Sustainable Synergies Interconnected Systems for Positive Impact webinar

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Agenda

- ESA Space Solutions
- Call objectives
- Partner presentation : ENEL Green Power
- How to apply
- Next steps

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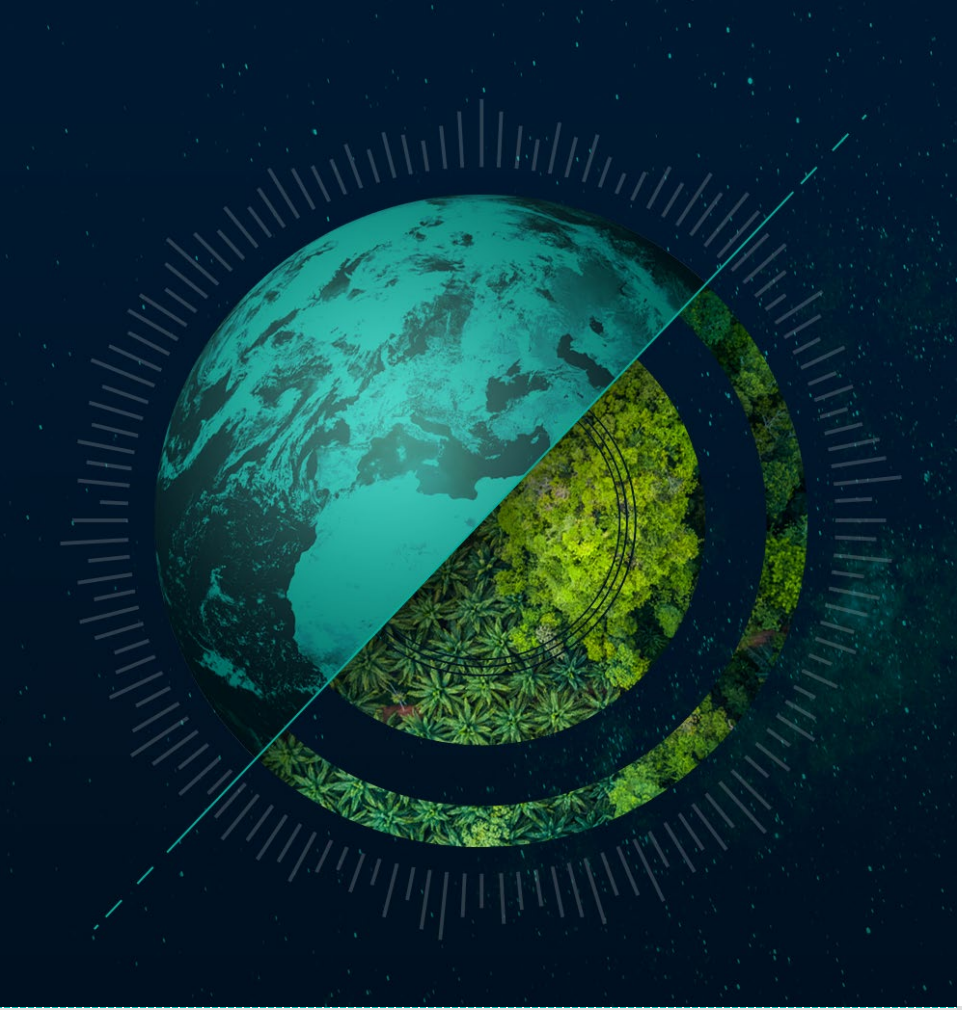
The largest space innovation network in the world

- The go-to place for great business involving space to improve everyday life.
- Supporting European start-ups and SMEs to develop businesses using space technology and data.
- Offering funding, business and technical support to help to generate successful business and create jobs.



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ESA SPACE SOLUTIONS OFFERS

- Zero-equity funding (from €50k to €2M+ per activity)
- A personalised ESA consultant
- Technical support and commercial guidance
- Tailored project management support
- Access to our international network of ESA and partners
- Access to our network of investors
- Credibility of the ESA brand

Project web pages:
business.esa.int/projects

Space tech, users & markets

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Space Technology...

- Earth Observation
- Satellite Navigation
- Satellite Communication
- Spaceflight Technologies
- Space Weather

... coupled with...

