

## **For Immediate Release...**

### **Media Lario S.r.l. Awarded a Contract to Supply the M2 Secondary Mirror for the Large Millimeter Telescope "Alfonso Serrano" in Puebla, Mexico**

Milan, Italy, November 5, 2015 – Media Lario S.r.l., a world leader in advanced optical components and systems for space missions, large terrestrial telescopes and satellite imaging systems, announced today that it had been awarded a contract by Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE) – Mexico – to design, manufacture, test and deliver the secondary mirror (M2) for the Large Millimeter Telescope "Alfonso Serrano" situated at the summit of volcano Sierra Negra at an altitude of 4600 meters, in Mexico.

The Large Millimeter Telescope (LMT) is a 50 meter diameter single-dish telescope optimized for astronomical observations at wavelengths of about a millimeter. The principal scientific goal of the LMT is to understand the physical process of structure formation and its evolutionary history throughout the Universe. The LMT will investigate the constitution of comets and planetary atmospheres, the formation of extra-solar planets and the birth and evolution of stars, the hierarchical growth of galaxies and clusters and their large-scale distribution as well as the cosmic microwave background radiation.

The collaboration between INAOE and Media Lario began in 2004 when the Institute selected Media Lario's high-precision Nickel laminated panels for the primary reflector of the single-dish telescope. The panels are composed of front and backside skins produced by Media Lario's Nickel electroforming process from a precise master that are bonded to a lightweight Aluminum core. The result is an extremely light and rigid laminated structure with a shape precision better than 15 microns. The LMT project also requires that the laminated reflector panels survive the harsh environmental conditions at the summit of Sierra Negra without the need of any specific maintenance during the lifetime of the telescope. By virtue of a thin galvanic Rhodium coating, our reflector panels meet and exceed these requirements. Media Lario has nearly completed the production of the panels for the two remaining outer rings of the telescope that will fill the entire 50-m reflecting primary mirror (M1) surface, as it prepares to begin work on M2.

The new challenge of the LMT project is the replacement of the current 2.6 meter monolithic M2 mirror of the telescope with a new higher-precision (surface error < 26 microns) and fully qualified mirror that will enable astronomical observations with the entire 50 meter primary surface. Exploiting the technology used for the production of the panels for M1, Media Lario has designed a new segmented M2 mirror in high-precision laminated panels integrated on a steel backing structure by means of precision adjusters. Each single segment can be fabricated with a surface accuracy better than 7.5 microns, thus obtaining a M2 mirror lighter than the current monolithic one with a surface error well within the original specification. The design carries the additional benefit that in the event of accidental damage, individual panels can be replaced and realigned separately, achieving a significant cost saving with respect to the current design.

Jeff Lyons, CEO of Media Lario said, "We are very pleased to continue our successful collaboration with INAOE. This contract is further the recognition of the hard work and dedication of our respective teams and an acknowledgement of our expertise in supplying high quality optical systems for ground-based telescopes. We hope our work is a contribution to the continued success of the LMT project."

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

Media Lario S.r.l.  
Località Pascolo  
23482 Bosisio Parini (LC) Italy  
+39 031 867 111



For more information about the LMT, please visit <http://www.lmtgtm.org/>  
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