



The launch of the PAZ satellite is successfully completed

Madrid, February 22, 2018.- Hisdesat announces that its high-resolution radar satellite for Earth observation, PAZ, has successfully departed from the Vandenberg Air Force Base in California, USA, embarked on the Falcon 9 launcher of the SpaceX company, at 15:17 in the afternoon.

After being injected into the planned orbit, it was received by the German station of Wilhelm for the first time, an hour and a quarter after the separation. This satellite has arrived in perfect health. Subsequently, telemetry has also been received and it has been possible to send remote controls from the Torrejón Station (Madrid) in the INTA, this being the satellite's nominal station.

From now on, it will be placed in its final position in orbit and together with the German satellites TSX and TDX will form a constellation of state-of-the-art radar satellites.

Spain thus takes a giant step in this field, having as of this moment its own capabilities in satellite observation and, especially, radar technology, thus placing itself in the small group of countries with this autonomy (in Europe: Germany and Italy). "The PAZ program is a giant step for industrial space development in Spain," said Miguel Ángel Panduro, CEO of Hisdesat. "We are very satisfied with the tractor action we have carried out in this sector, creating highly qualified employment and providing our country with special radar satellite capabilities, which until now it did not have".

Airbus in Spain, as the main contractor of the program, led a team of 18 Spanish companies and three universities, so the Spanish space industry has been deeply involved in the development of its advanced active sensor with SAR technology, which stands out for its great sophistication and complexity. Since the beginning of the program, the PAZ satellite has generated substantial benefits for the Spanish

space companies involved and has allowed them to develop new capabilities to continue improving their competitiveness in the global space market.

PAZ has an advanced radar instrument designed to provide high flexibility and allow operating in various modes, so that different image configurations can be selected. The satellite can generate images of up to 25 cm. of resolution, day and night, regardless of the weather conditions. PAZ will orbit around the Earth 15 times a day covering an area of more than 300,000 square kilometers at 514 kilometers altitude, traveling at a speed of seven kilometers per second. In its quasi-polar orbit, slightly inclined, PAZ will cover the entire planet in 24 hours and its use is both civil and military.

Applications

It allows the observation of the territory for multiple applications: border control, intelligence, environmental control, protection of natural resources, military operations, verification of international treaties, monitoring of the land surface, urban planning, infrastructure planning, assessment of natural disasters and cartography of high resolution, among others.

AIS by satellite

As a secondary payload, the PAZ satellite will carry on board a state-of-the-art AIS (automatic vessel identification) receiver from the Canadian listed company exactEarth, of which Hisdesat is the largest shareholder, so that a merger can be made for the first time of SAR data (synthetic aperture radar) and AIS captured simultaneously, which will provide the best possible monitoring of the maritime environment worldwide. The processors have been developed in collaboration with the Department of Signal Theory and Communications of the Higher Polytechnic School of the University of Alcalá de Henares.

Also in the field of maritime surveillance, Hisdesat has developed, in collaboration with INDRA, an anomaly detection processor based on AIS technology that allows surveillance of any incident in an area of defined interest during a set time. The situations reported are, among others, the surveillance of an area informing of the ships that are in it, interception of a ship in a defined nearby area, boats stopped at sea, anomalous speeds of ships, groupings of ships, entrances and exits of ports, etc.

Radio occultation experiment

It will also be provided with a Radio Occultation and Extreme Precipitation (ROHP) experiment by the Institute of Space Sciences of the Higher Council for Scientific Research (ICE-CSIC). For the first time, GNSS (global navigation satellite system) radio coverage measures will be carried out in two polarizations

so that the potential polarimetric concealment capabilities can be exploited to detect and quantify intense precipitation. In this way, it will be possible to improve predictions regarding atmospheric behavior, such as rainfall, floods and take the necessary measures to avoid possible associated disasters.

The project of Radio Concealment and Extreme Precipitation (ROHP) is led by the Institute of Space Sciences (ICE) of the CSIC and has the collaboration of the NASA Jet Propulsion Laboratory (JPL), the National Oceanic and Atmospheric Administration (NOAA) and Hisdesat.

Copernicus

This new satellite will also make it possible to substantially improve the positioning of our country within the European program for global surveillance of the environment and security Copernicus, the main initiative in the field of Earth observation led by the European Union and the European Space Agency (ESA), as PAZ is designated, Contributing Mission.

About Hisdesat

HISDESAT was born in 2001 as an operator of satellite government services to act fundamentally in the areas of defense, security, intelligence and external services. Since 2005, the company provides secure satellite communications services to government agencies in different countries and is currently developing new constellations of Earth observation satellites and maritime satellite traffic information (AIS). More information: www.hisdesat.es

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