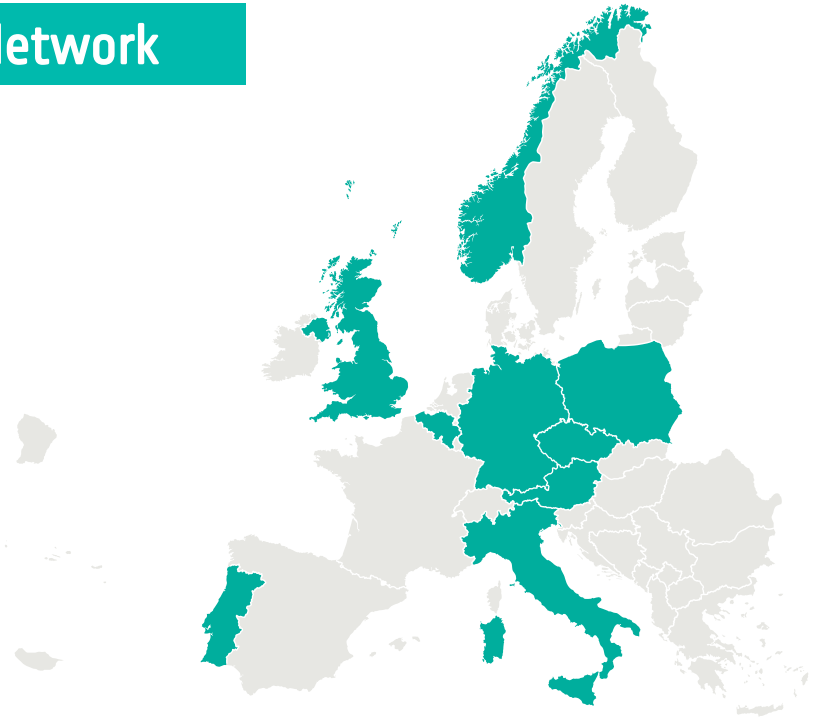
- Big Data analytics
- VR/AR
- Artificial Intelligence
- Mega-constellations
- Crowdsourcing
- IoT
- Cybersecurity
- Blockchain
- 5G (https://artes.esa.int/esa-5g6g-hub)

... to serve Users & Market

- Maritime
- Agriculture
- Environment
- Healthcare
- Financial
- Transport
- Education
- Media
- Energy
- Aviation

A tool at your disposal – the Ambassador Network

- Ambassadors are present in 9 countries
- They are your local interface for your ESA Space Solutions questions
- They can advise you on:
  - Preparation of the Activity Pitch Questionnaire
  - Give you an overview of ESA Space Solutions funding opportunities



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Interconnected Systems for for Positive Impact

https://business.esa.int/funding/intended-tender/sustainable-synergies-interconnected-systems-for-positive-impact

Opening date : 15/03/2023

Sustainable Synergies: Interconnected Systems for Positive Impact

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About the Competition

- Winning teams will investigate the technical feasibility and commercial viability of their idea for 9-12 months.
- A proof of concept can be developed during the study.
- Each selected study will receive 80% funding of up to €200K. The remaining part will be covered by the team.
- After the study there is the opportunity for further funding and support from ESA
- In partnership with ENEL and ICT-AGRI-FOOD

