



[**CLICK TO KNOW MORE**](#)

R&I INITIATIVES TO ADDRESS COMPLEX SECURITY SCENARIOS

Geospatial World Forum - Defence & Intelligence Summit
GeoIntelligence and the Changing Security Landscape

Sergio Albani

European Union Satellite Centre

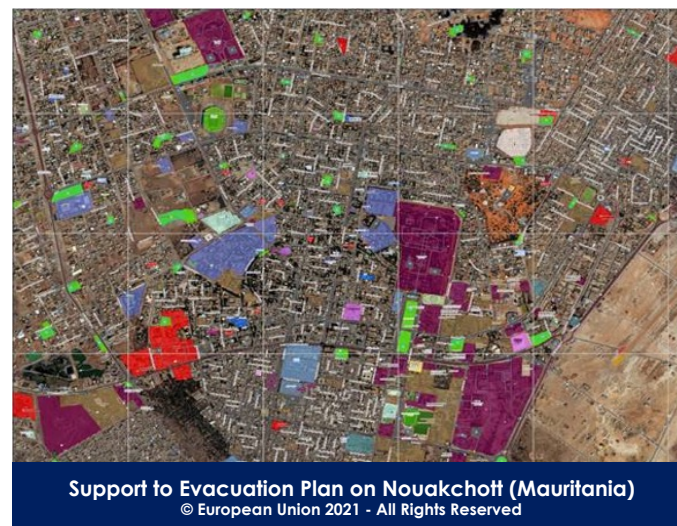
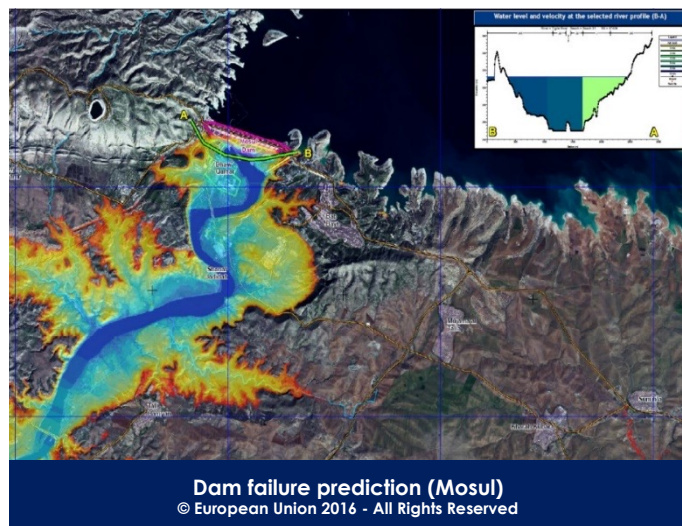
Head of Research, Technology Development and Innovation Unit

sergio.albani@satcen.europa.eu

15/05/2024



SatCen supports the decision making and actions of the European Union in the field of **CFSP** by providing products and services resulting from the exploitation of relevant **space assets** and collateral data



EU Agency located in Madrid (Spain)



GEOINT Service Provider



Support to EU Policies and Programmes



Research and Innovation



INCREASED EU LEVEL OF
AMBITION ON SECURITY, DEFENCE
& SPACE

FAST EVOLVING USER DEMAND
(VOLUME, SPEED & QUALITY)

TECHNOLOGY GOLD RUSH IN
SPACE AND DIGITAL DOMAINS

EMERGENCE OF NEW GEOINT
SECURITY SCENARIOS

Climate Security

Changes in climate patterns can introduce major risks in some regions as forced migration

Environmental Security

Illegal activities or unforeseen extreme weather events can threaten safety of population

Energy Security

Energy management can be linked to stability, security and prosperity of States

Health Security

High level of contaminants or pandemics can affect daily life of citizens



Resource Scarcity

Water access or scarcity of food or raw materials can lead to conflicts

Geopolitical Challenges

Conflicts in neighbor countries can drive to societal instability in the EU

EU Strategic Compass

By 2025, we will strengthen the EU SatCen to boost our autonomous geo-spatial intelligence capacity.

European Union External Action Service, 'A strategic compass for security and defence', Brussels, 21/03/2022

EU Space Strategy for Security and Defence

An EU EO governmental service would be beneficial to provide a fully reliable, highly resilient, and continuously available situational awareness service.

The SatCen will play a key role in contributing to the identification of user needs in geospatial intelligence and in disseminating sensitive products and services.

Joint Communication to the European Parliament and the Council, 'European Union Space Strategy for Security and Defence', JOIN(2023)9, 10/03/2023.

A New Outlook on the Climate and Security Nexus

The Climate and Environment Security Data and Analysis Hub, to be created within SatCen, will build on existing experience and initiatives and offer a resource for climate-related security risk assessments.

Joint Communication to the European Parliament and the Council, A new outlook on the climate and security nexus: Addressing the impact of climate change and environmental degradation on peace, security and defence, JOIN(2023) 19 final, 28/06/2023

EU Maritime Security Strategy (update 2023)

The EU Satellite Centre is also involved in Maritime Domain Awareness. In that regard, the resilience and security of relevant space assets is key to ensure continuity of services.

