

## **EO4Security: from space, an aid against environmental crimes**

### **ESA and e-GEOS to gather data for effective management of the environment**

Rome, 9 January 2024 - EO4SECURITY, a pioneering European Space Agency (ESA) project monitoring environmental crimes and illegal activities, is now operational.

e-GEOS - a joint venture between ASI (20%) and Telespazio (80%), part of Leonardo group - leads as the primary contractor in this project dedicated to developing cutting-edge algorithms and application platforms designed to provide tools capable of delivering timely geoinformation on noncompliance with environmental regulations, such as illegal mining and irregular trafficking.

In today's world, marked by a steady increase in environmental crimes, EO4SECURITY offers a key to understanding the impact of criminal activities on our planet and how best to safeguard it. It is now clear that a clean, safe, sustainable environment is integral to the full implementation of a broad spectrum of human rights and the achievement of the Sustainable Development Goals set by the UN 2030 Agenda. Because, ultimately, protecting our planet is synonymous with protecting people.

The purpose of the project is to exploit the widest possible availability of data to collect small- or large-scale information about our planet.

EO4SECURITY pools together on a single screen analyses and information concerning environmental crimes obtained from different high-resolution data sources, using daily satellite observations and multi-year analyses relating to specific areas.

The project will rely on the complementarity of data from Earth Observation satellites with so-called Open Source Intelligence (OSINT) data taken from the social media and other channels. All this data will be embedded within the operational workflows of end users for greater ease of use.

Industrial subcontractors collaborating with e-GEOS on the project will include GAF (a company fully owned by e-GEOS), Hensoldt Analytics, Janes and Dhiria (a spin-off of the Politecnico di Milano).

The United Nations Office on Drugs and Crime (UNODC) and the United Nations Interregional Crime and Justice Research Institute (UNICRI) are some of the end users engaged by ESA to support and contribute to the success of the project.

Within this context, e-GEOS confirms itself as a key technology partner for ESA, having also been selected to support the Agency in two further studies on innovative Synthetic Aperture Radar (SAR) processing methodologies for security applications.

## PRESS RELEASE

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Specifically, Inverse SAR (ISAR) technology will be developed for the detailed characterization of moving objects from SAR data, such as that deriving from the Copernicus program Sentinels or from the Italian COSMO-SkyMed satellites, through improved target focusing. For this technology, the project will draw on the expertise of two partners: ARESYS and CNIT.

Moreover, e-GEOS will provide Multisensor Data Fusion for Maritime Security Applications, implementing innovative data fusion processing methods based mainly on SAR and RF data, extended to optical satellite images and AIS. The project will permit the extraction of maritime patterns routes to identify irregular ship behavior. As industrial subcontractor, e-GEOS will work alongside Deix, with the support of Critiware and Cherry-Data.

By combining cutting-edge technology with advanced data analysis and cross-source integration, ESA and e-GEOS, along with the formidable e-GEOS consortia, are pioneering an approach that promises to support investigative activities and significantly enhance the management and protection of our planet.

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### ABOUT e-GEOS

e-GEOS, a joint venture between ASI (20%) and Telespazio (80%), is a global leader in delivering applications and services through highly technological and innovative Geoinformation platforms based on Artificial Intelligence and cloud technology. e-GEOS offers a unique portfolio of application services, ranging from data acquisition to analytical report generation, also due to its optical and radar capabilities and fast access to the superior monitoring capabilities of the first- and second-generation COSMO-SkyMed constellation, of which e-GEOS is the exclusive distributor worldwide. e-GEOS manages the Matera Space Center for the acquisition, storage and processing of multi-mission satellite data. The Center is one of the stations of the Core Ground Segment of Copernicus and receives radar data acquired by the Sentinel-1 mission.

#### Telespazio Press Contact:

Paolo Mazzetti | +39 335 6515994 | [paolo.mazzetti@telespazio.com](mailto:paolo.mazzetti@telespazio.com)  
Alessandro Iacopini | +39 331 6004894 | [alessandro.iacopini@telespazio.com](mailto:alessandro.iacopini@telespazio.com)

#### e-GEOS Communication:

Catia Rispoli | +39 337 1544348 | [catia.rispoli@e-geos.it](mailto:catia.rispoli@e-geos.it)