

e-shape solutions: Earth Observation for biodiversity and water management

14 - 15 February 2023

9.30 – 17.00 CET

The Hague - NSO Headquarter

Centre Court

Eurisy bridging the gap between space and society

Annalisa Donati
Secretary General



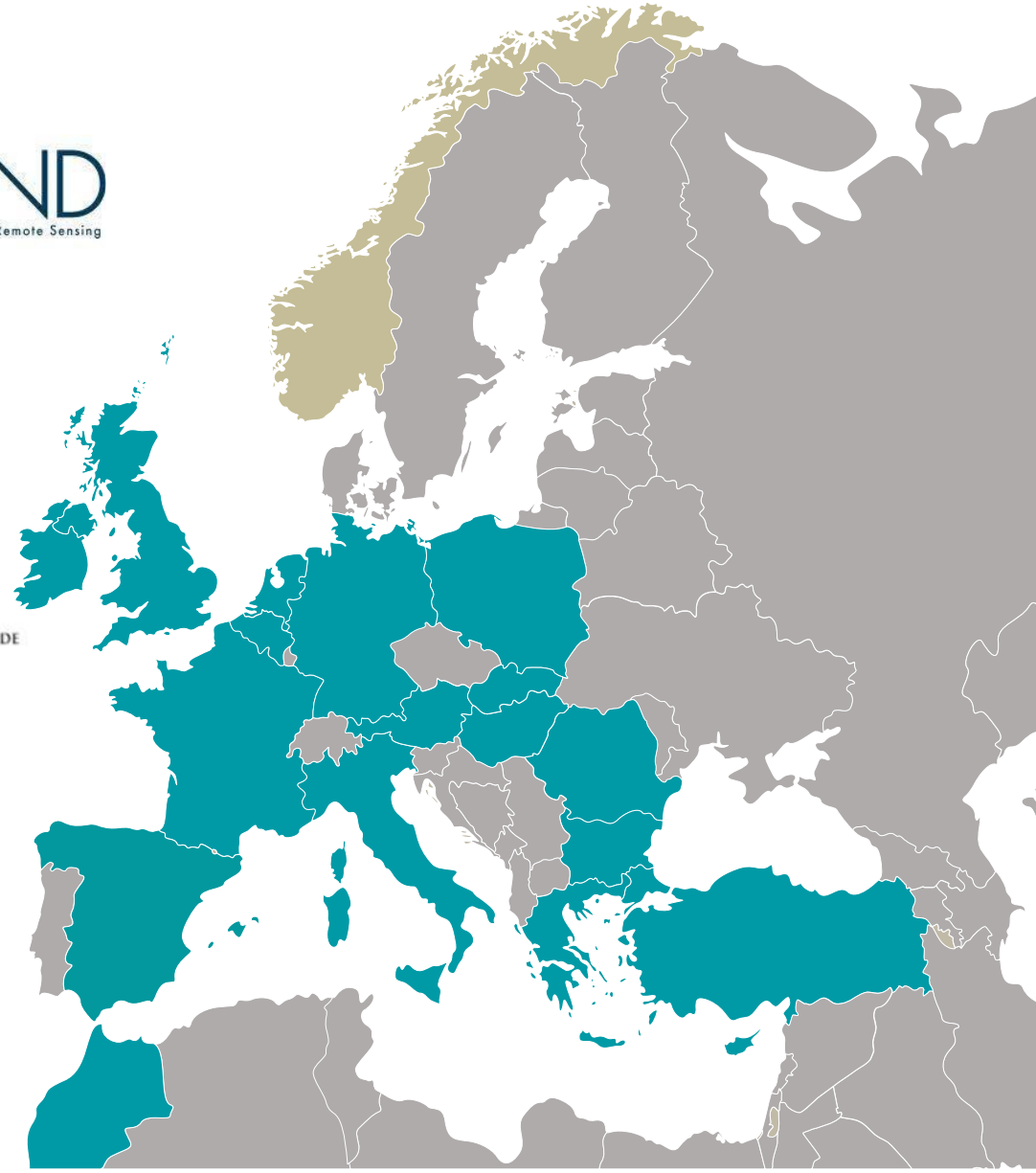
e-shape

An event co-organised by

eurisy
ACTING COLLECTIVELY TO
BRIDGE SPACE AND SOCIETY

Netherlands
Space
Office

Members



Mission



Eurisy has been mandated by its Members to create networks to bridge space and society.



