

ESA Business Applications & Space Solutions

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EUROPE'S GATEWAY TO SPACE

WHAT

22 Member States, 5000 employees

WHY

Exploration and use of space for exclusively peaceful purposes

WHERE

HQ in Paris, 7 sites across Europe and a spaceport in French Guiana

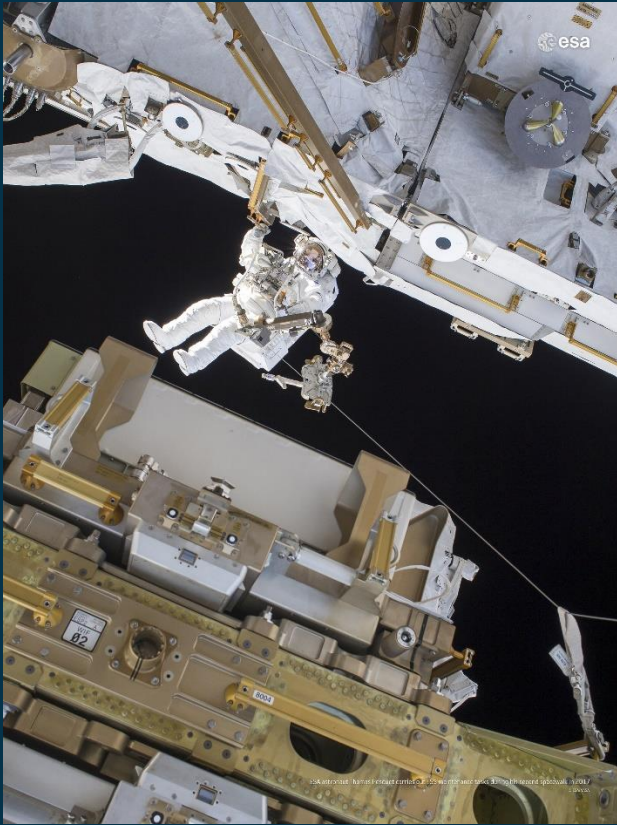
HOW MUCH

€6.68 billion = €12 per European per year



What do you picture when you think of space?

Maybe this?



But space can also be this...



How?

