



# SESA

Support to EU External  
and Security Actions

## Copernicus Working Group on Geospatial Data

Annual meeting, 6 - 7 March 2025

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IMPLEMENTED BY  
**SATCEN**  
EUROPEAN UNION SATELLITE CENTRE



# The European Union Satellite Centre

## MISSION

The EU Satellite Centre supports the decision making and actions of the European Union in the field of Common Foreign and Security Policy (CFSP), in particular Common Security and Defence Policy (CSDP), including European Union crisis management missions and operations, by providing products and services resulting from the exploitation of relevant space assets and collateral data, including satellite imagery and aerial imagery, and related services.

SatCen is an agency under the Common Foreign and Security Policy / Common Security and Defence Policy of the EU working under the supervision of the Political and Security Committee and the operational direction of the High Representative of the Union for Foreign Affairs and Security Policy.

## OUR USERS

Main users of SatCen services are the European External Action Service, EU Member States, EU missions and operations, the European Commission, other EU Agencies, such as Frontex, Third States and international organisations such as the UN and OSCE.

## OUR PARTNERS

SatCen cooperates with national and international institutions in the field of space. It works closely with the European Defence Agency, the European Commission and the European Space Agency, as well as other institutions and international organisations



Louis Tillier, SatCen Director

*"Through the Copernicus Security Service in Support of EU External and Security Actions (SESA) entrusted by the Commission to the European Union Satellite Centre (SatCen), the EU expands its operational capacity to tackle a new set of security policies and areas of application."*



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# Copernicus SESA

The Copernicus Security Service Component on **Support to EU External and Security Actions (SESA)** is a European geospatial information service that assists the EU and its Member States in the framework of applicable Union policies and legislation along the following main policy groups, associated to key responsibilities across EU Institutions and Member States:

The information provided contributes to improving European capacities in **crisis prevention, preparedness and response**. It also aims to assist in situations of crisis or emerging crisis and supports them in order to prevent global and transregional threats having a destabilising effect.

The service can provide users with **rapid, on-demand geospatial information for the detection and monitoring of events or activities** that may have implications for European and global security. It is particularly valuable for remote areas, which are difficult to access, and where security issues are at stake.



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# SESA Application Areas

The SESA Service finds application in a number of areas related to EU policies.

They are the areas where the Copernicus SESA users operate and where SESA can provide services to support strategic decision-making and planning, as well as operations and interventions.



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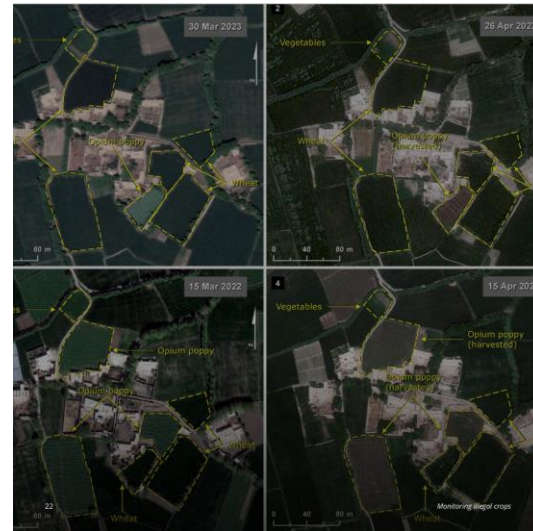
# SESA Use Case Examples (1/3)



Support to evacuation  
plan



Monitoring refugee camp  
status and evolution



Monitoring illegal crops



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# SESA Use Case Examples (2/3)



Critical infrastructure  
analysis



Monitoring the status of  
EU-funded development  
projects



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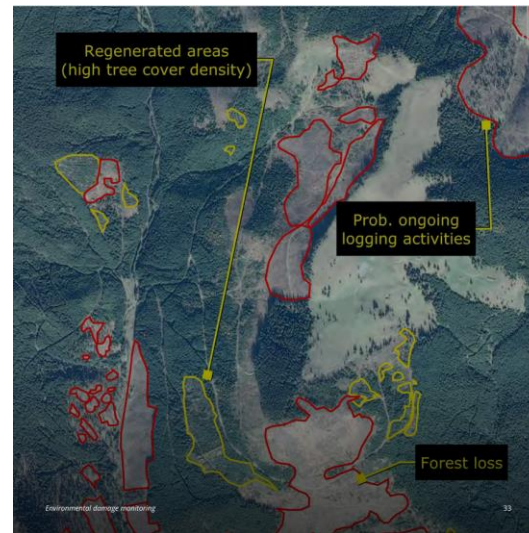




# SESA Use Case Examples (3/3)



Analysis of cultural  
heritage sites



Environmental damage  
monitoring



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# SESA Information Content

The products of the Copernicus SESA service contain layers of information, which may be extracted from satellite imagery (e.g. a transportation network), carry the results of analysis (e.g. a damage assessment) or be externally acquired (e.g. from open sources).



## Transport

Transportation networks, comprising either basic or detailed feature classification. Includes specific layers for features of special interest such as road blocks or bridges.



## Populated Area and Demography

Populated areas (urban or rural), optionally including trends in population change.



## Administrative Units

Boundaries delineating units of administrative control at local or regional levels.



## Points of Interest

Locations of special interest such as health-related, diplomatic and administrative buildings and facilities.



## Terrain

A range of features and properties associated with terrain, including land use and land cover, topography and hydrography.



## Place Name

Standard labelling of places, including with multilingual support.



## Impact

Special category denoting phenomena of interest such as damage, detected changes and flooding.



## Critical Infrastructure

Critical infrastructures such as power generation facilities and major transportation hubs (harbours or airports) as well as (optionally) their operational status.