Approach



Facilitator → EXPLORE

Raise awareness of satellite applications to help professional communities in many sectors: from transport to risk management, from habitat protection to energy, from climate change to the IoT.



Matchmaker → CONNECT

Support potential end users of satellite applications by leveraging its vast network among space and non-space communities; understanding patterns and links and/or creating them for mutual benefits.



Adviser → INFORM

Provide feedback to decision-makers on possible measures to overcome obstacles in diffusing space-derived innovation in society.



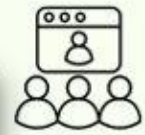
Publications

The full collection of case studies is available online.

Scan the code below



Space Opportunities for Climate Challenges



Almost 600 registrations



50 attendees on average (majority from European SMEs, universities, governmental agencies and European institutions)



39 speakers over 17 countries

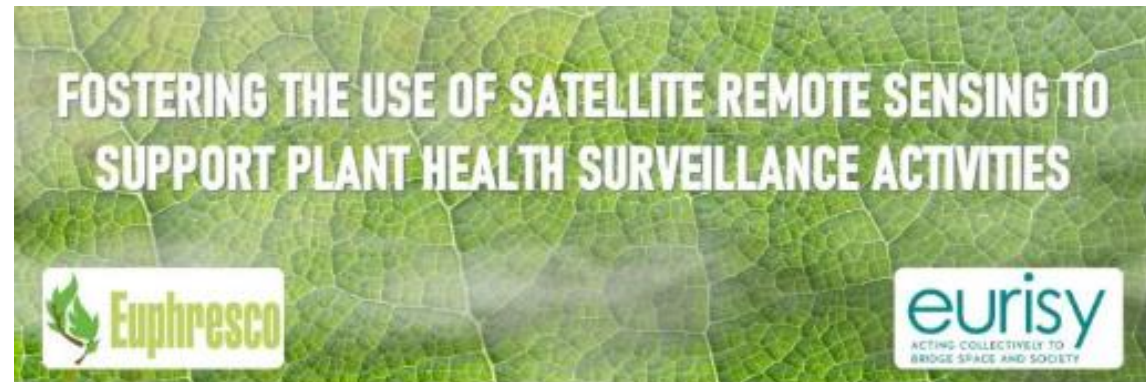
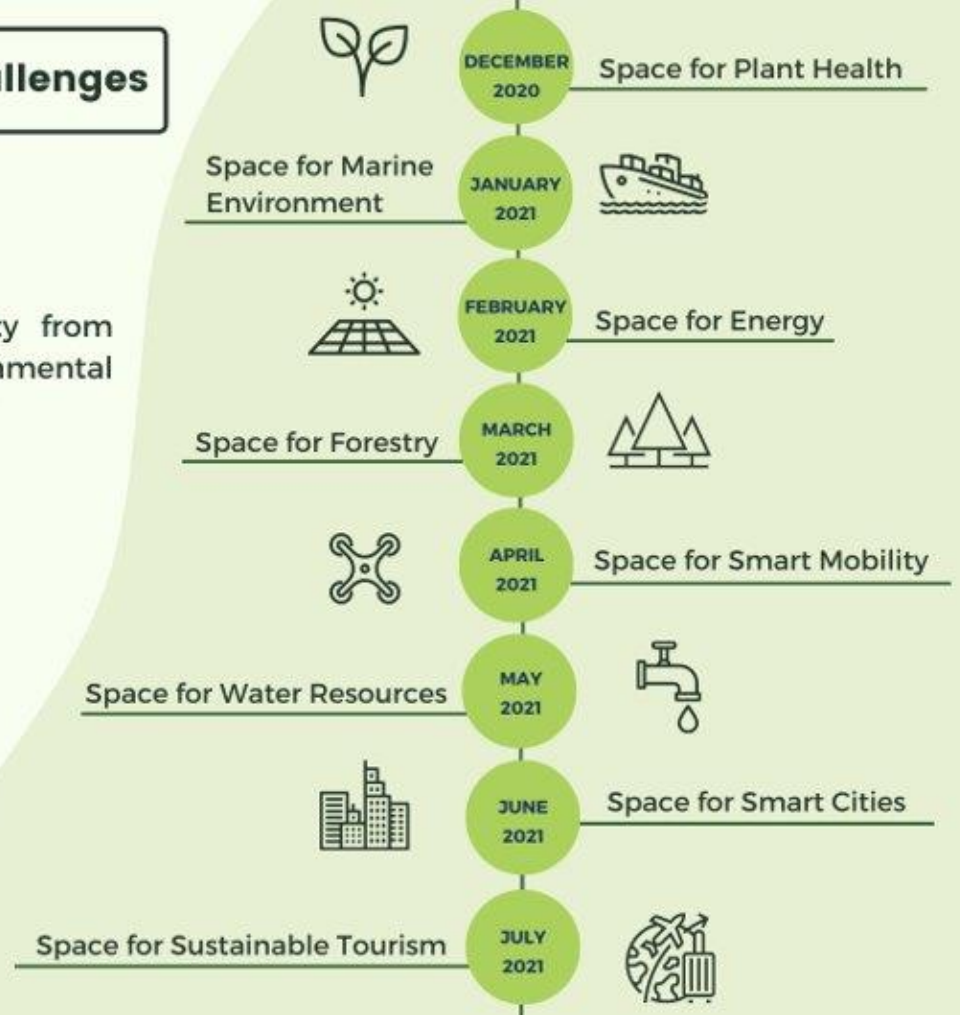
Multidisciplinary:

