

## Press release

# CILAS will develop the two large deformable mirrors for the Thirty Meter Telescope («TMT»)

Orléans (France), June 13, 2019

- 
- **CILAS, the pioneer in adaptive optics in France, was awarded a contract for the production of two large deformable mirrors (“DMs”) for TMT, one of the world’s most advanced optical/near-infrared telescopes when built.**
  - **This contract will produce the largest DMs ever fabricated with piezo-electric technology.**
- 

CILAS will manufacture the two DMs optically conjugated to the ground («DM 0», 3 125 actuators in a 63x63 array with ~5mm inter-actuator pitch) and to 11.8 km («DM 11», 4 548 actuators in a 76x76 array with ~5mm inter-actuator pitch). The DMs will be integrated into the TMT first light, laser guide star, multi-conjugate adaptive optics system and used to correct wavefront deformations generated by atmospheric turbulence.

Located in Hawaii, TMT’s telescope observatory will enable discoveries in the fields of astronomy, astrophysics, and cosmology. TMT’s science agenda shall cover all space and time domains from nearby comets & asteroids to exoplanets, distant galaxies, and the very first sources of light in the universe. With a 30 meter primary mirror, TMT is at the vanguard of a new generation of large telescopes called «Extremely Large Telescopes» (“ELTs”).

This contract is the result of a long-standing collaboration between CILAS and TMT (started in 2004) to develop DM technology for very large telescopes. For this purpose, CILAS adapted and improved its SAM (Stack Array Mirror) technology, initially developed in the 1980’s to meet the needs of astronomers.

### **Press contact :**

Romane DALLA VERA  
+33 2 45 40 05 05 / +33 6 70 21 31 38  
dallavera@cilas.com

### **About CILAS**

For over 50 years, CILAS, subsidiary of ArianeGroup and Areva, has been at the leading edge of the modern technology sector thanks to its unique expertise in laser and optronics. With a turnover of 47 million euros in 2018, CILAS develops, manufactures and markets a wide range of products and systems for defence, security, space and industrial instrumentation. The company is also involved in scientific laser programs. CILAS is present in more than 15 countries. Through partnerships with multiple defence organizations and NATO members, CILAS is settling its international presence.