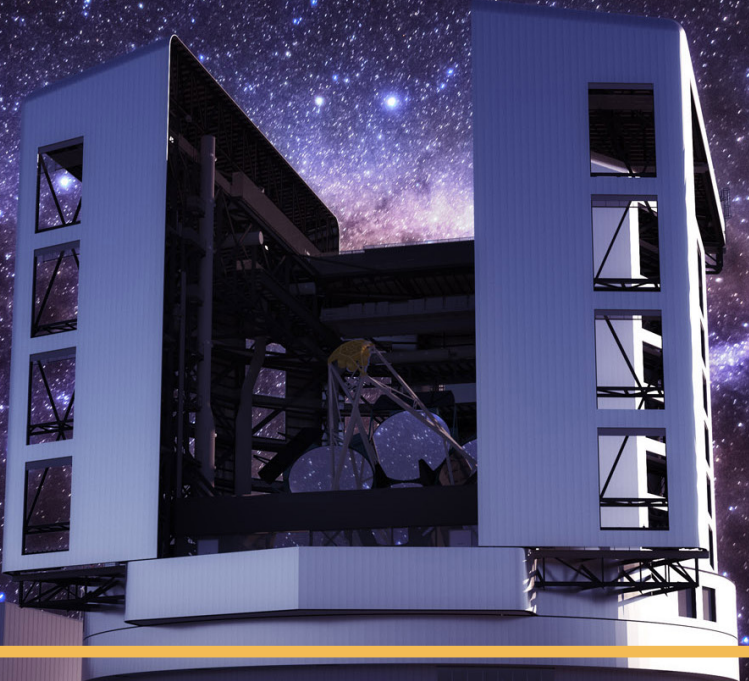


THE NEXT ERA OF ASTRONOMY IS JUST OVER THE HORIZON



For millions of years, humanity has looked to the night sky with a sense of awe—our imaginations engaged by the beauty and the vastness of space. Today, astronomy is entering an exciting new period of scientific discovery unparalleled in human history.



10x sharper images than the Hubble Space Telescope

10x the light-collecting area and **4x** the spatial resolution of JWST

200x more powerful than any existing ground-based telescopes

The recently launched James Webb Space Telescope (JWST) is already shedding stunning new light on our understanding of the cosmos. The next generation of extremely large ground-based telescopes will be complementary, and go even further, giving us the means to unravel the mysteries of the Universe.

The unprecedented capabilities of the U.S. Extremely Large Telescope (USELT) program, including the Giant Magellan Telescope, will drive breakthroughs in our understanding of the origins of the cosmos and enable the search for life on other planets.

Currently under construction at Carnegie Science's Las Campanas Observatory in Chile, the Giant Magellan will give astronomers unprecedented seeing power, **revealing the fundamental physics underpinning the structure and evolution of the Universe and advancing our ability to search for life on distant worlds.**

The dark skies and extremely low humidity make the Chilean high Atacama Desert region the best place on Earth for telescopes, with an unparalleled view of the southern skies. From this vantage point, the Giant Magellan's seven primary mirrors will empower astronomers to see farther and with greater precision than ever previously possible.

A suite of advanced instruments and cameras will give astrophysicists the tools to unravel the mysteries of dark matter, dark energy, black holes, and the Big Bang. It will also greatly enhance the search for life on other planets, as the Giant Magellan will be capable of detecting Earth-sized planets and key biosignatures—including oxygen.

In late 2021, the National Academies of Science, Engineering, and Medicine ranked the Giant Magellan—as part of the USELT program—as the top strategic priority for ground-based telescopes, recommending federal support to complete its construction and bring about a new era in astronomy. The recommendation emphasized that building an extremely large telescope, “**is absolutely essential if the United States is to maintain a position as a leader in ground-based astronomy.**” With the EU and China both in the throes of planning and constructing their own telescopes, the success of the USELT program will be critical to secure the country’s world leadership position.

When finished, the Giant Magellan will be the largest public-private funded science project in history. This extraordinary effort will be made possible by significant investment from the United States government, visionary philanthropists, and an international consortium of 13 leading universities and research institutions representing the U.S. and five other countries—including founding partner Carnegie Science, along with Arizona State University, Harvard University, Smithsonian Institution, Texas A&M University, The University of Texas at Austin, University of Arizona, University of Chicago.

All images are courtesy of the Giant Magellan Telescope – GMTO Corporation.

