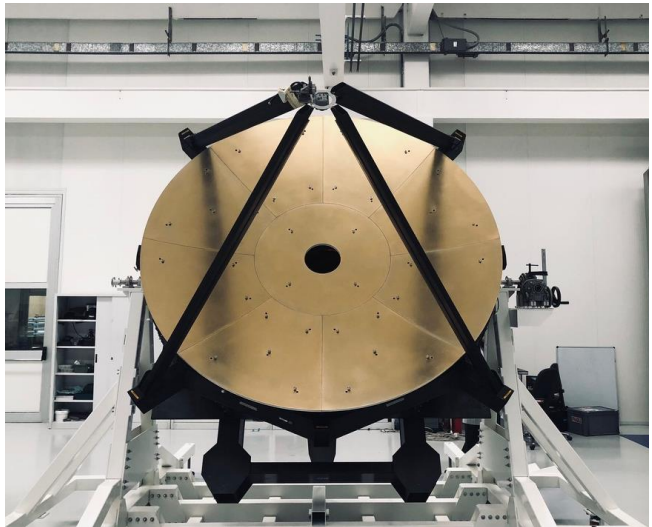


Media Lario completes the telescope assembly for the NASA JPL ASTHROS mission

Bosisio Parini, Italy, 4 July 2022 – Media Lario S.r.l. has completed the build of the 2.5 meter telescope for the ASTHROS mission of NASA's Jet Propulsion Laboratory (JPL). The mission will use a balloon the size of a football stadium to send the telescope above the stratosphere over Antarctica to study star formation. The optical system of the telescope is comprised of gold-coated panels which form the primary mirror, precisely aligned on a carbon fibre support structure which is lightweight yet strong enough to maintain the mirror's precise shape during flight. The mirror has been produced using Media Lario's patented Repli-formed Optics™ technology and is similar to the mirrors produced for the Atacama Large Millimeter Array (ALMA), located in the Atacama Desert of Chile.



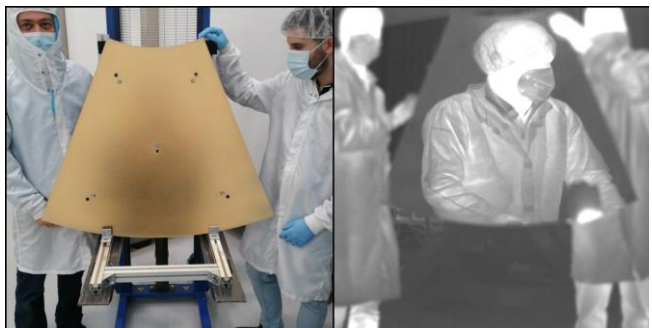
2.5m ASTHROS telescope in final integration at Media Lario



Artist's impression of the ASTHROS mission using a balloon larger than a football field to send a telescope 40 km above Antarctica (credit: NASA)

The ASTHROS mission, or Astrophysics Stratospheric Telescope for High Spectral Resolution Observations at Submillimeter-wavelengths, is managed by NASA's Jet Propulsion Laboratory in California and is set to launch from Antarctica in December 2023. The balloon mission will circle the South Pole periodically for several weeks at a time at an altitude of 40 km. During the flight, ASTHROS will look at star-forming regions in our galaxy creating high-resolution 3D maps of the distribution and motion of gas as well as distant galaxies containing millions of stars.

The ASTHROS telescope will be used to observe so-called Far Infra-red (IR) light waves which are normally blocked by Earth's atmosphere. To make this possible, Media Lario's Repli-formed Optics™ mirror panels are coated with pure gold which optimises the mirror's reflectivity at these wavelengths. Note in the picture that only in IR light do the panels act as perfect reflectors. The large 2.5m diameter telescope mirror surface was achieved by using a panelised design conceived by Media Lario. The large mirror size will enable more light to be gathered from distant objects in the universe to observe them in very fine detail.



The gold-coated ASTHROS mirror panels appear blurry to the naked eye, as seen at left. But when photographed with an infrared camera, as at right, the panel reflects a technician's image as clearly as if the person were looking in a normal mirror.



Repli-formed Optics™ has been developed by Media Lario for over 30 years leveraging on the metallurgical history and tradition of the area around Lake Como together with the optical expertise developed in Italy for several centuries. Repli-formed Optics™ makes use of artisanal optics manufacturing techniques to make a perfect mould that is then used to produce optics in a controlled industrial manner, usually in a matter of few hours. According to Giuseppe Valsecchi, CTO and founder of Media Lario, "While Repli-formed Optics™ has been used for optics for Space Telescopes for several decades, it is poised and ready now to revolutionise optics manufacturing for Earth Observation satellites and Space Optical Communications systems."



Media Lario's team celebrating the primary mirror alignment with JPL's ASTHROS Project Manager Jose Siles and CTO Giuseppe Valsecchi.

Media Lario develops unique optical technologies and systems to enable new applications in space, particularly those which advance our scientific understanding of the Universe. Jeff Lyons, CEO of Media Lario, said, "We are very proud to be able to participate to this innovative program of the Jet Propulsion Laboratory at NASA and thankful to them for trusting us to contribute. We recognise that this program represents probably the largest and most complex telescope ever to be flown on a balloon mission. We hope it will enable exciting scientific discoveries and that the ASTHROS mission will open new opportunities for future stratospheric as well as space telescope missions."

Media Lario is located north of the industrial hub of Milan, Italy, in the region of Lombardia and Lake Como, an area rich with heritage and expertise in the precision optical mechanical industry.

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For information on the ASTHROS mission, please visit <https://www.jpl.nasa.gov/missions/asthros>

For a Media Release, "This Week @ NASA", please visit <https://youtu.be/NCg6aeole70>

For more information on Media Lario S.r.l., please visit <http://www.medialario.com/>