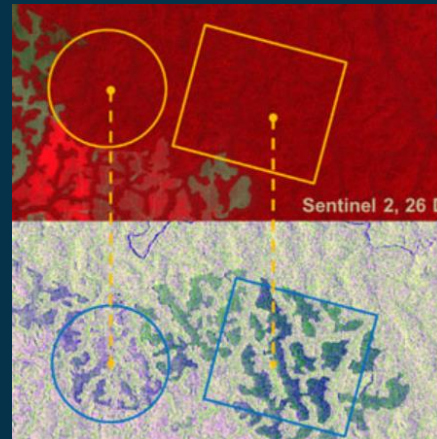
What we can 'see' from space



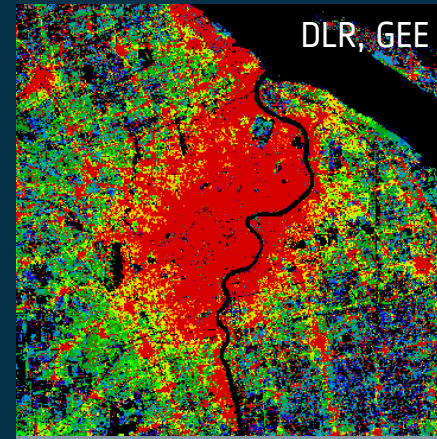
Deforestation monitoring



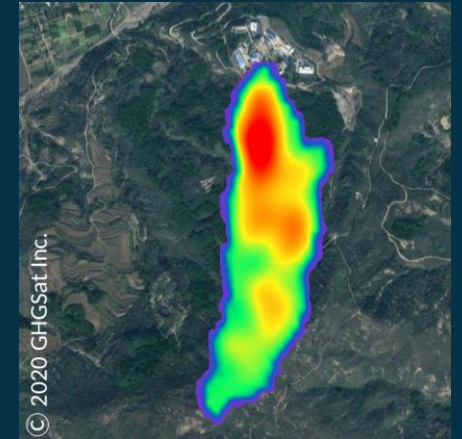
Land cover and vegetation growth



Change detection



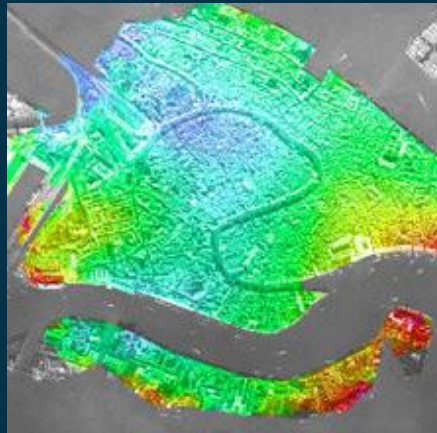
Settlement growth



Methane over coal mine, China



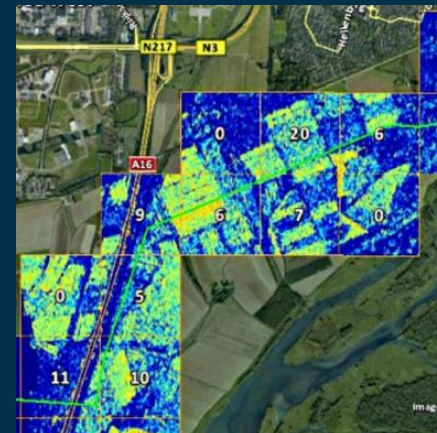
Water pollution



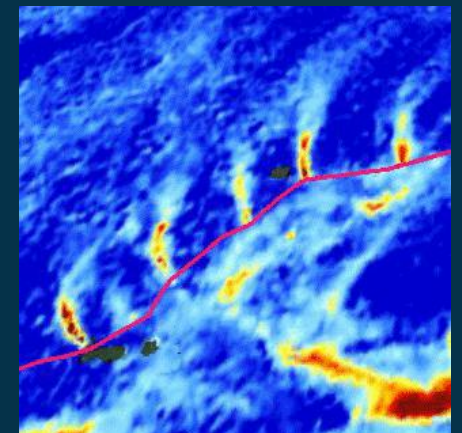
Ground subsidence in Venice



Crop identification



Monitoring pipelines



Nitrogen dioxide over Siberian pipelines

Space as a connectivity solution



Space can act as backup to terrestrial infrastructure



Reliable and secure communication



Transmitting data from in-situ sensors



Connecting remote locations

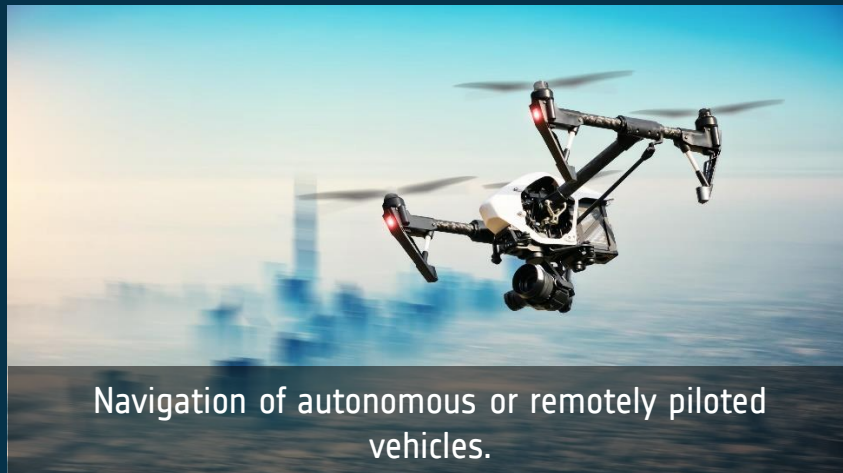
Space as a positioning and tracking solution



Tracking of resources/goods



Mobility and connected cars



Navigation of autonomous or remotely piloted vehicles.



Synchronisation and Time Stamping can be supported by GNSS solutions

How can we leverage innovation to deliver positive impact?

