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SATELLITE-BASED MARITIME SURVEILLANCE SERVICES IN EUROPE

>>> A few years later

In the last few years, the VIG I SAT facility was extended with new ground stations located in Europe. The number of processed S1 SAR images has drastically increased. More services are now provided and generating, hence more staff is working on the topic while larger covered sea areas. Such developments allow an overall better monitoring of sea pollution with a stronger deterrent effect.

Phil Vincent Kerbaol, CLS Vigisat



BENEFICIARIES	CLS Vigisat	Brittany Region; European Maritime Safety Agency (EMSA); FRONTEX EUROSUR	City of Brest; Round-the-world sailing races (Vendée Globe, Barcelona World Race, Volvo Ocean Race)	Citizens and Society
	TIER 1: SERVICE PROVIDER	TIER 2 PRIMARY USER	TIER 3 SECONDARY USER	TIER 4 END USER BENEFICIARIES
SERVICES	Sentinel-1	Processed and analysed Sentinel-1 SAR imagery	Maritime pollution prosecution; Iceberg detection and tracking service; Unique knowledge of icebergs generation mechanisms	Improvement in navigation security; Improved hazards mitigation assessment and management; Scientific contribution to the studies of otherwise largely remote areas

Value chain definition following SeBS Methodology - <https://earsc.org/sebs>

The space-based solution

This Copernicus-based solution was produced by a commercial company for a Public Administration and other users such as companies, professionals, agencies, associations, single citizens. It also provides data and services to scientific entities.

The Usage Maturity Level

Since 2018, the UML has been consolidated at a high level 4. The main reason for this is found in the increased recognition about the effectiveness of the solution at decision-making level based on the achieved results and return-of-experience.

Thematic Area



TRANSPORTS,
CIVIL
INFRASTRUCTURE
AND SAFETY

Region of Application



EUROPEAN
MARITIME
AREAS

Sentinel mission used



S1

Copernicus Service used



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Usage Maturity Level



4

Overall benefits

ECONOMIC



- Increased revenues have been registered
- Increased employment

ENVIRONMENTAL



- Reduced pollution

REGULATORY



- The solution has helped to inform the design/ review of policy parameters
- There were improvements in the policy monitoring capabilities of the PA in charge
- The solution has facilitated or improved the compilation of institutional reports by the PA
- The solution has improved the PA's capabilities to detect and assess non-compliances
- The solution improved compliance promotion with duty-holders

INNOVATION



- The solution has helped to introduce some innovation in the functioning of the public administration
- There were positive market externalities

SCIENCE



- There was an increase in technical/scientific expertise related to Copernicus/EO within the PA
- There was an increase in technical/scientific expertise related to Copernicus/EO at the service provider
- There was an increase in the research budget share of the institutions involved in the solution (either the PA or others)

SOCIETAL



- Improved coordination and governance has been registered
- There have been improvements in public awareness
- An increased overall quality of life for citizens has been detected

Benefits classification following SeBS Methodology - <https://ears.org/sebs>

Interesting facts...

From a technical perspective there have been some significant performance/automation improvements. Also the solution is now more accurate and reliable.

Outlook to the future

For the future, there is a collection of large datasets of analysed images that can be further used for machine learning training leading to innovation in data processing. There is a need of Near Real Time (NRT) of data access outside EU mainland that is currently not covered by the Copernicus Space component.

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