



# HORIZON EUROPE

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## THE EU RESEARCH & INNOVATION PROGRAMME

2021 – 2027

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Horizon Europe Cluster 5 Info Day  
3 February 2022



EUROPEAN UNION

# CLUSTER 5 Climate, Energy & Mobility

INFO DAY 2022 - 3 February 2022

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THE EU RESEARCH & INNOVATION PROGRAMME 2021 - 2027

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# CLUSTER 5 Climate, Energy, Mobility



Virtual INFO DAY 2022 – 3 February 2022

**Destination 3** - Global leadership in renewable energy

**Destination 5** - Aviation

**Destination 5** - Communities & Cities



11:20 – 13:00

# CLUSTER 5 Climate, Energy, Mobility

*Virtual INFO DAY 2022 – 3 February 2022*



## Destination 3

Global leadership in renewable energy



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MATTHIJS SOEDE

HORIZON-CL5-2022-D3-01



# HORIZON-CL5-2022-D3-01-02

**Demonstration of innovative materials, supply cycles, recycling technologies to increase the overall circularity of wind energy technology and to reduce the primary use of critical raw materials**



## Scope

**The proposal is expected to address one of the following aspects:**

- i) On the development of large-scale industrial demonstration of composite material recycling technologies to increase the circularity of wind technology, proposals are expected to demonstrate recycling technologies at large-scale in an operating environment. The proposed solution will be a flexible production line, able to deal with a large amount of material (including, for example, coatings, paints, etc.) and applicable to several manufacturers and possibly to other sectors. The proposed solution should also have a long-term plan, with a business plan, beyond the life of the project. The proposals will also build a knowledge hub within the sector and with other sectors to transfer information and to promote recycling in the renewable energy sector and 'circularity by design' as a solution.

# HORIZON-CL5-2022-D3-01-02

**Demonstration of innovative materials, supply cycles, recycling technologies to increase the overall circularity of wind energy technology and to reduce the primary use of critical raw materials**



## Scope

**The proposal is expected to address one of the following aspects:**

- ii) On the development of alternative solutions to replace/substitute critical raw materials, proposals need to develop and demonstrate, in a relevant or operational environment, solutions and their supply cycles, improving efficiency of sourcing processes and effectively replacing the constrained materials. The development of advanced 'circular by design' materials should also be considered. The solutions proposed should be in line with the Action Plan on Critical Raw Materials [\[1\]](#) and the Foresight Study on Critical Raw Materials for Strategic Technologies and Sectors in the EU [\[2\]](#). Finally, the proposals will indicate the effect that such proposed solutions have on promoting circularity and/or recyclability on wind energy, as well as their circularity potential, their financial feasibility, and their potential to be upscaled. Further, the proposals should address and support life cycle analysis as a tool to bring into evidence the environmental impact and resource efficiency of proposed solutions

# HORIZON-CL5-2022-D3-01-02

**Demonstration of innovative materials, supply cycles, recycling technologies to increase the overall circularity of wind energy technology and to reduce the primary use of critical raw materials**



## Scope

- Independently of the activity tackled, the proposal has to include a clear go/no go moment ahead of entering the deployment phase. Before this go/no-go moment, the project will have to deliver the detailed engineering plans and all needed permits for the deployment of the project. In the case of the first activity, the project will also have to deliver a complete business and implementation plan. The proposal is expected to clearly demonstrate a proposed pathway to obtaining necessary permits for the demonstration actions and allow for appropriate timelines to achieve these. The proposal is expected to also demonstrate how it will get a financial close<sup>[3]</sup> for the whole action. Independent experts will assess all deliverables and will advise for the go/no-go decision
- Synergies are possible with topic: HORIZON-CL4-2021-RESILIENCE-01-23: Novel recycling technologies for composite materials (RIA).
- The selected projects are expected to contribute and participate to the activities of the project BRIDGE<sup>[4]</sup> when relevant.

# HORIZON-CL5-2022-D3-01-02

**Demonstration of innovative materials, supply cycles, recycling technologies to increase the overall circularity of wind energy technology and to reduce the primary use of critical raw materials**



## **Expected outcome**

To achieve the goals of climate-neutrality by 2050, renewable energy sources installations will have an explosive growth. Wind energy, in particular, will play a large role on supplying clean energy to the electrical grid. Nevertheless, this growth must be done in a sustainable manner and following the principles set out in the Circular Economy Action Plan and the Action Plan on Critical Raw Materials. Thus, clear and decisive actions will need to be taken now to assure that the future wind farms are sustainable and circular, while also dealing with current wind farms and the recycling of their components, once they reach the end of their lifetime. The nature of this challenge involves different kinds of activities.

