Webinar - Space for Infrastructure

Air, Land and Sea Transport

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05/07/2023

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.

→ 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

Space Technology, Users & Markets

Space Technology

Users & Markets

How ESA Space Solutions Work with you

Idea Creation

Explore idea generation.

Filling out the narrative, exploring ideas.

Concept Design

Defining core functionality.

Understanding the market size and potential revenue

Prototyping

Create Prototype and assess feasibility.

Updating of the business plan.

Product/Service Development

Testing.

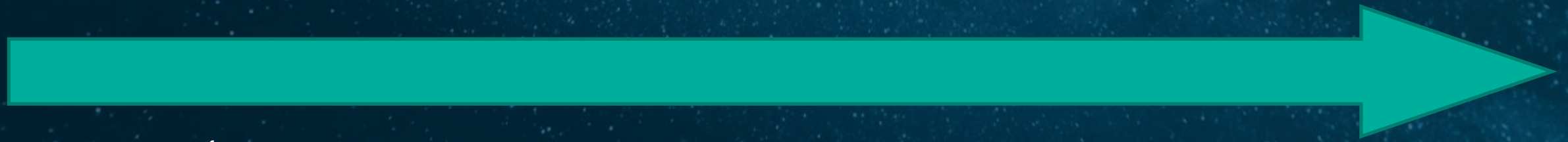
Validation with pilot customers.

Verifying the viability of the financials.

Commercialisation/ Product Rollout

Feasibility Studies: Up to 50% co-funding*

Demonstration Projects: Up to 50% co-funding*



*Up to 80% for SMEs (depending on specific initiative and approval of national delegation

Thematic call for Proposals – 'Space for Infrastructure'

Key Objectives:

- **Support the infrastructure sector** by stimulating the emergence of innovative space applications and services with high market potential.
- **Improve efficiency** in the selected domains within the infrastructure sector through allowing lower costs, better capacity management and increased output while reducing environmental footprint.
- Increase the **resilience** of the infrastructure with more accurate resilience models and reducing the impact of disruptive events.

Air, Land and Sea Transport Infrastructure:

Opening Date: 6th July 2023

Closing Date: 27th October 2023

Accepting both Feasibility Studies and Demonstration Projects.

Air, Land and Sea Transport Infrastructure – The Power of Space

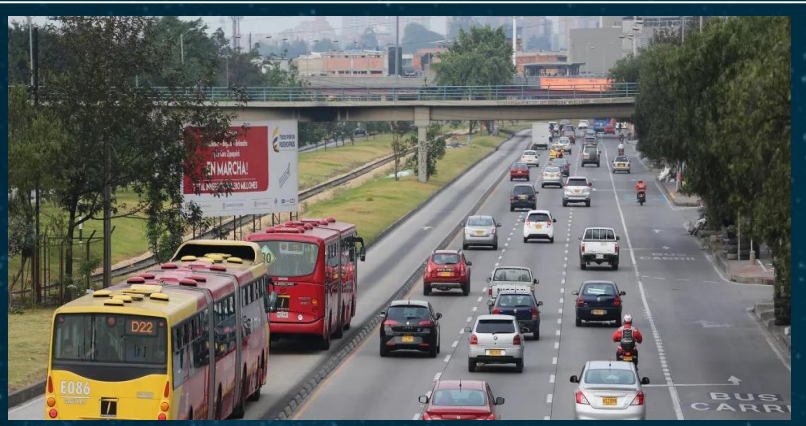
Satellite Communications (SatCom) enables the provision of ubiquitous connectivity to enhance the communication links, connectivity of IoT devices, support for remote locations. In addition, satellite communications can provide real-time, long-range communications with infrastructure monitoring systems (i.e. UAVs/robots/remote assets).

Global Navigation Satellite Systems (GNSS) can be used to enable geo-referencing of in-situ data, as well as navigation and tracking of vehicles, people and goods; PNT. GNSS-based technologies can be used for time-stamping reference system information, ensuring the traceability of the data.

