

Earth Observation for Security and Defence: The European Union Satellite Centre Experience and Future Views

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The European Union Satellite Centre (SatCen) was founded in 1992 under the framework of the Western European Union. Today it is a Council agency of the European Union. It supports decision-making and actions under the Common Foreign and Security Policy (CFSP), in particular the Common Security and Defence Policy (CSDP). It thus provides the European External Action Service, as well as European Union crisis management missions and operations, products and services based on the exploitation of relevant space assets and collateral data, including satellite and aerial imagery, and related services. The Centre, under the operational direction of the High Representative for the European Union for Foreign Affairs and Security Policy, Mrs Frederica Mogherini, is located in Torrejón de Ardoz, Spain. It has approximately 130 members of staff and a global budget of EUR 26 million.

In fulfilling its tasks, SatCen cooperates with numerous national, European and international institutions (OPCW, OSCE, etc.) in the field of remote sensing from space and it works with public, commercial and governmental image providers, as well as with open source information.

From its unique role and position in the operational chain for security and defense, SatCen carefully follows the fast evolution of the remote sensing field.

The needs of end users are evolving in several directions: near real time service provision (today 75 % of the SatCen production is done within 24 hours of data reception); very detailed analysis and/or long-term monitoring of specific zones; analyses of very large areas... On the other hand, the development of new technologies and system architectures have led to space data providers offering users the following basic data classes:

- **The exquisite class**, where priority is given on geospatial resolution, in optical and radar wavelengths, down to a few tens of centimetres;
- **The persistent class**, which aims to offer the shortest possible revisit time over given zones, accepting geospatial resolution in the range around 1 metre;

- **The harvester class**, providing daily worldwide coverage with geospatial resolution in the range of a few metres; and,
- **The free class**, delivering free and open data with a geospatial resolution of around 10 metres.

User requirements thus imply having a large data set, in particular more frequent data acquisitions, as well as faster data processing and analysis capabilities, leading to an increasing volume of available data colliding with a finite number of imagery analysts. This in turn forces us to process and analyze from further upstream, closer to where the data is generated, as well as to rely on automatic tools based on artificial intelligence, to enable analysts to focus on the most complex and demanding issues.

As a consequence of these developments, the operational supply chain is significantly changing: from a data purchase approach towards an information as a service approach, in which industry goes downstream (see figure 1 below). This allows new stakeholders to enter the business, particularly those from the internet and digital sectors.

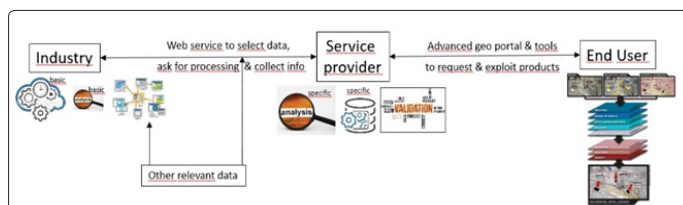


Figure 1: The new operational chain

Reference

1. <https://www.satcen.europa.eu/>

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