- Research: 11
- Business: 21
- Public: 7

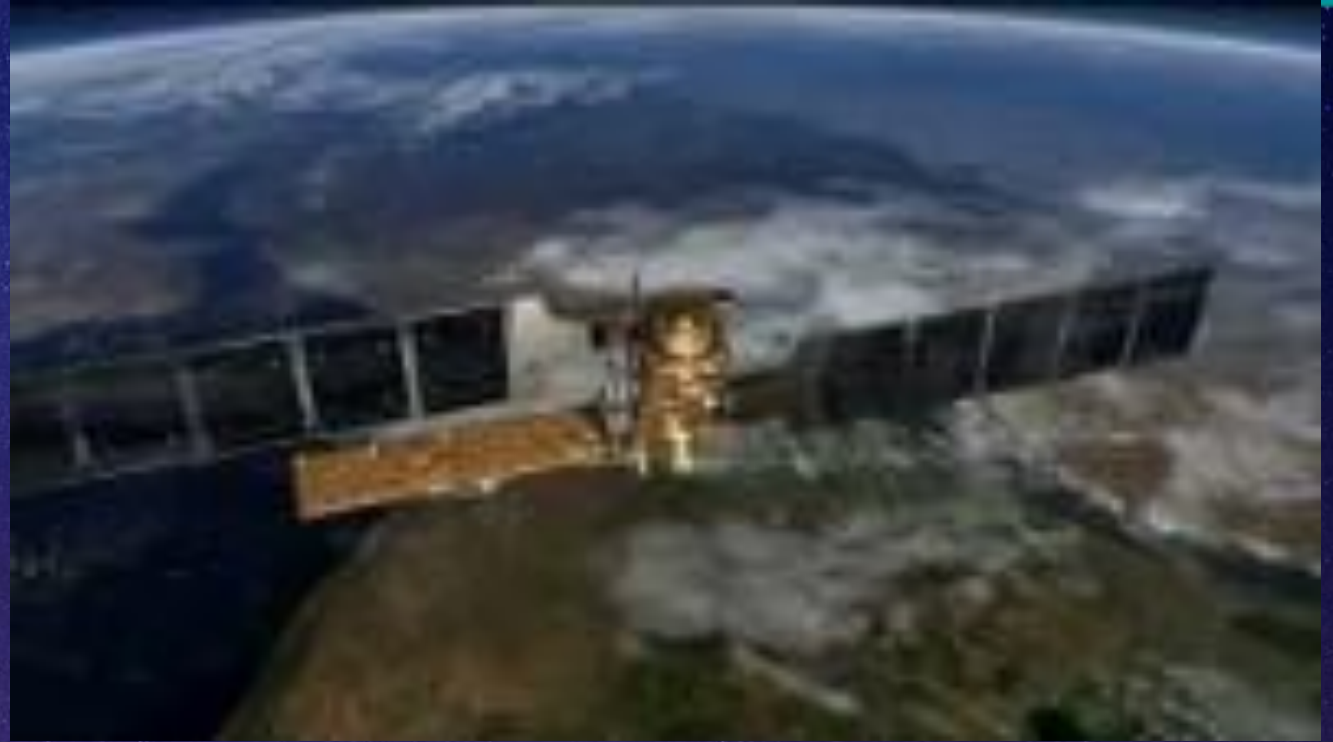


Publications:

