

# ESA's Business Applications and Space Solutions

Ana Raposo

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## ESA Business Applications & Space Solutions (BASS)



- The go-to place for great business involving space to improve everyday life.
- Supporting European companies including 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.



### Business Applications: space-enabled services



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

Space Assets...



Earth Observation



Satellite Navigation



Satellite Communication



Spaceflight Technologies



...potentially coupled with...

Big Data analytics

VR/AR

AI/ML

Mega-constellations

**Drones** 

**Digital Twins** 

IoT

Cybersecurity

Blockchain

5G (https://artes.esa.int/esa-5g6g-hub)

...to serve Users & Markets



Maritime



Agriculture



Environment



Healthcare



Finance



Transport



Education



Media



Energy



Aviation

## Creating commercially sustainable services





#### **Partners and Task Forces**



ESA BASS has set up and launched a number of Task Forces, which bring together major stakeholders in a market to identify priority areas, increase the impact of space-based services in the sector, and generate positive green and economic results.

#### **ENERGY TASK FORCE**

#### Members







E.DSO







#### **CITIES TASK FORCE**

Launched on 26 September with the following members:
Cities signed: Amsterdam, Bologna, Essen, Naples, Taranto, Torino, Venice
City Networks: ICLEI – International, C40 - International, Covenant of Mayors - Europe



#### MARITIME TASK FORCE

#### Members



















#### **Partnership initiatives**





150 companies have the potential to influence 1/3 of global water use

- WRC: A collection of global companies and their CEOs have joined forces to accelerate investments and adopt solutions related to the water-climate crisis
- With this support, the services will be scaled to 100+ basins by 2030 to multiply the green impact and widen the adoption

ESA and CWM and WRC have joint forces to improve the water impacts of high-profile companies and status of water-stressed basins



CEO Water Mandate sign an MOI with ESA at COP26



ESA BASS launch the 'Digitising Water Resilience' Call in collaboration with CWM and WRC



Procurement of the contracts

Press release on the ESA – WRC collaboration at COP28 (Dec)



Water Resilience studies run with involvement from WRC

ESA workshop with CWM, WRC and activity teams at World Economic Forum spinoff event (Jan)

2025 -26

Expanding water resilience solutions across priority basins via ESA Projects



Global roll out across 100+ basins with commercial backing from WRC companies







## Examples of services supported in the programme





Innovative climate insurance solutions to small-scale farmers



EO satellite data are used to generate tailored products and insurance solutions which are cost-efficient, scalable, transparent, with fast payouts





#### **SNOWPOWER**

easing the management of hydropower plants in mountainous regions

**Supported by Enel Global Trading** 

Earth Observation data is utilized to derive snow products:

- Snow Water Equivalent (SWE)
- Snow Depth (SD)





Improving visibility and traceability of both quantity and quality of high-value crops

EO satellite data are used to estimate crop yield, crop type mapping, weather forecast. GNSS enabling farm geotagging.

#### **Measuring impact**



#### **ECONOMIC**

#### Jobs

- Full time employment generated within company resulting from BASS project
- Jobs within home country
- Jobs within other European countries
- Jobs outside Europe

#### Sales

- · Direct & Indirect Sales
- Countries in which sales have been generated so far
- Total sales proportion within home country
- Total sales proportion in other European countries

#### **Patent**

· Number of patents created

#### **Partnerships**

- Number of partnerships generated within home country
- Number of partnerships generated in other European countries
- Number of partnerships generated outside Europe

## Customers, Products & Services

- Cumulated number of products or services sold to date
- · Current customers to date

#### **GREEN**

#### Land

- Material waste reduction (tonnes)
- Habitat preserved on land (km<sup>2</sup>)
- Reduction of fertiliser used (%)

#### Air

- Reduced energy consumption (kWh)
- Reduction in NO2(CO2) concentrations
- CO2 emissions saved

#### Water

- Reduction in untreated water flowing into water bodies (litres)
- Water saved (litres)
- Habitat preserved in water (km<sup>2</sup> or km<sup>3</sup>)





#### **Societal Impact**





## SUSTAINABLE GEALS DEVELOPMENT GEALS





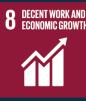
























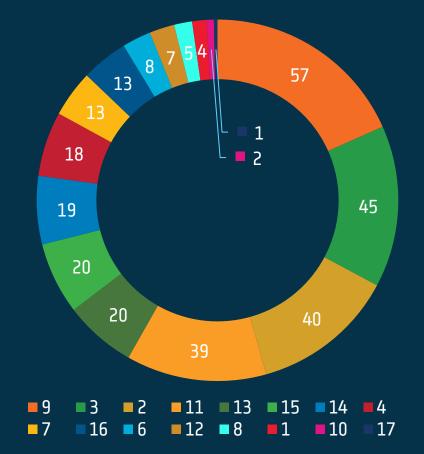








311 Completed Demonstration Projects Addressing SDGs with Societal Impact



## Current and upcoming opportunities





#### **Space for Infrastructure**

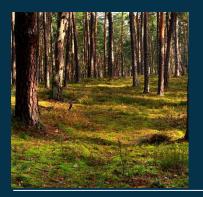
- Sub theme 5: Health (closing Aug 2024)
- Sub-theme 6: Digital Infrastructure (opening in Q3 2024)



#### **Nature based solutions**

- Ecosystem restoration
- Urban resilience and biodiversity net gain
- Nature finance

Opening October 2024



#### **Sustainable Forestry**

- Forest management
- Carbon trading
- Bioeconomy

Opening October 2024

We also have a <u>Call for Proposals</u> which is always open for your idea(s)!



Ana Raposo Ana.Raposo@esa.int

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