

Ball Aerospace Delivers Lens Assembly to Lawrence Livermore National Laboratory for the Large Synoptic Survey Telescope

The lens assembly built by Ball Aerospace will be incorporated into the camera portion of the telescope

BOULDER, Colo., Sept. 12, 2019 /PRNewswire/ -- Ball Aerospace has shipped and delivered the large camera lens assembly to Lawrence Livermore National Laboratory in Livermore, California, which will be incorporated into the Large Synoptic Survey Telescope (LSST), a ground telescope that will sit on top of Cerro Pachón ridge, an 8,800-foot mountain in Chile.



Ball teamed with Arizona Optical Systems (AOS) to build the lens assembly, which consists of two large refractive lenses, named L1 and L2, and the precision structure that will be used to mount the lens assembly to the LSST camera.

"We are happy to support the LSST program, which will be revolutionary for astronomy," said Dr. Makenzie Lystrup, vice president and general manager, Civil Space, Ball Aerospace. "As one of the largest digital cameras to be constructed for a ground telescope, the design, fabrication, mounting and testing of the 1.6-meter diameter L1 and 1.2-meter L2 lenses was a very challenging and rewarding effort that involved significant collaboration and teamwork over a five-year period."

Once completed, the LSST will explore dark matter, dark energy, the transient optical sky including asteroids and astronomical events, and the formation and structure of the Milky Way. Every three nights, the LSST will take a full image of the night sky capturing billions of objects in six colors to create a picture of the universe.

Ball Aerospace has a long heritage of designing and building high-performance optical systems for space telescopes. For example, Ball designed and built the advanced optical technology and lightweight mirror system for NASA's James Webb Space Telescope (JWST). Including JWST, Ball has contributed to all of NASA's Great Observatories – Compton Gamma Ray, Hubble, Chandra X-Ray, Spitzer Space Telescope, and the Wide Field Infrared Survey Telescope.

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This release contains "forward-looking" statements concerning future events and financial performance. Words such as "expects," "anticipates," "estimates," "believes," "targets," "likely," "positions" and similar expressions typically identify forward-looking statements, which are generally any statements other than statements of historical fact. Such statements are based on current expectations or views of the future and are subject to risks and uncertainties, which could cause actual results or events to differ materially from those expressed or implied. You should therefore not place undue reliance upon any forward-looking statements and any such statements should be read in conjunction with, and, qualified in their entirety by, the cautionary statements referenced below. The company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Key factors, risks and uncertainties that could cause actual outcomes and results to be different are summarized in filings with the Securities and Exchange Commission, including Exhibit 99 in our Form 10-K, which are available on our website and at www.sec.gov. Additional factors that might

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