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Materion Corporation Large Area Optics Lab Fully Operational

Materion Undertakes Astronomy Projects in Five Countries

WESTFORD, Mass.--(BUSINESS WIRE)-- Materion Barr Precision Optics & Thin Film Coatings, a Materion Corporation (NYSE:MTRN) business, announces its new Large Area Optics (LAO) laboratory is now fully operational and offering a capability matched by few other facilities in the world. The Lab is able to manufacture precision, high-performance optical interference filters in sizes much larger than those previously available.

All components of the Lab were custom-designed and built to Materion performance specifications, including a large spectrophotometer. This piece of equipment joins the coating machine and substrate cleaning system in a new ISO 6/7 clean room. Materion is now able to meet the growing need in the astronomy community for much larger-sized coated optics which will be used in a new class of extremely large telescopes.

International Large Area Optics Lab Projects

During the 18-month period the LAO laboratory was under development, Materion had large optics work already underway. This included the successful management of large optics astronomy projects in five countries for use in telescopes located in Hawaii, Australia and Chile. Among the projects:

- **Subaru Telescope Filters**

  Impressive results were achieved coating large narrow bandpass filters for the Hyper Suprime Camera (HSC) in the Subaru Telescope on Mauna Kea, Hawaii. Early LAO successes included coating 600 mm diameter filters with high levels of consistency and laying the groundwork for Subaru’s switch from wide bandpass (WB) filters to narrow bandpass (NB) filters.

- **Anti-reflective (AR) Coatings on Large, Curved Optics**

  Materion’s first demonstration of its capability to deposit AR coatings on large, curved optics was for the Kiepenheuer Institut fur Sonnenphysik (KIS). The optics produced are for the Visible Tunable Filter (VTF) being developed in Germany for the future Advanced Technology Solar Telescope in Hawaii. When operational, it will be the largest solar telescope in the world.

- **Large H-alpha Filter**

  Another project allowed Materion to take advantage of its new ability to coat large narrow filters. The Company coated an H-alpha BP filter on a large red glass substrate. (H-alpha refers to the hydrogen emission at 656nm and is a common wavelength used by astronomers.) The filter will be installed in the 268 megapixel SkyMapper Telescope at Siding Spring Observatory, near Coonabarabran, New South Wales, Australia.

Current and Upcoming Astronomy Projects

Materion is currently manufacturing a five filter set for microlensing science observation in the southern hemisphere which will be installed in Chile in 2014, but owned and managed by the Korean Astronomy Science Institute.

In early 2014, Materion is expecting a number of challenging projects for the LAO Lab. Among them are telescope imager upgrades for current astronomy customers and coating work for new spectrograph instruments. Materion also has plans for developing and demonstrating other types of filters, including dichroic beamsplitters, enhanced mirrors and notch filters. For more information about our Large Area Optics Lab and Materion coating capabilities, contact Tom Mooney, Product Engineering Manager, Space & Astronomy, at: Thomas.Mooney@Materion.com

Barr Precision Optics & Thin Film Coatings is a Materion Corporation business. Materion Corporation is headquartered in
Mayfield Heights, Ohio. The company, through its wholly owned subsidiaries, supplies highly engineered advanced enabling materials to global markets. Products include precious and non-precious metals, inorganic chemicals and powders, specialty coatings, specialty engineered beryllium alloys, beryllium and beryllium composites, and engineered clad and plated metal systems.

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