ESA BASS: space-enabled services

Using **any space asset(s)** and integrating them with terrestrial assets for the **benefit of life on Earth**



Business Applications: space-enabled services



3x SUSTAINABLE

Support social, environmental and economic sustainability integrated applications



USER-DRIVEN

Promote utilisation of space through partnering with user communities



INDUSTRY COMPETITIVENESS

Strengthen European Industry competitiveness on global markets



Space for non-space : Task Forces

ENERGY TASK FORCE

Launched in September 2022



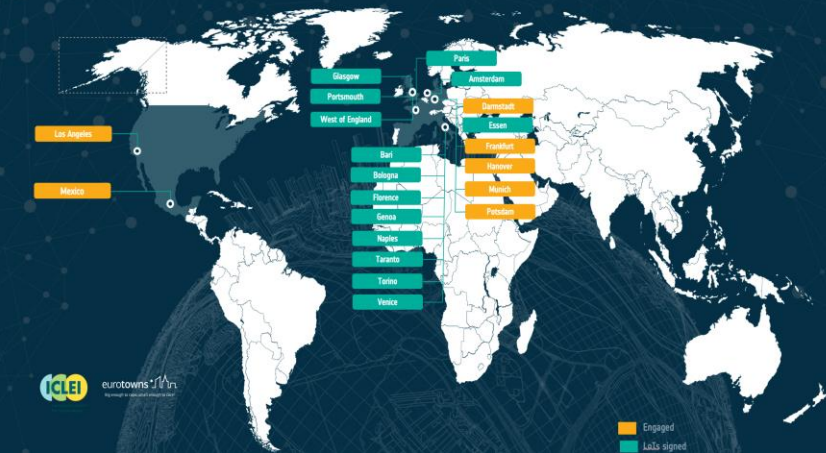
MARITIME TASK FORCE

Launched in January 2024



SMART & GREEN CITIES TASK FORCE

Launched in September 2023



Port Working Group

What does ESA BASS offer to smart airports and airport regions?



Satellite Navigation

Positioning and Navigation on a global/regional/local scale

Timing

(e.g. data from GPS, Galileo, SBAS, RTK, PPP)



Earth Observation

Effective way to **monitor land and infrastructure on a geographic scale**

Providing weather data

(Optical and radar data, e.g. Sentinel images or from commercial providers)



Satellite Communications

Providing **ubiquitous coverage**

Complementing/backing terrestrial communications

(IoT or broadband solutions)



Why space is relevant to airports

Airport surroundings monitoring (e.g. obstacle management, wildlife management)

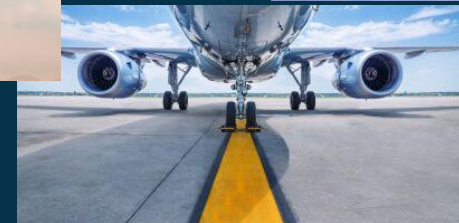
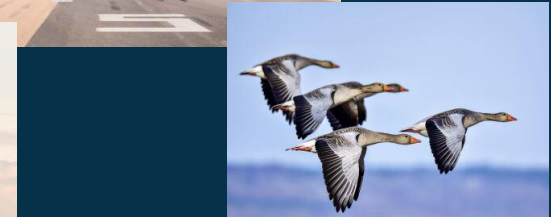
Fleet management (e.g. situational awareness and enhanced safety)

Digital twin for outdoor operations

Autonomous airside operations

GNSS Interference monitoring and localisation

Multi-modal transportation, etc



What ESA BASS offers

Zero equity funding always open for businesses (from start up to large companies*) in any market sector

Focus on close to market services/applications exploiting space technologies (e.g. SatNav, SatCom, SatEO):

- ✓ *We support only user driven, innovative and sustainable services that help companies to be on the market*
- ✓ *Activities started by companies (ESA generic call for proposals – permanently open)*

What ESA offers:

- ✓ *Co-funding from ESA, IPRs remain with companies*
- ✓ *Coaching from ESA*
- ✓ *Association with the ESA Brand*
- ✓ *Incremental and interactive procurement process (all starts with an 8 pages pitch)*



**Companies need to reside in one of the ESA BASS Member states (see last slide), targeted market instead can be anywhere in the world*

How ESA BASS work with companies



Idea Creation

Explore idea generation.

Filling out the narrative, exploring ideas.



