Enhancing Port safety and Efficiency through Space

Call for Proposals (Non-competitive)

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Welcome to the webinar

Before we start…

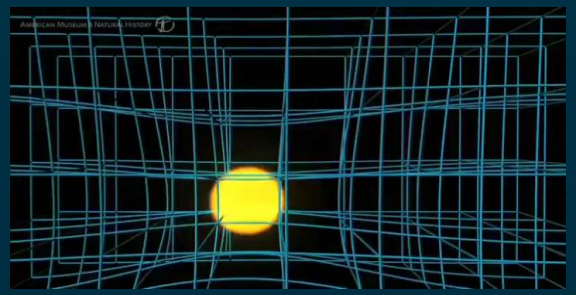
- Please keep your microphones muted during the webinar and make sure your webcam is switched off.
- You can use the conversation function anytime to submit your questions. They will be addressed during the Q&A at the end of the webinar

Agenda

- ESA Welcome and **Introduction**
- About ESA Business Applications
- About the Opportunity: **Enhancing Port Safety and Efficiency through Space**
- Our Guest Speaker:
  - Mike Dawson – Belfast Harbour Authority
- **How to Apply** to the competition
- **Q&A** Session

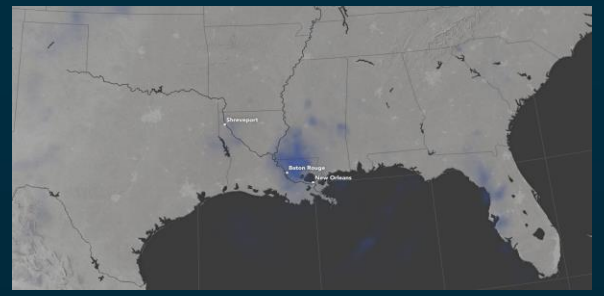
European Space Agency's Four Main Pillars

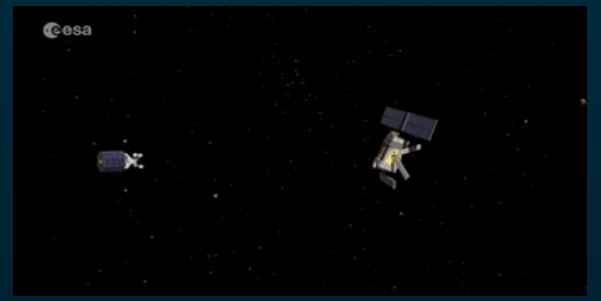
Science and Exploration



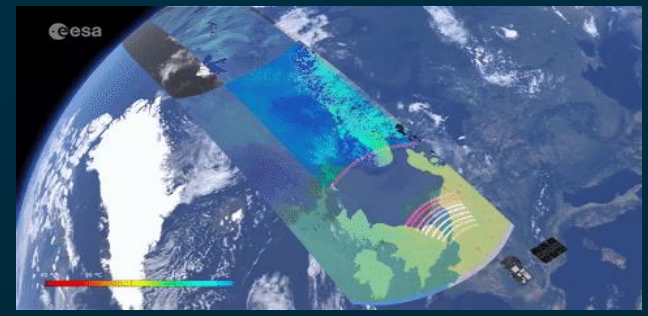
Enabling and Support

Safety and Security





Applications



Business Applications: Space-enabled services

- BASS aims at reaching **commercial exploitation of space assets, data and capabilities** addressing
- **technical feasibility and business development**. This includes the development **of operational services for a wide range of users** through the combination of different
- systems, and **support in creating viable companies as well as to existing companies**

What's in it for us?

SOCIO-ECONOMIC IMPACT

Deliver social value and economic sustainability

USE OF SPACE TECHNOLOGY

Expand the utilization of space in new markets and user communities

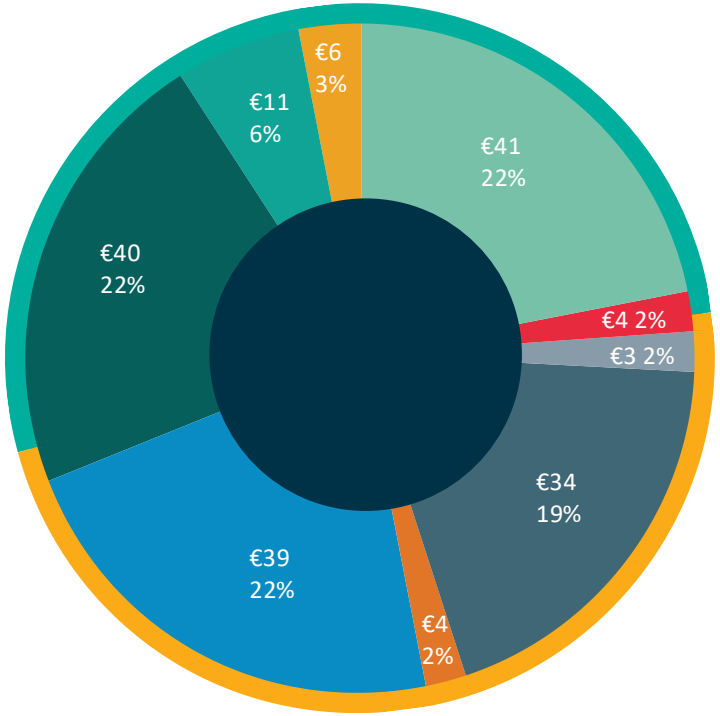
INDUSTRY COMPETITIVENESS

- Strengthen European Industry competitiveness on the global space and non-space markets

What can BASS offer to companies?