- 8 recap articles
- 1 report



COPERNICUS AND ME



COPERNICUS & ME

Supporting access to electricity in Sierra Leone

COPERNICUS & ME

Diminishing the carbon footprint of ships

COPERNICUS & ME

Monitoring and preventing floods in Wallonia

COPERNICUS & ME

Monitoring water turbidity during the port extension works at Port-la-Nouvelle

COPERNICUS & ME

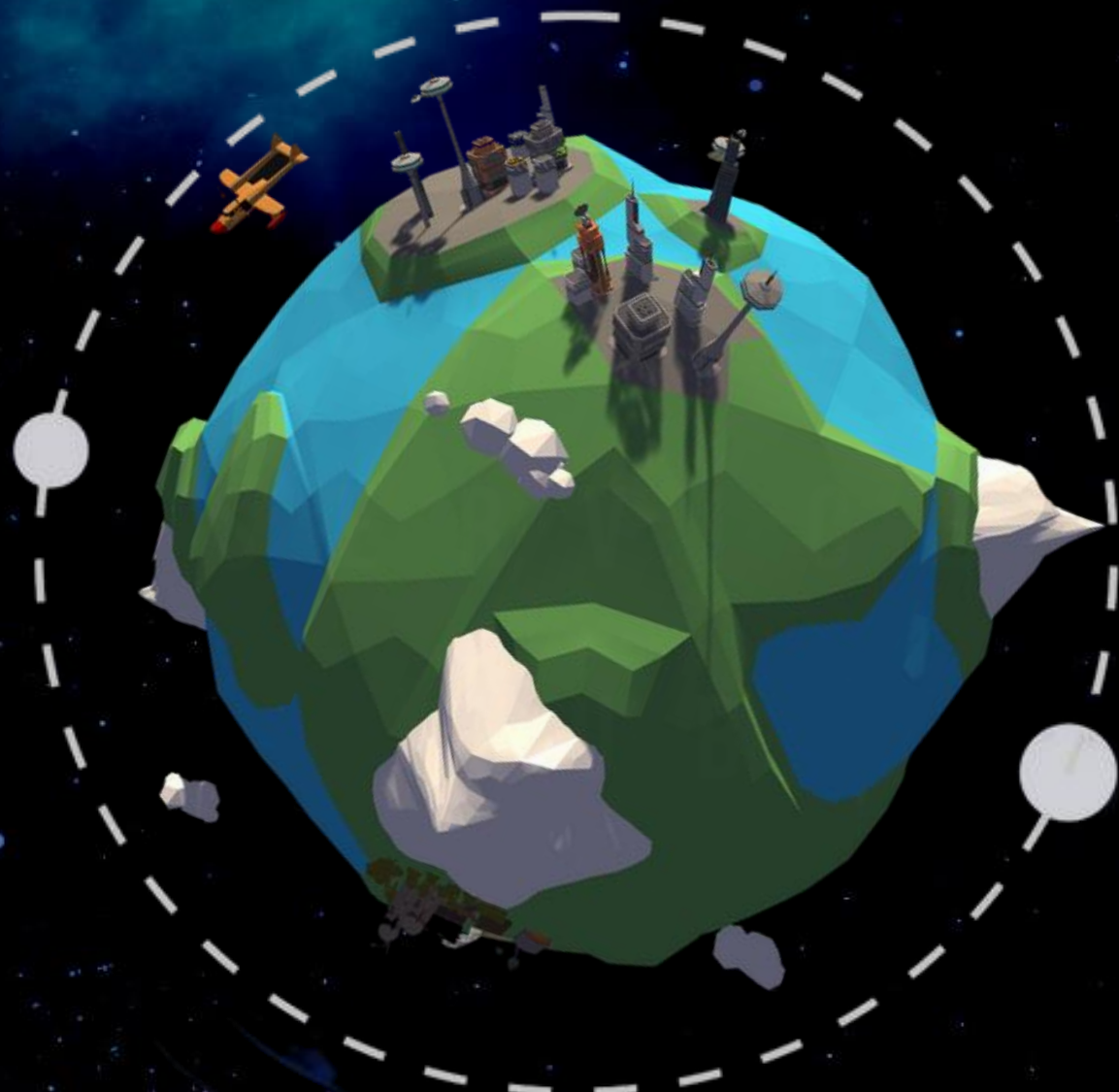
Mitigating the effects of climate change at public transport stops in Prague

