The EU SatCen: A unique operational GEOINT instrument to support the EU External Action

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Who We Are

Agency of the Council of the EU

HQ in Torrejón de Ardoz, Spain

EO Satellite Data – secure context

CFSP/CSDP

Council Decision 2014/401/CFSP

GEOINT Service Provider, 24/7 availability
Current Engagements

Operations  Regional Conflicts  Piracy

Migration  Proliferation  Disasters
WMD  Humanitarian Aid
WHY CULTURAL HERITAGE DAMAGE ASSESSMENT?

Requester:

Purpose:
- To demonstrate the massive looting and trafficking operated in the areas that were controlled by DAESH.
- To increase the efficiency of the new EU Advisory Mission in support of Security Sector Reform in Iraq (EUAM Iraq), whose mandate was modified to include cultural heritage.
- To help archaeologist to return to work to those places.
FROM DESTRUCTION TO ILLICIT TRAFFIC
OBJECTIVE & AREA OF INTEREST

Analysis of six archaeological sites in Iraq to identify any damages or evidence of looting inflicted during the period of DAESH presence.

SAMARRA
Balkuwara Palace area, 7 km SE of Samarra.

NIMROUD
Ruins of the ancient city, 35 km SE of Mosul.

TEPE GAWRA
Elevated mound, 1.5 km SE of Khorsabad.

NINIVE
Remains of the former capital of the Neo-Assyrian Empire in Mosul city.

NABIS YUNES
The Mosque of the Prophet Jonah in Mosul city.

KHORSABAD
Remains of the ancient city of Dur Sharrukin, 15 km NE of Mosul.
LOOKING FOR EVIDENCES FROM SATELLITE IMAGES

WEAPON IMPACT
Satellite image showing a crater observed on the ground due to the military conflict in the area.

DESTRUCTION
Satellite image showing the level of destruction of a feature caused by explosion, vandalism, etc.)
LOOKING FOR EVIDENCES FROM SATELLITE IMAGES

EARTH MOVEMENT
Detecting Earth works directly affecting the sites analyzed

MILITARY ACTIVITY
Identifying military presence within the site (defence positions, military vehicles, etc).
Ninive – Sennacherib Damage 2013-2018
The Copernicus Service in Support to EU External Action (SEA) is a European geo-intelligence service which assists the EU and its Member States in its operations and interests outside EU territory.

The European Union Satellite Centre (SatCen) has been entrusted to operate the Copernicus SEA Service on behalf of the European Commission. SatCen provides support to FRONTEX in the Copernicus Service for Border Surveillance as well via a SLA.
Copernicus SEA has been supporting EU External Action since it started its operations in May 2017.

Geo-spatial services provided by EO Industry.
Activity Report:
The Activity Report can be used to confirm intelligence about a given location or to monitor an area in which activities of interest are suspected of taking place.
How it can help

Analysis of EO data based on different techniques to identify patterns of illegal activity in the area. Optical imagery is used to identify vehicles and infrastructure potentially suspicious.
Techniques used in other contexts could be applied
Smuggling of archaeological pieces can help fund illegal groups.
Some smuggling can follow known illegal routes.
Main objectives
- Enhance user access (faster, interactive, ...)
- Respond to new requirements (Updating the existing portfolio)
- Support/facilitate Image Analyst work

R&D needs to be explored (examples)
- Machine Learning for feature recognition.
- Big Data techniques for large data series management.
- On-line web mapping with geo-processing tools for user empowerment (portals).
- Quasi real-time services
- New data processing algorithms (fusion, multispectral, coherence, etc) & new sensors
- Data access and delivery enhancements

Projects
- Project 1
- Project 2
- Project 3
- Project n

Types
- New Product
- New Service
- Production Improvement
- Impact Studies
- User Experience
Pilot Projects of Service Evolution
The objective of Pilot Project are to resolve an emerging user need with an actual project that is not initially foreseen in the current operational portfolio.

EO Industry involved in Service Evolution

- Cultural Heritage
- Humanitarian Aid Delivery landing sites
- Crime against humanity
- Environmental compliance / crime
- Interactive on-line delivery with processing