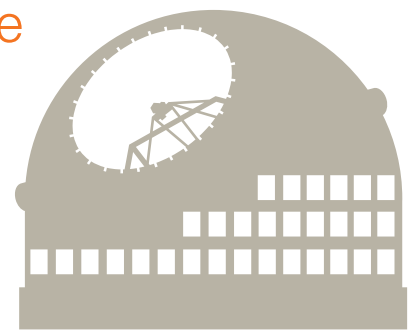


BY THE NUMBERS: The Thirty Meter Telescope

In its 2001 decadal survey, the National Academy of Sciences listed the construction of a 30-meter segmented-mirror telescope as its highest priority for the advancement of ground-based astronomy and astrophysics. Caltech has since taken a lead role in designing that giant, known as the Thirty Meter Telescope (TMT), and construction is slated to begin next year. Upon completion, the TMT will be the world's largest and most capable ground-based observatory, offering astronomers the ability to study everything from the birth of stars and the evolution of galaxies to the nature of dark matter and the possibility of life elsewhere in the universe.



5

▲ Years it took to select Mauna Kea in Hawaii as the ideal site for the TMT.

10

▲ Meters in diameter of each of the W. M. Keck Observatory's twin telescopes—the world's current largest optical and infrared telescopes.

492

▲ Number of hexagonal mirror segments that will make up the TMT's primary mirror. The Keck telescopes' mirrors are made up of 36 segments each.

0.31–28
microns

▲ Range of the electromagnetic spectrum—spanning from the ultraviolet to the mid-infrared—in which the TMT will be equipped to make observations.

10–100x

▲ Number of times more clearly TMT will see compared to existing telescopes, thanks to its large light-collecting area and advanced adaptive optics.