Concept Design

Defining core functionality.

Understanding the market size and potential revenue



Feasibility Assessment

Assess technical feasibility (Proof of concept/prototype).

Consolidation of the business plan.

Feasibility Studies: Up to 50% co-funding*



Service Development

Design, Development & Testing.

Validation with pilot customers in the field

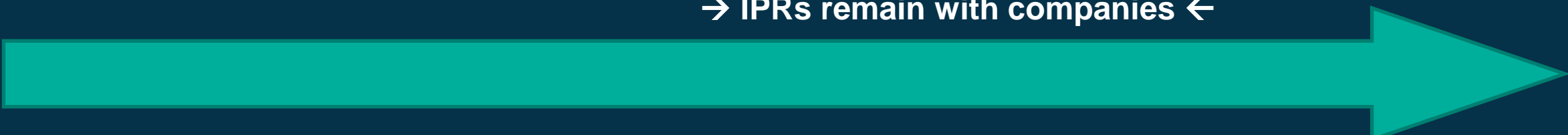
Verifying the viability of the financials.

Demonstration Projects: Up to 50% co-funding*



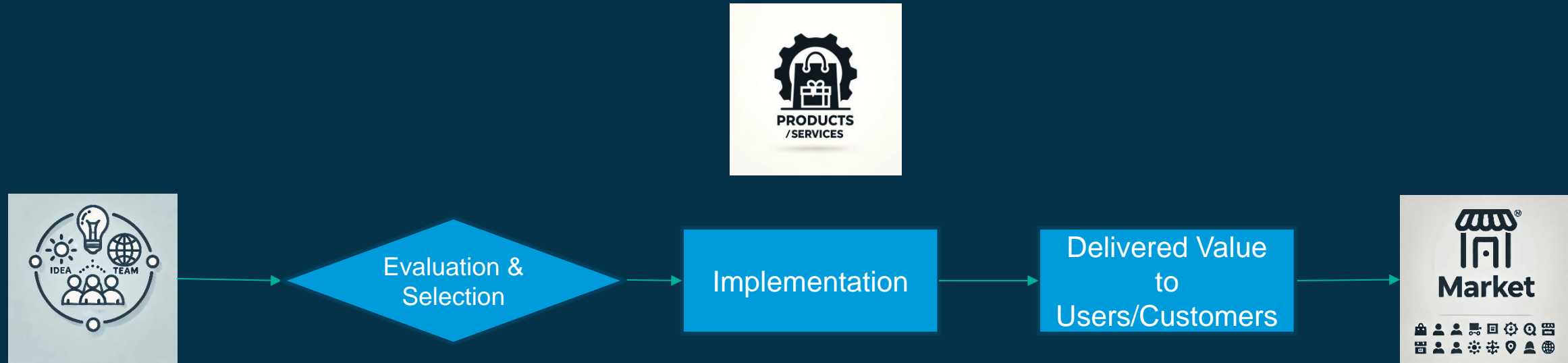
Commercialisation/ Product Rollout

→ IPRs remain with companies ←



*Up to 80% for SMEs (pending approval of [National Delegation](#)). [Ambassadors](#) available in some countries to outreach to and guide companies in the application

From the idea to the market



What makes the ESA BASS programme unique?

- Several hundred activities for almost two decades
- ~30 Technical Officers experts in different downstream domains, with consolidated experience in business development
- Activities are followed from A (initial ideation) to Z (conclusion, including Socio-Economic impact analysis)
- Preparation of activities via incremental process (risks are identified, and potential corrective measures taken as soon as possible)
- Evaluation and implementation is done internally in ESA without outsourcing key process elements (closing the loop between lessons learned and new evaluations)
- Strong data-driven eco-system supporting Business Intelligence evidence-based decisions

ESA BASS team may discuss with stakeholders of specific customer/user segments to gather their needs, discuss their challenges, and jointly start new initiatives.

If you are an airport/airport region manager willing to engage with us to discuss space opportunities to address your challenges, please feel free to get in contact with us and we will explore cooperation opportunities.























Thank you for your attention

ESA Business Applications and Space Solutions

<https://business.esa.int/>

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PARTICIPATING MEMBER STATES

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