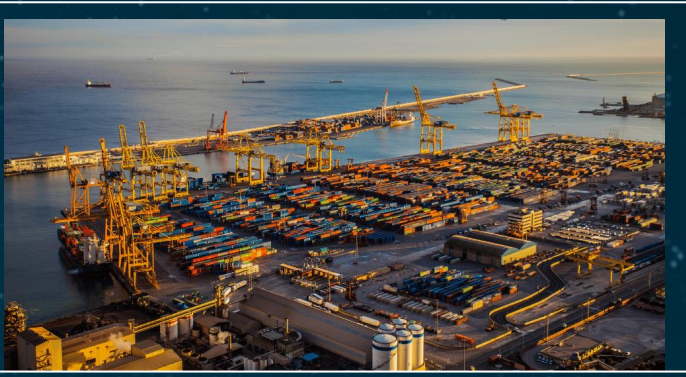
Satellite Earth Observation (satEO) can be used for the monitoring of the status of the working sites, the planning, construction and maintenance of the infrastructure, collecting information on geographical and environmental parameters for the sustainability analysis, integration of environmental data; identification of patterns and trends that may be linked to infrastructure safety risks, and provide insights into how to best address them.

Air, Land and Sea Transport Infrastructure – Use Cases

- Airport Digital Twin
- Regular Airport Georeferenced Surveys
- Monitor of Airport Construction and Surroundings in “Real-Time”
- Monitoring the environmental impact of airports



- Real-time Urban Monitoring System for the efficient management of emergency situations
- Hydrogen refuelling infrastructure
- Demand responsive transport and route optimisation



- Planning and monitoring of dredging operations
- Port infrastructure monitoring
- Monitoring of port ecosystem activities

Activities are just not limited to these use cases. ESA welcomes new use cases from industry.

Marco Franza

Iveco Group


IVECO • GROUP
WE GO BEYOND

IVECO GROUP KEY FIGURES

8
Brands

28
Plants

29
R&D Centres

34,000
Employees

5,281
Patents

OUR VISION

IVECO BUS

Reshaping our business and driving a shift in the value chain from product only to integrated transport solutions

SUSTAINABILITY

Leader in low emissions transport solutions with a strong commitment to sustainable mobility

- ZERO EMISSION SOLUTIONS
- MOBILITY ECOSYSYEM
- «4R» APPROACH

SERVITIZATION

Services & Digitalization are the enablers of future autonomous operation

- CONNECTIVITY AS A STANDARD
- TELEMATICS & FLEET MANAGEMENT
- ASSISTED & AUTONOMOUS BUS

USE CASE 1- HYDROGEN REFUELLING INFRASTRUCTURE AVAILABILITY

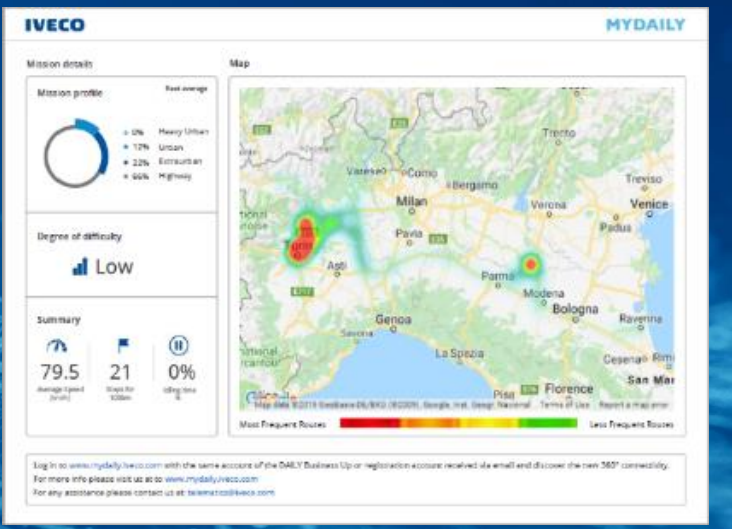
IVECO BUS

NEED

- Users of Fuel Cell Vehicles (FCVs) need information about refuelling stations in their proximity and on hydrogen availability

Satellite data can assist users of hydrogen-powered vehicles in identifying the most optimal recharging station based on factors such as distance, traffic conditions, hydrogen availability and real-time updates on station capacity

The integration of satellite data such as GNSS, earth observation or satellite communication into potential solutions will support users in making informed decisions, stimulate the uptake of hydrogen-powered vehicles, while supporting the growth and expansion of the hydrogen charging infrastructure



USE CASE 2- DEMAND RESPONSIVE TRANSPORT AND ROUTE OPTIMIZATION

IVECO BUS

NEED

- Public transport operators manage transport in a rigid and ineffective way impacting on operation cost and customer satisfaction.