- Our aim is to work together to make your idea commercially viable, with:

Environmental Benefits



- Green Buildings and Sustainable Cities
- Clean Water
- Protecting Ecosystems
- Sustainable Farm to Fork
- Circular Economy
- Energy Transition
- Sustainable Tourism
- Green Finance
- Sustainable Mobility

183 M€ Investment in 300 BASS Green Activities since 2010

Societal Benefits

355 MEUR
total investment in over
300 demonstration projects

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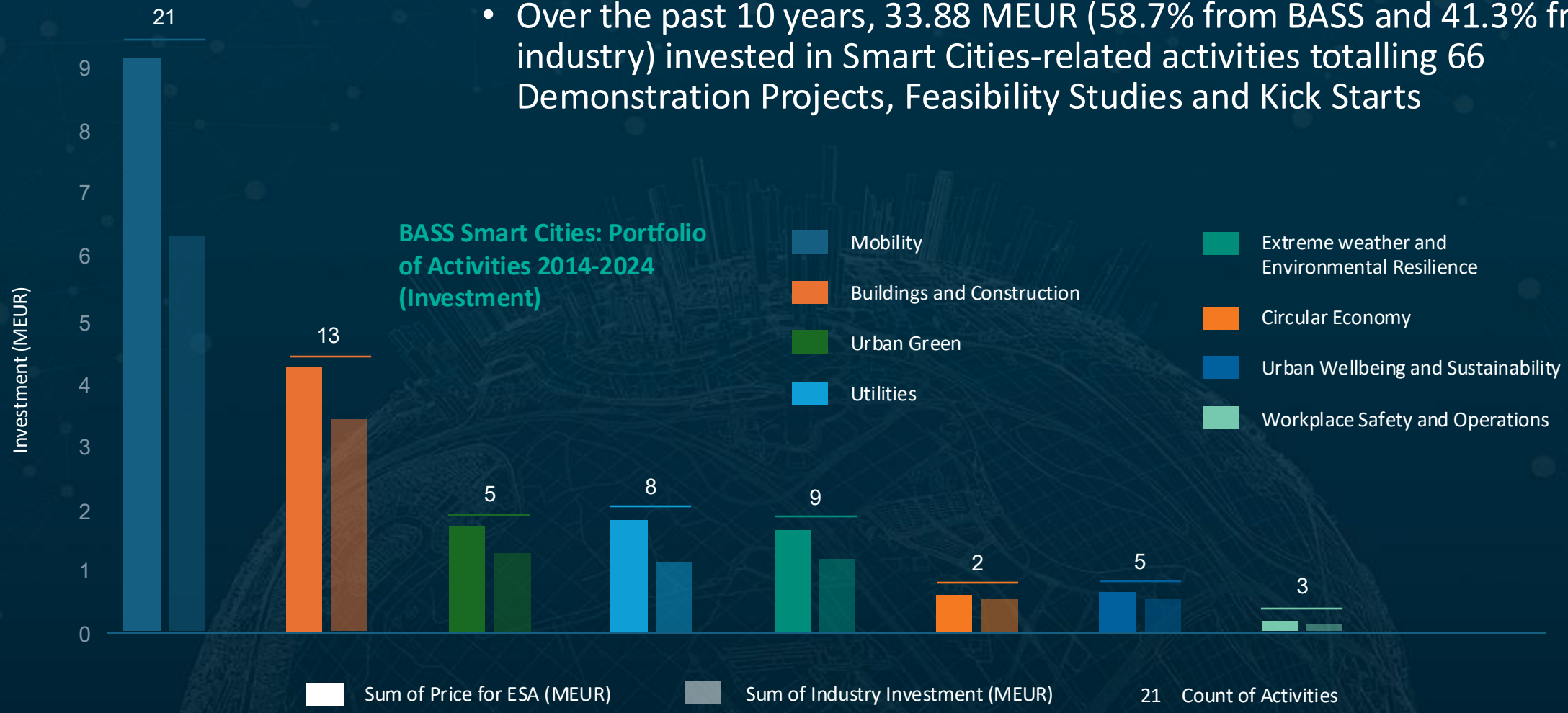
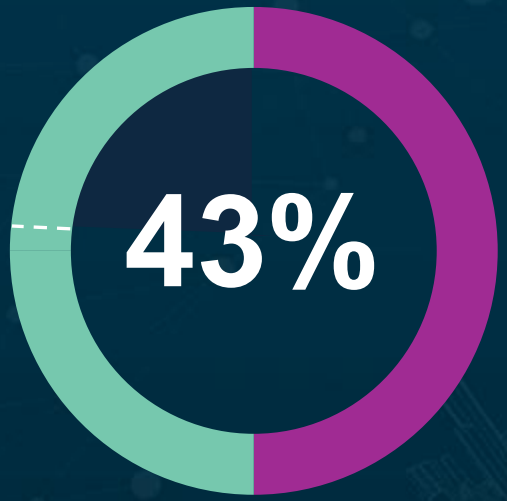
Investment from BASS

- Over the past 10 years, 33.88 MEUR (58.7% from BASS and 41.3% from industry) invested in Smart Cities-related activities totalling 66 Demonstration Projects, Feasibility Studies and Kick Starts

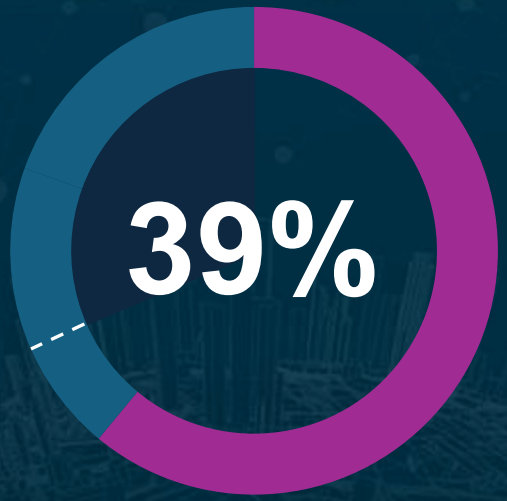


Impact for European Industry



Companies new to BASS

SMEs



Companies new to BASS

SMEs

Smart Cities Sector

43% of SC projects have been implemented by companies that are new to BASS and nearly half (46%) were classified as SMEs.

BASS Programme

In comparison, 39% of companies supported by the BASS Programme as a whole are newcomers, and 70% are classified as SMEs.

The Smart and Green Cities initiative is attractive for both SMEs and corporates and equally appealing to entities that want to explore business opportunities in the downstream sector for the first time.

Half of the projects have been able to sell during the pilot.

Maritime Sustainability Task Force

Maritime Sustainability Task Force

The focus of the Task Force is on enhancing the environmental sustainability of the maritime sector. This includes, but it is not limited to, measures that alleviate the impact of greenhouse gas emissions, air pollution, water pollution, noise pollution, and the spread of non-indigenous species.

