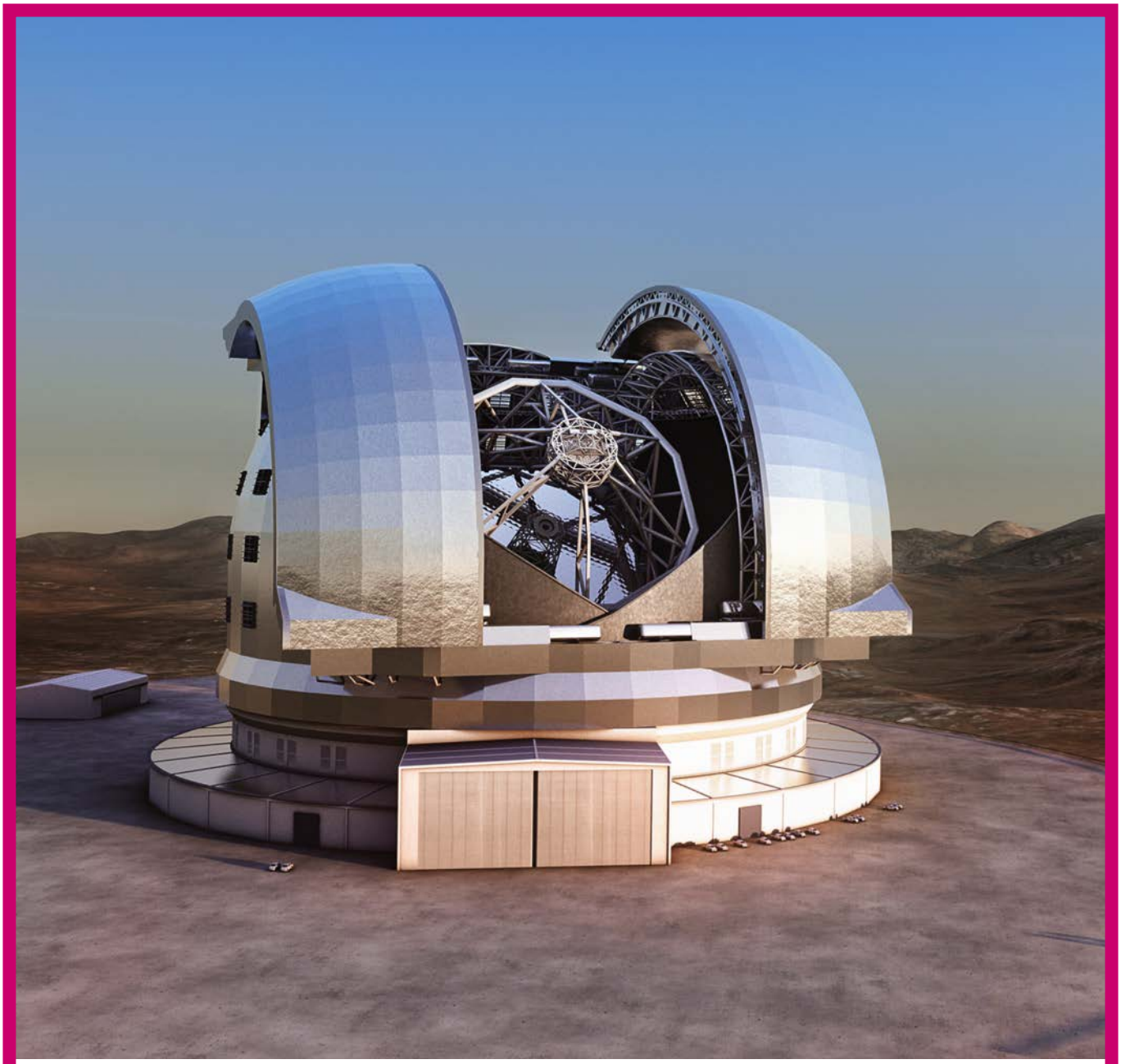


OPTICS FOR THE ELT

- M1 segments
- M2 mirror
- M3 mirror
- Adaptative M4 mirror petals

SAFRAN

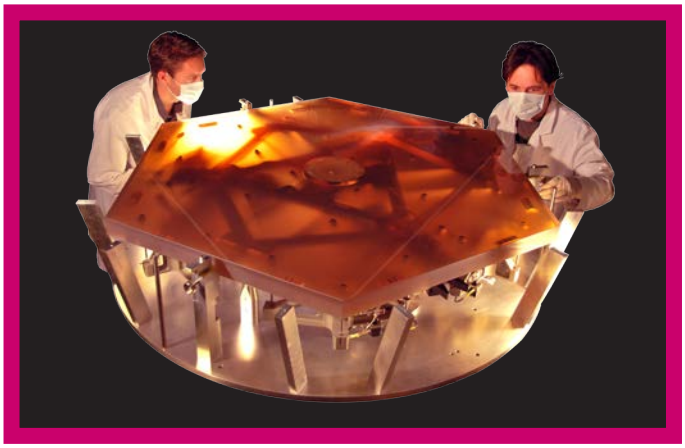
80TH ANNIVERSARY OF SAFRAN REOSC 2017

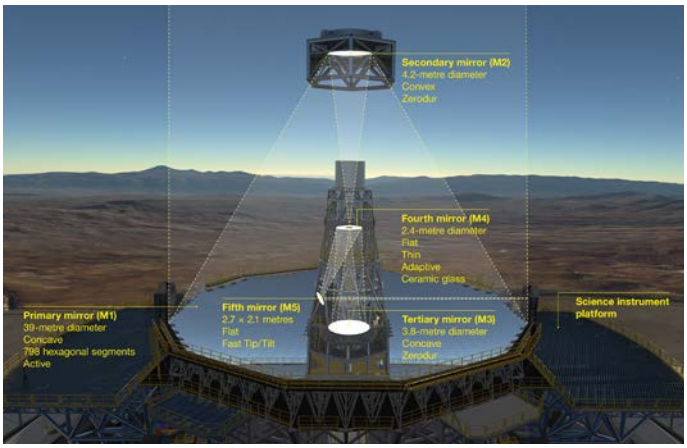
OPTICS FOR THE ELT

Safran Reosc solutions

As a longstanding partner of the European Southern Observatory (ESO) organization, Safran Reosc, a subsidiary of Safran Electronics & Defense, has been selected to supply the key optics of the Extremely Large Telescope, the world most advanced optical telescope of all time.

Founded in 1937 by Henri Chrétien and Charles Fabry, Safran Reosc has built, over the years, its international reputation upon its excellence in high-performance optics for astronomy telescopes and instrumentation.





Our key contributions to European astronomy over the past 80 years:

- OHP and ESO 1.5-m twin telescopes as well as other small telescopes and spectrograph instruments
- ESO 3.6-m telescope optics
- Pic du Midi 2-m optics
- ESO Very Large Telescope 8-m four primaries polishing and active support system
- ESO VLT four secondaries
- ESO VLT Coudé train optics
- ESO VLT Cat's Eye telescope mirrors
- Grand Telescopio Canarias (GTC) segments for its primary mirror
- GTC secondary mirror

Today, Safran Reosc is manufacturing all the key optics for the ELT:

- **931 primary mirror segments** (incl. 133 spares) of 1.4-m aperture, integrated on their support system delivered by ESO to Safran Reosc
- **The 4-m convex secondary mirror**, highly aspheric and difficult to test
- **The 4-m concave tertiary mirror**

In option, Safran Reosc will integrate the M2 and M3 mirrors in their respective cell delivered by ESO and conduct system checks of the optical surface active figure control by these two systems.

- **2 sets of six thin glass petals** dedicated to the Adaptive Optics M4 Unit. The AdOptica consortium in Italy will then integrate these petals within the giant M4 Adaptive Optics unit dedicated to the correction of atmospheric turbulences within the telescope.

STATE-OF-THE-ART MANUFACTURING & TESTING FACILITIES

The Safran Reosc's Saint-Pierre-du-Perray space optics lab will produce the ELT M4 thin sector petals. The large astro optics plant with its 30-m tower will be equipped with new advanced large optics machinery and test means to produce the 4-m size ELT M2 and M3 mirrors.

A new production facility dedicated to the ELT M1 segments will be set up in Poitiers, within Safran Electronics & Defense's plant, specialized in the production of high-tech optical and optronic (electro-optical) equipment.

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