Satellite navigation provides positioning and navigation solutions to vehicles and can also be used to assess the flow of traffic through speed monitoring of vehicles. In addition, for the passenger user group, navigation can be used to provide a positional fix for pick-up/drop-off locations.

Satellite communication can be used to communicate to vehicles to provide updates to vehicles operating in rural settings where terrestrial cellular networks are not available.
Weather data can be one of the parameters to give an additional layer of information to support decision making for alternative routes.

How to Apply

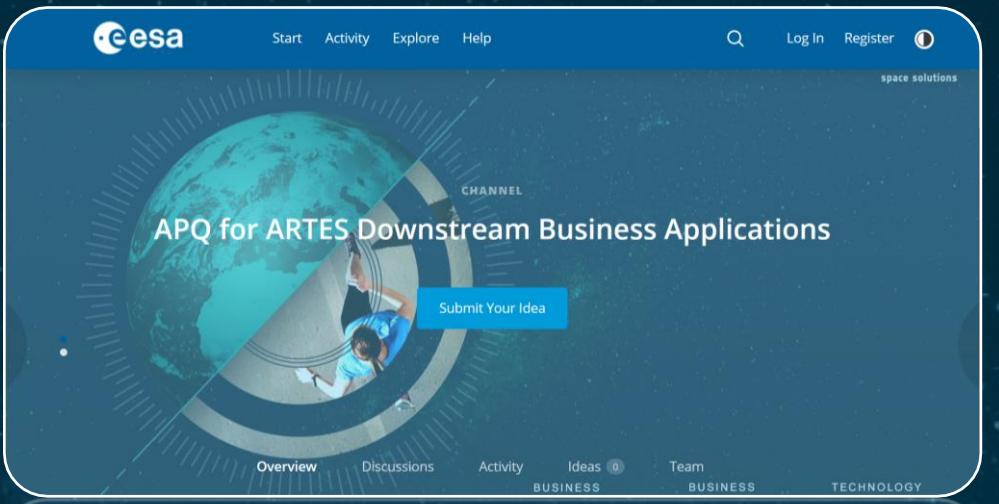
Air, Land and Sea Transport Opening Dates:

6th July-27th October 2023

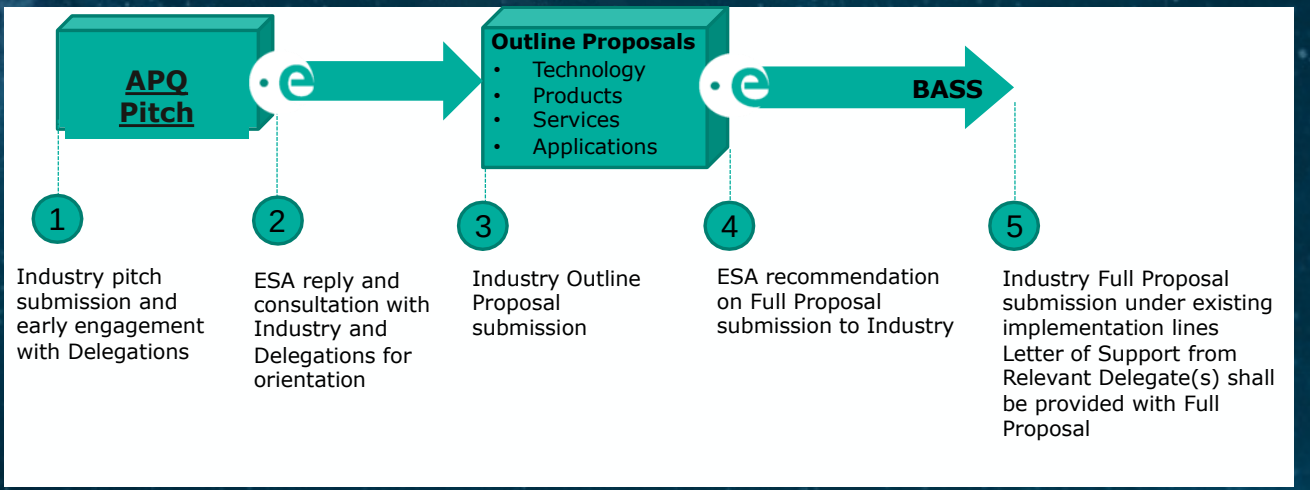
Things you will need to do:

