Funded projects | 1 – 2 |
| Copernicus and/or Galileo/EGNOS | |

Destination 1: Biodiversity and Ecosystem Services

HORIZON-CL6-2021-BIODIV-01-02: Data and technologies for the inventory, fast identification and monitoring of endangered wildlife and other species groups (RIA)

- Contribute to bridge **taxonomic and monitoring gaps**, by providing methods, data, knowledge and models on the conservation status and ecological requirements of species and habitats, to better understand and address biodiversity decline, its main direct drivers and their interrelations;
- Contribute their data to and earmark the necessary resources for cooperation with the **Knowledge Centre for Biodiversity** and should promote synergies with the European co-funded Partnership on Biodiversity.

| | |
|---------------------------------|-------------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 3 – 5 mEUR |
| Funded projects | 2 – 3 |
| Copernicus and/or Galileo/EGNOS | |

HORIZON-CL6-2021-BIODIV-01-03: Understanding and valuing coastal and marine biodiversity and ecosystems services (RIA)

Proposals will contribute to all the following expected outcomes notably to better understand biodiversity decline, its main direct drivers and their interrelations:

- Closing the **gap in knowledge**;
- New theoretical frameworks;
- **Ocean health prediction**;
- Improved monitoring and detection of **invasive alien species**;
- **Natural capital accounting**.

| | |
|---------------------------------|----------------|
| Budget | 16 mEUR |
| EU contribution | Aprox. 16 mEUR |
| Funded projects | 1 |
| TRL 4 – 5 | |
| Copernicus and/or Galileo/EGNOS | |

Destination 1: Biodiversity and Ecosystem Services

HORIZON-CL6-2021-BIODIV-01-04: Assess and predict integrated impacts of cumulative direct and indirect stressors on coastal and marine biodiversity, ecosystems and their services (RIA)

Proposals will contribute to all following expected outcomes notably to better understand biodiversity decline, its main direct drivers and their interrelations:

- Impacts (incl. tipping points) of **multiple stressors on coastal and marine biodiversity**;
- Better management of invasive species;
- Implementation of the **Marine Strategy Framework Directive**;
- Ecosystem based management approaches and policy measures.

In order to achieve the expected outcomes, **international cooperation is advised**.

| | |
|---------------------------------|----------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 10 mEUR |
| Funded projects | 1 |
| TRL 4 – 5 | |
| Copernicus and/or Galileo/EGNOS | |

HORIZON-CL6-2021-BIODIV-01-05: The economics of nature-based solutions: cost-benefit analysis, market development and funding (RIA)

A proposal will:

- Support the development of **policies, business models and market conditions** to scale up and speed up the implementation of **nature-based solutions (NBS)**;
- Contribute to the wider deployment of NBS and to fully reaping their economic, social and environmental benefits in order to build a competitive sustainability in Europe and to tackle climate change;
- Bring together from the start multiple types of scientific expertise in **both natural sciences and social sciences and humanities** (in particular economics), as well as market experts and business representatives.

| | |
|-----------------|---------------|
| Budget | 5 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 1 |

Destination 1: Biodiversity and Ecosystem Services

HORIZON-CL6-2021-BIODIV-01-06: Nature-based solutions, prevention and reduction of risks and the insurance sector (CSA)

- Contribute to the wider deployment of NBS and to **fully reaping their economic, social and environmental benefits** in order to build a competitive sustainability in Europe and to tackle climate change;
- The **insurance sector** can support action as institutional investors, insurance providers, innovators of new insurance products or as partners bringing their risk management expertise;
- The stocktaking of previous Horizon 2020 projects on NBS and how these results can be integrated in future insurance sector involvement should also be addressed.

| | |
|-----------------|---------------|
| Budget | 5 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-BIODIV-01-07: Ecosystems and their services for an evidence-based policy and decision-making (RIA)

- Integration of biodiversity and natural capital into **public and business decision-making** at all levels for the protection and restoration of ecosystems and their services;
- Develop and test **indicators not yet available** for support of the ecosystem assessment;
- Develop and test **methods and tools** (in particular methods developed for natural capital accounting) to consistently report harmonised and verified ecosystem data at EU and Member State and **Associated Country level**;
- Follow up on European and global projects and networks to **facilitate dialogue** among the relevant scientific communities, funding bodies, relevant stakeholders and user communities in Europe throughout the duration of Horizon Europe.

| | |
|---------------------------------|----------------|
| Budget | 13 mEUR |
| EU contribution | Aprox. 13 mEUR |
| Funded projects | 1 |
| Copernicus and/or Galileo/EGNOS | |

HORIZON-CL6-2021-BIODIV-01-08: Supporting the development of a coherent and resilient Trans-European Nature Network (IA)

- Give support to building a coherent and resilient **trans-European nature network (TEN-N) of protected areas**, including through the set-up of ecological corridors;
- Set up a strategic plan to **support national authorities** in identifying and selecting the relevant priority areas;
- Consider **various climate change scenarios**, propose solutions for strengthening ecological connectivity under these different scenarios.

| | |
|---------------------------------|---------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 7 mEUR |
| Funded projects | 1 |
| Copernicus and/or Galileo/EGNOS | |

Destination 1: Biodiversity and Ecosystem Services

HORIZON-CL6-2021-BIODIV-01-09: Assessing and consolidating recent scientific advances on freshwater ecosystem restoration (CSA)

- Improve the knowledge to restore ecosystems and halt biodiversity loss, on land, in inland water and at sea through improved knowledge and innovation;
- Determine how to implement the **restoration of freshwater ecosystems** and remove hydromorphological barriers to ensure sustainable environmental flows;
- Methods for detection and identification of ecosystem degradation, assessment and restoration potential and methods for prioritization.

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|-----------------|-----------------|
| Budget | 0.5 mEUR |
| EU contribution | Aprox. 0.5 mEUR |
| Funded projects | 1 |

Destination 1: Biodiversity and Ecosystem Services

HORIZON-CL6-2021-BIODIV-01-10: Demonstration of measures and management for coastal and marine ecosystems restoration and resilience in simplified socio-ecological systems (IA)

- Demonstration of the **best combinations of interventions and approaches in a simple socio-ecological system**; guidelines to upscale them to more complex systems, for the restoration and protection of **coastal and marine biodiversity** and ecosystem services and their resilience to environmental changes in both protected and non-protected areas;
- Speeding up the identification, the development and integration of **ad hoc measures and holistic ecosystem-based management** approaches at larger scale

| | |
|--|----------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 10 mEUR |
| Funded projects | 1 |
| TRL 6 – 7 | |
| Copernicus and/or Galileo/EGNOS & Multi-actor approach | |

HORIZON-CL6-2021-BIODIV-01-11: What else is out there? Exploring the connection between biodiversity, ecosystems services, pandemics and epidemic risk (IA)

- Explore the evolution and spread of microbiomes in the wild and their relationship with **biodiversity loss, ecosystems dynamics and epidemics risk**, in a broad societal, climate change and global context;
- Recover biodiversity and ecosystems services whilst **predicting and preventing future pandemics and epidemic outbreaks**, especially in **tropical areas and biodiversity hotspots**, through collaboration between environmental, biomedical and social sciences;
- International cooperation with **non-EU countries where new pathogens have emerged** is encouraged.

| | |
|---------------------------------|--------------------|
| Budget | 12 mEUR |
| EU contribution | Aprox. 4 – 12 mEUR |
| Funded projects | 1 – 3 |
| TRL 4 – 6 | |
| Copernicus and/or Galileo/EGNOS | |

HORIZON-CL6-2021-BIODIV-01-12: Improved science based maritime spatial planning and identification of marine protected areas (RIA)

- **Prioritisation of future protected areas**, restoration areas, and science-based maritime spatial planning;
- Pave the way to fill present gaps on marine biodiversity and its management by better **linking spatially ecological features with socio-economic elements**;
- Design of **ad hoc innovative flexible socio-ecological management** to cope with a rapidly changing environment for coastal, offshore and deep-sea marine ecosystems;
- International cooperation is advised.

| | |
|---------------------------------|-------------------|
| Budget | 7 mEUR |
| EU contribution | Aprox. 3 – 4 mEUR |
| Funded projects | 2 |
| TRL 4 – 5 | |
| Copernicus and/or Galileo/EGNOS | |

HORIZON-CL6-2021-BIODIV-01-13: Breeding for resilience: focus on root-based traits (RIA)

- Support the transition to more sustainable practices in agriculture and enhance the **diversity of agroecosystems**;
- Identify **root traits that enhance resource efficiency of plants** in different environments;
- Increase our knowledge on the (molecular and biochemical) **plasticity of root responses**;
- Improve existing and/or develop new **root phenotyping tools** (including image analysis protocols).

Activities shall be carried out **in a range of agronomically relevant soil conditions**.

| | |
|-----------------|---------------|
| Budget | 16 mEUR |
| EU contribution | Aprox. 7 mEUR |
| Funded projects | 2 |

HORIZON-CL6-2021-BIODIV-01-14: Fostering organic crop breeding (IA)

- Transition to fair, healthy and environmentally-friendly food systems from primary production to consumption, notably the objective to increase organic farming, increasing the availability of and access to suitable plant reproductive material for organic crops and by **increasing the competitiveness of the organic crop breeding sector**;
- Develop measures to support the preservation of genetic resources and **increase the availability of plant reproductive material** for the organic sector;
- Develop measures contributing to the development of organic heterogeneous material and **varieties suitable for organic cultivation for an increasing range of crops**.

| | |
|-----------------|---------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 2 |
| TRL 5 – 7 | |

HORIZON-CL6-2021-BIODIV-01-15: Protection and sustainable management of forest genetic resources of high interest for biodiversity, climate change adaptation, and forest reproductive materials (RIA)

- Support the protection and sustainable use of **forest genetic resources** by contributing to a better insight into the characteristics of genetic resources in the **climate change context**;
- Evaluate the impact of forestry activities on **forest genetic diversity**, develop new cultural trajectories to protect and sustainably use forest genetic resources in naturally regenerated forests;
- Develop methods and tools to **expand the production capacity of nurseries** and the diversity of forest reproductive material.

| | |
|-----------------|---------------|
| Budget | 8 mEUR |
| EU contribution | Aprox. 8 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-BIODIV-01-16: Quantify impacts of the trade in raw and processed biomass on ecosystems, for offering new leverage points for biodiversity conservation, along supply chains, to reduce leakage effects (RIA)