# HORIZON-CL5-2022-D3-01-02

**Demonstration of innovative materials, supply cycles, recycling technologies to increase the overall circularity of wind energy technology and to reduce the primary use of critical raw materials**



## **Expected outcome**

- The first activity is on the development of large-scale industrial demonstration of composite material recycling technologies to increase the circularity of wind technology. This demonstration will focus on flexible approaches for composite recycling, and on the development of a knowledge hub involving other composite-heavy sectors, in order to share best practices and to identify common challenges.
- Another activity is on the development of alternative solutions to replace/substitute critical raw materials. Further constraints linked to the availability of rare earths elements used in the wind sector, in particular for permanent magnets, are also relevant in this context.
- The project results are expected to contribute to the promotion of the ‘circularity by design’ approach in the wind energy sector, and to support the adoption of life cycle assessment tools, demonstrating reduced carbon footprint on the wind turbine value chain.

# HORIZON-CL5-2022-D3-01-02

**Demonstration of innovative materials, supply cycles, recycling technologies to increase the overall circularity of wind energy technology and to reduce the primary use of critical raw materials**



**Type of action:** Innovation Action



**Specific Topic conditions:** Activities are expected to achieve TRL 6-7 by the end of the project



**Cross cutting priorities:** Ocean sustainability and blue economy



**EU contribution:** The total indicative budget for the topic is **EUR 40.00 million**

The Commission estimates that an EU contribution of around EUR 13.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.



**Deadline:**

**Opening: 14 October 2021**  
**Deadline: 26 April 2022**

# HORIZON-CL5-2022-D3-01-04

## Demonstrate the use of high temperature geothermal reservoirs to provide energy storage for the energy system



### Scope

- High-temperature underground thermal energy storage (HT-UTES) covers the 25-90°C temperature range, and the targets of interest can reach up to 2000 m in depth. The development of UTES is linked to a multidisciplinary understanding of the whole system, including waste-heat source, exploration and subsurface characterisation, production, implementation and distribution systems, as well as the adaptation of the regulatory framework and social acceptance. The main technical challenges are the adaptation of the return temperature from the surface site to the subsurface temperature and to the regulatory frameworks, identification, characterisation and monitoring the reservoirs for UTES, the geo-mechanical effects of the reservoir linked to the seasonal injection/production operations related to pressure and temperature changes, hydrogeochemical problems associated with scaling and corrosion of the piping system, circular design and optimisation of the distribution network.

# HORIZON-CL5-2022-D3-01-04

Demonstrate the use of high temperature geothermal reservoirs to provide energy storage for the energy system



## Scope

**The proposal is expected to:**

- Develop and demonstrate appropriate control systems and infrastructure to manage geothermal heat and electricity production, heat demand and storage connected to the installation.
- Use the flexibility of geothermal reservoirs as thermal energy storage systems and flexibility in the network coping with daily, weekly and seasonal variations in heat demand.
- Demonstrate the innovative technologies in at least 2 different plants with different characteristics.

**This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.**

# HORIZON-CL5-2022-D3-01-04

**Demonstrate the use of high temperature geothermal reservoirs to provide energy storage for the energy system**



## **Expected outcome**

**The proposal is expected to contribute to all of the following outcomes:**

- Performance and reliability improvement of geothermal systems
- Reduced environmental impact of geothermal plants
- Increased citizen engagement
- Reduction of LCOE approaching SET Plan targets (actions should clearly justify the estimated LCOE at project start and end)

# HORIZON-CL5-2022-D3-01-04

**Demonstrate the use of high temperature geothermal reservoirs to provide energy storage for the energy system**



## **Specific Topic conditions:**

Innovation Action: Activities are expected to achieve TRL 7 by the end of the project



## **Cross cutting priorities:**

Societal engagement and Socio-economic science and humanities



**EU contribution:** The total indicative budget for the topic is **EUR 20.00 million**.

The Commission estimates that an EU contribution of around **EUR 20 million** would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.



