PRESS RELEASE

Safran Reosc wins fifth contract in a row for ESO's Extremely Large Telescope

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Safran Reosc, a subsidiary of Safran Electronics & Defense, today signed a contract with the European Southern Observatory (ESO) to design and produce the M5 mirror, the fifth and final mirror for the Extremely Large Telescope (ELT)*. The ELT will be the most powerful telescope ever built.

The M5 mirror for the ELT is a flat elliptical silicon carbide mirror measuring 2.70 by 2.20 meters. It will be the world's largest mirror with optical precision in the 10 nanometer class built to date. Safran Reosc is also responsible for the development and construction of the high-precision optical test bench, which will be used to measure the mirror's optical quality throughout the polishing process.

This contract for the M5 mirror is the latest in a line of successes for the ELT: Safran Reosc previously won the contracts to make the thin glass petals of the M4 mirror in 2015, polish the M2 mirror in 2016 and polish the M3 mirror and all segments of the M1 mirror in 2017. The M5 mirror will help stabilize the image from the ELT telescope. It will be mounted, by ESO, on a tip/tilt mechanism that will constantly oscillate at controllable frequencies of about 10 Hz, which means it has to be very light and rigid.

Safran Reosc's solution is based on silicon carbide (SiC), a material that offers mechanical properties ideally suited to the M5 mirror. The company has built up extensive expertise in SiC optics of the years, and has produced more than 100 high-performance SiC mirrors for space applications in the last 15 years. Mersen group, through its subsidiary Mersen Boostec located in the vicinity of Tarbes (France), will produce to Safran Reosc's specifications the mirror lightweighted substrate to be then polished and integrated by Safran Reosc.

Safran Reosc will deliver the M5 mirror in 2024 to ESO, which will then integrate the mirror in its structure.

After signing the contract, Philippe Rioufreyt, CEO of Safran Reosc, said: "Safran Reosc's successive contract wins for the five mirrors that make up the ELT telescope reflect our unique experience in the polishing of large high-precision mirrors for astronomy and spaceborne applications. These successes also demonstrate our ability to meet the most stringent technological requirements of customers like ESO."

*The ESO's Extremely Large Telescope (ELT) is a giant telescope with a 39-meter-diameter (130-foot) primary mirror. To be installed on the Cerro Armazones mountain in Chile at an elevation of 3,048 meters (10,000 ft), it will drive significant progress in astronomy, especially in areas such as stellar archaeology and the characterization of exoplanets. First light, or the start of observations, is planned for 2025.

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