

The second-generation PRISMA Earth observation system gets underway

The consortium led by Thales Alenia Space signs the feasibility study contract with Italian Space Agency

Rome, February 21, 2022 - Thales Alenia Space, the joint venture between Thales (67%) and Leonardo (33%), has signed a contract with the Italian space agency (ASI) to conduct a feasibility study for the PRISMA Second Generation (PSG) hyperspectral Earth observation system. It will be leading a consortium that includes Leonardo, Telespazio (the joint venture between Leonardo (67%) and Thales (33%)), e-GEOS and SITAEL.

Lasting nine months, the feasibility study will take an innovative approach to support the development of applications in both national and international markets, such as improved monitoring of natural and atmospheric resources, while providing the data needed to more effectively manage regional development and environmental risks.

The feasibility study will capitalize on increased interest in hyperspectral imaging by consolidating the technological excellence achieved through the PRISMA demonstration mission. It will deliver higher performance in line with the updated application requirements specified by the European Space Agency (ESA) for the upcoming Copernicus Hyperspectral Imaging Mission for the Environment (CHIME), deployed as part of Europe's vast Copernicus environmental monitoring program.

The main challenge for hyperspectral technology is to capture images with high quality and spatial resolution, with frequent re-visit times and high signal to noise ratio. PRISMA SG will represent a significant step forward over the first-generation PRISMA system, improving spatial resolution via enhanced platform and instrument agility.

Thales Alenia Space in Italy will build the new satellite and take complete responsibility for system design, drawing on its proven experience in Earth observation satellites for Copernicus and the first and second-generation COSMO SkyMed satellites. It was also chosen by ESA in 2020 to design and build the two CHIME environmental monitoring satellites, with Leonardo contributing to the payload.

Leonardo provided the PRISMA hyperspectral instrument, already in orbit, and will also build this payload for PRISMA SG, but offering even higher performance to address the rapidly growing number of government, scientific and industrial applications.

Telespazio will be responsible for designing the PRISMA SG ground segment, while e-GEOS, a joint Telespazio (80%) and ASI (20%) company, will be in charge of market analysis and will also help Leonardo define user requirements.

SITAEL, a space company and a part of Angel Group, capitalizing on the national investments on electric propulsion, will participate in the trade-offs of satellite and platform as well as study the configurations to make PRISMA SG an "all-electric" satellite, thus ensuring the maneuverability and operational flexibility that only this type of satellites provide. Moreover, thanks to its extensive experience in control electronics, as in the case of the ESA Copernicus CHIME mission, SITAEL will study the sophisticated control unit of the hyperspectral payload, aiming at the scalability of a cutting-edge and consolidated technology that is able to speed up the development time as well as the implementation costs.

ABOUT THALES ALENIA SPACE

Drawing on over 40 years of experience and a unique combination of skills, expertise and cultures, Thales Alenia Space delivers cost-effective solutions for telecommunications, navigation, Earth observation, environmental management, exploration, science and orbital infrastructures. Governments and private industry alike count on Thales Alenia Space to design satellite-based systems that provide anytime, anywhere connections and positioning, monitor our planet, enhance management of its resources, and explore our Solar System and beyond. Thales Alenia Space sees space as a new horizon, helping to build a better, more sustainable life on Earth. A joint venture between Thales (67%) and Leonardo (33%), Thales Alenia Space also teams up with Telespazio to form the parent companies' Space Alliance, which offers a complete range of services. Thales Alenia Space posted consolidated revenues of approximately 1.85 billion euros in 2020 and has around 7,700 employees in 10 countries with 17 sites in Europe and a plant in the US.

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ABOUT LEONARDO

Leonardo, a global high-technology company, is among the top world players in Aerospace, Defense and Security and Italy's main industrial company. Organized into five business divisions, Leonardo has a significant industrial presence in Italy, the United Kingdom, Poland and the USA, where it also operates through subsidiaries that include Leonardo DRS (defense electronics), and joint ventures and partnerships: ATR, MBDA, Telespazio, Thales Alenia Space and Avio. Leonardo competes in the most important international markets by leveraging its areas of technological and product leadership (Helicopters, Aircraft, Aerostructures, Electronics, Cyber Security and Space). Listed on the Milan Stock Exchange (LDO), in 2020 Leonardo recorded consolidated revenues of €13.4 billion and invested €1.6 billion in Research and Development. The company has been part of the Dow Jones Sustainability Indices (DJSI) since 2010 and has been confirmed among the global sustainability leaders in 2021. Leonardo is also included in the MIB ESG index.

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ABOUT TELESPAZIO

Telespazio, a joint venture between Leonardo (67%) and Thales (33%), is one of the world's main operators in the space services sector. These include the design and development of space systems, the management of satellite launch and in-orbit control services, Earth observation services, integrated communications, satellite navigation and localisation, and scientific programmes. Telespazio plays a leading role in its relevant markets by leveraging the technological expertise it has acquired through 60 years of activity, through developing its own infrastructures, and through its participation in space programmes such as Galileo, EGNOS, Copernicus and COSMO-SkyMed. In 2020, Telespazio generated sales of EUR 540 million while employing 3,000 people in nine countries.

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