



The European Extremely Large Telescope

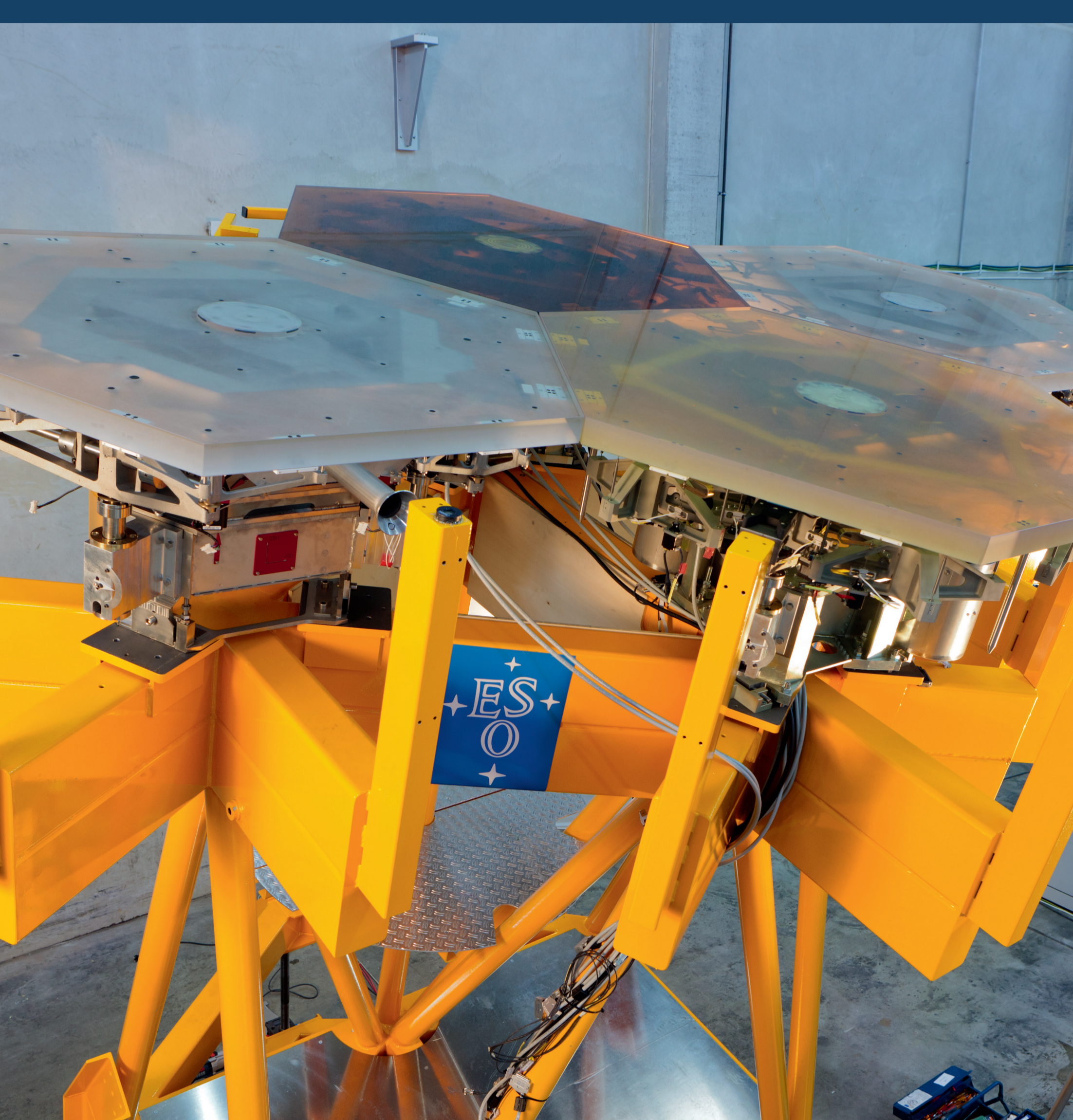
— The World's Biggest Eye on the Sky

The development of extremely large telescopes is considered to be one of the highest priorities in ground-based astronomy. These telescopes will vastly advance our knowledge of the Universe, opening the way for detailed studies of fundamental scientific questions that are well outside the reach of current facilities. In close consultation with the scientific community, ESO has produced a novel design for an extremely large optical/infrared, adaptive telescope dubbed the E-ELT, for the European Extremely Large Telescope.