- Increase evidence through systematic approaches that take account of the links between activities and leakage effects at different parts of the value chain or link production and consumption explicitly, including with institutions, businesses, retailers and investors, civil society;
- The knowledge gained should help with establishing an **‘ecological footprint’ of biomass and the manufactured goods based on biomass;**
- Build their analysis upon the synergies between various sustainable development goals;
- Deliver case studies and collect **good and failed examples.**

| | |
|-----------------|-------------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 2 – 3 mEUR |
| Funded projects | 3 – 4 |

HORIZON-CL6-2021-BIODIV-01-17: Biodiversity, water, food, energy, transport, climate and health nexus in the context of transformative change (RIA)

- The **interlinkages (nexus) among biodiversity, water, food, energy, transport and health** in the context of climate change and the underlying causes of biodiversity loss;
- Focus on **indirect drivers of biodiversity loss**: production and consumption patterns, human population dynamics and trends, trade, technological innovations, local to global governance;
- Deliver case studies and collect **good and failed examples**, including existing relevant **business models**, the role of **citizen science**, and scenarios that could inform these transformations and inform and motivate **transformative change through learning, co-creation and dialogue**.

| | |
|-----------------|---------------|
| Budget | 5 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-BIODIV-01-18: Policy mixes, governance (including financing) and decision-making tools for transformative action for biodiversity (RIA)

- Tools for addressing biodiversity benefits are taken up policy makers, industries, civil society organisations including NGOs, financing entities, businesses and retailers;
- Look at how to further **mainstream biodiversity into policy making, science, and governance (including financing)** for achieving transformative actions within and beyond socio-economic, climate and environmental agendas;
- Deliver case studies and collect **good and failed examples from the development and implementation of policy tools**;
- Motivate **transformative change through learning, co-creation and dialogue**.

| | |
|-----------------|-------------------|
| Budget | 8 mEUR |
| EU contribution | Aprox. 2 – 3 mEUR |
| Funded projects | 3 – 4 |

HORIZON-CL6-2021-BIODIV-01-19: Rescuing Biodiversity to Safeguard Life on Earth (COFUND)

- The total indicative budget for the topic is **EUR 165 million** committed in annual instalments over the **7 years, 2021-2027**;
- The European partnership on Biodiversity “Rescuing Biodiversity to Safeguard Life on Earth” will coordinate research programmes between EU and its Member States and **Associated Countries** and trigger combined action, **mobilising for the first time environmental authorities as key partners for implementing biodiversity research and innovation, along with ministries of research, funding agencies, and environmental protection agencies**. The Partnership’s co-created strategic research and innovation agenda for seven years will include calls for research projects, biodiversity- and ecosystems monitoring and science-based policy advising activities;
- The partner composition must at least include a **geographically representative distribution** of national and regional research and innovation authorities and funding agencies, environmental authorities, and environmental agencies from EU Member States, **Associated Countries** and their regions.

| | |
|---------------------------------|----------------|
| Budget | 20 mEUR |
| EU contribution | Aprox. 20 mEUR |
| Funded projects | 1 |
| Copernicus and/or Galileo/EGNOS | |

Destination 1: Biodiversity and Ecosystem Services

HORIZON-CL6-2021-BIODIV-01-20: A mechanism for science to inform implementation, monitoring, review and ratcheting up of the new EU Biodiversity Strategy for 2030 (“Science Service”) (CSA)

- Support the development of a **long-term strategic research agenda** for biodiversity;
- Reformat and connect research results to the needs of environmental policy in a **targeted dialogue between science and policy actors**;
- Develop a Science Service mechanism;
- Ensure that an appropriate **geographical balance** across Europe is achieved;
- Actions may be supported through **grants to third parties**;
- Maximum **30%** of the requested EU contribution may be allocated to this purpose.

| | |
|-----------------|---------------------|
| Budget | 13 mEUR |
| EU contribution | Aprox. 11 – 13 mEUR |
| Funded projects | 1 |

Destination 1: Biodiversity and Ecosystem Services

HORIZON-CL6-2021-BIODIV-01-21: Support to processes triggered by IPBES and IPCC (CSA)

- Knowledge generation, policy support and capacity building functions of IPBES, including recommendations of its task forces (for IPBES and IPCC);
- **Help European researchers to play their role in IPBES assessments**, in particular those from Southern European and CEE countries, and those from the Western Balkans, Central Asia, and from Africa;
- Elaborate a plan on **how the activities could be further financed and governed in the medium- and long-term** and seek commitments to be in place which allow continuing the work after the funding of this topic ends.

| | |
|-----------------|---------------|
| Budget | 5 mEUR |
| Eu contribution | Aprox. 5 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-BIODIV-01-22: Impact and dependence of business on biodiversity (RIA)

- Proposals must present an **interdisciplinary team of experts, including corporate practitioners, in accounting, ecology, business management and organization, social, political and environmental economics;**
- The proposals will help **internalising biodiversity into business decisions** to enhance:
 - the **health and well-being of citizens** and tackle inequalities, create possibilities for new jobs and sustainable growth;
 - corporate decision making and business resilience** as well as minimise investment risk;
 - a better understanding and awareness of **how businesses depend, and impact upon, biodiversity and ecosystem services**, based on past and ongoing knowledge, also from practical business experience (by private corporates), informs business decision making.

| | |
|-----------------|-------------------|
| Budget | 5 mEUR |
| Eu contribution | Aprox. 2 – 3 mEUR |
| Funded projects | 1 – 2 |

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



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

HORIZON-CL6-2021-FARM2FORK-01-01: Reaching the Farm to Fork target: R&I scenarios for boosting organic farming and organic aquaculture in Europe (RIA)

- A proposal will support the target of **at least 25% of the EU's agricultural land under organic farming by 2030** and a significant increase in organic aquaculture. They will do so by evaluating the conditions and proposing scenarios related to knowledge and innovation for reaching this target;
- Projects will:
 - build scenarios outlining where the expected increase can be achieved, **analysing the socio-economic impacts for existing and new organic producers, as well as on other market players;**
 - promote close cooperation among relevant research and innovation actors across Europe, ultimately leading to a **more efficient R&I ecosystem on organic production.**

| | |
|----------------------|---------------|
| Budget | 4 mEUR |
| EU contribution | Aprox. 4 mEUR |
| Funded Projects | 1 |
| TRL 6 | |
| Multi-actor approach | |

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

HORIZON-CL6-2021-FARM2FORK-01-02: Developing sustainable and competitive land-based protein crop systems and value chains (IA)

- Identification of the most suitable regional and local transition paths for stimulating **sustainable, resilient and economically viable land-based protein crop production for food and feed in Europe**;
- Improved **capacities of farmers** to cultivate land-based protein crops;
- Strengthened **innovation ecosystem for land-based protein crop development** in Europe;
- Proposals will cover the diversity of available and novel **land-based protein crop species with a crude protein content of more than 15 %**, and will consider conventional, agroecological and organic farming systems in all European climate/biogeographical regions.

| | |
|----------------------|---------------|
| Budget | 9 mEUR |
| EU contribution | Aprox. 9 mEUR |
| Funded Projects | 1 |
| Multi-actor approach | |

HORIZON-CL6-2021-FARM2FORK-01-03: Digitalisation as an enabler of agroecological farming (CSA) systems

- Increasing understanding of the potential of **digitalisation as an enabler of agroecology**, a transformative, sustainable, healthy, resilient and inclusive approach to farming that can **minimise farming pressure on ecosystems** while generating **fair economic returns for farmers**;
- Technologies, such as artificial intelligence, geo-spatial technology, advanced image analysis procedures, IoT, robotics and sensors, can be applied to most farming approaches;
- Cost-effectiveness and performance** of these solutions need to be evaluated in order to ensure they contribute to the effectiveness and sustainability of agroecological systems;
- Open repository of available digital tools to address the specific needs of agroecological farming systems;
- Develop a **roadmap for R&I on digital technologies** targeted to support agroecology in Europe.

| | |
|----------------------|---------------|
| Budget | 2 mEUR |
| EU contribution | Aprox. 2 mEUR |
| Funded Projects | 1 |
| Multi-actor approach | |

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

HORIZON-CL6-2021-FARM2FORK-01-04: Tackling outbreaks of plant pests (RIA)

- Proposals will target one or more plant pest(s) that are either Union quarantine plant pests present in the EU or Union quarantine pests which are **priority pests** in the EU, which are of concern for agriculture and/or forestry. They will improve **methods and strategies for surveillance and control** as well as enlarge the range of tools for **integrated and effective pest management**;
- International cooperation with countries affected or threatened by the same pest(s) is encouraged.

| | |
|----------------------|---------------|
| Budget | 14 mEUR |
| EU contribution | Aprox. 7 mEUR |
| Funded Projects | 2 |
| TRL 5 | |
| Multi-actor approach | |

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

HORIZON-CL6-2021-FARM2FORK-01-05: Animal welfare 2.0 (RIA)

- Proposal will support **R&I to help policy makers and other actors** (e.g. business operators) in the monitoring and improvement of animal welfare in intensive and extensive systems;
- Improved capacity to **evaluate and monitor the state of animal welfare**;
- Enhanced capacity to **further improve** animal welfare by business operators or decision makers;
- Enhanced capacity to **integrate the environmental and socio-economic impact** of proposed practices and innovations.

| | |
|----------------------|---------------|
| Budget | 8 mEUR |
| EU contribution | Aprox. 8 mEUR |
| Funded Projects | 1 |
| Multi-actor approach | |

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

HORIZON-CL6-2021-FARM2FORK-01-06: Vaccines and diagnostics for priority animal diseases (IA)

- Enhanced capacity to prevent or control relevant priority diseases, through the provision of **innovative tools and products to policymakers, the veterinary profession and business operators**;
- Increased knowledge of **virulence factors, mechanisms of infection** and identify **protective antigens** necessary for effective vaccine development;
- Proposals should address, in **terrestrial livestock and relevant wildlife, improvement in vaccine technologies**, products, underpinning knowledge and related diagnostics;
- **Participation of industry** is highly recommended.

| | |
|-----------------|---------------|
| Budget | 12 mEUR |
| EU contribution | Aprox. 6 mEUR |
| Funded Projects | 2 |
| TRL 6 – 7 | |

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

HORIZON-CL6-2021-FARM2FORK-01-07: Research & innovation roadmap for blockchain technologies in the agri-food sector (CSA)

- Exploration and development potential of the use of blockchain in the agri-food sector;
- Enhanced **transparency and traceability in agri-food supply chains**
- Increasing **competitiveness and market power of producers**, through **smart contracts**;
- **Reduce transaction costs and administrative burdens** in the field of agri-food management
- **Capacity building** in Research & Innovation (Infrastructure), in the agri-food sector and public administration;
- Excellence in research and innovation in blockchain technologies in the agri-food sector in Europe through **networking of actors and initiatives**.