**Deadline:** **Opening: 14 October 2021**  
**Deadline: 26 April 2022**

# HORIZON-CL5-2022-D3-01-07

## Demonstration of innovative rotor, blades and control systems for tidal energy devices



### Scope – the action is expected to:

There is a need for further technology investigation and demonstration for improved reliability and efficiency of tidal turbine rotor and blades, including control and condition monitoring systems. Failure in a blade can create long downtimes, for instance blade edges can erode rapidly, facilitating water ingress, accelerating fatigue and the risk of failure. There are different blade solutions under development in terms of shape and material. Improving the seaworthiness of rotor and blades will reduce the likelihood of failure, reduced annual energy production and increases in operating costs.

# HORIZON-CL5-2022-D3-01-07

## Demonstration of innovative rotor, blades and control systems for tidal energy devices



### Scope

#### The proposal is expected to:

- Demonstrate innovative rotor and blade solutions including condition monitoring systems for tidal energy devices in real sea conditions for long periods of time (12-24 months) providing invaluable learnings regarding performance, reliability, availability, maintainability, survivability and environmental impact.
- Apply high performance computing and digitalisation (e.g. data processing, machine learning and data analytics methods for implementation in data driven design, digital twins and control and monitoring for O&M).
- The selected projects are expected to contribute and participate to the activities of the project BRIDGE when relevant. [www.h2020-bridge.eu/](http://www.h2020-bridge.eu/)

## Demonstration of innovative rotor, blades and control systems for tidal energy devices



### Expected outcome

**Project results are expected to contribute to all of the following expected outcomes:**

- Demonstrated increased performance (>20%) and reliability of tidal energy devices.
- Improved knowledge on how to operate tidal energy devices, their availability, maintainability and survivability.
- Reduction of LCOE approaching SET Plan targets (actions should clearly justify the estimated LCOE at project start and end using a recognised calculation methodology).
- Reinforced industrial supply chain in Europe.
- Attraction of private investors to the sector and reduce the cost of their investment to projects with evidences and credible key performance indicators

# HORIZON-CL5-2022-D3-01-07

## Demonstration of innovative rotor, blades and control systems for tidal energy devices



**Type of action:** Innovation Action



**Special topic conditions:**

- The granting authority may object to a transfer of ownership or the exclusive licensing of results under certain conditions
- TRL 7 by the end of the project



**EU contribution: EUR 10 million (total indicative budget EUR 10 million)**

The Commission estimates that an EU contribution of around **EUR 10.00 million** would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts



**Deadline:**

**Opening: 14 October 2021**

**Deadline: 26 April 2022**



# Thank you!

## # HorizonEU

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MARIA GETSIOU

HORIZON-CL5-2022-D3-01



# HORIZON-CL5-2022-D3-01-03

## Advanced manufacturing of Integrated PV



### Scope

Manufacturing of customized IPV in series production concept needs to be developed to bring down the cost of Integrated PV allowing for large-scale production and use:

- Demonstrate at pilot line level flexible automated manufacturing for:
  - ❑ differentiated product design (format, different thicknesses of substrate and variations in the solar cell matrix, encapsulation material, front sheet, etc.) respecting freedom of design and aesthetics for various applications;
  - ❑ integration of advanced robust techniques for inline process and quality control;
  - ❑ equipment design easily adaptable to rapidly emerging novel cell and module technologies;
  - ❑ high product efficiency and durability at competitive costs, in conformity with codes and standards of integrated photovoltaics (IPV) use.
- Implement Industry 4.0 concepts.

# HORIZON-CL5-2022-D3-01-03

## Advanced manufacturing of Integrated PV



### Scope

- Demonstrate a business case and a market introduction strategy.
- Facilitate the 'renovation wave' by establishing an active collaboration between the PV sector and the building industry for seamless industrial construction/renovation workflows.
- Address the following related aspects: low environmental impact, resource efficiency and circularity potential.

The proposal should involve multidisciplinary consortia including industrial partners

# HORIZON-CL5-2022-D3-01-03

## Advanced manufacturing of Integrated PV



### Expected outcome

**Project results are expected to contribute to all of the following outcomes:**

- Demonstrate that automated manufacturing of integrated photovoltaics (IPV) can deliver cost competitive products assuming both the function of energy generators and of structural elements.
- Reinforce the European PV value chain, support local companies to develop and sell differentiated IPV products and create local jobs.
- Enable and facilitate large-scale integration of PV in buildings in line with the concept of “positive energy buildings”, in infrastructure, transport, agriculture, etc.
- Minimise the impact of PV on landscape and environment exploiting its modularity and synergies of use.

