The Magdalena Ridge Observatory Interferometer (MROI) project's mission is to develop an array of ten 1.4 meter telescopes layed out in a "Y" configuration. This ten-element imaging interferometer will operate at wavelengths between 0.6 and 2.4 microns with baselines from 7.8 to 340 meters. Interferometry is a technique that astronomers use to obtain the resolution of a large telescope by using multiple smaller telescopes.

The goal of the MROI is threefold, to support programs in:

- Astronomy
- Space situational awareness
- Education & outreach

The astronomical science program includes the following three areas:

- Star and planet formation
- Stellar accretion and mass loss
- Active galactic nuclei

The space situational awareness program includes imaging of Geosynchronous Satellites (GEOS), both commercial and military.

The technical and scientific goals are to produce model-independent images of faint and complex astronomical targets at resolutions over 100 times that of the Hubble Space Telescope.[1]

The Beam Combining Facility was completed in early 2008. The first telescope and enclosure foundations were installed in 2011. The factory acceptance tests for the first telescope were completed in early 2012. First light is expected in 2015.

1 James Webb Space Telescope Indepenedent Comprehensive Review Panel Final Report, http://www.nasa.gov/pdf/499224main_JWST-ICRP_Report-FINAL.pdf

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MRO Magdalena Ridge Observatory

Interferometer

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