COPERNICUS & ME

Safeguarding cultural heritage in Rhodes

SPACE SERVICE HUB

*CONNECT WITH USER COMMUNITIES ON
A WHOLE NEW LEVEL*





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EU biodiversity strategy for 2030

Retail and consumer goods



Chemicals and materials

More than half of global GDP – some €40 trillion – depends on nature



Real Estate



Mining and metals

Aviation, travel and tourism



Supply chain and transport



BENEFITS:

- ✓ conserving marine stocks could increase annual profits of the seafood industry by more than **€49 billion**
- ✓ protecting coastal wetlands could save the insurance industry around **€50 billion annually** through reducing flood damage losses



Increasing organic farming



Halting and reversing the decline of pollinators



Restoring at least 25 000 km of EU rivers to a free flowing state



Reducing the use and risk of pesticides by 50% by 2030



Planting 3 billion trees by 2030



Greece: satellite information and field knowledge help farmers reduce fertilisers and water

The user:

AGRICULTURAL
COOPERATIVE OF
NESTOS



The challenge:

To cope with mass-production agriculture, farmers increased the quantity of fertilisers and water to raise crop yields. These practices led to disastrous results, from water loss and soil degradation to ecosystem damage and water supply contamination.

The solution:

Copernicus satellite imagery, in combination with PLEIADES and *insitu* data, have been used to monitor kiwi and asparagus crops remotely and to produce real-time soil maps to provide farmers with advice on irrigation and crop health.

The benefit:

Since the introduction of the application, the cooperative members reduced their water consumption by up to 60%. The distribution of fertilisers and pesticides has also been improved.



Sardinia Region: Monitoring the water transport and distribution network remotely with satcom

The user:

ENTE ACQUE DELLA SARDEGNA



The challenge:

ENAS manages installations spread over 25000km², in addition to the time and workforce needed to visit the water installations, the region's landscape features mean that terrestrial telecommunications infrastructure is unavailable or unreliable outside urban and industrial areas.

The solution:

Thanks to the satcom receivers installed near dams, hydroelectric power stations, pumping stations and aqueducts, ENAS is able to receive information about and control flow rates, volumes, levels and status of pumps in real time and remotely.

The benefit:

The current network for communication and data transmission between the periphery and the central office ensures the continuity and quality of the service, while reducing the costs and efforts necessary for monitoring the water infrastructure.



Sustainable forest management in Sweden with the support of satellite imagery

The user:

SWEDISH FOREST AGENCY

The challenge:

Under the Forestry Act, private forest owners are obliged to replant the forest land which has been cleared. To make sure that legal obligations are respected and to detect illegal activities, the SFA needs continuous and accurate information on the state of the country's forests.

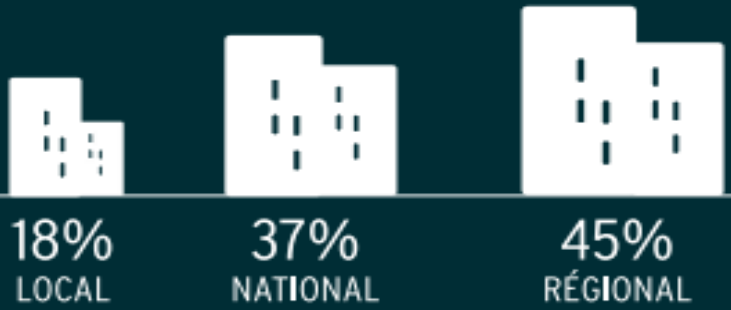
The solution:

Satellite imagery, combined with other geographical information, allows to create clear-cut maps. The Agency then processes the images to highlight clear-cuts and makes the maps available on its website as open data.