- Promote developments
- Facilitate adoption and scale up.
- Establish partnerships
- Reach out to non-space communities
- Support pre-operational demonstrations

Task Force Members

DNV

Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping

Wallenius Wilhelmsen

IWSA International Windship Association

OCEAN AUTONOMY CLUSTER

msc

GRIMALDI GROUP

ONE SEA

TMA BlueTech

DAMEN

EMSA European Maritime Safety Agency

esa

Enhancing Port safety and Efficiency through Space

Enhancing Port Safety and Efficiency through Space - Thematic call

The "Enhancing Port Safety and Efficiency through Space" call aims to support the study and development of space-enabled commercial services to focused on increasing the safety of the personnel during ports related operations, enhancing the security measures, automating the operations and making the movement of passengers and goods more efficient. The Thematic call is prepared jointly with Belfast Harbour Commission.

Belfast Harbour

This Call for Proposals welcomes submissions for Feasibility Studies and Demonstration Projects.

Stakeholders who have expressed interest include the Smart City Task Force and the Maritime Task Force.

Challenges

- Ports face various challenges: congestion, infrastructure limitations, safety and security, digitalization, connectivity and environmental concerns.
- These challenges can lead to delays, disruptions, and increased costs.
- Ports worldwide are increasingly implementing policies and strategies that enhance the efficiency, the safety and security recognising the added value offered by digitalisation and related technologies.
- Innovative solutions to enhance the marine environment monitoring and operational efficiency, bolstering safety and security measures are relying on the seamless connectivity within the port digital ecosystem and on the integration of the diverse platforms and vehicles into a cohesive system

Enhancing Port Safety and Efficiency through Space – Use Cases

The call offers an unique opportunity for companies to develop new applications /services addressing topics such as:

-Port safety: Ensuring the safety of personnel during operations, the safety of the ships and for the duration of their stay in the port, with potential emergency response systems.

-Port Security: Protecting ports, cargo, and personnel from threats like terrorism, theft, and vandalism, while ensuring treaty compliance.

-Port Automation: Autonomous vehicles like terminal tractors enhance transport efficiency and safety using sensor fusion for informed decisions.

-Passenger Movement: Autonomous vehicles alleviate congestion by offering safe and efficient travel options to nearby airports or stations.

- Goods Movement: Port automation speeds up container handling, improves logistics predictability, boosts fuel efficiency, and reduces emissions.

Enhancing Port safety and Efficiency through Space

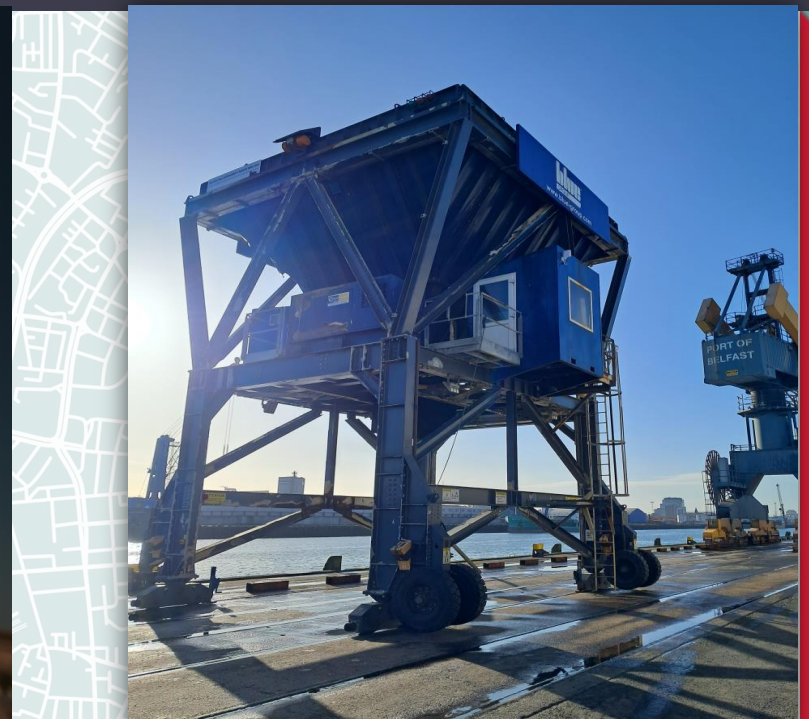
Guest speaker Mike Dawson

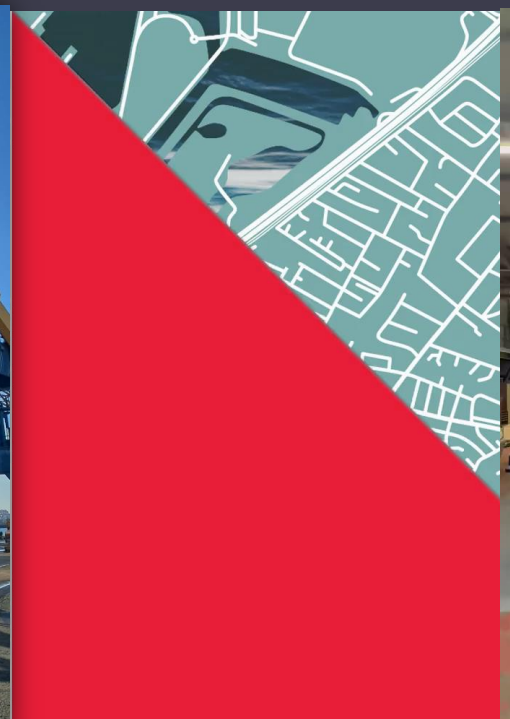
People and Corporate Services Director

Belfast Harbour Authority

Belfast Harbour

Innovation & Transformation





Belfast Harbour – Our Context

- Belfast Harbour is **self-funded,** reinvesting assets to sustainably **operate, maintain and develop** our Port and Estate for all
- Our thriving Harbour Estate is at the heart of Belfast's Innovation District and is home to 760+ businesses
- Building on 175 years of history, our vision is transforming and developing a **21st Port and Estate** for future generations

Belfast Harbour – Our Context

- **70%** of NI seaborne trade
- **£374m** invested since 2014
- **300,000** cruise visitors every year, bringing **£20-25m** to NI
- Only **deepwater facility** for offshore wind on the island
- Diversifying to **film studios & placemaking**
- Ahead of target to reach **net zero** by 2030