# HORIZON-CL5-2022-D3-01-03

## Advanced manufacturing of Integrated PV



**Type of action:** Innovation Action (IA)



**EU contribution:** The total indicative budget for the topic is **EUR 32.00 million**. The Commission estimates that an EU contribution of around **EUR 16.00 million per project** would allow these outcomes to be addressed appropriately.

Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.



**Eligibility conditions:** The conditions are described in General Annex B. The following exceptions apply: In order to achieve the expected outcomes and safeguard the Union's strategic assets, interests, autonomy or security and create a European competitive advantage (Clean Energy Competitiveness Report accompanying the 2020 State of the Energy Union Report), participation to the topic is limited to legal entities established in Member States, associated countries and OECD countries. Proposals including legal entities which are not established in these countries will be ineligible.



**Deadline:** **Opening: 14 October 2021**  
**Deadline: 26 April 2022**

# HORIZON-CL5-2022-D3-01-06

## Novel Agro-Photovoltaic systems



### Scope

Agro-Photovoltaics (or Agrivoltaics) denotes approaches to use agricultural areas simultaneously to produce crops and to generate PV electricity:

- Develop and demonstrate agro-photovoltaic systems or building integrated agro-photovoltaic systems for green houses employing PV cell technologies/systems that allow and are adapted to appropriate growth conditions (plant variety and local geography) and at the same time produce electricity covering all year-through energy needs (e.g. for cooling/heating, watering, etc.) and increased crop yield.
- Demonstrate feasibility, reliability, replicability, robustness and ease of maintenance of the system and its performance using relevant KPIs (for e.g. ground coverage ratio, energy and agricultural yield, spatial efficiency, etc.).
- Demonstrate a business case for the concept and market introduction strategy.

# HORIZON-CL5-2022-D3-01-06

## Novel Agro-Photovoltaic systems



### Scope

- Address the following related aspects: low environmental impact (avoiding or minimizing land impact from PV systems), resource efficiency and circularity potential.
- Include a strong involvement of citizens/civil society, together with academia/research, industry/SMEs and government/public authorities.

This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions, as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

# HORIZON-CL5-2022-D3-01-06

## Novel Agro-Photovoltaic systems



### Expected outcome

**Project results are expected to contribute to all of the following outcomes:**

- Harvesting of crops and photovoltaic electricity, providing sustainable solutions for energy production/use/efficiency, soil protection and water conservation.
- Reinforce the European PV value chain, introduce new business models and open new markets for novel Agro-Photovoltaic systems.
- Minimise the impact of PV on landscape and environment exploiting its modularity and synergies of use.

# HORIZON-CL5-2022-D3-01-06

## Novel Agro-Photovoltaic systems

**Type of action:** Innovation Action (IA)



**EU contribution:** The total indicative budget for the topic is **EUR 10.00 million**. The Commission estimates that an EU contribution of around **EUR 5.00 million per project** would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.



**Eligibility conditions:** In order to achieve the expected outcomes and safeguard the Union's strategic assets, interests, autonomy or security and create a European competitive advantage (Clean Energy Competitiveness Report accompanying the 2020 State of the Energy Union Report), participation to the topic is limited to legal entities established in Member States, associated countries and OECD countries. Proposals including legal entities which are not established in these countries will be ineligible.



**Deadline:**

**Opening: 14 October 2021**  
**Deadline: 26 April 2022**



# Thank you!

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MARIA GEORGIADOU

HORIZON-CL5-2022-D3-01



# HORIZON-CL5-2022-D3-01-01

## Demonstration of cost-effective advanced biofuel technologies utilizing existing industrial plants



### Scope

- **Demonstrate cost-efficient advanced biofuel technologies** which improve the economic viability of the advanced biofuel production through **innovative transformation of existing plants** to incorporate production of advanced biofuels from non-food/feed sustainable biomass feedstock into existing processes, **e.g., first generation biofuel plants, paper mill industry, waste treatment plants, oil-refineries, petrochemical industry, etc.**
- Integration of advanced biofuel processing should be done with **new and innovative installations** and it should be optimized implementing a circularity approach for energy and material, as well as **digitalization** as appropriate, e.g. by using sensors, smarter equipment, algorithms etc., to increase the efficiency, cost-effectiveness and performance of the final plant.

