

India joins the Thirty Meter Telescope Project as a full member

December 2 2014

Today in New Delhi, officials of the government of India signed documents establishing the country as a full partner in the Thirty Meter Telescope (TMT) project. An international collaboration of institutions in the USA, Canada, Japan, India and China, the TMT project is working towards building a powerful, next-generation astronomical observatory at Mauna Kea in Hawaii.

K VijayRaghavan, Secretary of India's Department of Science and Technology, signed the documents to change India's formal relationship from Associate to Member of the TMT International Observatory (TIO). TIO is the nonprofit limited liability company founded in May 2014 to carry out the construction and operation phases of the TMT [project](#).

With the new membership agreement in place, India has now secured observing time for its scientists at the world-class observatory, slated to see first light in the 2020s. When completed, TMT will enable astronomers to study objects in our own solar system and stars throughout our Milky Way and its neighboring galaxies, and forming galaxies at the very edge of the observable Universe, near the beginning of time.

Those involved with the TMT project are very pleased with this latest sign of progress for the scientific endeavor.

"It gives us great pleasure to announce that the Department of Science and Technology, the financial authority of India-TMT, has executed all

the relevant documents to become a full member in the TMT International Observatory," said Eswar Reddy, Programme Director of TMT-India, a TMT Board Member and an Associate Professor at the Indian Institute of Astrophysics.

Other principals in the TMT project also expressed their appreciation for India's involvement.

"The official signing today with India's investment reassures the success of TMT," said Henry Yang, Chair of the TMT International Observatory Board and Chancellor of the University of California Santa Barbara.

"India's contributions in the areas of software systems, segment production and the production of the very high precision sensors and actuators that make the [primary mirror](#) possible are key to the project."

Yang added that "Indian astronomers have also played an important role in the continuing development of the science case for the facility."

"The formal participation of India is most welcome and essential not just in accomplishing the Asian contributions to the TMT project, but to enhance science collaborations for the next generation," said Masanori Iye, Vice-Chair of the TIO Board of Governors and Representative of the TMT project in Japan.

This past year has seen much hard work on the TMT project over the past decade come to fruition. A groundblessing ceremony occurred in October, with construction work including on-site preparation and grading at Mauna Kea. Significant progress has also been made offsite in 2014.

Fabrication of the [mirror](#) support system continues in India. In China, partners are designing the telescope's fully articulated main science steering mirror system and developing the laser guide star system. Japan

has produced over sixty special zero thermal-expansion glass mirror blanks for the main mirror and is designing the telescope structure in detail. The adaptive optics facility is in final design. The enclosure design has been completed and may form part of Canada's contribution if Canada becomes a full member of TIO. The primary mirror and mirror control system is in final design in California.

The advancement of TMT to this stage of development has been made possible by the support of the Gordon and Betty Moore Foundation. The foundation has spent \$141 million to date to fund the design, development, and construction phases of TMT.

Provided by Thirty Meter Telescope

Citation: India joins the Thirty Meter Telescope Project as a full member (2014, December 2) retrieved 2 May 2024 from

<https://phys.org/news/2014-12-india-meter-telescope-full-member.html>

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