## Analysis

Special category denoting analytical outputs, including a range of features or phenomena of interest, such as enclosures and security measures, evacuation routes, helicopter landing areas, gathering points, areas under construction and indicators of activity.



## Settlements

Areas of temporary human settlement, namely camp dwellings and other buildings, as well as (optionally) changes to these structures.



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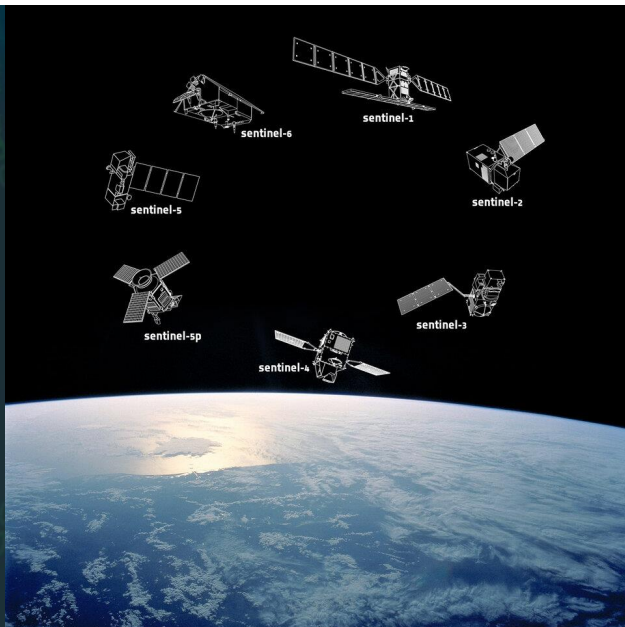






# Access to EO Data

## Copernicus Contributing Missions



## Sentinel Missions



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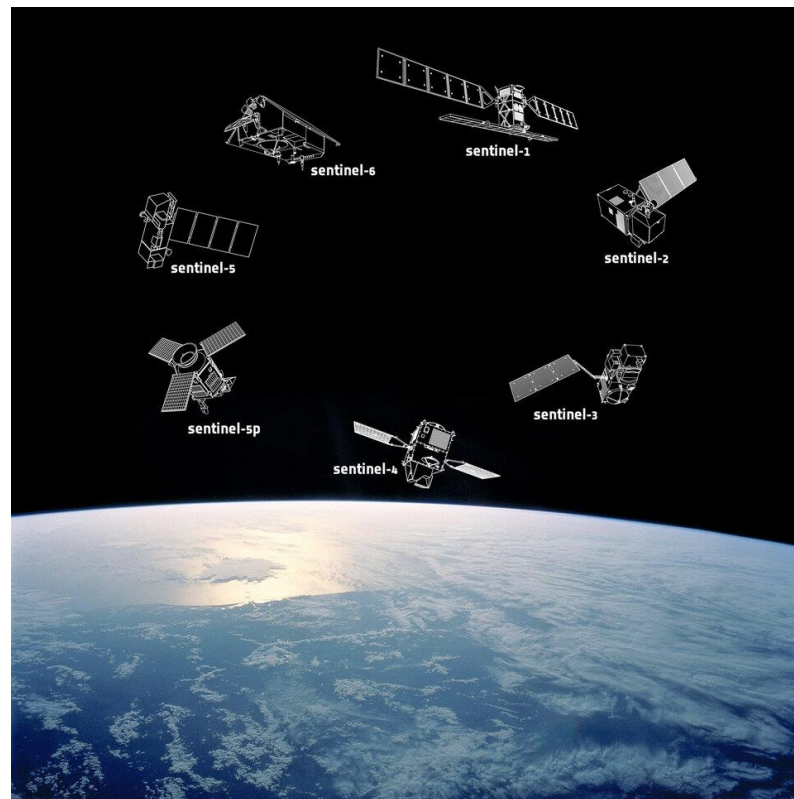

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# Sentinel Missions

Sentinel (e.g. S1 and S2) allows for the **monitoring of large areas**, complementing the detailed geospatial intelligence analysis that the Copernicus SESA provides.

It is important to underline the value to be able to **access on-demand ad-hoc requirements** for security purpose of **Sentinel-1 emergency observations**, fulfilled by very high-resolution observations (typically less than 5 meters).



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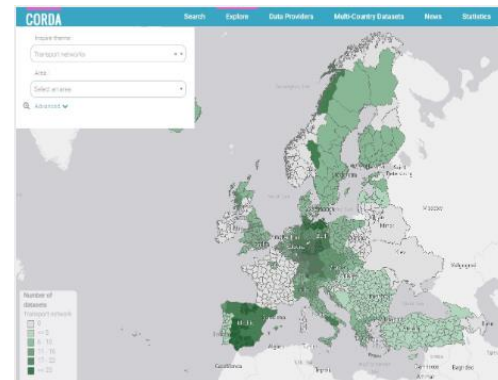


# Geospatial Data

- The use of Geospatial Data is essential for SESA operations at local and regional scale.
- The service has been mainly focusing on **geographic areas outside Europe**, where local datasets are not generally available. However, for specific activations there is a need to access European data.
- The **most recurrent data used** are: Diplomatic buildings, POI, Transportation, Hydrography, Populated Areas, Recreational areas, Industrial, Airfield, Harbour, Checkpoints, Enclosure, Land Cover / Land Use.
- SatCen developed an internal solution to transform the OpenStreetMap data to the SatCen data model, using Safe Software's FME.
- Evaluating the use of CORDA in SESA operations presents a challenge tied to the alignment with the specific needs of users.



Example of Reference Map



CORDA



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Border Crossing Points?



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## Thank you!

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