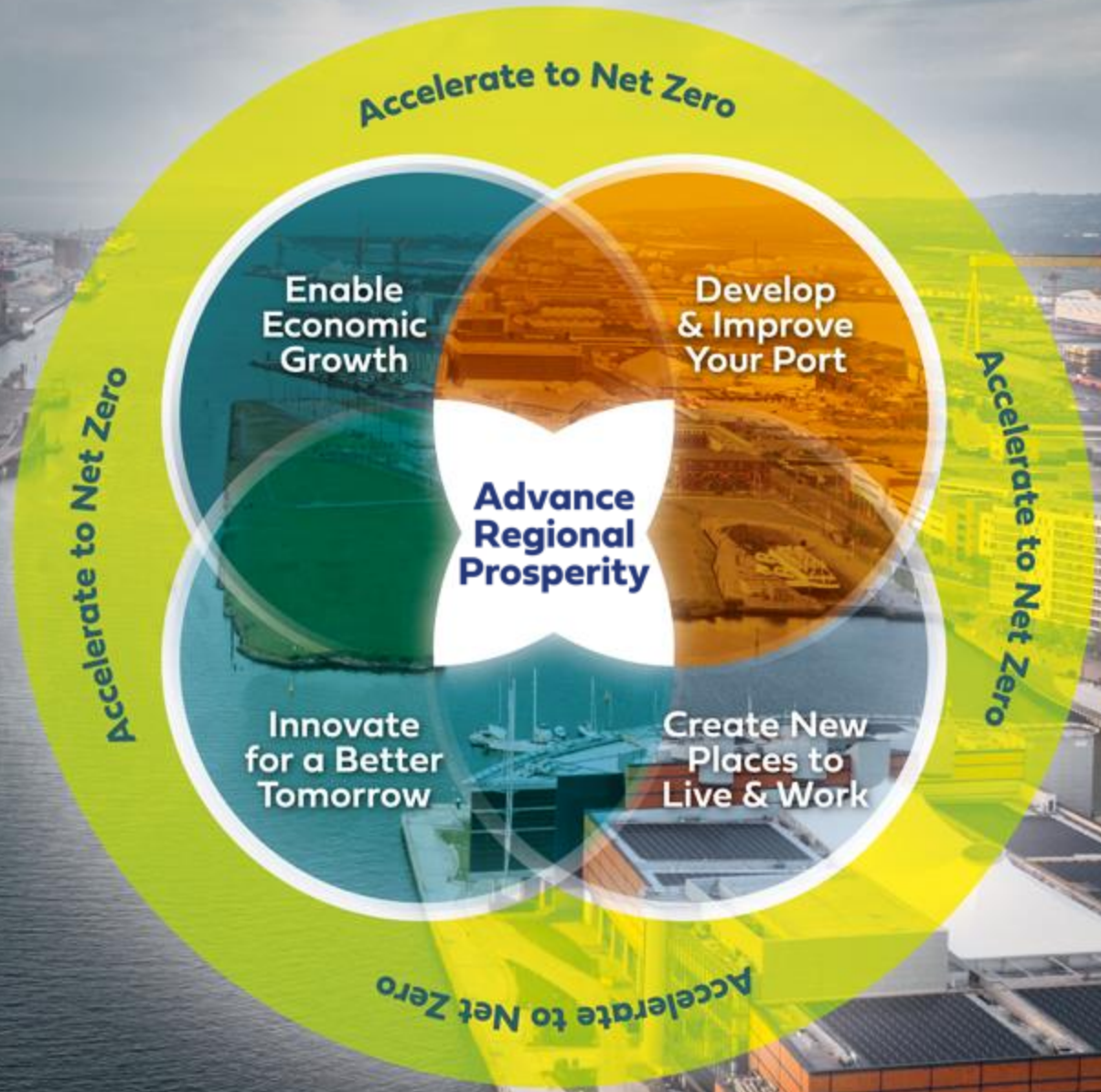
Belfast Harbour

Our strategy for 2025-29 supports our vision to be a gateway to opportunity for Northern Ireland.

Our purpose for the next five years is to develop Belfast Harbour to **advance regional prosperity.**

We pursue these goals to help deliver the ambitions of the NI Executive, Belfast City Council, our customers and our stakeholders.

As we do so, we will encourage growth, sustainability, and community wellbeing.



Our Trust Port status and diverse portfolios are key strengths

Passenger traffic

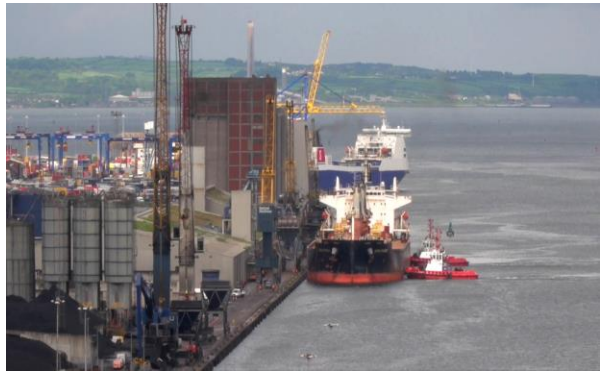
Cruise

Real Estate

Cargo & Freight

Studios

Tourism and Leisure



Building Port Connectivity Infrastructure

Belfast Harbour

Building Port Connectivity Infrastructure

Belfast Harbour

Belfast Harbour

HARLANDER

A Vision Realised

- Northern Ireland’s first operational self-driving public transport service
- Real-world deployment on mixed-use roads – not a testbed, but a blueprint

Backed by UK Government

- Funded through CCAV and Innovate UK – £11M combined investment
- Supports UK Automated Vehicles Act 2024 – paving the way for commercial autonomous services
- Delivering key evidence for UK-wide rollout and regulation

HARLANDER

DRIVE CHANGE

Harlander will accelerate the introduction of UK autonomous public transport services

- Open to staff from June 2025
- 1.3mile route
- 9 seats
- Titanic Rail Halt - Catalyst Park
- June – end of September
- Website, socials, Tik-Tok

HARLANDER
DRIVE CHANGE

The Challenge

- Innovative 'last mile' passenger service to our commercial, industrial and tourist venues, linking Titanic Rail Station into the Harbour Estate

Purpose:

- Encourage modal shift and reduce emissions and traffic
- Build public confidence and understanding of autonomous transport
- Close the gap with global leaders in autonomous transport.