enel Green Power

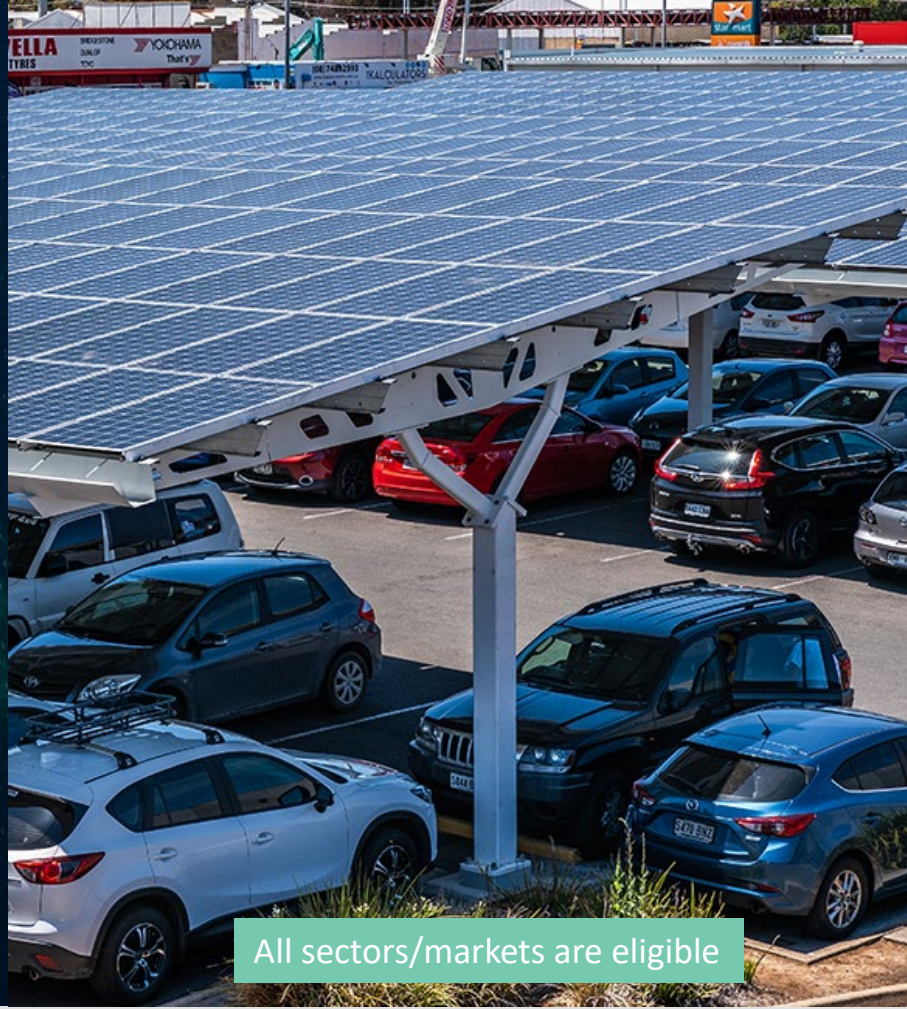
ERA-NET COFUND ICT AGRI FOOD

The Goal

- Deliver space based services addressing interconnected systems for positive impact
- "Interconnected" : where at least two systems considered "isolated", including eco-systems, are operated in a synergistic manner
- "Positive impact" : the resulting synergy generates a net positive environmental impact

Key focus areas

- Sector hybridisation: where a technological solution already exists for a specific application, and is evolved to serve another purpose/sector in addition
  - example : subway heat for housing
- Circularity of resources: waste of a process are re-used / recycled / valorised by another process:
  - example : plastic and fertilizer from petrol
- Collocated facilities: the physical space occupied by an site / factory is shared with other operations to not only occupy less space but also to reduce maintenance cost and offer synergetic advantages.
  - example : solar carparks



Value of Space

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Global Navigation Satellite Systems (GNSS) are essential in the development of interconnected solutions to track the position of vehicles, vessels, or any moving element of the integrated solution. GNSS is also necessary to locate the position of sensors that measure physical parameters within or in the proximity of such facilities.

Satellite Telecommunications (SatCom) allow to digitally connect remote premises that conduct collocated activities, such an offshore mussel wind farm to conduct all necessary activities related to maintenance, reporting, alerting and market forecast. Satellite IoT is also key to monitor and report on the physical parameters measured in hybrid vicinities especially during the installation and trial phases.

Satellite Earth Observation (EO) allows the holistic monitoring of sites where inter-connected solutions will be deployed and ensure that the externalities (especially environmental) are absent or reduced according to the term of the solution deployed (e.g. reduced CO2 emission as CO2 is reused or reduced heat emission as heat is recycled). The capabilities of EO satellites are unique to detect and measure these externalities and to ensure that the solution proposed does have a positive impact.