- Submit your APQ pitch via ESA's Open Space innovation platform in the "APQ for ARTES Downstream Business Applications". Making it clear you are applying as part of the "Space for Infrastructure Thematic Call".
- If successful, you will be asked to submit an outline proposal and then (if acceptable) a final proposal (and dependent on national delegation support).

Please do not wait until the end of the opening period to apply! We will be reviewing proposals regularly throughout the opening period.



https://ideas.esa.int/

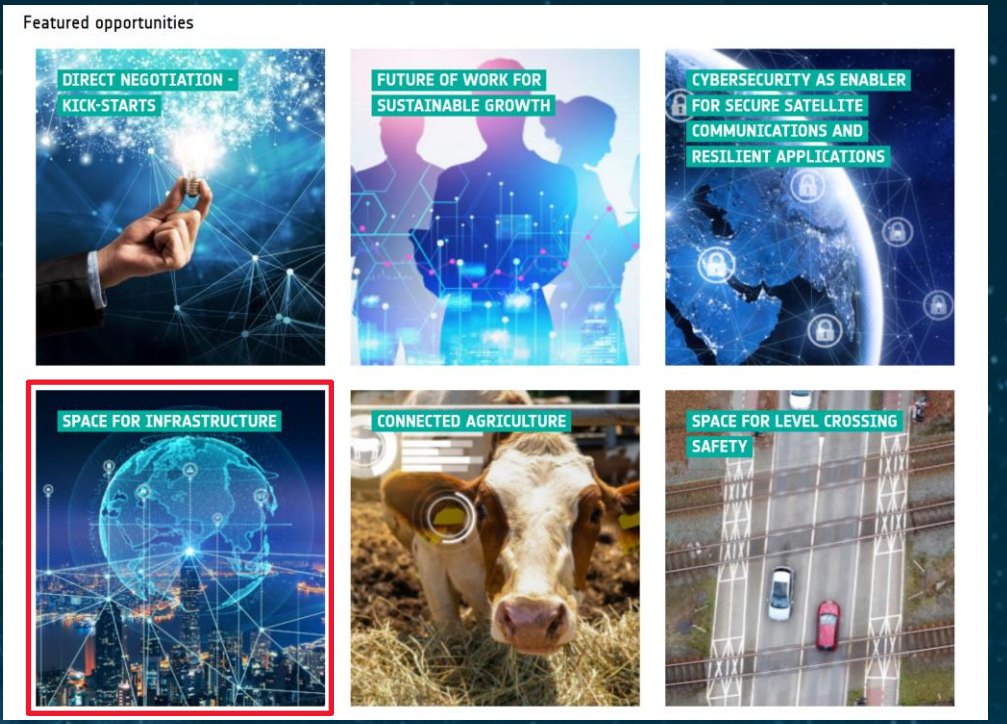


Where to find the Details

For more information see: business.esa.int

- Scroll down to the "Featured Opportunities" section to see all activities open or under preparation.
- Open the "Space for Infrastructure" Page
    - This page discusses the overall thematic call.
- Look for sub-theme 1 within the "Space for Infrastructure" webpage – "Air, Land and Sea Transport Infrastructure"

https://business.esa.int/funding/intended-tender/thematic-call-air-land-and-sea-transport-infrastructure