Project objectives:

- Prove operational and commercial viability of service
- Build confidence with public and passengers
- Accelerate NI and UK roadmap

Disruptor on autonomy services working with best suppliers

Innovation on unattended public transport

Education with local universities and employees

- L2 – non-commercial
- Weakness in supply chain
- Not unattended
- Lack of appetite from current operators

HARLANDER
DRIVE CHANGE

L4 Operator devt

First service

L4 services operating in in Belfast Harbour Estate 2029

Airport

Cruise

Public Transport

Determination to deliver L4 services on the estate

Infrastructure

Civils: install traffic lights, bus stops

Road rules: dedicate lanes, policing

Digital: 5G + CCTV

Regulatory: L4 ahead of AVA

Project Sunflower – Terminal Tractor Autonomy

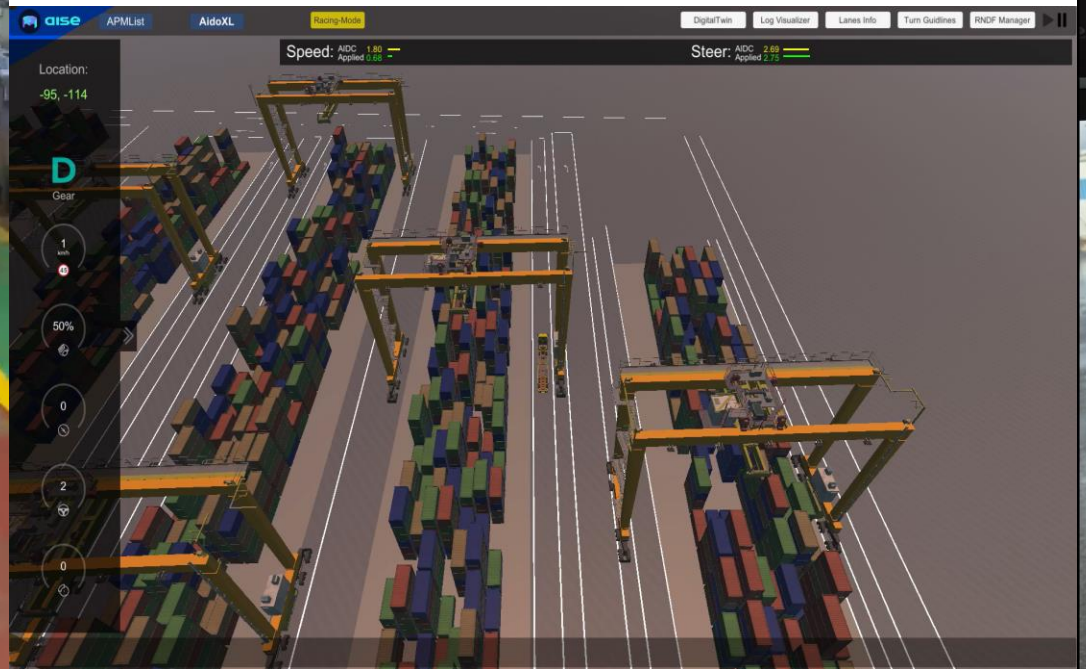
3 Objectives of Project:

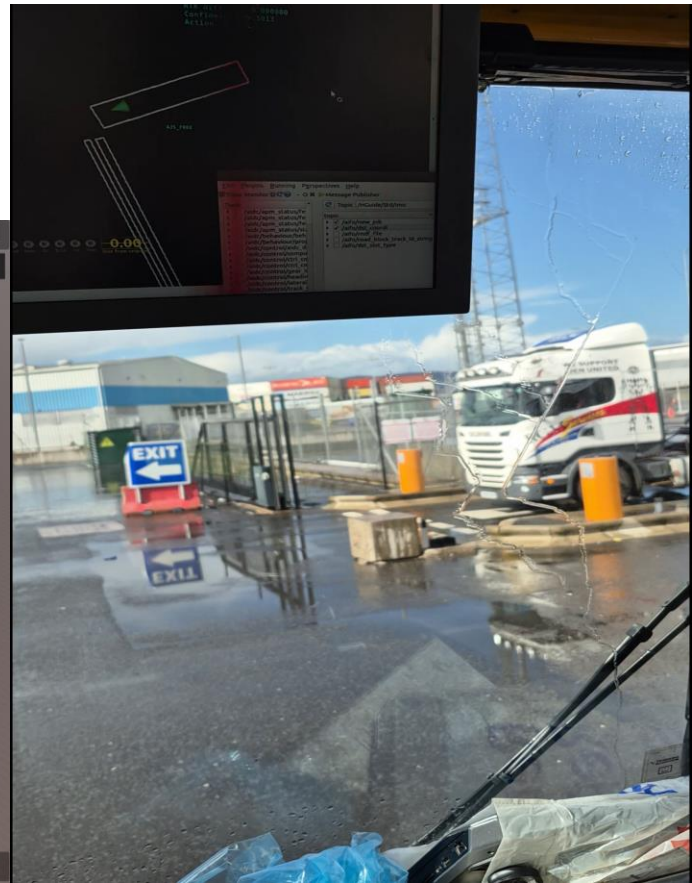
- Environmental impact of Terminal Tractors in Container Yards
- Autonomous Technology Integration
- Operational efficiency

Outputs

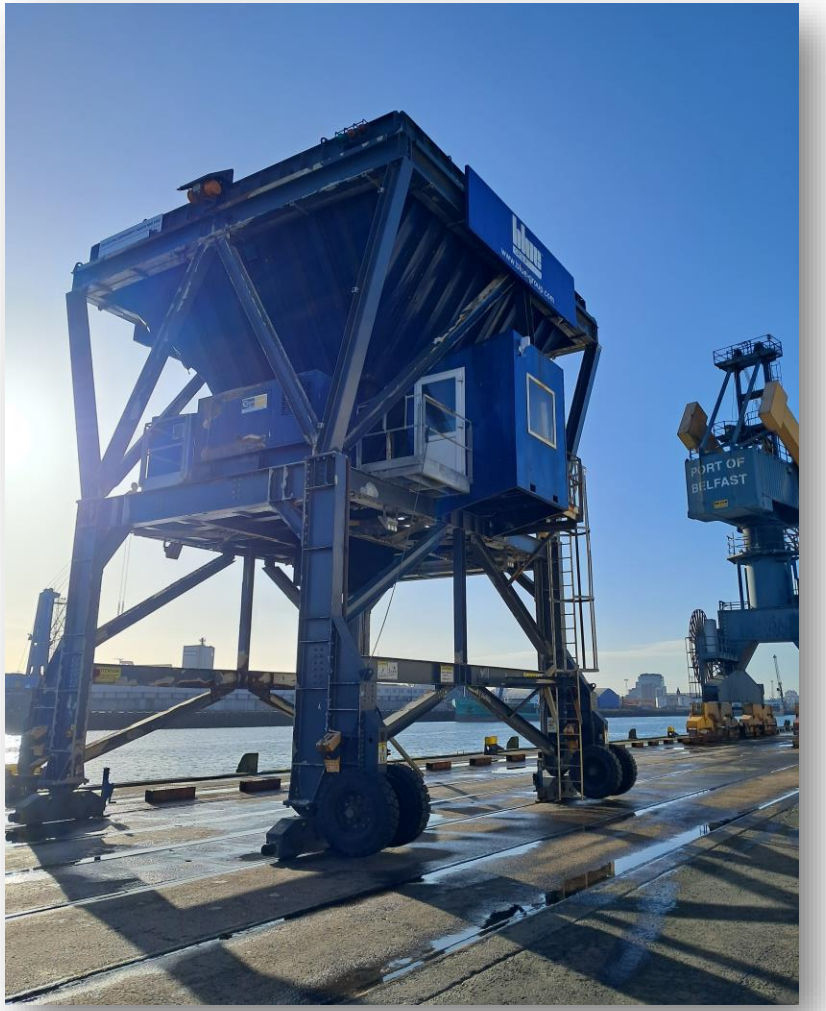
- Business case for autonomy in container terminals
- BCT opportunity where yard is closed

