

## PRESS RELEASE

# SENER develops the hold down and release actuator for the ATHENA telescope mirror

Madrid (Spain), March 13, 2019 - The engineering and technology group [SENER](#) has signed a contract with the European Space Agency (ESA) to design, manufacture and test a prototype of the HDRA (Hold Down and Release Actuator) mechanism for the [ATHENA](#) (Advanced Telescope for High Energy Astrophysics) telescope mirror. ATHENA is a scientific mission from ESA to find answers to major scientific questions about how galaxy groups and black holes form.

In practice, the probe is a huge, 12-meter X-ray telescope that facilitates the study of phenomena such as gamma-ray bursts, magnetic interactions between extrasolar planets and their stars, the gasses surrounding galaxy groups, the auroras of Jupiter, and comets in our solar system.

The contract signed by SENER implies the design, manufacture and test of a prototype of the HDRA (Hold Down and Release Actuator) mechanism, which purpose is to ensure that the telescope mirror, of great dimensions, remains immobilized until the probe is in the correct orbit.

To this end, in the design of the mechanism SENER will be using as a fundamental component a version of the family of non-explosive release devices called NEReA (Non Explosive Release Actuator), which has been developed entirely by SENER with its own technology and is currently in the qualification phase.

This is the second contract that SENER carries out for this mission, after developing the [Instrument Selection Mechanism \(ISM\)](#) - based on a SENER patent - that allows ATHENA telescope to use two instruments working with just one large mirror, which is not a common solution. The ATHENA spacecraft carries two independent instruments; a spectrometer (X-IFU) and an imager (Wide Field Imager, WFI) which will share a single focal point provided by a single X-ray telescope.

ATHENA is the second L-class (Large) mission under the European Space Agency's 'Space Vision' scientific program and the launch of the probe is planned for 2028.

The SENER group has been, for [more than 50 years](#), a top-tier supplier of electromechanical components and systems, navigation systems (GNC/AOCS), communications, astronomy and optics systems for Space, and it is currently participating in the main programs of ESA and NASA (including, in addition to those already mentioned, Hubble, Galileo, Rosetta, Gaia, Herschel and Planck, IXV, Proba 3, BepiColombo, Solar Orbiter, JUICE, Euclid and ExoMars 2020) and of the European Southern Observatory (ESO). The group stands out as one of the leading suppliers for the ESA's science programs, for its engineering contributions.

### **About SENER**

*SENER is a private engineering and technology business group founded in 1956. Its aim is to offer its clients the most advanced technological solutions and to achieve international recognition based on its independence and commitment to innovation and quality. SENER has more than 2,500 professionals across its centres in Algeria, Argentina, Brazil, South Korea, Canada, Colombia, Chile, China, the United Arab Emirates, Spain, the United States, Morocco, Mexico, Poland, Portugal, the United Kingdom and South Africa. The group's operating revenue exceeded 766 million Euros (2017 data).*

*SENER brings together its own Aerospace and Engineering and Construction activities with industrial holdings in companies working in the field of Energy & Environment. In Aerospace, SENER has more than 50 years of experience and it*



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