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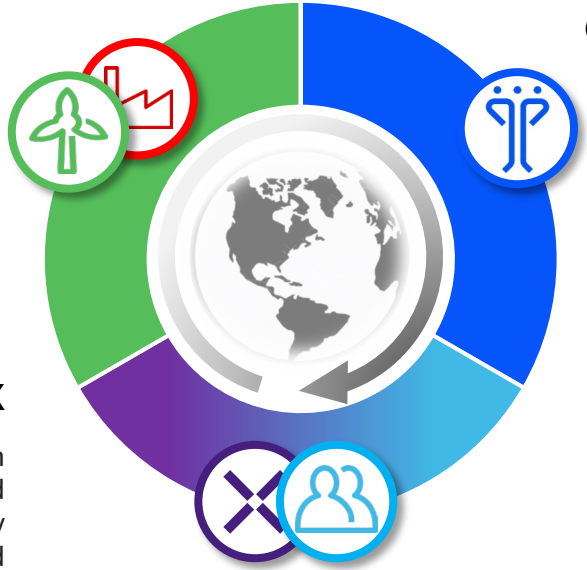
Enel business

Global Power Generation

Accelerates a sustainable energy transition, increasing **renewables** capacity growth and **decarbonizing** our fleet

Enel X

Enables the energy transition boosting electrification and decarbonization of customers, by providing **innovative services** and **system flexibility**



Global Infrastructure &Networks

Guarantees reliability and quality of service in the energy supply, through **efficient**, **resilient** and **digital** networks

Global Energy & Commodity Management

Optimizes the Group margin as a single portfolio, finding its **best balance**

Retail

Increases customer value through commodities and "beyond commodities" services also thanks to **customer satisfaction and experience** improvement

World's largest player in renewables[1]

56,3 GW capacity

1st network operator[2]

76 mn end users

Largest retail customer base worldwide[3]

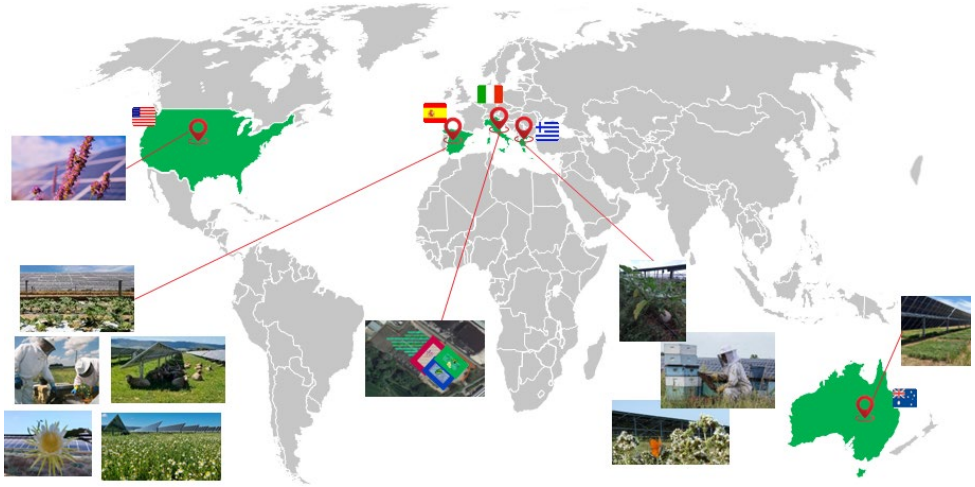
70 mn customers

Publicly owned operators not included.

1. By installed capacity. It includes managed capacity for 3.6 GW; 2. By number of end users; 3. Including customers of free and regulated power and gas markets

Agrivoltaic (APV) challenge

EGP APV demo tests



Ongoing EGP APV demo tests:

- 9 PV plants;
- 3 Continents;
- 5 Countries.

Challenge

APV development in **remote areas**, with extreme climate conditions (e.g., **arid zones**, etc.).

Google source

Wind & biodiversity challenge

Avifauna and bat fauna monitoring: AS IS

Bird and bats monitoring through:

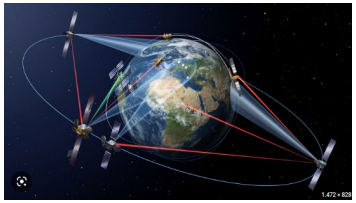
- Proximity sensors;
- Periodic monitoring with experts (e.g. ornithologist, etc.) on field.

