



# Thirty Meter Telescope

Astronomy's Next-Generation Observatory

## Generating Jobs for Canada's future



TMT

The Thirty Meter Telescope will be a hundred times more powerful than any space- or ground-based telescope. A marvel of engineering, TMT will not only transform Canadian science, but also Canadian industry. It requires cutting-edge technologies, many of which will be developed in Canada.

Location: Maunakea Summit, Hawaii  
Construction: 2015-2025  
Total cost: \$1.5 billion  
Canada's share: \$243.5 million  
Canada's role: design & build the Adaptive Optics Instrument  
design & build TMT's enclosure

Previous investments by Canada in astronomy with major contributions by Canadian industry:

- TMT's Adaptive Optics Instrument, a critical component designed and built in Canada, will produce images of dazzling clarity, far sharper than those of the Hubble Space Telescope, and will make the TMT nearly ten times more powerful than without this instrument.
- TMT's enclosure features an innovative and ingenious Canadian design: its circular aperture and spherical shape preserve the exceptional image quality of the telescope while minimizing costs.
- The TMT is an Asia-Pacific partnership, helping Canada enhance cultural and economic ties with important trading partners.
- The dome, although weighing 2,000 tons, will rotate with extreme precision due to newly developed advances by Canadian engineers.

### Direct jobs:

Adaptive optics engineering, structural engineering, complex design, steel fabrication and construction equipment and suppliers, software programming, glass suppliers, etc.

### Spin-off benefits:

Dramatic advances in medical imaging, facial recognition technology, commercialization of high demand, light-weight astronomical mirrors, etc.

The return on investment of astronomy projects is

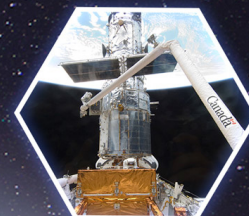
- 2:1 direct jobs create in Canada
- 10:1 indirect jobs created in Canada

TMT creates Canadian jobs through

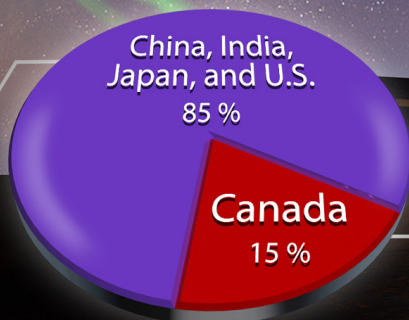
- Design and construction
- Spin-off technologies
- Skills development



Enclosure for the Gemini Telescope



Canadarm



[www.tmt.org](http://www.tmt.org)