at night enabling regional port transformation





Objectives of 5G Trial - Hoppers



- Enables innovative use cases to be investigated to both learn and understand the capability of the 5G network in a live environment.
- Hoppers are currently a ‘Dumb’ asset where no data is transferred. This be changed to being a ‘Smart’ asset with the installation of sensors.
- These sensors can be used to operate the asset remotely, if desired.
- This study is to investigate the use of sensors and the control of the hopper remotely.

BHC: "Commercial & Operational Validation Environment"

NOT a testing ground – everything must have a proven safety case

Make Belfast a centre for autonomy innovation

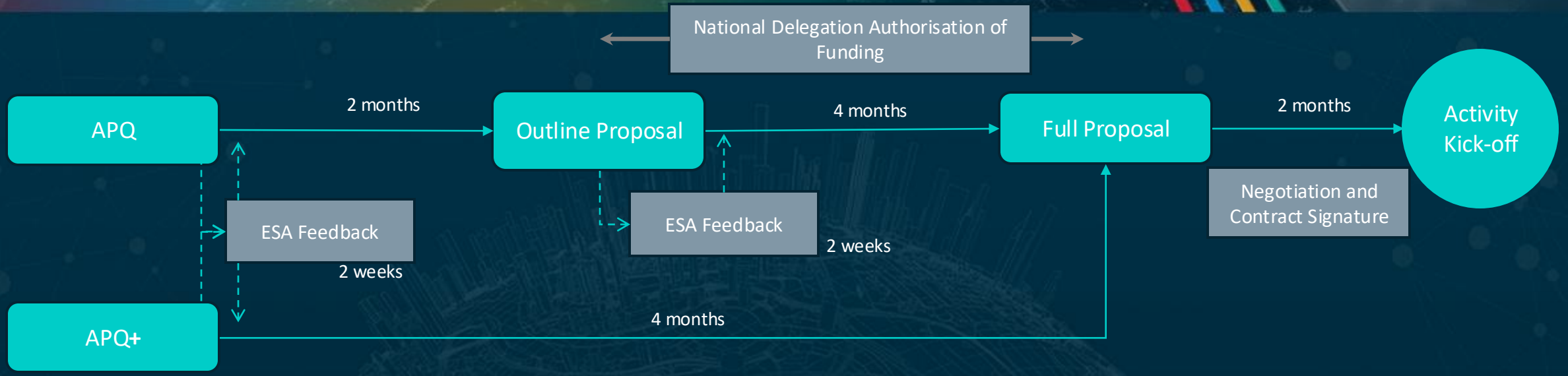
'Smart Port' use cases across land, maritime, aviation:

- Further Harlander routes
- Drone applications
- Cargo handling

Physical & Digital Infrastructure:

- 5G private & public networks
- Data exchange & analysis
- Smart traffic & CCTV networks