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| Budget | 3 mEUR |
| EU contribution | Aprox. 3 mEUR |
| Funded projects | 1 |

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

HORIZON-CL6-2021-FARM2FORK-01-08: Uncovering lock-ins and levers to encourage farmers to move to and stay in climate-neutral and sustainable food production systems: from experiments to systemic mechanisms (RIA)

- Investigate farmer's decision-making and the food systems / broader environment (context) within which they have to operate (and create collective action) to **uncover what locks them in unsustainable practices and incentivises them for moving to and staying in sustainable production systems;**
- Take a comprehensive **behavioural approach** and investigate the CAP, as well as the European Green Deal initiatives, notably Farm to Fork and Biodiversity Strategies;
- This topic requires the **effective contribution of SSH disciplines** the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise.

| | |
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| Budget | 12 mEUR |
| EU contribution | 4 mEUR |
| Funded projects | 3 |

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

HORIZON-CL6-2021-FARM2FORK-01-09: Sea to Fork transparency and consumer engagement (IA)

- **Consumer engagement** to a more sustainable, environmentally friendly, inclusive, safe and healthy seafood consumption through **innovative information strategies and tools**;
- A lasting cooperation on **data and information sharing** between fishers, aquaculture producers, industry, retail sector, public authorities, scientific or knowledge centres, digitalisation companies and consumers, implementing innovative tools, including **labelling**;
- Innovations should lead to a change in the seafood consumption behaviour towards a preference for nutritious and sustainable seafood with a low ecological and carbon footprint;
- The use of **social innovations for short-chain slow food solutions** to reach and engage more citizens should be considered;
- **International co-operation** with third country partners across the Atlantic Ocean, the Mediterranean Sea, the Baltic Sea and the **Black Sea** and across international freshwater bodies is encouraged.

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| Budget | 10 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 2 |
| TRL 6 – 8 | |
| Multi Actor Approach | |

HORIZON-CL6-2021-FARM2FORK-01-10: Digital transition supporting inspection and control for sustainable fisheries (RIA)

- Support better fisheries management through **data and technological development**;
- Advancing the digital transition for **fisheries inspection and control** and deliver data for fisheries science, management and monitoring in a cost-efficient way to fully achieve the objectives of the **Common Fisheries Policy (CFP)**;
- Digitisation and advanced tools applied to fisheries, such as **Remote Electronic Monitoring Systems (REMs), artificial intelligence, machine learning tools, sensor data and high-resolution satellite imagery**, to optimise fishing operations and enhance our ability to collect and analyse data, as well as improve monitoring and control capabilities and ultimately support a sustainable management of marine biological resources;
- Research under this topic should be **cross-disciplinary** bringing together marine scientists, maritime (including fisheries) surveillance and control authorities, IT specialists and governance experts.

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| Budget | 10 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 2 |
| TRL 3 – 6 | |

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

HORIZON-CL6-2021-FARM2FORK-01-11: Filling knowledge gaps on nutritional, safety, allergenicity and environmental assessment of alternative proteins and dietary shift (RIA)

- Consider **all alternative sources of proteins** (e.g. plant-based, microbe-based, ocean-based (i.e., fish, algae, invertebrates), fungus-based, insect-based, cultured meat);
- **Fill knowledge gaps** on the characteristics of each type of alternative protein, including the **nutritional quality**;
- **Highlight the need for new ‘future-proof’ technologies** in relation to resource availability, pollution and societal acceptability;
- Create or contribute to a **data space to gather knowledge, information and results of studies, and share them openly** (open science practices) amongst research communities, interested parties and the public (dietary data hub).

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| Budget | 11 mEUR |
| EU contribution | Aprox. 11 mEUR |
| Funded projects | 1 |
| TRL 5 | |
| Multi Actor Approach | |

HORIZON-CL6-2021-FARM2FORK-01-12: Evidence-based decision-making to change social norms towards zero food waste (RIA)

- More timely and responsive decision-making in relation to food waste prevention and reduction of any actor willing to implement a food waste prevention or reduction initiative, based on new, comprehensive and easily accessible evidence about the **impact and cost-effectiveness of different measures and behaviours at different levels and across different sectors, including consumers;**
- **Food companies** engage themselves more in food waste prevention and reduction activities.

Proposals responding to this topic are expected to address two complementary areas:

Area A: Developing a **comprehensive evidence-based analysis** of food loss and waste prevention actions;

Area B: Supporting research (i.e. the development of an evidence base) and innovation (with a special focus on open and social innovation) on the **existing social norms responsible for food waste**, so as to foster appropriate changes in consumer behaviour and business practices.

| | |
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| Budget | 12 mEUR |
| EU contribution | 6 – 7 mEUR |
| Funded projects | 2 |
| TRL 4 – 5 | |
| Multi Actor Approach | |

HORIZON-CL6-2021-FARM2FORK-01-13: Microbes for healthy and sustainable food and diets (RIA)

- A furthering of open access provision for the necessary **standardisation, identification, and mapping techniques** of existing and **potential beneficial microorganisms, and microbial consortia for use in food processing**;
- Knowledge from the assessment of the economic, societal and environmental importance of **fermented foods and of their role in transition from animal to vegetable proteins**;
- Advanced knowledge on what can be considered **a healthy human microbiota**;
- Further knowledge on **fermentation-based solutions** for food products and processes;
- Proposals will explain how they will deliver co-benefits to the four Food 2030 priorities.

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|----------------------|----------------|
| Budget | 11 mEUR |
| EU contribution | Aprox. 11 mEUR |
| Funded projects | 1 |
| TRL 2 – 5 | |
| Multi Actor Approach | |

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

HORIZON-CL6-2021-FARM2FORK-01-14: Transition to healthy and sustainable dietary behaviour (RIA)

- Improved knowledge and understanding of the **factors influencing dietary behaviour** of different target groups, also looking specifically at **vulnerable groups**, across Europe, including barriers and constraints;
- Identification of effective means for each food system actor to **foster behavioural change**;
- The ability of citizens to make **informed food choices**;
- A scientific basis for dietary advice to **support policy makers** and Member States;
- A better **scientific basis** for policy makers to develop **communication strategies** that would increase the acceptability of food and health policy interventions by all actors and sectors.

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|-----------------|----------------|
| Budget | 11 mEUR |
| EU contribution | Aprox. 11 mEUR |
| Funded projects | 1 |
| TRL 3 – 5 | |

HORIZON-CL6-2021-FARM2FORK-01-15: Identification, assessment and management of existing and emerging food safety issues (RIA)

Area A: • Develop methods for **early identification and monitoring of drivers of (re)emerging food safety risk and threats** (e.g. global environmental changes, globalisation, technological innovations, policy changes, changes in values, perceptions and sensitivity, change in economic models, etc.);

• Develop **methods and devices for the characterisation of emerging risks**, with the aim of anticipating and possibly mitigating/preventing impacts (preparedness).

Area B: • Improve knowledge on the **persistence of pathogens (including viruses)** in food matrices and food processing environments for improved microbe control;

• **Develop data, indicators and tools** to address and tackle the risks associated with new and food-borne pathogens (including viruses).

| | |
|----------------------|----------------|
| Budget | 11 mEUR |
| EU contribution | Aprox. 11 mEUR |
| Funded projects | 1 |
| TRL 3 – 5 | |
| Multi Actor Approach | |

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

HORIZON-CL6-2021-FARM2FORK-01-16: Increasing the transparency of EU food systems to boost health, sustainability and safety of products, processes and diets (IA)

- Accelerate the deployment of **transparency innovations and solutions in EU food systems**, especially among **micro-enterprises and SMEs**, to boost health, sustainability, and safety of products, processes and diets and drive climate action;
- Make sure that future transparency innovations and solutions are **demand-driven, systemic, and cost-effective** and support the objectives of the EU Farm-to-Fork Strategy and the EU Green Deal;
- Build a network of expertise that can act as an **EU hub for knowledge** sharing, demonstration and piloting of systemic solutions related to transparency;
- Create an **inventory of validated technologies** (such as IoT, Blockchain, Artificial Intelligence, 5G/edge, and Big Data), open data, approaches and methodologies based on past research and emerging best practice;
- **Financial support to third parties** in the form of grants, typically in the order of EUR **100 000 to 300 000** per party. Up to **20% of the EU funding requested** by the proposal may be allocated to the purpose of financial support to third parties.

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|-----------------|----------------|
| Budget | 11 mEUR |
| EU contribution | Aprox. 11 mEUR |
| Funded projects | 1 |
| TRL 6 – 7 | |

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

HORIZON-CL6-2021-FARM2FORK-01-17: One health approach for Food Nutrition Security and Sustainable Agriculture (FNSSA) (RIA)

- **EU – Africa** jointly tackle climate change and environment-related challenges and **meet the objectives of the Paris Agreement on climate change**;
- Develop Natural-Based solutions to plant nutrition and animal health addressing human health, with innovative methods and technologies;
- Strengthened **transdisciplinary research and integrated scientific support** for relevant EU policies and priorities (the EU strategy for Africa, European Green Deal objectives, etc.).