European Union Maritime Security Strategy (EUMSS), General Secretariat of the Council (11205/14) 24 June 2014, Joint Communication to the European Parliament and the Council on the update of the EUMSS and its Action Plan. JOIN(2023) 8 final, 10/3/2023

4

EU Space Programme

In the domain of services, the Commission should benefit appropriately from the specific capacities provided by Union agencies, such as SATCEN.

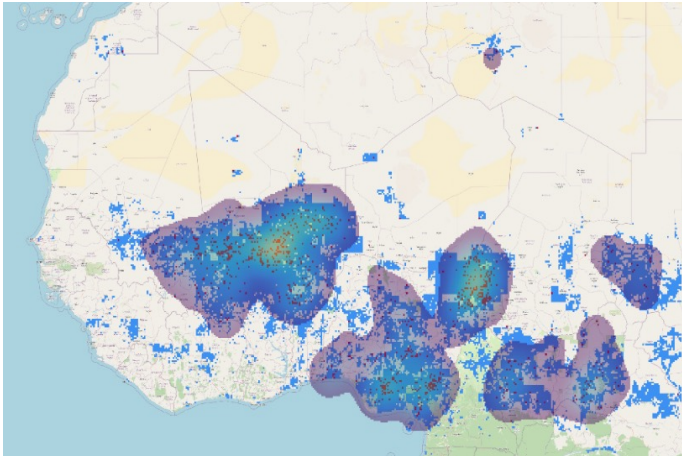
Reg (EU) 2021/696 of the European Parliament and of the Council of 28/04/2021 establishing the Union Space Programme and the EU Agency for the Space Programme

R&I INTERNAL INITIATIVES



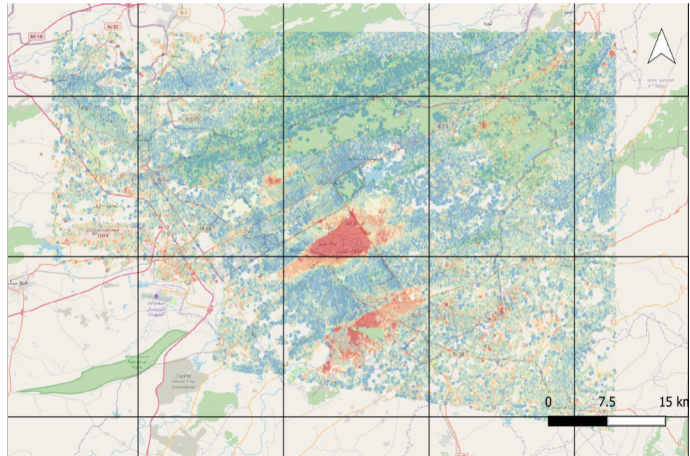
Geospatial Data Management Platform
Integration of processing capabilities and pilot projects' results to enhance operational capabilities

PARTICIPATION IN EU PROGRAMMES



Addressing Climate Security: GEM*
Density of conflicts (heat map):
High-risk areas as per model (blue) / Ground truth data: conflicts geolocations (red)

COOPERATION WITH KEY ENTITIES IN SPACE, SECURITY & DEFENCE



GEO SPACE-SECURITY Pilot Project
Excessive use of underground water causing land subsidence. Supporting impact assessment on urban areas and critical infrastructures.

(*) GEM project received funding from European Union's "Horizon 2020 R&I Programme" under the GA 101004112

