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Capgemini, NAIS, Engineering D.HUB and RHEA Italy awarded for the development of a Digital Twin of the Earth focusing on Italian territory

- Aimed at understanding and predicting the planet's phenomena, the Cyber Italy project will be carried out within IRIDE, the Italian constellation
- It will be based on integration of data, models, AI and advanced computing to offer very highprecision digital representations of earth processes

Milan, 7 June 2023 – Capgemini, NAIS, Engineering D.HUB (Engineering Group) and RHEA Italy, have been selected to lead one of the two Cyber Italy projects carried out within IRIDE, the Italian Earth Observation satellite space program. Capgemini and its partners will lead a project focused on a prototype of Digital Twins. The project will focus on the Italian territory to develop a highly accurate digital model (a Digital Twin) of the earth for the understanding and prediction of the planet system and its complex interactions with human activities. It will ensure coherence and cross-fertilization with other Digital Twin initiatives at a European level.

The project will support civil defense bodies, administrations and users interested in services and applications based on IRIDE data to monitor and fight hydro-geological instability and fires, protect coastlines, monitor critical infrastructures, air quality and weather conditions, as examples. It will also provide analytical data for the development of commercial applications by start-ups, small and medium-sized organizations and industries.

IRIDE is managed by the European Space Agency (ESA) in collaboration with the Italian Space Agency (ASI), for the creation of a satellite earth observation infrastructure to provide services to government agencies. It is drawing on resources from the National Recovery and Resilience Plan (PNRR).

Cyber Italy is in line with the overall mission of the IRIDE program: it aims at producing information and decision-making support tools to represent the dynamic relationships between the physical and natural environments (the earth system) and society (e.g. socio-economic pathways, adaptation and mitigation actions or governance).

"I am proud that Capgemini is part of this important program which is dedicated to measuring the impact on environmental sustainability and the preservation of our territory's natural treasures It will help control and prevent natural disasters and the damaging effects of human activities on the environment. It was only possible due to our deep expertise in data management and in the implementation of Digital Twins in the most diverse contexts, key dimensions of our Intelligent Industry¹ approach," says Eraldo Federici, Head of Manufacturing, Aerospace, and Life Sciences industries at Capgemini in Italy.

¹ 'Intelligent Industry' is the new era of digital transformation: characterized by a growing convergence of the physical and virtual worlds - product, software, data, and services - across all industries; and fueled by the rapid development of technologies, including cloud, artificial intelligence (AI), internet of things (IoT), edge computing and 5G.









"New technologies offer revolutionary opportunities to monitor, protect and enhance our country's territories. Engineering D.HUB is very proud to pool its assets and the technological skills of the entire Group in a project that once again demonstrates how Digital Transition and Environmental Sustainability must always proceed together, generating real benefits for the environment and people" adds Fabio Momola, CEO Engineering D.HUB (Engineering Group).

"In the Cyber Italy project, NAIS will be responsible for the development of a Digital Twin prototype and the user interface of the whole system, contributing with our expertise in EO data analysis and the development of innovative human-machine interfaces, also based on Mixed Reality techniques. NAIS will contribute to the Cyber Italy project thanks to its connotation as an ICT company engaged in the development of innovative software with a strong verticalization on satellite downstream services," says Antonio Monteleone, CTO of NAIS.

"I am very pleased and proud that RHEA will be able to participate in this important project, where we will be able to apply our deep expertise in the management and use of Earth observation data to the implementation of Digital Twins. We will work closely with the Italian user communities to maximize the usability and usefulness of the models and simulations we will develop," comments Michele Betti, ESA/ESRIN Account Manager, RHEA Group.

"The European Space Agency is delighted to have signed this contract," said Simonetta Cheli, Director of the European Space Agency's Earth Observation programs and Head of the ESA-ESRIN Centre in Frascati. "The Italian government has assigned us the task of implementing this particularly challenging and innovative program, and we are convinced of the importance of creating a highly accurate digital model of the earth, for the understanding and prediction of our planet's phenomena. Congratulations on this important contribution to the IRIDE system. We are more than ever certain that the IRIDE system, by integrating national and European assets, will make Italy even more competitive in the earth observation sector."

About Capgemini

Capgemini is a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided every day by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of nearly 360,000 team members in more than 50 countries. With its strong 55-year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering, and platforms. The Group reported in 2022 global revenues of €22 billion.

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About Engineering D.HUB

Engineering D.HUB, a company of the Engineering Group leader in the digitization of processes for companies and PA, has more than 850 professionals and operates through an integrated network of 3 Data Centers located in Pont-Saint-Martin (AO), Turin and Vicenza, with a system of services and an infrastructure that guarantees the best technological, quality and security standards to more than 400 customers both nationally and internationally. It offers innovative solutions such as cloud, robotized process automation, next-generation service desks with chatbots and digital agents, IoT solutions, biometric recognition, and 'as a service' solutions for proprietary, customer and partner vertical applications, supporting innovation that revolutionizes business processes and supports new digital business models.

https://www.eng.it/









About NAIS

NAIS is an ICT systems company based in Rome and Naples, classified as a SME according to the European Commission classification (2003/361/EC) and is ISO 9001:2015 certified. The company's aim is the development and proposal in the appropriate market sectors for innovative ICT-based applications and services through Satellite Navigation, EO & Communication activities. NAIS' core competencies in the Space and Defense market sectors play a strategic role in the development of innovative applications through enabling technologies. NAIS completes the entire Technology Transfer Process through R&D projects and product industrialization and commercialization. https://www.nais-solutions.it/

About RHEA Italy

RHEA System SpA is part of RHEA Group, a professional engineering and solutions company, offering system development, security and engineering services for space, government, defence and other critical infrastructure organizations across Europe and Canada. RHEA System SpA's core capabilities are focused on providing support services to the European Space Agency (ESA) for Earth observation missions and the Near-Earth Objects Coordination Centre (NEOCC), for data storage and end-user consumption. It is also involved in RHEA Group programs providing cybersecurity and artificial intelligence capabilities. RHEA is ISO 9001 and ISO 27001 certified.

https://www.rheagroup.com/it/