



Field selection mirrors supplied for telescope laser launch system

Field selection mirror

Optical Surfaces Ltd report supply of fourteen 100mm diameter **field selector mirrors** and a **400mm diameter reference flat** to **TNO** (Delft, Netherlands) for a **Laser Launch System** designed to improve telescope vision with artificial guide stars.

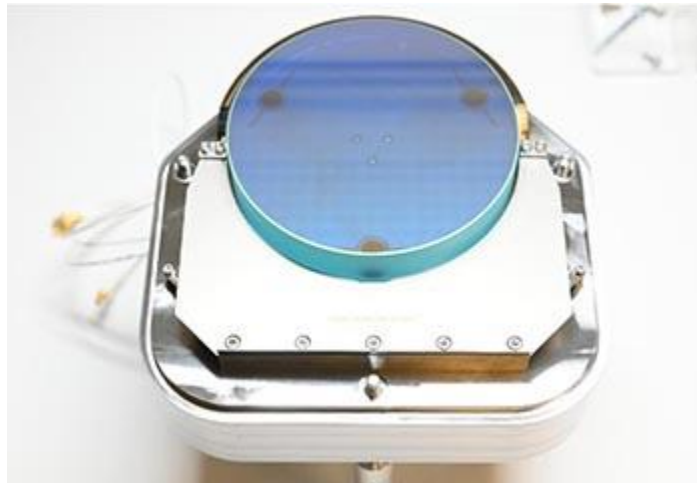


Image captions: A: Dielectrically coated 100mm diameter field selection mirror (courtesy: TNO).

The Very Large Telescope (VLT)

Designed and built by ESO - the Very Large Telescope (VLT) and Extremely Large Telescope (ELT) are some of the world's most advanced optical telescopes that form the flagship facility for European ground-based astronomy. These huge telescopes require an adaptive optics system to eliminate wavefront errors resulting from atmospheric aberrations. TNO is a leading supplier, to ESO, of laser projection systems that create artificial guide stars at the edge of earth's atmosphere to act as a beacon for a wavefront sensor to measure the optical distortion created by the atmosphere, so that it can be compensated by a deformable mirror.

Physicist - Martijn Brouwer,

an optical specialist working for TNO commented "Aiming the light from our Laser Launch System, that forms the artificial guide stars, required development of very high precision mirrors. Though we had no prior experience of Optical Surfaces Ltd. their website showed several compelling telescope optics case studies that gave us the confidence to work with them. We have not been disappointed by the excellent surface accuracy ($\lambda / 20$) and quality (20/10) they have routinely delivered. Additionally, we purchased a reference flat with a diameter of 400mm, which we use for characterisation of the wavefront error of the laser guide stars".



He added

“From a customer perspective the price / performance ratio of all the telescope optics supplied by Optical Surfaces has impressed us. The people at Optical Surfaces do a very thorough job. We particularly appreciate the knowledgeable support they have provided throughout our successful product development process”.

For further information

please visit <https://optisurf.com/flats/> or contact Optical Surfaces Ltd. on telephone on +44-208-668-6126 or email sales@optisurf.com.



Image captions: B. Laser launch telescope developed for ESO's VLT (courtesy: TNO)

Optical Surfaces Ltd

has been producing optical components and systems for more than 50 years and is now accepted as one of the world's leading manufacturers of high-precision optics for space research. The ISO 9001-2015 approved manufacturing workshops and test facilities at Optical Surfaces Ltd are deep underground in a series of tunnels excavated in solid chalk. This provides an environment where temperature is naturally thermally stable, and vibration is extremely low. With such stable conditions testing of all beam collimators becomes quantifiable and dependable. In addition to these natural advantages, the company has invested in an extensive range of test equipment and uses trusted methods to ensure accurate and reliable testing of surface accuracy, quality, and slope errors.



TNO (www.tno.nl)

develops technologies for ground-based astronomy to help mankind better understand our place in the universe. TNO is a world-class leader in ultra-precision opto-mechatronics. The company has developed cutting-edge technology for ground-based astronomy, including deformable mirrors, laser projection systems and nanometre-precision telescope support structures.

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