

PRESS RELEASE

SENER Aeroespacial delivers the flight model of the Umbilical Release Mechanism for ExoMars 2020

- The device provide a mechanical support for the harness of the Rosalind Franklin Rover during launch, cruise, entry, descent and after landing on the surface of the red planet and are key to the success of the European Space Agency's mission.
- SENER's comprehensive work in ExoMars is one of the papers that SENER Aeroespacial will be presenting during the 18th bi-annual European Space Mechanisms and Tribology Symposium (ESMATS), that will be held in Munich (Germany), from the 18th-20th September 2019, gathering Space mechanism professionals and industry leaders from around the globe.

Madrid (Spain), September 18th, 2019 -. [SENER Aeroespacial](#), a company that is part of the SENER engineering and technology group, has delivered the flight model of the "umbilical cord" for the [ExoMars](#) mission, as part of the contract signed with the British Airbus Defense & Space which is responsible for integration and delivery of the Mars rover. The prime of the entire mission is Thales Alenia Space Italia.

This contract adds to several others awarded to SENER in the ExoMars mission: the company has been responsible for three of the [mechanisms for the Rover's Drill](#). These mechanisms will enable drilling of the Martian soil to a depth of two meters; besides, SENER Aeroespacial is also in charge of the hold down and deployment mechanisms for the vehicle's solar array and has also produced the Special Check Out Equipment (SCOE) for the Guidance, Navigation and Control (GNC) subsystem. Finally, SENER Aeroespacial is also supporting the mission by analyzing and checking the GNC subsystem in terms of its performance and assessing the verification of the related requirements.

SENER Aeroespacial will explain this comprehensive work during the 18th bi-annual European Space Mechanisms and Tribology Symposium ([ESMATS](#)) held in Munich (Germany) from the 18th-20th September 2019. At this event, SENER Aeroespacial will be showing its space capabilities on its own booth, and engineers from the company will be presenting papers of different equipment for: the science missions JUICE ('Magnetometer Boom Subsystem for JUICE') and Euclid ('Euclid Antenna Deployment and Pointing Mechanism'); Earth Observation ('Meteosat Third Generation scan assembly qualification testing'); mechanical products for commercial space ('Non-explosive release actuator development and qualification'); and the Umbilical Release Mechanism ('Umbilical release mechanisms (URM) for ExoMars2020 mission'); this last one regarding SENER's role in ExoMars.

The ExoMars mission (Exobiology on Mars) is a joint venture of the European Space Agency (ESA) and the Russian Roscosmos. The goal of the mission is to look for traces of life on Mars and better preparation for future manned missions on this planet.

Further information:

Regarding the umbilical cord for Exomars, engineers from SENER Aeroespacial have been working on this equipment since 2015. The company was responsible for the whole project - from the concept stage, through manufacturing and tests to the delivery of flight models, which in 2021 are to land on Mars.

When entering the atmosphere of Mars, the Rover, named after Rosalind Franklin, will be inside the lander. After reaching the surface, the lander will unfold the solar panels and start charging the Rover battery. During the flight from Earth to Mars, as well as during the start-up of the robot, the power supply and signals will be transmitted through the connection created by SENER Aeroespacial. After charging, the rover will lift on the wheels, and then the "umbilical cord" will detach itself to allow the vehicle to go to the surface of Mars and start testing. The system designed and manufactured by SENER Aeroespacial consists of two devices - the primary and the redundant one. The trip to Mars itself is a challenge because of the extreme conditions of the interplanetary space, characterized by high radiation and temperatures of down to -135 degrees Celsius. The mechanism will also be exposed to the heavy conditions of taking off from Earth and landing on Mars, as well as on the pollination and atmospheric conditions of the planet.

SENER Aeroespacial has been a leading supplier of high performance aerospace systems for Space, Defence 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 for Space, 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 Space 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. In Defence, it develops electromechanical systems, COMINT (communications intelligence) and communications links (D-Link), as well as helicopter modernization services. In Astronomy and Science, it produces precision mechanical equipment for terrestrial telescopes and engineering services. And, finally, its ATC & Broadcast division is a supplier of antennas and passive units.

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 2,300 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 589 million Euros (2018 data).

SENER brings together its own Aerospace and Engineering activities with industrial holdings in companies working in the field of Energy through SENER Renewable Investments. SENER Aerospace has more than 50 years of experience and it is a first-rate international supplier in Space, Defense and Aeronautics. SENER Engineering has become a leading company worldwide in Infrastructure, Energy and Marine.

Follow us on:  

Further information:

Oihana Casas. Communications. SENER.
Tel (+34) 918077318 / (+34) 679314085

www.group.sener