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| Budget | 18 mEUR |
| EU contribution | Aprox. 6 mEUR |
| Funded projects | 3 |
| TRL 6 | |
| Multi Actor Approach | |

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

HORIZON-CL6-2021-FARM2FORK-01-18: EU-China international cooperation on integrated pest management in agriculture (RIA)

- Reduce the use of pesticides for crops of importance to the EU, **Associated Countries** and China which dependency on chemical pest management is currently high;
- Increasing **on-farm** use and implementation of **integrated pest management** practices;
- Developing integrated pest management **training** for farmers/growers and extending the range of applications;
- Increase the **awareness** of integrated pest management practices and **improve product quality and food safety**;
- International cooperation is strongly encouraged, in particular with **China**.

| | |
|-----------------|---------------|
| Budget | 6 mEUR |
| EU contribution | Aprox. 6 mEUR |
| Funded projects | 1 |
| TRL 5 | |

Destination 3: Circular economy and bioeconomy sectors



HORIZON-CL6-2021-CircBio-01-01: Circular Cities and Regions Initiative (CCRI)'s circular systemic (IA) solutions

- Proposals are expected to implement and demonstrate circular systemic solutions for the **deployment of the circular economy** (including the circular bioeconomy) in **cities, regions or their groupings**;
- Circular systemic solutions implemented may consider to apply the circular economy principle **not only to waste and water management, but also to other sectors** including, for example, one or more of the new Circular Economy Action Plan key product value chains, i.e.: batteries and vehicles, electronics and ICT, packaging, plastics, textiles, construction and buildings, food, water and nutrients;
- It is crucial that the circular systemic solutions implemented and their business models have a high **replicability and scalability potential**
- Proposals also ensure complementarity and **cooperation with existing and future relevant European projects** on the circular economy and the circular bioeconomy.

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| Budget | 20 mEUR |
| EU contribution | Aprox. 5 – 10 mEUR |
| Funded projects | 3 – 4 |
| TRL 6-8 | |

HORIZON-CL6-2021-CircBio-01-02: Circular Cities and Regions Initiative's Project Development Assistance (CCRI-PDA) (CSA)

- The CCRI-PDA services will be **provided to public and private project promoters** such as local and regional authorities or their groupings, public/private infrastructure operators and bodies, utilities and services, industry (including SMEs). The action will support **building technical, economic and legal expertise needed for project development and leading to the launch of concrete investments**;
- Ultimately, PDA projects should demonstrate the **financial viability and sustainability of circular economy investment projects** at local and regional scale and provide tangible showcases that should trigger further market replication;
- The EU contribution per proposal should not exceed **10% of the respective investment**;
- Proposals are expected to ensure **synergies and complementarities with other EU financial schemes for circular economy projects**.

| | |
|-----------------|---------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 2 mEUR |
| Funded projects | 5 |

HORIZON-CL6-2021-CircBio-01-03: Innovative solutions to over-packaging and single-use plastics, and related microplastic pollution (IA)

- Projects should demonstrate at large scale and validate innovative solutions that are quantitatively **relevant and replicable under diverse economic and social conditions**, through **better design, alternative materials** (including biobased and biodegradable), **business models** promoting reuse, recycling, upcycling, deposit systems, smart labelling, sensor-based sorting, etc. to tackle over-packaging and single-use plastics in consumer goods and food packaging;
- All solutions should be based on **life-cycle approaches**;
- **Social innovation** is recommended when the solution is at the socio-technical interface and requires social change, new social practices, social ownership or market uptake.

| | |
|-----------------|-------------------|
| Budget | 8 mEUR |
| EU contribution | Aprox. 6 – 8 mEUR |
| Funded projects | 1 |
| TRL 6-8 | |

HORIZON-CL6-2021-CircBio-01-04: Novel, non-plant biomass feedstocks for industrial applications (IA)

- Address increased circularity, in particular for the **use of biomass residues or side-streams used as feed material**, as well as deliver the necessary upgrades to and upscale of the strategies for the cultivation, production and extraction systems;
- Develop and demonstrate **techno-economic viability of the bio-based production platforms** applying the resource efficiency principles;
- Identify and implement the **best combination** of appropriate technical solutions and practices for specific industrial value chains;
- Develop and test mechanisms **involving all actors** and specifically including bio-based industries in **knowledge co-creation, exchange, feedback and communication** to demonstrate and accompany all actors (e.g. agricultural operators, farmers, SMEs and civil society).

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| Budget | 12 mEUR |
| EU contribution | Aprox. 6 mEUR |
| Funded projects | 2 |
| TRL 7 | |

HORIZON-CL6-2021-CircBio-01-05: Contained biomass solutions for sustainable and zero-Indirect Land Use Change (ILUC) production systems for high value applications (IA)

- Sustainable application in **various industrial systems for high value products and uses**, such as pharmaceutical, diagnostic and veterinary sectors, especially in the context of biorefining and other (industrial) high-value uses.

Proposals will:

- Develop bio-based production platforms applying **resource-efficient principles**;
- Identify and implement the **best combination** of appropriate technical solutions and practices for specific industrial value chains;
- Develop and test mechanisms involving all actors and specifically including research community and bio-based industries in **knowledge co-creation, exchange, feedback and communication**;
- International cooperation** is encouraged, to allow exchange of best practice.

| | |
|-----------------|--------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 6mEUR |
| Funded projects | 1 |
| TRL 7 | |

HORIZON-CL6-2021-CircBio-01-06: Microbiomes for bio-based innovation and environmental applications (IA)

- Development of the methods for molecular cartography, quantitative determination of genus and metabolites as well as establishment of R&D resources (e.g. inventories, catalogues, “reference microbiomes”, databases etc.). **Marine microbiomes are excluded** from the scope, to avoid overlaps with the parallel topic;
- Develop and apply a **toolbox of technologies to identify, characterise and sustainably exploit (including isolation and cultivation aspects) the microbiomes** and their genetic and metabolic diversity relevant for the bio-based sectors;
- Outline the necessary **scale-up production processes** for novel bio-based innovations in order to reach a critical mass for a given application.

| | |
|-----------------|---------------|
| Budget | 6 mEUR |
| EU contribution | Aprox. 6 mEUR |
| Funded projects | 1 |
| TRL 6-7 | |

HORIZON-CL6-2021-CircBio-01-07: Mainstreaming inclusive small-scale bio-based solutions in European rural areas (CSA)

- Support innovators to scale-up inclusive and **small-scale biobased solutions in rural areas** contributing to regional, urban and consumer-based transitions towards a sustainable, regenerative, inclusive and just circular economy and bioeconomy across all regions of Europe at local and regional scale;
- Establish regional platforms providing **innovation support services to multi-actor partnerships** (e.g. farmers, foresters, clusters, business support organisations, civil society organisations including non-governmental organisations, etc.);
- Based on previous research results (e.g. BE-RURAL, Power4Bio, BioeastUp, etc.), activities will provide **support to match information on regionally available biomass, waste and residue streams with market information and technologies**;
- Contribute to **transferring knowledge and sharing best practice examples** for better nutrient recycling in the circular bioeconomy;
- **Social innovation is recommended** when the solution is at the socio-technical interface and requires social change, new social practices, social ownership or market uptake.

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|-----------------|---------------|
| Budget | 9 mEUR |
| EU contribution | Aprox. 3 mEUR |
| Funded projects | 3 |

HORIZON-CL6-2021-CircBio-01-08: Unlocking the potential of algae potential for a thriving European blue bioeconomy (IA)

- Support the development of **algae-based greener aquatic industrial products/processes and/or environmental services** sustaining the health of aquatic ecosystems for a healthy planet and people;
- Leveraging of the potential of algae as an industrial feedstock by **upscaling and demonstration of the techno-economic viability of algae cultivation**.
- Demonstrate viable concepts for the cost-effective cultivation and processing of algae into circular bio-based products and/or environmental services (e.g. medical, cosmetics, fine and speciality chemicals, remediation).
- **Scale-up the production** of algae products and **bring them nearer to the market** by addressing key challenges such as optimising strains' biology.

Proposals should carry out an **LCA** of the proposed concept.

| | |
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| Budget | 18 mEUR |
| EU contribution | Aprox. 9 mEUR |
| Funded projects | 2 |
| TRL 7 | |

Destination 4: Clean environment and zero pollution



HORIZON-CL6-2021-ZEROPOLLUTION-01-01: Regional nitrogen and phosphorus load reduction approach within safe ecological boundaries (CSA)

- Maintain **nitrogen and phosphorus flows** well within safe ecological boundaries at EU, regional and local scale and restore ecosystems;
- Develop a robust and transparent methodology to identify **safe ecological limit values (e.g. concentration in media) of N/P** applicable at regional scale to ensure good status for ecosystems in air/water/soil;
- Develop and/or improve an existing methodology to assess N/P emissions (flows) from **all economic activities that may exist in the region/river basin** (i.e. agriculture, aquaculture, forestry, industrial sectors, including food/drink sector, water supply, water/waste management, bioenergy, fossil-based energy production, mining activities, transport, etc.);
- Identify inter-sectorial governance models and **design policy implementation tools** at regional level.

| | |
|---------------------------------|---------------|
| Budget | 6 mEUR |
| EU contribution | Aprox. 2 mEUR |
| Funded projects | 3 |
| Copernicus and/or Galileo/EGNOS | |

HORIZON-CL6-2021-ZEROPOLLUTION-01-02: Optimization of nutrient budget in primary production (RIA)

- Support to limit and **reduce pollution due to the excess of nutrients and nutrient losses** (especially nitrogen and phosphorus) in the environment, stemming from excess use in agriculture;

Proposals will build on existing and new **knowledge, data, models** (including in situ calibration measurement), **AI and tools**, to:

- Optimise and harmonise **nutrient and water flow models**;
- Explore and assess **alternative nutrient sources and pathways**;
- Develop **digital platforms to allow precision nutrient management** at farm scale and landscape scale.

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|----------------------|---------------|
| Budget | 7 mEUR |
| EU contribution | Aprox. 7 mEUR |
| Funded projects | 1 |
| Multi-actor approach | |

HORIZON-CL6-2021-ZEROPOLLUTION-01-03: Preventing and managing diffuse pollution in urban water runoff (RIA)

- Develop **holistic approaches at city/catchment level** ensuring resilient urban water runoff quality by considering different spatial and temporal scales and contexts, and different technologies;
- Develop **innovative and integrated concepts and technologies**, including **digital** advances, for urban drainage systems by combining advantages from **blue-green-grey solutions** and **decentralised** approaches to preventing and managing water pollution from urban runoff and storm water overflows;
- The participation of academia, research organisations, utilities, industry and regulators is strongly advised, as well as **civil society engagement**;
- **International cooperation** is encouraged.

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|-----------------|-------------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 2 – 4 mEUR |
| Funded projects | 3 – 5 |
| TRL 5 | |

HORIZON-CL6-2021-ZEROPOLLUTION-01-04: Achieving zero polluted seas and oceans (CSA)

- Support the development and implementation of a policy vision and the transition needed to reach **clean European seas**, cutting across **behavioural, social-economic and governance spheres**;
- Better understanding of major **obstacles** and showcasing of **best practices** on the implementation of sustainable and effective marine pollution reduction, prevention, mitigation measures and monitoring (e.g. administrative, legal, financial, technical, social);
- Improved support, with a **set of guidelines**, for the needed blue green transition to reach the policy vision of achieving **clean European seas by 2030**;
- **Social innovation** is recommended.