How to apply – process

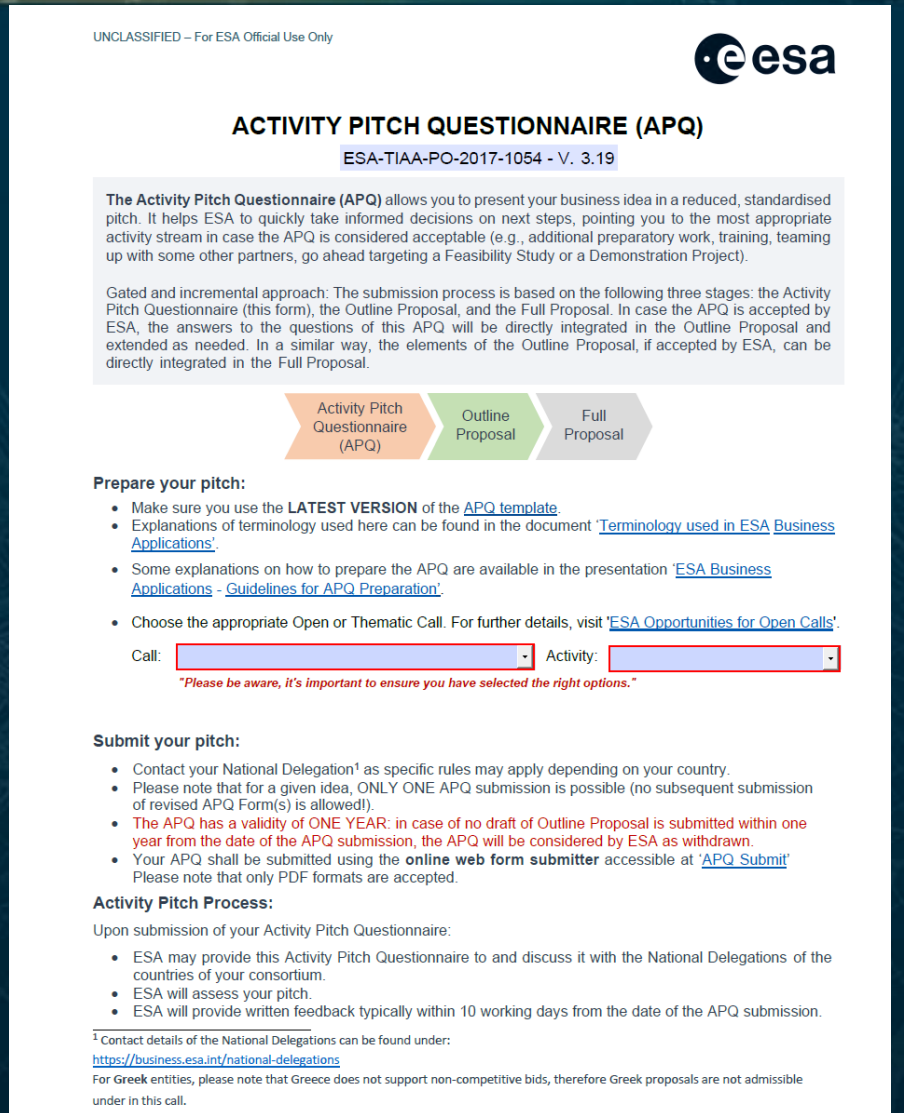


- Incremental procurement approach: APQ is the starting point – max. 8-page document with a standard template to present WHAT, WHY, HOW
- The APQ+ may substitute the outline proposal as an alternative entry point for mature propositions only
- Multiple Pitches with different ideas can be submitted
- Standard templates for proposals and deliverables before and during activity implementation

How to apply – Activity Pitch Questionnaire (APQ)

1. (**WHO**) Company Background Information
2. (**WHAT**) do you want to offer your customers and what is the added-value?
3. (**WHY**) Who are the target beneficiaries addressed by your offer, and what is the expected impact?
4. (**HOW**) How do you intend to implement?

(OPTIONAL) APQ+ Fast-Track Questions



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ACTIVITY PITCH QUESTIONNAIRE (APQ)

ESA-TIAA-PO-2017-1054 - V. 3.19

The Activity Pitch Questionnaire (APQ) allows you to present your business idea in a reduced, standardised pitch. It helps ESA to quickly take informed decisions on next steps, pointing you to the most appropriate activity stream in case the APQ is considered acceptable (e.g., additional preparatory work, training, teaming up with some other partners, go ahead targeting a Feasibility Study or a Demonstration Project).

Gated and incremental approach: The submission process is based on the following three stages: the Activity Pitch Questionnaire (this form), the Outline Proposal, and the Full Proposal. In case the APQ is accepted by ESA, the answers to the questions of this APQ will be directly integrated in the Outline Proposal and extended as needed. In a similar way, the elements of the Outline Proposal, if accepted by ESA, can be directly integrated in the Full Proposal.

Activity Pitch Questionnaire (APQ) → Outline Proposal → Full Proposal

Prepare your pitch:

- Make sure you use the **LATEST VERSION** of the APQ template.
- Explanations of terminology used here can be found in the document 'Terminology used in ESA Business Applications'.
- Some explanations on how to prepare the APQ are available in the presentation 'ESA Business Applications - Guidelines for APQ Preparation'.
- Choose the appropriate Open or Thematic Call. For further details, visit 'ESA Opportunities for Open Calls'.

Call: Activity:

"Please be aware, it's important to ensure you have selected the right options."

Submit your pitch:

- Contact your National Delegation[1] as specific rules may apply depending on your country.
- Please note that for a given idea, ONLY ONE APQ submission is possible (no subsequent submission of revised APQ Form(s) is allowed!).
- The APQ has a validity of ONE YEAR: in case of no draft of Outline Proposal is submitted within one year from the date of the APQ submission, the APQ will be considered by ESA as withdrawn.
- Your APQ shall be submitted using the **online web form submitter** accessible at 'APQ Submit' Please note that only PDF formats are accepted.

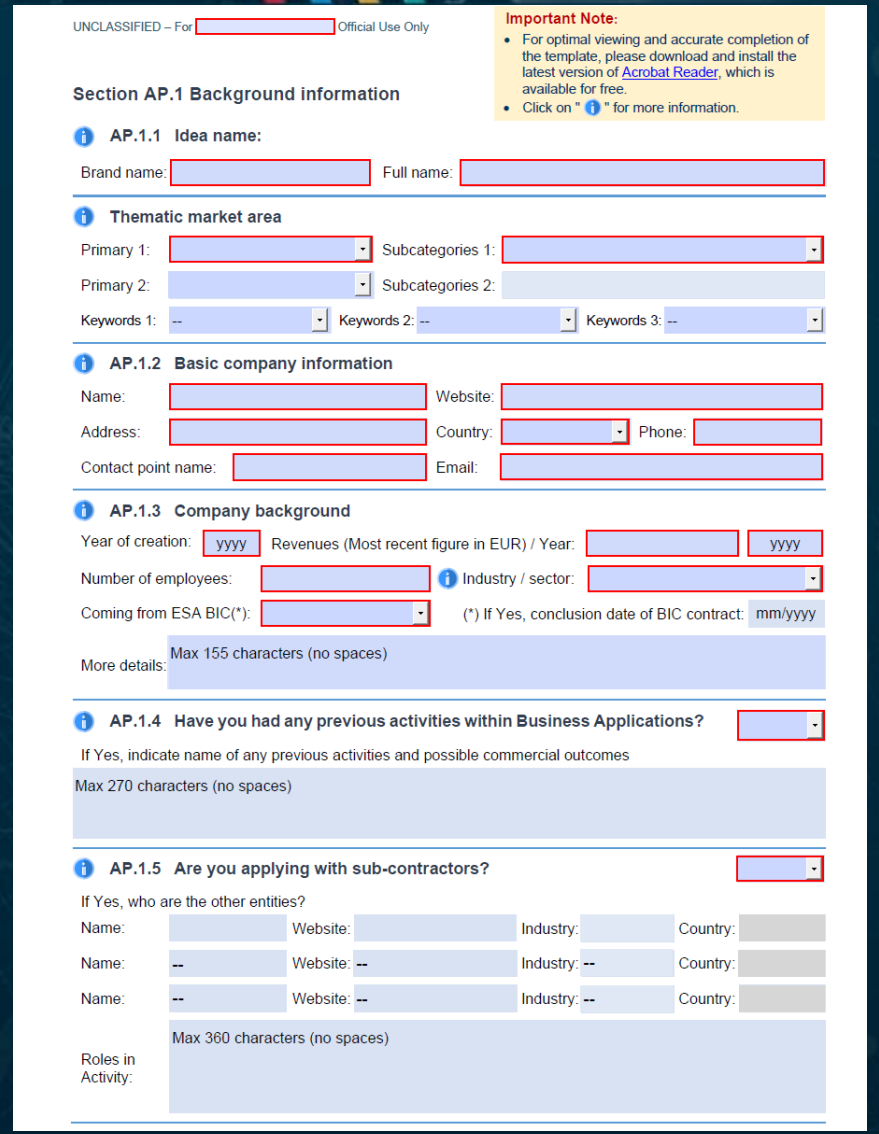
Activity Pitch Process:

Upon submission of your Activity Pitch Questionnaire:

- ESA may provide this Activity Pitch Questionnaire to and discuss it with the National Delegations of the countries of your consortium.
- ESA will assess your pitch.
- ESA will provide written feedback typically within 10 working days from the date of the APQ submission.