Google source

Google source

Challenge n.1

Selection and implementation of **satellite-based monitoring or tools** for the **site installation and siting** for new wind farms.



Google source

Challenge n.2

Development of a **global mapping** about **vegetation, fauna and habitat** distribution through **satellite- based** tools.

Google source

How to apply?

Funding schemes BASS

Entry point	Type of activity	Total cost/price of activity & funding
Direct Negotiation	Feasibility studies	Max 500k Eur, 50-80% funded by ESA (can be 100% for research contributions)
	Demonstration projects	No max amount, 50-80% funded by ESA (depending of wishes of the delegation)
Invitation to Tender (Open competition)	Feasibility studies	Max 200k Eur, 50-100% funded by ESA
	Kick-Starts	60k price for ESA, 75-80% funded by ESA

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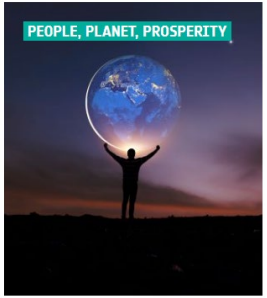
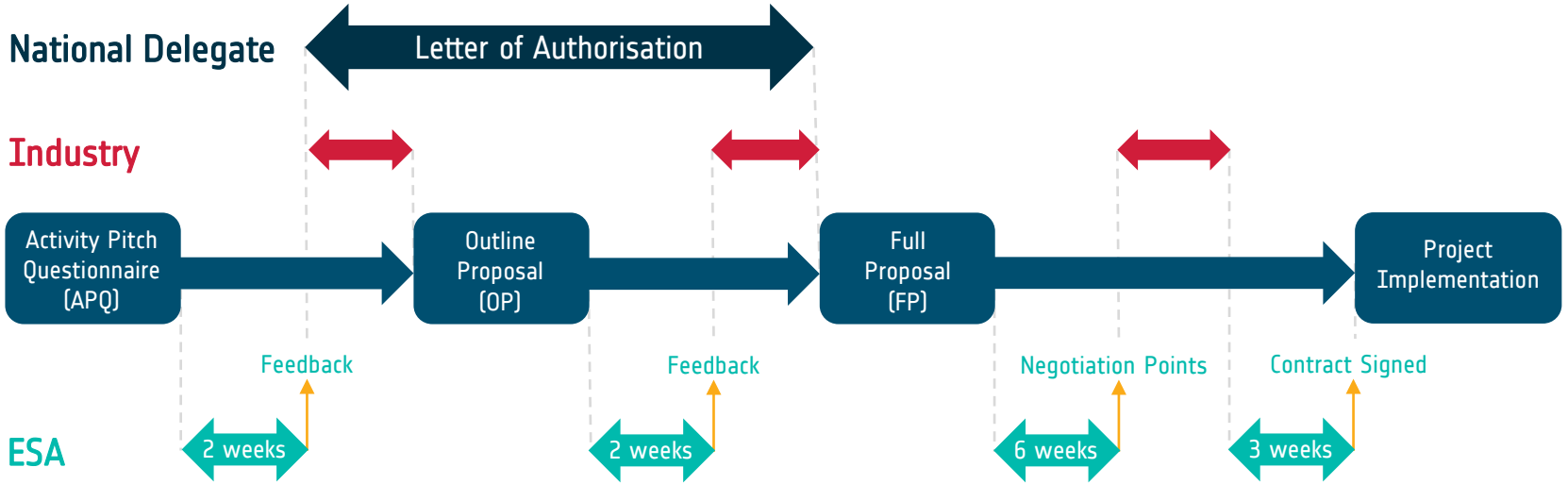
Where to find the information

business.esa.int

- Scroll down to the part “Featured Opportunities” to see all activities currently open or in preparation



Roadmap for Direct Negotiation for Demo Projects



ELIGIBILITY

Funded participation to Sustainable Synergies: Interconnected Systems for Positive Impact Call for Feasibility Studies is open to any company and/or organisation residing in the following Member States:

- **Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Sweden, Switzerland and the United Kingdom**