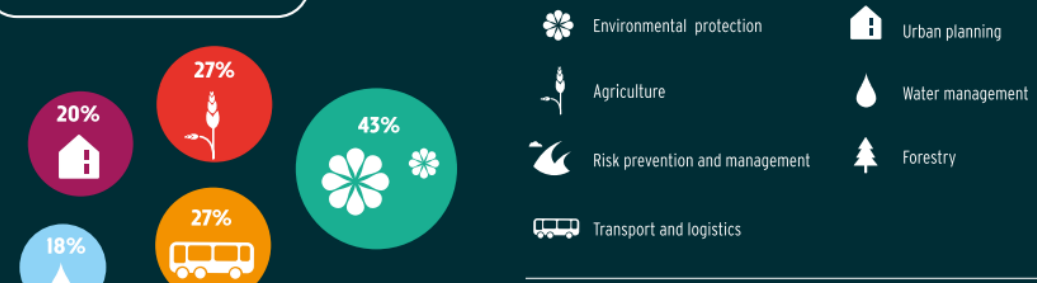
The benefit:

Law compliance has greatly improved. A fall in the size of forests area cleared illegally steadily decreased. Positive externalities also include wild life preservation wood quality and forest diversity protection measures.

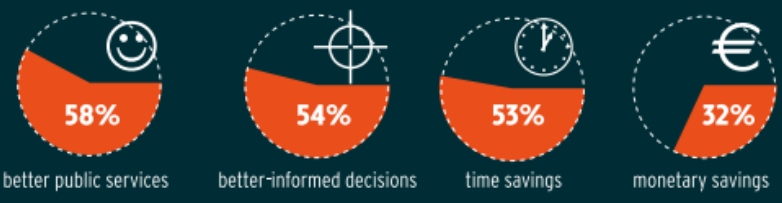
AT WHAT LEVEL OF AUTHORITY?



WHAT ARE THEIR FIELDS OF USE?



BENEFITS All respondents reported some benefits



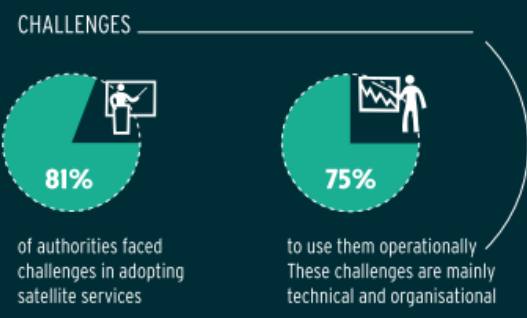
% of respondents - multiple response question

OTHER BENEFITS



multiple response question

WHICH ARE THE CHALLENGES ?



% of respondents - multiple response question

SOLUTIONS



% of respondents - multiple response question

Challenges & Opportunities



Users still **lack knowledge** of the possibilities offered by satellite-based services



Identify **effective ways to communicate** in a non-technical jargon

Users often **lack technical skills**



Need for more users' **success stories and business cases and training**

Data specialists **fail** to meet **real-world user-specific needs**



large amount of open, free data and support opportunities by Copernicus and Galileo programmes;

Difficulties in procure/purchase the service



Increasing technical development and user-centered services and growing offer from service providers

Service sustainability



Established relationships between different stakeholders; decision policy-makers at local level and academia, tech clusters

Success stories will foster the relations between service providers and end users.

Welcome to Europe's largest repository of success stories on operational satellite applications

Eurisy strives to promote the use of satellite solutions for the benefit of professional communities in numerous sectors. Eurisy does this through a unique bottom-up approach, putting at the centre the end users, understanding their needs and challenges, providing relevant fora to share experiences and expertise by tapping into its repository of success stories. Pioneering public authorities, agencies and SMEs from across Europe share their hands-on experience, to inspire their peers to follow suit. It is not about the technology; it is about how end users make it work for them. Over the years this work has resulted in Europe's largest database of users' testimonials on operational satellite services:

Send us your success story!

Do you use any satellite applications in your daily job, or know someone who does? Let us know and we may feature it on our website!



Communication and digital society >

Energy, infrastructure and utilities >

Environment, climate and health >

Maritime >

Risk management and emergencies >

Smart cities >

Tourism, culture and leisure >

Transport and logistics >



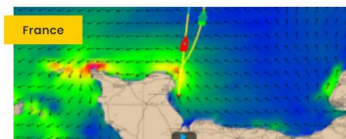
Montenegro
Montenegro: Protecting marine habitats thanks to a map based on satellite information



Italy
Lazio Region: supporting coastal zone management with geo-information services



Finland
Finland: All-year-round open ports due to efficient ice-breaking services



France
Weather4D: smooth seas and fair winds ahead with satellite technology



The Success Stories aim at addressing communities outside the space sector and offer them the opportunity to express their needs and to present their challenges.

The objective is to favour the integration of satellite-based solutions in their workflow.



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Thank you!



www.e-shape.eu

Ravenna Seaside Workshop, 17 May 2022