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| Budget | 3 mEUR |
| EU contribution | Aprox. 3 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-ZEROPOLLUTION-01-05: Environmental sustainability criteria for biological feedstock production and trade in bio-based systems: impacts and trade-offs (IA)

- **Certification schemes for international trade** at EU and global scale of biological feedstock for bio-based systems include the **environmental impacts and trade-offs** along the bio-base supply chains.
- Identify the range of biological feedstock intended for industrial bio-based systems at EU and **local (regional/rural/urban/coastal) scale**.
- Improve existing and/or develop new methodology for the assessment of the environmental impacts and trade-offs of biological feedstock.
- Proposals' consortia may involve primary producers of biological feedstock, trade bodies, bio-based industries, agencies/companies developing certification, consumers' organisations and **any stakeholder along the supply chain of biological feedstock** for bio-based industries.

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| Budget | 6 mEUR |
| EU contribution | Aprox. 6 mEUR |
| Funded projects | 1 |
| TRL 7-8 | |

HORIZON-CL6-2021-ZEROPOLLUTION-01-06: Increasing the environmental performance of industrial processes in bio-based sectors: construction, woodworking, textiles, pulp and paper and bio-chemicals (RIA)

- Improvement of the environmental performance of industrial processes in the following bio-based sectors: **construction, woodworking, textiles, pulp and paper, and bio-chemicals**;
- Identify and analyse case studies for each aforementioned industrial bio-based sector at the local (regional, rural, urban or coastal) or international scale within the EU and **Associated Countries**;
- Improve existing and/or develop new methodologies to assess the environmental impacts of these processes. The assessment should use, when possible, the **Life Cycle Assessment** methodology;
- Assess and analyse the environmental impacts and trade-offs of bio-based processes;
- **Demonstrate**, where possible, the **best solutions identified** in order to evaluate their effectiveness and assess monitoring procedures.

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| Budget | 7 mEUR |
| EU contribution | Aprox. 3.5 mEUR |
| Funded projects | 2 |
| TRL 5 | |

HORIZON-CL6-2021-ZEROPOLLUTION-01-07: International and EU sustainability certification schemes for bio-based systems (CSA)

- Bio-based **value chains transparency** in international and EU trade is enhanced through **business-to-business labels** of biological feedstock and bio-based materials and products.
- **Harmonization** of existing international and EU certification scheme and the monitoring system and indicators of their effectiveness and robustness;
- **Review and analyse existing** international and EU sustainability certification schemes and business-to-business labels for biological feedstock;
- Assess existing/develop new **monitoring system and indicators** of effectiveness and robustness of existing certification schemes and labels;
- **Assess costs** from the adoption of certification schemes and labels in selected industrial bio-based value-chains;
- Analyse and develop recommendations on **how to promote the best practices** in the adoption of effective a robust certification schemes and business-to-business labels.

| | |
|-----------------|---------------|
| Budget | 6 mEUR |
| EU contribution | Aprox. 2 mEUR |
| Funded projects | 3 |

HORIZON-CL6-2021-ZEROPOLLUTION-01-08: New genomic techniques (NGT): understanding benefits and risks – focus on bio-based innovation (RIA)

- Improved understanding of the **benefits and risks of new genomic techniques** applied for **plants and/or animals** and microorganisms;
- Develop **future scenarios** taking into account in different environmental, social and economic drivers, to assess potential critical impacts and bottlenecks with respect to the EU and international governance frameworks;
- Outline the necessary **scale-up production processes** for novel bio-based innovations in order to reach a critical mass for a given application, to achieve economies of scale, address different market segments and applications, etc.

| | |
|-----------------|---------------|
| Budget | 5 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-ZEROPOLLUTION-01-09: Environmental impacts and trade-offs of alternative fertilising products at global/local scale (CSA)

- **Collect all relevant data and figures** on a range of fertilising products derived from **secondary raw materials**.
- Apply and/or improve existing methodologies to **assess the environmental impacts and trade-offs of the alternative fertilising products** selected at point a) on a life cycle base, building on and complementing existing assessment results published by European Commission (project SAFEMANURE).
- Analyse **technical aspects** of the environmental impacts prevention and control operations during all phases of life cycle of the selected alternative fertilising products and their effectiveness.
- Proposals' consortia may include **stakeholders from the whole value chain** such as producers of fertilisers and farmers, as well as scientists and experts in the analysis of environmental impacts of agricultural products.

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|-----------------|---------------|
| Budget | 4 mEUR |
| EU contribution | Aprox. 2 mEUR |
| Funded projects | 2 |

HORIZON-CL6-2021-ZEROPOLLUTION-01-10: Environmental services: improved bioremediation and revitalization strategies for soil, sediments and water (RIA)

- Develop sustainable and cost-effective technologies for **bioremediation** of water resources used for water production and effective in situations with mixed waste;
- Identify, analyse and introduce **optimised proteins, microorganisms, microbiomes, plants, and animals** (specifically fish and molluscs/bivalves including mussels) for sediment, watershed and wastewater remediation and revitalization;
- Identify and characterize plant platforms, microorganisms and microbiomes that can be **optimised for efficient remediation of a range of contaminated environments**;
- Enable **new interdisciplinary microbial approaches**, that increase the safety and reduce the risk of deploying optimised microbes in the field.

| | |
|-----------------|-----------------|
| Budget | 11 mEUR |
| EU contribution | Aprox. 5.5 mEUR |
| Funded projects | 2 |
| TRL 4-5 | |

Destination 5: Land, oceans and water for climate action



Destination 5: Land, oceans and water for climate action

HORIZON-CL6-2021-CLIMATE-01-01: Improved understanding, observation and monitoring of water resources availability (RIA)

Actions should address one or more of the following issues:

- A comparative assessment of the state-of-the-art integrated **river basin models** that are currently used for assessing water availability and vulnerability **in the context of climate change**;
- Improve **accuracy and spatiotemporal resolution of regional scale projections** of changes in precipitation, soil moisture, runoff and groundwater availability for management purposes, and quantification of the related uncertainties;
- Development of **techniques, monitoring tools and innovative sensors** for advance measurement and calculation of current available water balances and future needs;
- In general, the participation of academia, research organisations, utilities, industry and regulators is strongly advised, as well as **civil society engagement**.

| | |
|----------------------|------------|
| Budget | 10 mEUR |
| EU contribution | 3 – 5 mEUR |
| Funded projects | 2 |
| TRL 5 | |
| Copernicus and GEOSS | |

Destination 5: Land, oceans and water for climate action

HORIZON-CL6-2021-CLIMATE-01-02: European Partnership Water Security for the Planet (Water4All) (COFUND)

- The total indicative budget for the topic is EUR **126 million** committed in **annual instalments over the 7 years**;
- Based on a **shared and co-constructed SRIA**, such a partnership should combine **bottom-up and top-down approaches** to reconcile needs whilst pooling resources from different sources. It should foster consortium building and help leverage between existing initiatives under common broader or specific objectives. This will give direction and shape to a common water implementation strategy;
- A European Partnership will also be necessary to deliver an objective and **impact-driven approach** and build **critical mass in resources (human and financial), expertise and capacities** in the longer-term, in line with the challenge faced. This would allow for the **mobilisation of additional national resources** with access to other instruments / financing / investments along the same strategic research agenda (e.g. real-life testing sites, research infrastructures, and innovation hubs or competitiveness clusters), contributing from collaboration that benefits existing European, national and local ecosystems.

| | |
|-----------------|----------------|
| Budget | 126 mEUR |
| EU contribution | Aprox. 20 mEUR |
| Funded projects | 1 |
| TRL 7 | |

Destination 5: Land, oceans and water for climate action

HORIZON-CL6-2021-CLIMATE-01-03: Key polar processes driving regional & global climate change (RIA)

- Increased predictability and reduced uncertainty associated with **key polar processes** and advanced understanding and science of the climate-ocean nexus;
- Contribution to the **next generation observation and modelling** of key climate-ocean processes and indicators;
- Contribution to the implementation of the **EU Arctic Policy**, the European Commission-European Space Agency Flagship Action on Polar Changes & Global Impacts, European climate policies and a substantial contribution to **key international assessments**.

| | |
|---------------------------------|-------------------|
| Budget | 15 mEUR |
| EU contribution | Aprox. 7 – 8 mEUR |
| Funded projects | 2 |
| TRL 3 – 5 | |
| Copernicus and/or Galileo/EGNOS | |

Destination 5: Land, oceans and water for climate action

HORIZON-CL6-2021-CLIMATE-01-04: Demonstration network on climate-smart farming – linking pilot farms (CSA)

- **Network existing nationally or regionally funded trial farms**, including those linked to universities and research institutes, and other farms not yet part of networks;
- Exploit existing and develop new solutions through **practice oriented on-farm testing** and demonstration in a co-creative approach with the pilot farmers and his/her advisor;
- Collect and compare **tool-kits for assessing GHG balances at farm level**, performance monitoring, decision tools, climate services, etc. for possible use on average farms;
- Support the implementation of the **EU carbon farming manual** as foreseen in the Farm to Fork Strategy and the implementation of the **third party certification of carbon removals**, as foreseen in the Circular Economy Action Plan;
- Foster knowledge exchange within and among Member States and regions and establish **links with the EIP-AGRI and Member States' AKIS networks and coordination bodies**;
- The project should operate for **at least seven years** and build on the outcomes of the climate-related projects from various funding sources.

| | |
|-----------------|----------------|
| Budget | 23 mEUR |
| EU contribution | Aprox. 23 mEUR |
| Funded projects | 1 |
| TRL 7 | |

Destination 5: Land, oceans and water for climate action

HORIZON-CL6-2021-CLIMATE-01-05: Agroecological approaches for climate change mitigation, resilient agricultural production and enhanced biodiversity (RIA)

- Increased and robust evidence of the **potential of agroecology for climate change** (mitigation and adaptation), its climate neutrality potential, impact on biodiversity, and the potential for improving farm socio-economic resilience;
- Qualitative and quantitative **data availability of the social, economic and environmental sustainability** and performance of agroecological strategies;
- Increased **understanding, adoption and implementation** of agroecological practices **by farmers**;
- Improved understanding of the definition of **agroecology** with regard to the European context and of its **application to European farming**.