# HORIZON-CL5-2022-D3-01-01

## Demonstration of cost-effective advanced biofuel technologies utilizing existing industrial plants



### Scope

- **Economic advantages** in terms of both capital and operational expenditure for commercialization of advanced biofuels through transformation, as well as **socio-economic benefits** for phasing-out industries including the impact on current first generation biofuel sites should be addressed. Proposals should provide information about the **expected economic improvements and the potential of full transformation to advanced biofuel plants** as appropriate.
- All demonstrators should be fully and transparently documented
- Required effective contribution of SSH disciplines and the involvement of SSH experts, Institutions as well as the inclusion of relevant SSH expertise.

# HORIZON-CL5-2022-D3-01-01

## Demonstration of cost-effective advanced biofuel technologies utilizing existing industrial plants



### Expected outcome

Project results are expected to contribute to **all** of the following expected outcomes:

- **Reduce capital and operational expenses** (CAPEX and OPEX) of advanced biofuel production facilities.
- **De-risk technology, boost scale-up of advanced biofuels** and contribute to their market up-take.
- Contribute to the priorities of the **SET Plan Action 8**.
- Respond to **short and medium term needs** for renewable fuels in transport.
- Create **win-win solutions** for advanced biofuel production and conventional industrial phasing out plants, e.g., first generation biofuels, associated with socio-economic benefits.

# HORIZON-CL5-2022-D3-01-01

Demonstration of cost-effective advanced biofuel technologies utilizing existing industrial plants



## Specific Conditions

- Type of action: **Innovation Actions**
- Technology Readiness Level: **expected TRL 6-7 by end of project**



## EU contribution:

- Total indicative budget for the topic: **€ 20.00 million**
- Expected EU contribution per project: **€ 10.00 million**
- Expected number of funded projects: **2**



## Deadline:

- Opening: **14 Oct 2021**
- Deadline(s): **26 Apr 2022**

# HORIZON-CL5-2022-D3-01-05

## Demonstration of innovative plug-and play solutions for system management and renewables storage in off-grid applications



### Scope

**Demonstration of innovative plug and play solutions for system management and renewables storage in off-grid applications**, which allow for increase of renewables penetration for **electricity and heating/cooling** and are deployable under **different climatic conditions**, while also addressing cost-effectiveness, energy poverty and security of supply and by promoting prosumer renewable energy in off-grid cities and communities (including on geographic islands).

This topic requires the effective contribution of **SSH disciplines** and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

Due to the scope of this topic, legal entities established in all member states of the African Union are exceptionally eligible for Union funding.

### **Cross-cutting Priorities:**

Socio-economic science and humanities, Africa, International Cooperation

# HORIZON-CL5-2022-D3-01-05

## Demonstration of innovative plug-and play solutions for system management and renewables storage in off-grid applications



### Expected outcome

Project results are expected to contribute to some of the following expected outcomes:

- Advance the **European innovative knowledge basis**, technology base, technology leadership in the area of renewable energy-based off-grid energy systems, while creating evidence for policy making in the context of off-grid energy systems.
- Improve **environmental and socio-economic sustainability** of the renewable-energy off-grid systems, particularly on geographic energy islands and/or in Africa and/or Central Asia.
- **Technology de-risk through prototype demonstration** tested and validated in operational environment as a necessary step before scaling up at commercial level.
- Reinforce the European scientific and innovation basis through **international collaboration** on off-grid energy systems while increasing the potential to export European renewable energy technologies and ensuring political priorities.

# HORIZON-CL5-2022-D3-01-05

**Demonstration of innovative plug-and play solutions for system management and renewables storage in off-grid applications**



**Type of action: Innovation Actions**

Activities are expected to achieve TRL 8 by the end of the project



**EU contribution: around EUR 10.00 million** (total: EUR 10.00 million)



**Deadline:**

**Opening: 14 October 2021**

**Deadline: 26 April 2022**



## CLUSTER 5

### CLIMATE



### ENERGY



### MOBILITY



# HORIZON EUROPE

## INFO DAYS 2021

### DESTINATION 5 – AVIATION

**Michael KYRIAKOPOULOS**

Senior Expert, DG RTD Unit C3



2021 – 2027

# HORIZON EUROPE - AVIATION

Aviation R&I will follow policy-driven approach

➔ **climate neutrality by 2050 and digital transformation**



## Three main streams of activities:

- **Collaborative aviation R&I** under this Destination of the cluster 5 work programme focuses on transformative low-TRL (1-4) technologies.
- **Clean Aviation partnership** that focuses on three clearly identified paths, as described in Strategic Research and Innovation Agenda (SRIA), and focused demonstrators (TRL 4-6).
- **SESAR3** partnership that focuses on solutions that will support evolving demand for using the European sky, increased expectations on the quality of ATM and U-space service provision among others.