While the main mirrors of the Unit Telescopes of ESO's VLT are each 8.2 metres in diameter, the revolutionary 40-metre-class E-ELT will have an innovative five-mirror design and will capture far more light than any other telescope.

Cerro Armazones is a 3060-metre peak in the central part of Chile's Atacama Desert, about 20 kilometres from Cerro Paranal, home of ESO's Very Large Telescope. This site excels in all aspects of astronomical sky quality. On 26 April 2010, the ESO Council selected Cerro Armazones as the baseline site for the planned E-ELT. The telescope will be operated as an integral part of the Paranal Observatory.

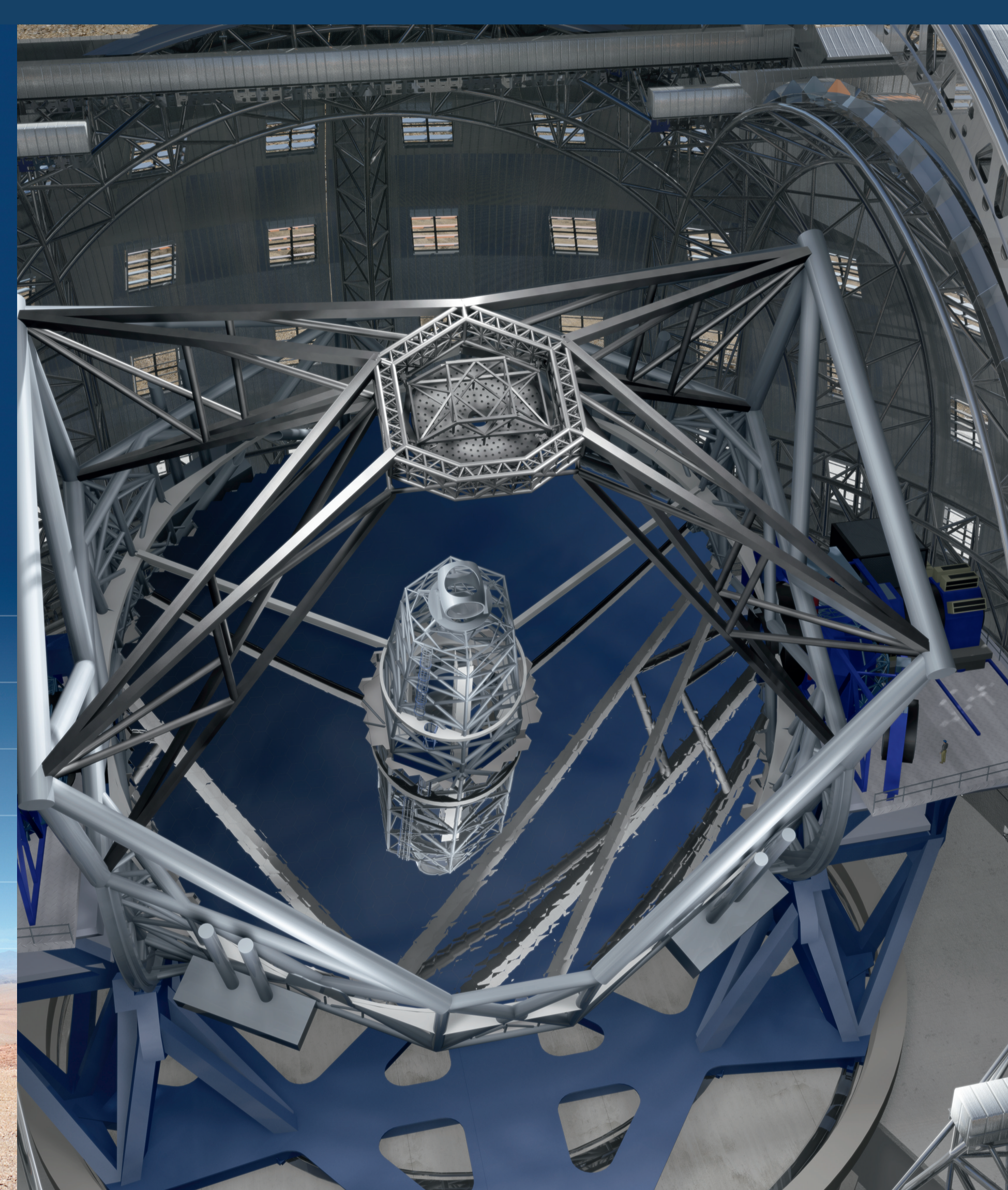
The E-ELT will have the latest in adaptive optics systems to correct for atmospheric turbulence, providing images 15 times sharper than those from the Hubble Space Telescope. Astronomers using the E-ELT will tackle some of the biggest scientific challenges of our time: extrasolar planets and protoplanetary discs, galaxy formation, dark matter, dark energy and other cutting-edge topics. It may, eventually, revolutionise our perception of the Universe as much as Galileo's telescope did.



