

PRESS RELEASE

SENER in Poland provides security for the scientific instrument of the European Space Agency's satellite

Warsaw (Poland), May 5th, 2021- SENER in Poland, a company of [SENER Aeroespacial](#), is developing a project for containers for transporting and storing the payload of a satellite for the European Space Agency's [Fluorescence Explorer \(FLEX\)](#) "green" mission, which will monitor the condition of plants from space. The contract with Leonardo results from the company's investment in Research and Development of containers for space missions.

SENER in Poland will design and develop a container to transport the FLORIS scientific instrument, a key component of the mission, which will be used to map the fluorescence of the Earth's vegetation in order to quantify photosynthetic activity. SENER Aeroespacial is also in charge of FLORIS' [optical bench or IOMS](#) (Instrument Optical Module Structure) that includes the Optical Bench Assembly (OBA), which houses and supports the optical instruments, and the thermal hardware (THW), responsible for keeping the module at a controlled temperature.

Although the container will first be designed and constructed for the FLEX mission, the experience gained from this program will allow the production of these complex and precise devices for other missions as well. This is an important goal in terms of product standardisation in the space industry, i.e. using the same components for different space vehicles. The success of the project will enable further development of the space sector on the Vistula, based on more mass production than so far: contrary to popular belief, containers for transporting such precise and at the same time delicate devices as satellite payloads are extremely complex devices. Among the ground support equipment for assembling satellite instruments - collectively referred to as MGSE (Mechanical Ground Support Equipment) products - it is the transport containers that are most crucial, completely isolating the satellites from the influence of external factors. This does not only mean weather factors, but also shocks and vibrations occurring during loading and transport, e.g. by air," says Pawel Paśko, Project Manager at SENER in Poland, who has already managed R&D projects for space exploration systems developed within the framework of the ESA and cooperated, among others, with the Space Research Centre of the Polish Academy of Sciences and the Max Planck Institute for Solar System Research in Göttingen.

SENER will design two containers: an outer container that is watertight and provides ISO 8 clean room level, and an inner container: watertight and gas-tight, it will provide ISO 5 clean room level. The container will be able to carry a payload of up to 200 kg, but the design is easily scalable to other values.

In response to the needs of space agencies and satellite manufacturers, the container has to undergo numerous endurance tests to ensure it can withstand the rigors of transport. It is also important to ensure that the instruments in transit have adequate ventilation, temperature and humidity. In the case of Flex missions, all these factors must also comply with the stringent requirements of the European Space Agency (ESA).

In the process of developing the container for the FLEX mission, the SENER in Poland team will have to develop new competences, which will involve looking for new business partners on the Polish market.

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The current project for the FLEX mission is due to be completed in September this year. The experience gained in developing the container will complement SENER in Poland's extensive portfolio in the MGSE field, which includes missions such as Euclid, JUICE and PLATO in the field, and will be used in the construction of similar equipment for future missions.

The European Space Agency's FLEX mission, for which a satellite transport container will be built in Poland, has the task of mapping the fluorescence of the Earth's vegetation in order to quantify photosynthetic activity with the Floris instrument. The main contractor for the program is Thales Alenia Space, with other leading European space companies involved in the project: Leonardo, OHB Systems AG and RUAG. The FLEX satellite, which is due to be launched in 2024, will carry out its mission for three and a half years working in tandem with the Sentinel-3 satellite, which is part of ESA's Copernicus Earth observation program.

About SENER Aeroespacial

SENER Aeroespacial has been a leading supplier of high performance aerospace systems for Space, Defense and Science for more than 50 years, with high added value technological developments.

In Space, it supplies electromechanical components and systems, navigation systems (GNC/AOCS), communications, astronomy and optics systems, and it is currently participating in the main programs of ESA and NASA (including Euclid, Meteosat Third Generation, Solar Orbiter, JUICE, Proba-3, Hubble, Galileo, Rosetta, Gaia, Herschel and Planck, IXV, BepiColombo and Mars 2020) and the European Southern Observatory; in the Space commercial market, is a leading supplier of telemetry and telecommand antennas and a regular supplier of all types of antennas, passive equipment and radio frequency assets for the leading international manufacturers of communications satellites, even in programs for the so called New Space.

SENER Aeroespacial is part of the SENER engineering and technology group, founded in 1956. The SENER Group has 2,350 professionals in offices in four continents and the group's operating revenue exceeded 433 million Euros (2019 data).

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