



LOVITT TECHNOLOGIES AUSTRALIA

Based on a previous working relationship with Auspace ACT, Lovitt Technologies Australia was approached to manufacture components and assemblies for the construction of precision optical equipment at Gemini North.

Lovitt Technologies Australia was contracted to work on the Gemini Near-Infrared Integral-Field Spectrograph (NIFS) designed by the Research School of Astronomy and Astrophysics (RSAA), Australian National University. A spectrograph is an instrument used to separate incoming light into its constituent wavelengths for analysis. Specifically, the NIFS is employed to detect black holes in galactic nuclei and study the dynamics of distant galaxies.

The scope of work involved precision machining to extremely fine tolerances and incorporating the components into assemblies. The finished parts included lens holders, frames, towers, baffles, filter wheels and assemblies, and bridge and skirt assemblies.

Machined components, together with parts from other suppliers, were assembled on-site at Lovitt's facilities in Melbourne. In co-operation with Auspace's technical and project management personnel, the sub-assemblies were verified for fit and function.

The relationship with the RSAA continues with significant ongoing involvement in precision machining, finishing and assembly for the WiFeS (Wide Field Spectrograph) project. WiFeS is the new RSAA spectrograph for the 2.3m telescope at Siding Springs Observatory.

Demonstrated capabilities:

- manufacture of components to extremely fine tolerances
- mechanical assembly
- sub-assembly supply

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Case Study

Gemini Observatory

The Gemini Observatory consists of twin 8-meter optical / infrared telescopes: Gemini South, located in the Chilean Andes, and Gemini North, located on the dormant Mauna Kea volcano, Hawaii. Gemini was built and is operated through a partnership of seven countries, including the US, UK, Canada, Chile, Australia, Brazil and Argentina. The Gemini Observatory provides the astronomical communities in these partner countries with access to state-of-the-art facilities allocated in proportion to each country's financial contribution to the project.

PICTURE: Gemini Observatory



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