| | |
|---------------------------------|---------------|
| Budget | 7 mEUR |
| EU contribution | Aprox. 7 mEUR |
| Funded projects | 1 |
| Copernicus and/or Galileo/EGNOS | |

Call: Land, oceans and water for climate action

HORIZON-CL6-2021-CLIMATE-01-06: Resilient livestock farming systems under climate change (RIA)

- Enhanced adoption by farmers and other relevant actors of innovations that increase the **mitigation and adaptation capacity of livestock farming systems to climate change**, at animal, population and farm level, therefore improving the resilience of production systems as well as **animal health and welfare**;
- Improved capacity to assess the **environmental and socio-economic impact** of mitigation and adaptation practices and options at different scales, alone and in combination;
- Consolidated transition towards a resilient livestock production with **novel integrated approaches** (in terms of management, breeding, feeding, local resources use, etc.) defined for **different climate change scenarios**.

| | |
|----------------------|----------------|
| Budget | 12 mEUR |
| EU contribution | Aprox. 12 mEUR |
| Funded projects | 1 |
| Multi Actor Approach | |

Destination 5: Land, oceans and water for climate action

HORIZON-CL6-2021-CLIMATE-01-07: International Research Consortium on (agricultural) soil carbon (CSA)

- Establishment of an **International Research Consortium on soil carbon** and related issues;
- Creation of a **knowledge platform for sharing information** on relevant research activities and results concerning methodologies for soil carbon balance monitoring, and practices for increasing soil carbon (e.g. carbon farming);
- Better **coordination of research activities** *and of methods for monitoring soil carbon stock changes* at global level, thereby maximizing complementarities and avoiding duplication of efforts;
- Validated methods to **support national GHG inventories**;
- *Increased **transparency** with regard to progress towards commitments on soil carbon under the Paris Agreement on Climate Change.*

| | |
|---------------------------------|---------------|
| Budget | 3 mEUR |
| EU contribution | Aprox. 3 mEUR |
| Funded projects | 1 |
| Copernicus and/or Galileo/EGNOS | |

Destination 5: Land, oceans and water for climate action

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

- Design **agroforestry systems for climate change** (mitigation and adaptation) and increased (agro-)biodiversity;
- Develop methods and indicators that allow the **identification of newly established agroforestry systems** and monitor their performance over time;
- Develop **models and tools adapted to real farm conditions** and considering the full amount of food, feed (for systems including livestock), timber or biomass and ecosystem services produced;
- Improve knowledge of the **economic, environmental and social performance** of agroforestry systems and their contribution to sustainable food and feed / non-food biomass production;
- Building on existing tools where relevant;
- Develop a **training package and guidelines** to support farmers in **designing business plans** linked to value chain development.

| | |
|---------------------------------|---------------|
| Budget | 8 mEUR |
| EU contribution | Aprox. 4 mEUR |
| Funded projects | 2 |
| Copernicus and/or Galileo/EGNOS | |

Destination 5: Land, oceans and water for climate action

HORIZON-CL6-2021-CLIMATE-01-09: Enhancing science-based knowledge on EU forests', including old-growth forests, capacities to mitigate climate change (RIA)

- Contribute to a better understanding of favourable management practices for both soil and vegetation, species selection and rotations to enhance and climate-proof **forest carbon stocks and sinks**;
- Contribute to progress in the **certification and authenticity verification of carbon removals** that are nature-based;
- Develop recommendations for **up-take in practice**, including specifying which silvicultural measures to apply to which types of forest in order to maximize their mitigation potential;
- Analyse **socio-economic aspects of forest-based mitigation strategies**, including **forest managers' and users' perception** and factors influencing their decision making.

| | |
|-----------------|---------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 2 |

Destination 5: Land, oceans and water for climate action

HORIZON-CL6-2021-CLIMATE-01-10: EU-China international cooperation on increasing the resilience of forests (RIA)

- Develop and refine **projections at regional scale**, improve the modelling of effects on natural vegetation, both at individual and ecosystem level and support science-based decisions;
- Design adaptation plans to increase the **resilience of forests by active management of the species composition**;
- Analyse socio-economic aspects of forest adaptation, including **forest managers' and users' perception** and factors influencing their decision making;
- Ensure an adequate involvement of the primary production sector and the **wider forest-based value chain**.

| | |
|--|----------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 10 mEUR |
| Funded projects | 1 |
| Copernicus and/or Galileo/EGNOS & Multi Actor Approach | |

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



HORIZON-CL6-2021-COMMUNITIES-01-01: Grasping rural diversity and strengthening evidence for tailored policies enhancing the contribution of rural communities to ecological, digital and social transitions (RIA)

Proposals should:

- explore **innovative and out-of-the box ways** to describe and characterise rural areas or various forms or degrees of rurality in multi-dimensional ways;
- screen and benchmark the **performance and cost efficiency** (infrastructure needs, ease and frequency of updates etc.) **of data collection methods and technologies** including new ones (e.g. digital technologies, geolocation and geospatial techniques, crowd sourcing, citizen science);
- assess resilience to major threats, with particular emphasis on **resilience and vulnerability factors under the COVID-19 pandemic.**

| | |
|----------------------|---------------------|
| Budget | 15 mEUR |
| EU contribution | Aprox. 7 – 7.5 mEUR |
| Funded projects | 2 |
| TRL 3 – 5 | |
| Multi Actor Approach | |

HORIZON-CL6-2021-COMMUNITIES-01-02: Expertise and training centre on rural innovation (CSA)

Proposals should:

- provide **capacity building on rural innovation** towards rural communities and actors in the EU and beyond, seeking to valorise the outcomes of projects funded under various programmes;
 - Capacity building should target in particular communities developing **smart village strategies** as foreseen under the common agricultural policy for 2021-2027 or similar initiatives, paying attention to the needs of various groups within these communities (e.g. women, youth etc.).
- explore with rural communities and benchmark **various options and business models** to create viable, networked and long-term **rural innovation expertise and training mechanisms, centre(s) or hub(s) in Europe.**

| | |
|----------------------|---------------|
| Budget | 5 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 1 |
| Multi Actor Approach | |

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

- Assessing the **socio-economic and environmental effects** of innovative and existing 5G/4G/3G provision options;
- Developing innovative cost-effective and environmentally friendly solutions to 5G-and **last-mile provision in remote areas**;
- Assessing the socio-economic and environmental effects of innovative and **existing edge technology options**;
- Developing **innovative business models**;
- Project results are to be made feasible to **rural communities, farmers and foresters associations, and policy-makers**.

| | |
|-----------------|---------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 2 |
| TRL 4 – 5 | |

HORIZON-CL6-2021-COMMUNITIES-01-04: Socio-economic empowerment of the users of the sea (RIA)

- Better understanding of the environmental, socio-economic, behavioural, cultural and demographic **drivers of change for users of the sea** in coastal areas is taken into account by the policy making community;
- Socio-economic **resilience and well-being of coastal communities** (including gender related) are measured, understood and enhanced;
- Design of transition mechanisms and identification of the means to **make necessary changes socially acceptable**;
- Activities should cover diverse types of coastal areas across the EU and **Associated Countries** and non-European [Black Sea and Mediterranean] countries.

| | |
|----------------------|---------------|
| Budget | 6 mEUR |
| EU contribution | Aprox. 6 mEUR |
| Funded projects | 1 |
| Multi Actor Approach | |

HORIZON-CL6-2021-COMMUNITIES-01-05: Integrated urban food system policies – how cities and towns can transform food systems for co-benefits (IA)

Proposals should be targeted to help at **least 5 cities/towns lacking integrated food systems** policies to take ambitious and decisive action:

- a) Understanding:** map local food systems, policies and actions, with a special focus on assessing short supply chains and urban food environments;
- b) Governance:** develop and evaluate innovative, multi-actor, urban food systems governance processes and capacities;
- c) Engaging:** mobilize a wide diversity of food system actors from farm to fork (i.e. public and private, the financial sector, civil society and academia);
- d) Mutual learning:** reinforce or create new networks of cities and towns to share good practices and learn from and support each other.

| | |
|-----------------|----------------|
| Budget | 11 mEUR |
| EU contribution | Aprox. 11 mEUR |
| Funded projects | 1 |
| TRL 6 – 7 | |

HORIZON-CL6-2021-COMMUNITIES-01-06: Inside and outside: educational innovation with nature-based solutions (CSA)

- The proposal should develop **learning scenarios, formal and informal education activities and training programmes for teachers** to mainstream biodiversity and NBS in education at all levels, in a broad range of disciplines (not exclusively STEM), adaptable, **freely available in all European languages, to be used inside and outside** (remote learning, classroom, in/with nature, outdoors);
- Actions should
 - build on the results of the pilot project and the growing corpus of EU-funded project results, networks and initiatives;
 - combine the use of ICT** (e.g. games, apps, etc), remote learning, audio-visual productions and social media **with real-life experiences** in nature and local NBS, such as educational green roofs and urban gardens;
- Social innovation** is recommended.

| | |
|---------------------------------|---------------|
| Budget | 5 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 1 |
| Copernicus and/or Galileo/EGNOS | |

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



HORIZON-CL6-2021-GOVERNANCE-01-01: Mobilising the network of National Contact Points in Cluster 6 (CSA)

- Applicants must be **Horizon Europe national support structures** (e.g.NCP) responsible for Cluster 6 ‘Food, Bioeconomy, Natural Resources, Agriculture and Environment’ and officially nominated to the Commission, from a Member State or Associated Country or any third country associated to Horizon Europe;
- An improved and more interconnected National Contact Point (NCP) service across Europe, in the areas covered by Horizon Europe Cluster 6 ‘Food, Bioeconomy, Natural Resources, Agriculture and Environment’, thereby simplifying access to Cluster 6 Horizon Europe calls, **lowering the entry barriers for newcomers, and raising the average quality of proposals submitted;**
- **Widening – promoting participation** in actions in the areas covered by Horizon Europe Cluster 6 ‘Food, Bioeconomy, Natural Resources, Agriculture and Environment’ **to new stakeholders, such as, but not limited to, civil society organisations.**

| | |
|-----------------|-----------------|
| Budget | 2.5 mEUR |
| EU contribution | Aprox. 2.5 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-GOVERNANCE-01-02: Furthering food systems science and federating researchers (RIA)

