

PRESS RELEASE

SENER puts the FixBox equipment in orbit, destination ISS

- The mission has been launched successfully from the Kennedy Space Centre in Cape Canaveral
 - The company is carrying out this project for the ESA in collaboration with NASA

Madrid, 2 June 2017 - The engineering and technology group [SENER](#) is part of the mission Space X Dragon, which has been launched successfully yesterday from the Kennedy Space Centre in Cape Canaveral (USA).

Boarded on the space vehicle Space X and with the assistance of our SENER colleagues in Barcelona, the biology experiment for which the company has developed the fixation equipment (FixBox) has been launched to the International Space Station (ISS). It is the third experiment Seeding Growth-3, the latest in a series initiated in 2013.

This purpose of this project, awarded to SENER by the European Space Agency and developed in collaboration with the North American Space Agency (NASA), is to conduct research on the growth of *Arabidopsis Thaliana* seeds and to study the effects of microgravity and light on their development. This project is the result of an international scientific collaboration led by professor Javier Medina from the Centro de Investigaciones Biológicas (CIB-CSIC). Once they have germinated, the seeds will be treated with fixatives to preserve them until they return to Earth.

During this phase, the FixBox device is essential in providing this chemical fixation. This device's complexity lies in the fact that it must integrate five cartridges with seeds within a very small space, while also including an automatic system for the injection of the fixative, which is all confined inside three containment barriers.

The aforementioned project falls within the scope SENER's space activities with airborne equipment for microgravity and life support experiments, which includes over 28 years of work in missions with NASA's Space Shuttle, the Russian station MIR, the FOTON M3 capsule and, particularly, the International Space Station (ISS). At the latter, experiments have been recently conducted on the amount of muscular atrophy suffered by astronauts in microgravity with MARES equipment.

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About SENER

SENER is a private engineering and technology group founded in 1956. It seeks to offer its clients the most advanced technological solutions and enjoys international recognition, thanks to its independence and its commitment to innovation and quality. SENER has a workforce of close to 6,000 professionals at its facilities in Algeria, Argentina, Brazil, Chile, China, Colombia, India, Mexico, Morocco, Poland, Portugal, South Africa, South Korea, Spain, the United Arab Emirates, the United Kingdom, and the United States. The group's operating turnover exceeds €1.376 billion (2015 data).

SENER engages in the specific activities of Engineering and Construction. It also has industrial holdings in companies involved in Aeronautics, as well as in Energy and Environment. SENER's Engineering and Construction division has become one of the world's benchmark companies in the Aerospace, Infrastructure and Transport, Power, Oil & Gas, and Marine Engineering sectors.



In 2017, SENER celebrates 50 years in the Space industry with more than 275 devices and systems for satellites and space vehicles to agencies in the USA (NASA), Europe (ESA), Japan (JAXA) and Russia (Roscosmos).

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