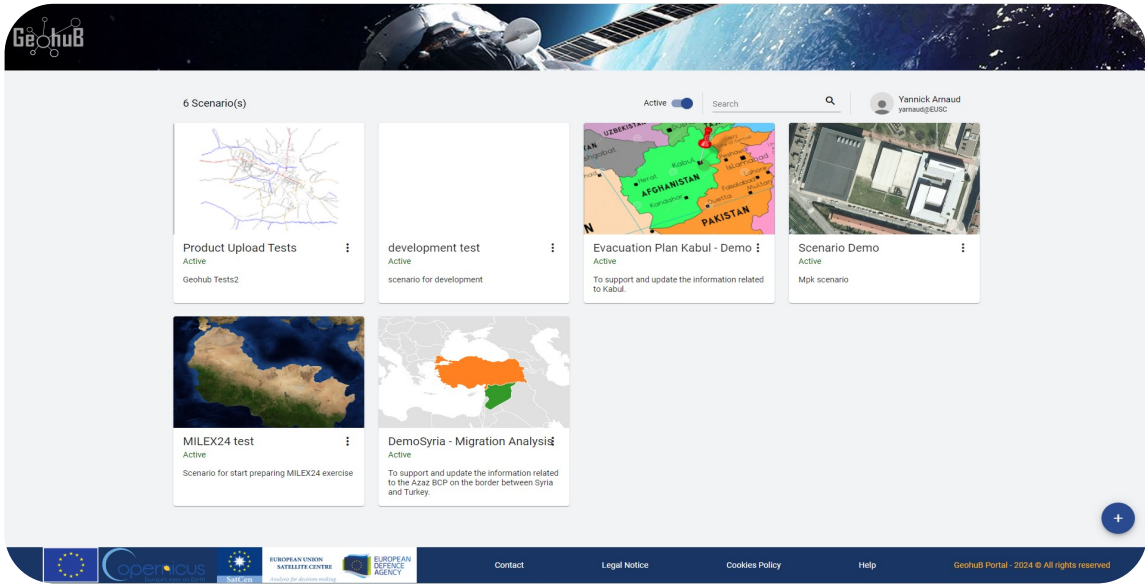


FROM R&I TO OPERATIONS



GISMO is a joint initiative of EDA and SatCen.

Geohub is a Geospatial Content Manager System for OHQs, M/O and EU Exercises, supporting geospatial information sharing among staff and addressing the frequent staff turn-over.



DATA HUB

- ✓ Ingestion and creation of geo and non-geo data
- ✓ Consume and visualize
- ✓ Keep relations and context (metadata)
- ✓ Secure storage



CATALOG AND PERSONALIZED WORKSPACE

- ✓ Search, browse and navigate
- ✓ Share data with selected group of people or the entire organization
- ✓ Create customized workspaces

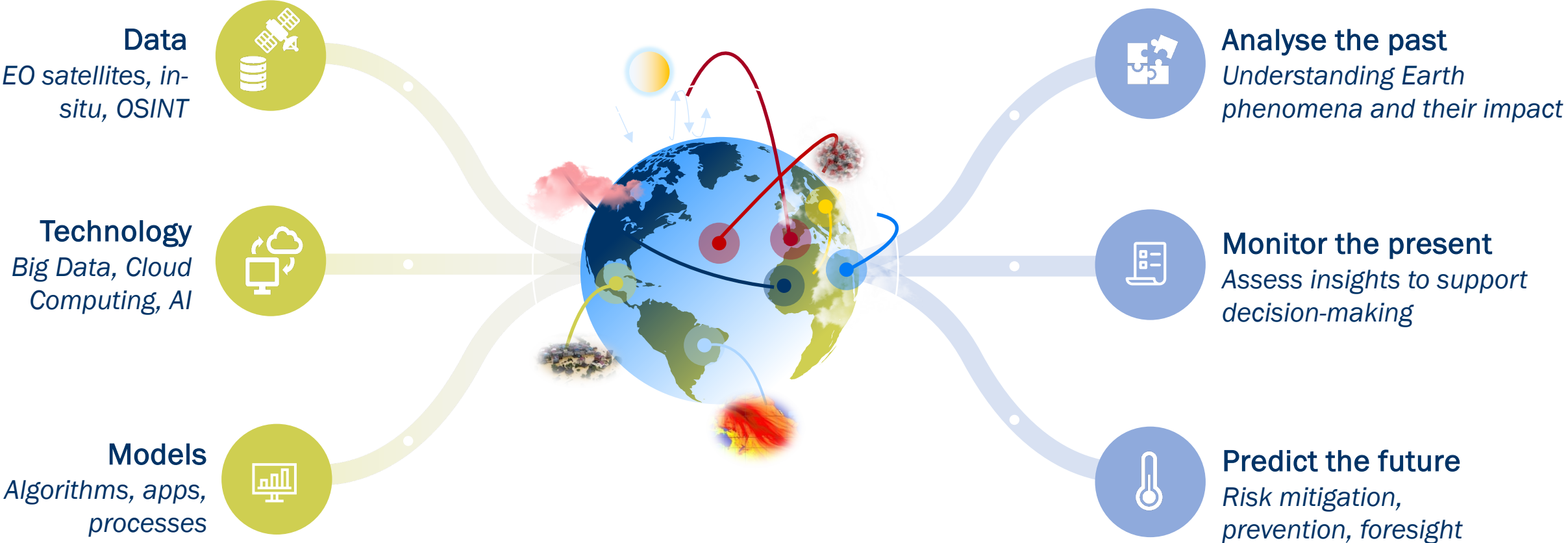


ANALYTICAL TOOLS

- ✓ From data to knowledge
- ✓ Analysis on the fly
- ✓ Generation of maps
- ✓ Road network analysis, terrain analysis...



A Digital Twin of the Earth can enable advanced approaches to address in a comprehensive way traditional and new defence and security scenarios.



1

Global and geopolitical issues are the key **driving forces triggering new user needs** and the development of associated EU policies to guarantee the safety and security of citizens.

2

The **understanding of the new complex security scenarios** requires interaction with stakeholders to identify the information needs and the data available to extract it.

3

Advanced technologies enable the development of efficient solutions to respond to current and forthcoming challenges, exploiting synergies between EO civil and defence initiatives.

4

To succeed in responding to the continuously changing security environment with operational solutions, cooperative frameworks and **R&I investment in dual-use technologies is key.**



Thank You

Sergio.Albani@satcen.Europa.eu



Follow us!