

PRESS RELEASE

e-GEOS to develop an Hydro-Meteo Digital Twin

Rome, July 29, 2024 - e-GEOS - Telespazio 80%, ASI 20% - is part of the consortium which will build a “**Digital Twin**” of large areas of Italy **within the IRIDE programme**. The Digital Twin will provide selected institutional users with the data and tools they need to create simulation scenarios for different thematic areas, for **hydrogeological risk management and air quality monitoring**.

Using satellite data, ground monitoring sensors, digital terrain models and artificial intelligence, **the project** will allow the management of **a dynamic, virtual reconstruction of a physical system and evaluate its behaviour in different conditions**. The digital platform will be a framework based on mathematical models, data and scenario simulation, to be used as a **support tool for decision-making related to the management and prevention of environmental risks**.

Cyber Italy, which is part of **IRIDE** - the European Earth Observation satellite space programme, created in Italy with the resources of the Italian National Recovery and Resilience Plan, under the management of ESA and with the support of the Italian Space Agency – has just entered the second phase of development, which is expected to last twelve months. Together with **e-GEOS**, the other **members of the consortium are the leader Serco Italia, CGI and MEEO**.

The role of e-GEOS lies in the implementation of the **Hydro-Meteo-Climate Digital Twin** previously prototyped by the company in the first phase of project. The basic element is a very accurate 3D representation of the territory and its infrastructure, the framework on which to build the simulation scenarios to be analysed in case of possible or probable extreme flooding events.

The data integration and analysis will allow the simulation and visualisation of the potential impact of floods on a specific geographical area. In addition, the application will allow the use of real-time weather data and historical data to simulate the conditions that could lead to flooding, with factors such as rainfall intensity, soil saturation and river levels taken into account.

It will be possible to use the new Hydro-Meteo-Climate Digital Twin developed by e-GEOS to satisfy new use cases related to flood mapping and territorial monitoring, through an innovative concept that synergistically uses meteorological, hydrological and hydraulic models, elevation layers, geospatial products, GIS data, hydro-meteorological data and ancillary information from social media. The robustness of the digital model will be validated through specific use cases, which will simulate the efficiency of the scenarios simulated by the Digital Twin both in the prevention phase and as a decision-supporting tool.

“With the creation of this digital model, e-GEOS confirmed it is at the forefront of digital innovation applied to Earth observation and all sustainability topics in terms of land management. This is also thanks to the collaboration with excellent partners such as Serco Italia,” says Paolo Minciocchi, CEO of e-GEOS and Head of the Geoinformation Line of Business of Telespazio. *“e-GEOS and its long-standing expertise in the service of Earth observation are making a difference in the scenario of the future of Space and IRIDE services.”*

ABOUT e-GEOS

e-GEOS, a joint venture of the Italian Space Agency (20%) and Telespazio (80%), is a global leader in the supply of 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 analytics reporting. This is partly made possible by its optical and radar capabilities and by its rapid access to the superior monitoring capabilities of the first and second generation COSMO-SkyMed constellation, whose data it markets exclusively worldwide. e-GEOS manages the acquisition, storage and processing of multi-mission satellite data at the Matera Space Centre. This Centre is one of the Core Ground stations of Copernicus and receives radar data from the Sentinel-1 mission.

Telespazio Press Office:

Paolo Mazzetti | +39 335 6515994 | paolo.mazzetti@telespazio.com

Alessandro Iacopini | +39 331 6004894 | alessandro.iacopini@telespazio.com

e-GEOS Communication:

Catia Rispoli | +39 337 1544348 | catia.rispoli@e-geos.it