[1] Contact details of the National Delegations can be found under: https://business.esa.int/national-delegations

For **Greek** entities, please note that Greece does not support non-competitive bids, therefore Greek proposals are not admissible under in this call.



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Important Note:

- For optimal viewing and accurate completion of the template, please download and install the latest version of Acrobat Reader, which is available for free.
- Click on " " for more information.

Section AP.1 Background information

AP.1.1 Idea name:

Brand name: Full name:

Thematic market area

Primary 1: Subcategories 1:

Primary 2: Subcategories 2:

Keywords 1: -- Keywords 2: -- Keywords 3: --

AP.1.2 Basic company information

Name: Website:

Address: Country: Phone:

Contact point name: Email:

AP.1.3 Company background

Year of creation: yyyy Revenues (Most recent figure in EUR) / Year: yyyy

Number of employees: Industry / sector:

Coming from ESA BIC(*): (*) If Yes, conclusion date of BIC contract: mm/yyyy

More details: Max 155 characters (no spaces)

AP.1.4 Have you had any previous activities within Business Applications?

If Yes, indicate name of any previous activities and possible commercial outcomes

Max 270 characters (no spaces)

AP.1.5 Are you applying with sub-contractors?

If Yes, who are the other entities?

Name: Website: Industry: Country:

Name: -- Website: -- Industry: -- Country:

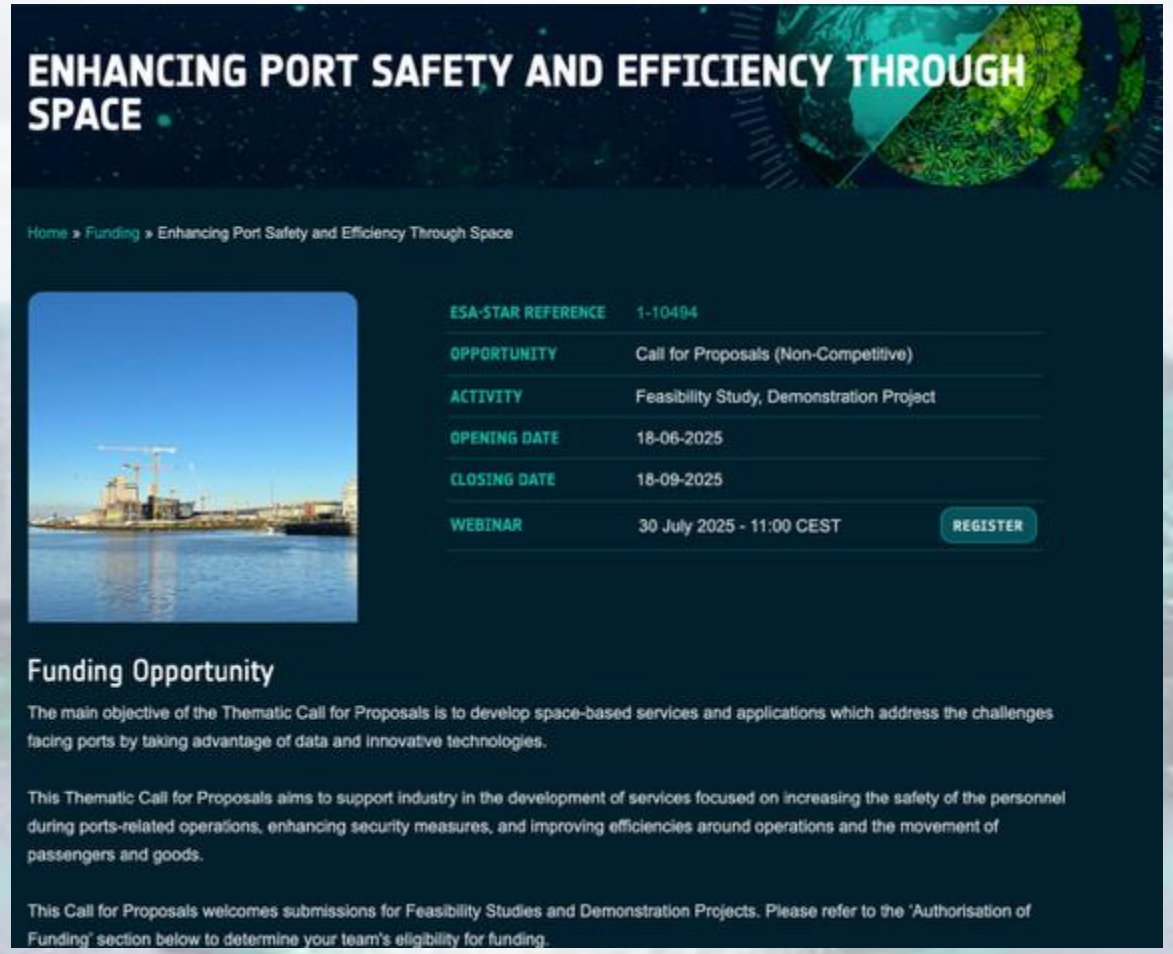
Name: -- Website: -- Industry: -- Country:

Roles in Activity: Max 360 characters (no spaces)

Authorisation from National Delegation

1. The authorisation form the National Delegation will be required for the submission of the Full Proposal (third step in the application process), thus it is a good idea to initiate a dialogue with your National Delegation early on.
2. Please note that funding is open to consortiums, however all organisations and businesses must be located in an ESA member state participating in the programme BASS
3. To date, these countries include Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Hungary, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Sweden, Switzerland, United Kingdom, Lithuania, or Slovakia.
4. The contact information of the National Delegations can be found at https://business.esa.int/national-delegations

Thank you for your attention: Q&A



Opening Date: 18th June 2025

Closing Date: 18th September 2025

Click here and visit

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