Synergies with Cluster 4 – twin (green & digital) transition, Cluster 5 – Destination 6: safety



# HORIZON-CL5-2022-D5-01-12

## Towards a silent and ultra-low local air pollution aircraft



### Scope

- **Local Air Quality (LAQ) and noise aviation emissions.**
- Regarding the reduction of **local air quality (LAQ)** from NO<sub>x</sub> and particulate matter (PM), the selected technologies may consider sustainable drop-in and non-drop-in fuel options.
- Regarding the reductions of **aviation noise** around airports, the selected technologies should consider propulsion and aircraft-propulsion integration interdependencies as well as operational air-traffic management procedures.

# HORIZON-CL5-2022-D5-01-12

## Towards a silent and ultra-low local air pollution aircraft



### Expected outcome:

Projects' results are expected to contribute to **at least ONE of the expected outcomes:**

- Deliver **transformative technologies** that will allow a step change in the reduction of local air quality (LAQ) from NO<sub>x</sub>, SO<sub>x</sub>, volatile organic compounds (VOCs) and particulate matter (PM) that occur below 900m above ground level around airports.
- Deliver **transformative technologies** towards a silent aircraft operations around airports, including a **study on airport noise map** towards assessing the airports that would most benefit from noise reduction policies.
- Advance further **integrated and reference European models and methods** for estimating aircraft emissions (LAQ and noise) inventories for operations in the airport vicinity, highly accurate estimations on the number of people affected. Contribute to and collaborate with existing ICAO CAEP and EUROCONTROL initiatives.

# HORIZON-CL5-2022-D5-01-12

Towards a silent and ultra-low local air pollution aircraft



**Type of action:** HORIZON Innovation Actions



**EU contribution:** EUR 20 million total – EUR 2-5 million per project



**Deadline:** 26 April 2022 17:00:00 Brussels time

# HORIZON-CL5-2022-D5-01-13

Digital aviation technologies for new aviation business models, services, emerging global threats and industrial competitiveness



## Scope

- Enable new **digital aviation technologies for new aircraft business models and services**, (e.g. EGNSS-based search and rescue, urban air-mobility, firefighting, AI-based technologies, digital data platforms).
- **Minimise the risk from emerging threats**  
(e.g. extreme weather phenomena, cybersecurity, COVID-19 communicable diseases).

# HORIZON-CL5-2022-D5-01-13

Digital aviation technologies for new aviation business models, services, emerging global threats and industrial competitiveness



## Expected outcome

Projects' results are expected to contribute to **at least ONE of the expected outcomes:**

- Transformative digital aviation technologies that will enable **new European business models** and products (e.g. Urban Air-Mobility (UAM), seaplanes) with minimal environmental impact and opportunities for European competitiveness.
- Transformative digital aviation and space technologies as well as Unmanned Aircraft Systems (UAS), that will **enable new services** with pronounced societal impact for intermodal and multimodal transport, search and rescue operations, fast response to natural disasters, freight, firefighting, high altitude earth data-services, agriculture and forestry.

# HORIZON-CL5-2022-D5-01-13

## Digital aviation technologies for new aviation business models, services, emerging global threats and industrial competitiveness



### Expected outcome (continued)

Projects' results are expected to contribute to **at least ONE of the expected outcomes:**

- New aviation **products and services that exploit Artificial Intelligence** and have pronounced impact to productivity, efficiency, automation and cost reduction.
- Breakthrough technologies that will minimise the risks from **emerging global threats** (cybersecurity, COVID-19) as well as increase the resilience of aircraft systems from increasing frequency of extreme weather conditions (e.g. temperature change, wind patterns).
- Transformative and breakthrough technologies that **exploit synergies with aviation, space and defence**. The development of materials and components for high-power density electrical architectures at high altitude environment (e.g. cabling, insulation, power electronics) are within the scope of this topic.