1. **Sub-theme 1: Air, Land and Sea Transport Infrastructure**
2. Sub-theme 2: Energy (upcoming)
3. Sub-theme 3: Water Management (upcoming)
4. Sub-theme 4: Digital (upcoming)
5. Sub-theme 5: Sport. Cultural and Educational (upcoming)
6. Sub-theme 6: Health (upcoming)

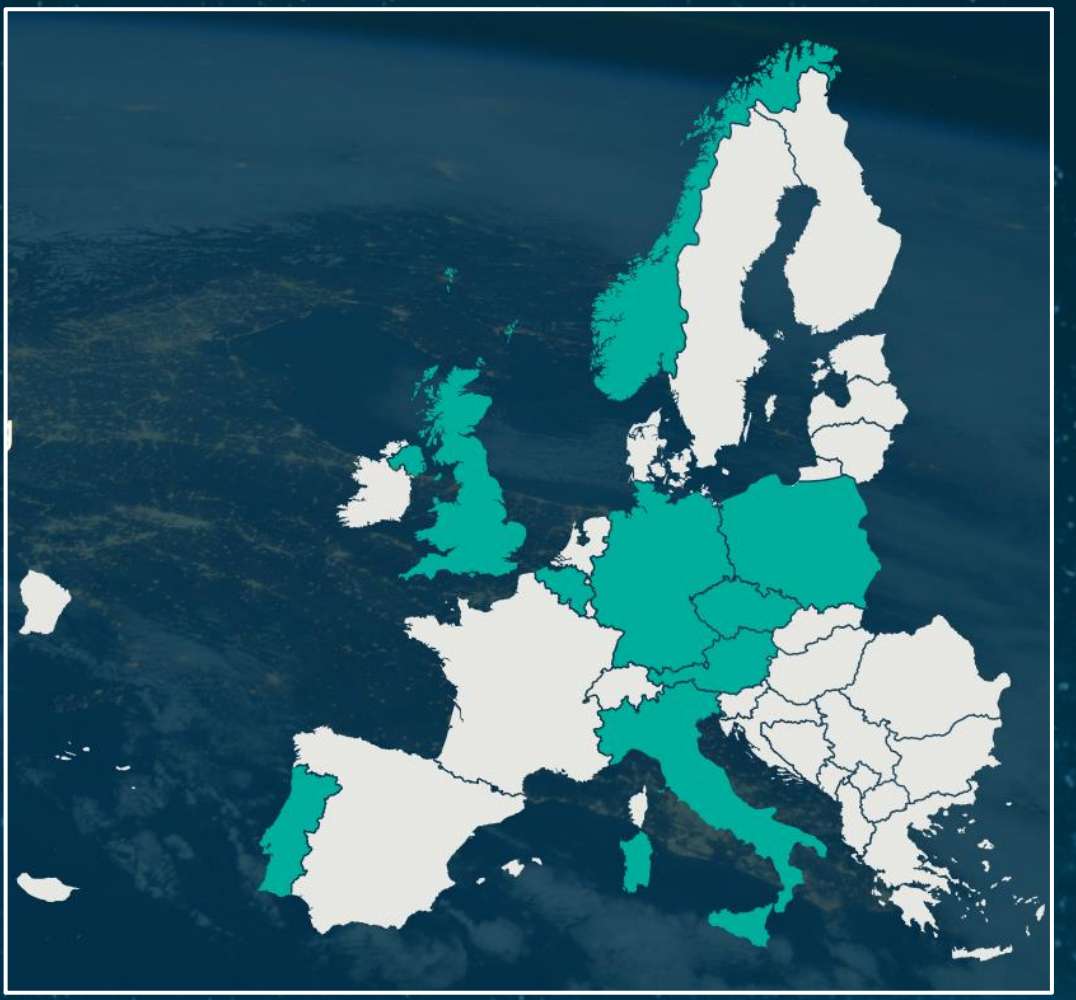
A tool at your disposal – The Ambassador Network

Ambassadors are present in 9 countries

They are your local interface for any questions related to the offering of ESA Space solutions.

They can advise you on:

- Preparation of the Activity Pitch Questionnaire (APQ)
- Give you an overview of ESA Space Solutions funding opportunities.



https://business.esa.int/ambassador-platforms

Q&A

For more information visit:

- https://business.esa.int/
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