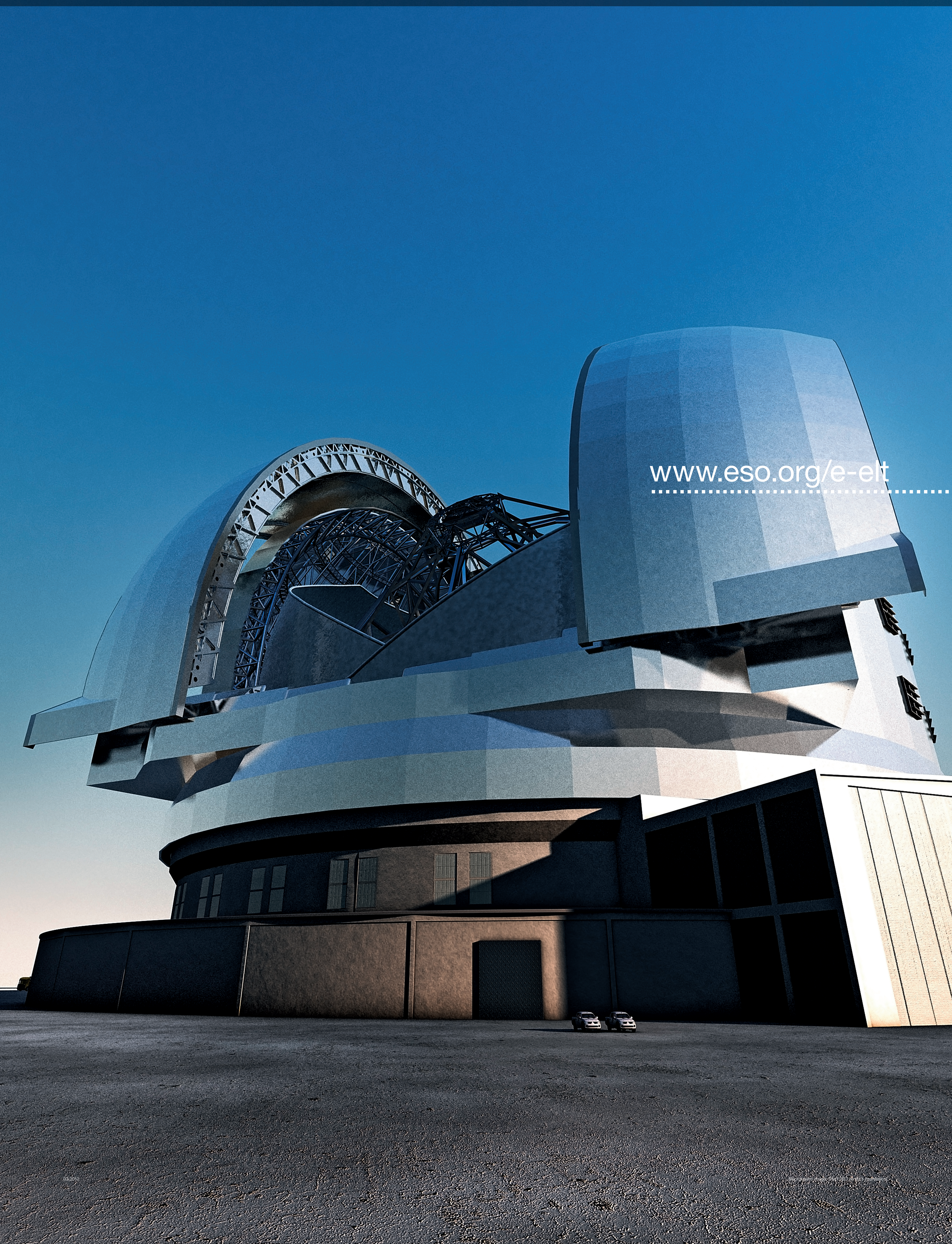
Four segments of the giant primary mirror of the E-ELT undergoing testing. Credit: ESO/H.H. Heyer



E-ELT and VLT sizes compared with the Sagrada Família.



The 40-metre-class E-ELT, with its huge segmented primary mirror, is based on a revolutionary five-mirror concept.



www.eso.org/e-elt