Action a) Advance food systems science through:

- **Mapping of existing food systems.**

Action b) Contribute to building up a food systems European Research Area through:

- Launching new and assessing ongoing **food systems foresight activities.**

Action c) Contribute to building up a food systems European Research Area by creating an interdisciplinary **pan-European academic network.**

All projects will ensure a clustering mechanism with each other and feedback mechanisms with other governance topics and provide general scientific advice for related **food systems oriented Horizon Europe projects.**

| | |
|-----------------|----------------|
| Budget | 17 mEUR |
| EU contribution | Aprox. 17 mEUR |
| Funded projects | 1 |
| TRL 2-3 | |

HORIZON-CL6-2021-GOVERNANCE-01-03: Preparatory action for the Horizon Europe Food System Partnership (CSA)

- Convene R&I funders to help shape a **more impactful and ambitious** European Food Systems Research Area;
- **Maximize alignment, leverage focus**, and impact by exploring and building on **common R&I policy priorities** with and between R&I public funders in Member States;
- Support the relevant SCAR Strategic and Collaborative Working Groups, in particular the **SCAR Food Systems Working Group**;
- Foster programmes that will encourage the **greater take up of digitalisation and social sciences and humanities**, to improve social legitimacy and focus more on consumer and citizens needs and aspirations.

| | |
|-----------------|---------------|
| Budget | 5 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-GOVERNANCE-01-04: Strengthening bioeconomy innovation and deployment across sectors and all governance levels (CSA)

- Identify instruments and initiatives that contribute to **spreading knowledge and deploying innovations** in and across food systems and bio-based sectors, at EU, national, regional, and local level;
- **Map the structures, instruments and initiatives;**
- Put in place **networking and matchmaking activities;**
- Provide **advisory support;**
- **Identify best practices** to improve the exploitation of outcomes from funded research;
- Address specific barriers to reducing the fragmentation of the innovation ecosystem;
- Deliver **specific recommendations related to thematic financial instruments** and tools applicable to sectors of the bioeconomy and to innovation.

| | |
|-----------------|---------------|
| Budget | 4 mEUR |
| EU contribution | Aprox. 4 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-GOVERNANCE-01-05: Fostering strategic advice and synergies between national and EU Research and Innovation agendas, including SCAR foresight (CSA)

- The main focus of the support action will be to support the work of the **SCAR SWGs and CWGs**. This includes notably the **organisation and facilitation of the activities, particularly meetings and workshops of SCAR SWGs**, CWGs and potential ad hoc task forces, according to the initiatives taken by the Working Groups themselves;
- Main activities are the **collection of a portfolio of ongoing or finished projects at national, regional and EU level** relevant to the various themes covered in the work plans of the SCAR SWGs and CWGs, as well as on other issues that may arise in light of policy developments and priorities;
- The consortium should be **representative** of the EU Member States and **Associated Countries**;
- A project duration of **4 years** is expected.

| | |
|-----------------|---------------|
| Budget | 4 mEUR |
| EU contribution | Aprox. 4 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-GOVERNANCE-01-06: Environmental and social cross-compliance of marine policies (RIA)

- Proposals shall focus on implementation research on environmental and social cross-compliance of a broad range of **marine and maritime policies** to **detect inconsistencies** between different policies, legislation and regulations as **barriers** for the Green Deal and its strategies.

Actions should address one or more of the following options:

- Environmental and social cross-compliance of marine policies for **nature-based climate adaptation and mitigation**;
- Environmental and social cross-compliance of marine policies to **halt biodiversity decline and enhance restoration and conservation** for the benefit of local communities;
- Environmental and social cross-compliance of marine policies to achieve **progress towards zero pollution**.

| | |
|-----------------|-------------------|
| Budget | 8 mEUR |
| EU contribution | Aprox. 2 – 3 mEUR |
| Funded projects | 3 |

HORIZON-CL6-2021-GOVERNANCE-01-07: Regional governance models in the bioeconomy (CSA)

- a) Analyse and structure the regional **bioeconomy-related policy mix** (e.g. regional operational programmes, bioeconomy strategies under the Common Agricultural Policy instruments, innovation action plans, business models, environmental protection plans);
- b) Assess existing/develop a new **policy monitoring system and key performance indicators** of the effectiveness and robustness of existing governance schemes, to allow **replication across Europe**;
- c) Ensure efficient **exchange of best practice and engagement of all actors** (regional and local authorities, SMEs, civil society organisations including NGOs, knowledge providers);
- d) Analyse social and **economic barriers and potentialities** to enable the transition towards socially and environmentally responsible behaviour within all ranges.

| | |
|-----------------|-----------------|
| Budget | 5 mEUR |
| EU contribution | Aprox. 2.5 mEUR |
| Funded projects | 2 |

HORIZON-CL6-2021-GOVERNANCE-01-08: Improving understanding of and engagement in bio-based systems with training and skills development (CSA)

- Analyse and develop guidelines on the regional **bioeconomy-related skills/(re)-training/adult learning programmes to allow replication across Europe**, taking into account the diversity of regional/local approaches, including the existing support measures;
- Assess and integrate the contribution from the **humanities/art/design/culture** into bioeconomy/bio-based economy sectors;
- Ensure efficient **exchange of best practice and engagement of all actors** (e.g. regional and local authorities, SMEs, civil society organisations including NGOs, University alliances and professionals' associations, knowledge providers, artists, designers and architects);
- Analyse and develop recommendations on social and economic barriers and potentialities (e.g. job creation capacity and its quality) to enable the **transition towards socially and environmentally responsible behaviour**.

| | |
|-----------------|-----------------|
| Budget | 5 mEUR |
| EU contribution | Aprox. 2.5 mEUR |
| Funded projects | 2 |

HORIZON-CL6-2021-GOVERNANCE-01-09: Revitalisation of European local communities with innovative bio-based business models and social innovation (CSA)

- Select a range of bio-based systems where value chains can be tailored to specific needs in respect to the **revitalisation of local communities**;
- Focus on relevant **new or updated business models and local capacities** (feedstocks, infrastructure, human skills, etc), **and innovation actors** (including community knowledge and marginalised groups);
- Assess existing/develop new **monitoring system and indicators** of the effectiveness and robustness of existing governance schemes;
- Ensure **efficient engagement of all actors** (public authorities, SMEs, NGOs, knowledge providers);
- Analyse social and economic barriers and potentialities to enable the **transition towards socially and environmentally responsible behaviour within all ranges.**

| | |
|-----------------|-----------------|
| Budget | 5 mEUR |
| EU contribution | Aprox. 2.5 mEUR |
| Funded projects | 2 |

HORIZON-CL6-2021-GOVERNANCE-01-10: Raising awareness of circular and sustainable bioeconomy in support of Member States to develop bioeconomy strategies and/or action plans (CSA)

- This topic shall:
 - support Member States to develop strategies and/or action plans by **improving knowledge and raising awareness of a sustainable, circular bioeconomy**, its challenges and opportunities as well as experiences made elsewhere;
 - help to bring together national stakeholders in deploying and fostering the bioeconomy related research and innovation developments;
 - be **two-fold**: reaching out to **decision makers and public administrators** in different ministries as well as to a **wide range of stakeholders** crucial for the development of the national strategies and bioeconomy deployment across Europe;
 - ensure that **Member States without bioeconomy strategies and/or action plans become equally empowered** to make the transition to climate neutrality as those that already have a bioeconomy strategy in place.

| | |
|-----------------|---------------|
| Budget | 4 mEUR |
| EU contribution | Aprox. 4 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-GOVERNANCE-01-11: Education on the bioeconomy including bio-based sectors for young people in primary and secondary education in Europe (CSA)

- This topic should focus on the bioeconomy in general but with a specific focus on circular bio-based sectors and their potential, to **prepare citizens for a future that will assume a sustainable and circular lifestyle** (in terms of consumption, recycling, etc.) and to **inspire young people** to pursue education in life science, technology and bioeconomy related areas;
- The actions shall promote the bioeconomy and bio-based solutions that provide environmental, climate-neutral and socio-economic benefits through **education, training and awareness raising on sustainable production, consumption and lifestyles by engaging children and young adults.**

| | |
|-----------------|---------------|
| Budget | 2 mEUR |
| EU contribution | Aprox. 2 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-GOVERNANCE-01-12: EU agriculture within a safe and just operating space and planetary boundaries (RIA)

- Operationalise the concept of **safe and just operating space**, including planetary boundaries, in the case of the EU agriculture and at different spatial scales;
- Within a **foresight exercise**, develop **post-2027** science-based targets for European farming allowing the sector to remain within the planetary boundaries and a safe and just operating space;
- Work in a **multidisciplinary manner** and involve a broad community of scientists including climate, land, biodiversity, health, human, economic and environment sciences
- Ensure that the proposed approach will be compatible with and improve the tools used at the European Commission;
- As an option, necessary additional analysis and modelling may be supported through **grants to third parties** of up to **60.000 EUR** per third party.

| | |
|-----------------|----------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 10 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-GOVERNANCE-01-13: Modelling land use and land management in the context of climate change (RIA)

Projects will:

- work on land use dynamics and explore the effects of policy measures that can influence such dynamics, in particular **agricultural, land use and climate policies**;
- focus activities mainly on agriculture and forest land use/cover and will extend to interactions of the former with other main land uses/covers and drivers. This should ensure **usability of the results in larger contexts**. While focusing on Europe, proposals are encouraged to draw on good examples from elsewhere;
- work at **various spatial scales** – farm level, regional to EU levels - and simulations and projections will range from medium-term to long-term policy scenarios and should cover the whole of the EU and its Member States and possibly **Associated Countries**;
- ensure that the proposed approach will be **compatible with and/or improve existing databases and tools** used at the European Commission.

| | |
|---------------------------------|---------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 2 |
| Copernicus and/or Galileo/EGNOS | |

HORIZON-CL6-2021-GOVERNANCE-01-14: User-oriented solutions building on environmental observation to monitor critical ecosystems and biodiversity loss and vulnerability in the European Union (RIA)

