

# Copernicus



Copernicus is a European Earth Observation Programme, coordinated by the European Commission through the European Union Agency for the Space Programme (EUSPA) and in collaboration with the European Space Agency (ESA), the aim of which is to monitor the environment and mitigate the effects of climate change, contributing to the management of humanitarian emergencies, natural disasters and population security.



## THE ROLE OF TELESPAZIO

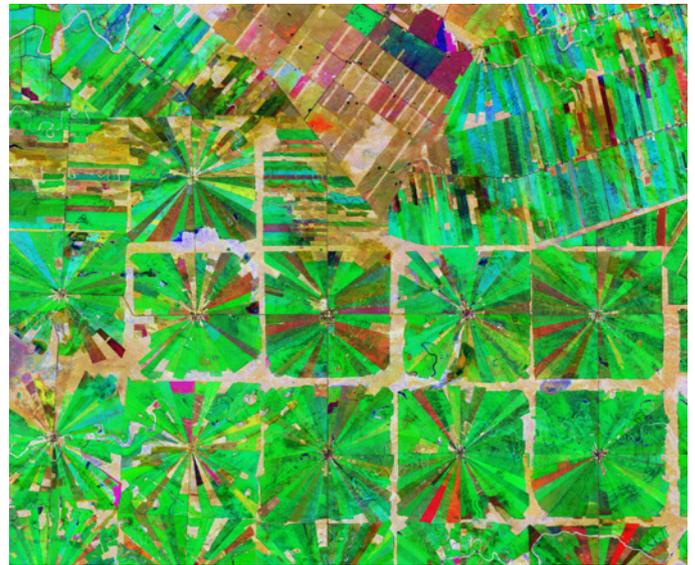
Telespazio, one of the leading industrial partners of Copernicus, plays a major role in terms of the programme's high-tech systems, operations, applications and services.

In particular, Telespazio is in charge of the development, maintenance and management of the operations of PRISM (Copernicus Contributing Missions access Support Functions and Platform), the system that enables the distribution of satellite data - acquired from Copernicus missions - to ESA users engaged in emergency management, environmental monitoring and safety operations.

The PRISM system is entirely available in the commercial cloud and totally integrated with the ESA's Sentinel missions, with the Italian COSMO-SkyMed satellites, and with the other missions linked to the Copernicus programme (the Copernicus Contributing Missions).

Telespazio has also contributed to developing the ground segment and operations of Copernicus.





In particular, it has played a leading role in the implementation and evolution of the Payload Data Ground Segment (PDGS) for the Sentinel-1 and Sentinel-3 missions (through the subsidiary **Telespazio Germany**), and of the Mission Control Systems of Sentinel-1, Sentinel-2, Sentinel-3 and Sentinel-5P.

In **operations sector**, Telespazio provides its own personnel to support **ESOC**, the European Space Operations Centre of the ESA, during the **pre-and post-launch phases of the Sentinel satellites** that make up the programme. Moreover, it is in **charge of the operations, maintenance and evolution for ESA-PRISM** and of the radar data acquisition of Sentinel-1 from e-GEOS's, joint venture between Telespazio (80%) and the Italian Space Agency (20%), **Matera Space Centre** since 2014 one of the Ground Stations of the Copernicus **Core Ground Segment**.

For **operations** management, maintenance and evolution of the **Sentinel 3** mission ground segment, Telespazio has also collaborated with ESA in the **Ground Segment Transformation** project, managing the entire design and migration of the ground segment, adapting it to new technologies and guaranteeing the best performance obtainable from **a cloud platform**.

Transferring the Sentinel-3 mission's entire ground segment to the public cloud enables an **optimisation of its computing resources by around 40 per cent, increasing the system's reliability and resilience** while ensuring that all users have the same amount of time to access information.

In 2022, Telespazio was also awarded the **Copernicus Coordination Desk** contract, under which it provides end-to-end monitoring and

operational coordination for the entire Copernicus constellation. The company acts as a central hub connecting **all deployed services for the acquisition and generation of Earth observation data**.

## THE SERVICES

As regards **services and applications**, Telespazio operates (through its subsidiaries **e-GEOS, GAF and Telespazio UK**) in the fields of emergency management, land and maritime security, land resource management and climate change monitoring. Moreover, it provides the Copernicus programme with Earth observation data from the **COSMO-SkyMed** missions.

**e-GEOS** supplies the European Commission with **geospatial data and satellite maps** of areas struck by emergencies, thus supplying the civil protection agencies and relevant authorities of EU countries, as well as international humanitarian organisations, with the data needed to handle catastrophic events.

The European Commission can thus provide **pre-and post-event maps** in any area of the world within a few hours of an emergency occurring, a fundamental capability in organising and coordinating relief efforts. The service, available **24/7** for the management of **crises** (floods, earthquakes, fires, technological disasters), is managed by e-GEOS, at the head of a consortium made up of the subsidiaries **GAF** (Germany) and **Telespazio Ibérica** (Spain), and of the partners **ITHACA** (Italy), **SIRS** and **University of Strasbourg** (France), **GMV** (Portugal).