

PRESS RELEASE

SENER has provided equipment for the ESA satellite, which will study the green lungs of the world

Researchers' estimates leave no illusions: we have already lost more than half of the tropical forests that once covered the Earth. The Biomass satellite of the European Space Agency (ESA) is expected to help us to obtain accurate data on the state of the planet's deforestation and related climate change. The devices supporting the installation of the satellite in orbit were designed, tested and supplied by SENER engineers in Poland.

Warsaw, October 21, 2020- SENER, commissioned by OHB Italia and as part of the mission of the European Space Agency, has designed, manufactured and tested the Mechanical Ground Support Equipment to support the installation of a satellite that is 12 meters wide and 20 meters long. The MGSE kit includes equipment for mounting and dismounting the satellite panels as well as structures for environmental testing of some of its instruments.

The Biomass mission is part of the "Earth Explorer" scientific program, under which ESA conducts research on Earth from space and seeks answers to questions about changes in the environment and man's impact on the biosphere. Trees play a very important role in protecting the Earth's ecosystem, producing oxygen and absorbing carbon dioxide, reducing its emission into the atmosphere. At the same time, data on the magnitude of deforestation is still inaccurate, because forest biomass in most areas of the Earth has never been accurately counted. The European Space Agency wants to change this by launching the Biomass satellite into orbit, which by scanning the planet from space will provide the first accurate maps of forest biomass for temperate, tropical and boreal (northern) regions.

The main research instrument of the ESA satellite is the SAR radar with a powerful 12 meter diameter antenna, the waves of which will penetrate the branches of trees and scan trunks and branches. On this basis, a current three-dimensional map of the Earth's forests will be created every six months. And that is not all. When the satellite will be ready in orbit, the possibilities of using its observation functions will be mainly limited by the imagination. The list of applications for SAR radar, in addition to "weighing" trees on the planet, may include, for example, monitoring glaciers and changes in the ice cap or scanning the land for archaeological buildings under the surface of the deserts.

Janusz Grzybowski, Project Manager for the Biomass mission at SENER in Poland says: *"Missions such as Biomass not only bring us closer to understanding the most important phenomena taking place on our planet but can also help us to protect it in an invaluable way."* The launch of the Biomass mission is planned for 2022. The satellite will be launched into low Earth orbit on board the Vega rocket. The mission is planned for five years, during which time SAR radar data will be delivered to the ground station in Kiruna, Sweden. The budget of the whole mission is 420 million euros.

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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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