- The projects should
 - deliver new Earth Observation (EO) data services building on the potential of EO capabilities in order to **address end-user needs** facing the deterioration and destruction of their living environment and ecosystems;
 - tackle issues raised within the European Green Deal calls and provide solutions to halt biodiversity loss and protect vulnerable ecosystems, and ensuring ecosystem capacity to continue to provide services to society and the environment. The projects should make **mapping tools and information solutions available**, which are needed by a wide variety of end users in order to meet targets for conservation and restoration of diverse terrestrial, coastal and marine ecosystems.
- This topic should address the **downstream part of the value chain** to support mitigation and adaptation to climate change impact on biodiversity and ecosystems.

| | |
|---------------------------------|-------------------|
| Budget | 20 mEUR |
| EU contribution | Aprox. 3 – 5 mEUR |
| Funded projects | 4 |
| Copernicus and/or Galileo/EGNOS | |

HORIZON-CL6-2021-GOVERNANCE-01-15: Preparing for pre-commercial procurement (PCP) for end-user services based on Environmental Observation in the area Climate Change Adaptation and Mitigation (CSA)

- The scope of this CSA is to **prepare a pre-commercial procurement** due to be part of the Cluster 6 Work Programme **for 2023** in the domain of climate change services;
- Proposals should
 - lead to the **establishment of a critical mass of public and/or private procurers** in the area of climate change adaptation and mitigation, to overcome the fragmentation of demand for solutions and services and to lead to a more rapid market uptake of such solutions and their early deployment. Clear commitments from participants for a further Europe-wide take-up and rollout of results during and following the proposal are expected;
 - **engage public and/or private procurers from each country participating** (at national, regional or local level) that have **responsibilities and budget control** in the relevant area(s).

| | |
|-----------------|---------------|
| Budget | 2 mEUR |
| EU contribution | Aprox. 2 mEUR |
| Funded projects | 1 |
| GEOSS | |

HORIZON-CL6-2021-GOVERNANCE-01-16: Tools to support the uptake and accessibility/exploitability of environmental observation information at European and global level (IA)

- The scope of this topic will be to enhance access and usability to Environmental observation information and promote pre-operational European services;
- Proposals should:
 - turn existing platforms into consolidated digital systems** which provide analytical tools, including machine learning for large-scale analysis, improve the value of environmental observations (including in-situ data) to enrich the knowledge base needed to facilitate the reduction of anthropogenic impacts and to assure on optimal management of the transition to a climate neutral economy and a more resilient society;
 - deliver a plan for the **sustained uptake of services by the European commercial sector** and leverage the tools developed for the benefit of users from a variety of different sectors (e.g. public, private, civil society, citizen

| | |
|-----------------|----------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 10 mEUR |
| Funded projects | 1 |
| TRL 6 – 8 | |
| GEOSS | |

HORIZON-CL6-2021-GOVERNANCE-01-17: Common European Green Deal data space to provide more accessible and exploitable environmental observation data in support of the European Green Deal priority actions (IA)

- A proposal will contribute to unleashing the potential of environmental and climate data through dedicated **European data spaces** in line with the objectives of the European Green Deal and the European Strategy for Data;
- Proposals should:
 - contribute to the implementation of the European Strategy for Data in the domain of environment/climate and will act as a **digital enabler for the European Green Deal** in those domains;
 - **build on significant gains in our knowledge over the past decades** on data management, to contribute to defragmenting data flows across topics, time and space, and develop best practices in the use of existing relevant platforms such as the Copernicus DIAS and the GEOSS Infrastructure.

| | |
|-----------------|-------------------|
| Budget | 11 mEUR |
| EU contribution | Aprox. 3 – 5 mEUR |
| Funded projects | 2-3 |
| TRL 6 – 8 | |
| GEOSS | |

HORIZON-CL6-2021-GOVERNANCE-01-18: Mapping and improving the data economy for food systems (RIA)

- Proposals will:
 - gather expertise from a broad range of disciplines and food system participants to obtain new insights and achieve a deepened and **more comprehensive understanding of the data economy for food systems**;
 - put in place a **broad stakeholder dialogue** to facilitate and discuss new insights, to boost mutual learning and cooperation;
 - develop a framework for the data economy in food systems, as a basis for **monitoring its future development, its performance and impacts**.
- The research that is conducted will therefore go **well beyond technology insights** and include a **holistic assessment** of the state-of-play of the data economy, data driven innovation and data reuse in EU food systems.

| | |
|-----------------|----------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 10 mEUR |
| Funded projects | 1 |
| TRL 4 – 5 | |

HORIZON-CL6-2021-GOVERNANCE-01-19: Development of the markets and use of digital technologies and infrastructure in agriculture – State of play and foresight: Digital- and Data technologies for the agricultural sector in a fast changing regulatory, trade and technical environment (RIA)

- Development of innovative approaches to **assess the uptake of digital technologies and digital infrastructure** (incl. platforms) in the agricultural sector globally with special attention to the situation in the EU and **Associated Countries**;
- Development of innovative approaches to **forecast the markets and the uptake of digital technologies and digital infrastructure (including platforms) globally**;
- Demonstration of the **qualitative and quantitative implications** for the use of digital and data technologies by farmers and other actors along the supply chain.

Proposals are expected to consider innovation in digital technologies brought onto the market during the life-time of the project.

| | |
|-----------------------------|-------------------|
| Budget | 4 mEUR |
| EU contribution | Aprox. 2 – 4 mEUR |
| Funded projects | 1 - 2 |
| Multi Actor Approach | |

HORIZON-CL6-2021-GOVERNANCE-01-20: Data economy in the field of agriculture – Effects of data sharing and big data (RIA)

- Quantitative and qualitative **analyses of the effects of various data sharing and marketing and use options** (considering among others private and public data, private and public actions, and big data opportunities) for the actors along the agri-food supply chain and the development of scenarios for the data economy;
- Implications of the **ongoing policy-making process at EU level** including the development of relevant legislation in the analyses;
- Effects of multi-level governance systems in the EU under consideration of the situation and conditions in various Member States as well as effects of international (trade) relations;
- Consideration of **multiple data-sharing business- and governance approaches** and technical solution in data sharing in the agricultural sector.

| | |
|-----------------|-------------------|
| Budget | 4 mEUR |
| EU contribution | Aprox. 2 – 4 mEUR |
| Funded projects | 1 – 2 |

HORIZON-CL6-2021-GOVERNANCE-01-21: Broaden EIP Operational Group outcomes across borders by means of Thematic networks, compiling and sharing knowledge ready for practice (CSA)

- Build on the experience and outcomes of **at least 5 EIP-AGRI Operational Groups** of **at least 3 Member States**, scaling it up at European level;
- Compile a comprehensive description of the state of current farming and forestry practices on the chosen theme to explain the added-value of the proposal and the relevance of the theme;
- Deliver an extensive range of **useful, applicable and appealing end-user material for farmers and foresters.**

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|----------------------|---------------|
| Budget | 4 mEUR |
| EU contribution | Aprox. 2 mEUR |
| Funded projects | 2 |
| Multi Actor Approach | |

HORIZON-CL6-2021-GOVERNANCE-01-22: Supporting knowledge exchange between all AKIS actors in the Member States by means of an EU-wide interactive knowledge reservoir (RIA)

- Collect and enable sharing – as a minimum – of the **outcomes of all multi-actor projects from Horizon 2020 and those from Horizon Europe**, and of all EIP Operational Group innovative projects 2014-2020 and of those to come in the 2021-2027 period;
- **Develop this tool, which will be owned and exploited by the EU**, enabling it to serve the knowledge interactions within the EIP-AGRI network, in particular with a view to explore how to incentivise new EIP-AGRI innovation projects by connecting projects and actors;
- Projects should have a **minimum duration of 7 years**, and build on the developments of the projects EURAKNOS and EUREKA , and where relevant of similar international initiatives.

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| Budget | 15 mEUR |
| EU contribution | Aprox. 15 mEUR |
| Funded projects | 1 |
| Multi Actor Approach | |

HORIZON-CL6-2021-GOVERNANCE-01-23: Improving national AKIS organisation in a co-creative process across the EU (CSA)

- Compare the various types of AKIS within the EU at national, regional and local level to discover how they effectively and efficiently enhance interaction between AKIS actors through activities at various geographical levels;
- A specific part of the project should be dedicated to sharing the various ways and good examples of **how advisors can be intensively integrated in AKIS** , including for innovation support;
- Assess current AKIS, using practical tools and indicators capable of monitoring the functioning of Member States' AKIS;
- Provide **all outcomes and materials** to the European Innovation Partnership 'Agricultural Productivity and Sustainability' (**EIP-AGRI**) in the common 'practice abstract' format.

| | |
|-----------------|----------------|
| Budget | 10 mEUR |
| EU contribution | Aprox. 10 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-GOVERNANCE-01-24: Deepening the functioning of innovation support (CSA)

- Develop approaches to set up and improve the **functioning of innovation brokers**, which are expected to find individual **innovative grassroots ideas at an early stage** as well as practice needs or innovative opportunities;
- Explore how such innovation support services could be **embedded in the national/regional AKIS**, in particular through useful connections with advisors, and how they can be linked to other broader innovation support mechanisms, including research, advisors and CAP networks at Member State or regional level;
- **Investigate and compare** among Member States how the governance of such innovation support services could be **organised at the level of the managing authorities**;
- **Cover all 27 EU Member States** in the project to ensure learning from diversity;
- Projects should have a **minimum duration of 6 years** and use the support from the knowledge and innovation experts of the SCAR-AKIS Strategic Working Group to discuss project strategy and progress in the various stages of the project.

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|-----------------|---------------|
| Budget | 5 mEUR |
| EU contribution | Aprox. 5 mEUR |
| Funded projects | 1 |

HORIZON-CL6-2021-GOVERNANCE-01-25: Developing EU advisory networks on consumer-producer chains (CSA)

- **Connect advisors** having a broad and extensive network of farmers across all EU Member States in an **EU advisory network on short food supply chains**;
- Share effective and novel **approaches and experiences** among this EU advisory network. These approaches must be sustainable in terms of economic, environmental and social aspects;
- Focus of **cost-benefit elements**;
- Integrate the advisors of the EU short food supply chain network into the Member States' AKIS;
- Explore if the some or all activities of the EU advisory network on short supply chains can be **up-scaled at the level of a number of Member States under a cooperative format**.

| | |
|-----------------|---------------|
| Budget | 8 mEUR |
| EU contribution | Aprox. 4 mEUR |
| Funded projects | 2 |



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Teşekkür ederim!

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