# HORIZON-CL5-2022-D5-01-13

Digital aviation technologies for new aviation business models, services, emerging global threats and industrial competitiveness



**Type of action:** HORIZON Research and Innovation Actions



**EU contribution:** EUR 20 million total – EUR 2-5 million per project



**Deadline:** 26 April 2022 17:00:00 Brussels time

# HORIZON-CL5-2022-D5-01-14

## European Aviation Research Policy in support to EU policies and initiatives



### Scope:

- Contribute with science-based informed decisions that will **bridge the gap between R&I, regulatory framework and economic investments** (with emphasis on climate neutrality by 2050 and European competitiveness).
- Connect better European aviation R&I with **education and skills** as well as communicate the European aviation R&I to citizens and stakeholders.

# HORIZON-CL5-2022-D5-01-14

## European Aviation Research Policy in support to EU policies and initiatives



### Expected outcome

Projects' results are expected to contribute to **ALL of the expected outcomes:**

- **Deliver at mid-term** of Horizon Europe an update of European aviation R&I roadmap, while ensuring the alignment with the EU regulatory framework.
- **Deliver a coherent framework and toolbox for technology and policy assessment** of the impact of European aviation research – with emphasis to GHG emissions, local air-quality and noise.
- **Support** EU Member States/Associated Countries towards a coherent update of ICAO standards that will prevent backsliding.
- **Connect** better European aviation R&I with education and skills and communicate the European aviation R&I to citizens and stakeholders.
- **Strengthen ERA** in Aviation R&I, assess the R&I needs of European SMEs and promote aeronautics/aerospace spin-offs in all aspects of life.
- **Strengthen the synergies** between all aviation-relevant R&I activities in Horizon Europe.

# HORIZON-CL5-2022-D5-01-14

European Aviation Research Policy in support to EU policies and initiatives



**Type of action:** HORIZON Innovation Actions



**EU contribution:** EUR 5 million total – EUR 0.5-2.5 million per project



**Deadline:** 26 April 2022 17:00:00 Brussels time

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ISABELLE VANDOORNE

HORIZON-CL5-2022-D2-01-11



# HORIZON-CL5-2022-D2-01-11

## CIVITAS 2030 – Coordination and support for EU funded urban mobility innovation



### Scope

***CIVITAS is part of the EU policy on urban mobility as a key flagship encouraging innovation at local level. Cf new Urban Mobility Framework***

***The project selected under this topic will help to ensure the long-term support for the CIVITAS projects offering governance, and an organisational and logistical framework that guarantees the wide dissemination and take up of urban mobility project results.***

Proposals should

- aim at focusing activities on
  - communication and event organisation and coordination of living lab activities
  - continuing and enhancing the operation of the platform,
  - to facilitate the continued coordination and knowledge exchange between the urban mobility projects.
- aim at putting in place a common communication and dissemination strategy to maximise the impact of the CIVITAS initiative.
- ensure the monitoring of activities, events and results of the urban mobility projects and communicate about their progress and achievements.
- review the common ‘CIVITAS Process and Impact Evaluation Framework’
- ensure the continuity of the CIVINETs.
- ensure continuity and provide a smooth transition from the previous CSA CIVITAS ELEVATE.

# HORIZON-CL5-2022-D2-01-11

## CIVITAS 2030 – Coordination and support for EU funded urban mobility innovation



### Expected outcome:

1. Communication activities
2. Support:
  - Facilitating exchanges to disseminate project key milestones and results.
  - Organising capacity building, replication and twinning sessions and three site visits per year
  - Organise a CIVITAS Forum once per year; Collaborate on the organisation of the Urban Mobility Days
  - **collaboration and synergy building with the different urban mobility communities and initiatives at European level, such as the ELTIS, EIP SCC, Driving Urban Transitions Partnership, EIT Urban Mobility and the Climate Neutral and Smart Cities Mission.**
  - Maintaining, optimising and promoting the CIVITAS website
  - Preparing policy papers and ad-hoc Thematic Groups (based on the thematic areas of CIVITAS).
  - Organising meetings of the CIVITAS Policy Advisory Committee.
  - Preparing policy recommendations and key learnings based on latest technological and planning trends, research and innovation as well as results from ongoing projects.
  - Updating, promoting and enlarging the CIVITAS cities network.
  - Providing support and funding to existing CIVINETs

# HORIZON-CL5-2022-D2-01-11

CIVITAS 2030 – Coordination and support for EU funded urban mobility innovation



**Type of action:** Coordination and Support Action



**EU contribution:** The total indicative budget for the topic is EUR **5.00 million**.

The Commission estimates that an EU contribution of between EUR 4.00 and 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.



# Thank you!

## # HorizonEU

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