
Manufacturing status of the ELT Laser Projection System

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Abstract

Since early 2021, independent research organization TNO and its industrial partner Demcon have been working for ESO on the development of the Laser Projection System for ESO's ELT. Identical systems will also be used for the ESO VLT Gravity+ instrument. The design is an evolution of the highly successful 4LGSF of VLT UT4.

The Critical Design and Manufacturing Readiness project milestones were passed in July and September of 2022, respectively. The project is now well into the manufacturing and integration phase. Integration of the first complete Laser Projection Subunit is scheduled to be completed by September 2023, with rigorous verification testing planned for December 2023.

We present an overview of the design, the main performance predictions and in particular the design for ease of maintenance of each Laser Projection Subunit. We present the manufacturing and integration status of the various subsystems, as well as an outlook for the delivery of the first several units.

Keywords: laser guide star, laser projection system

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