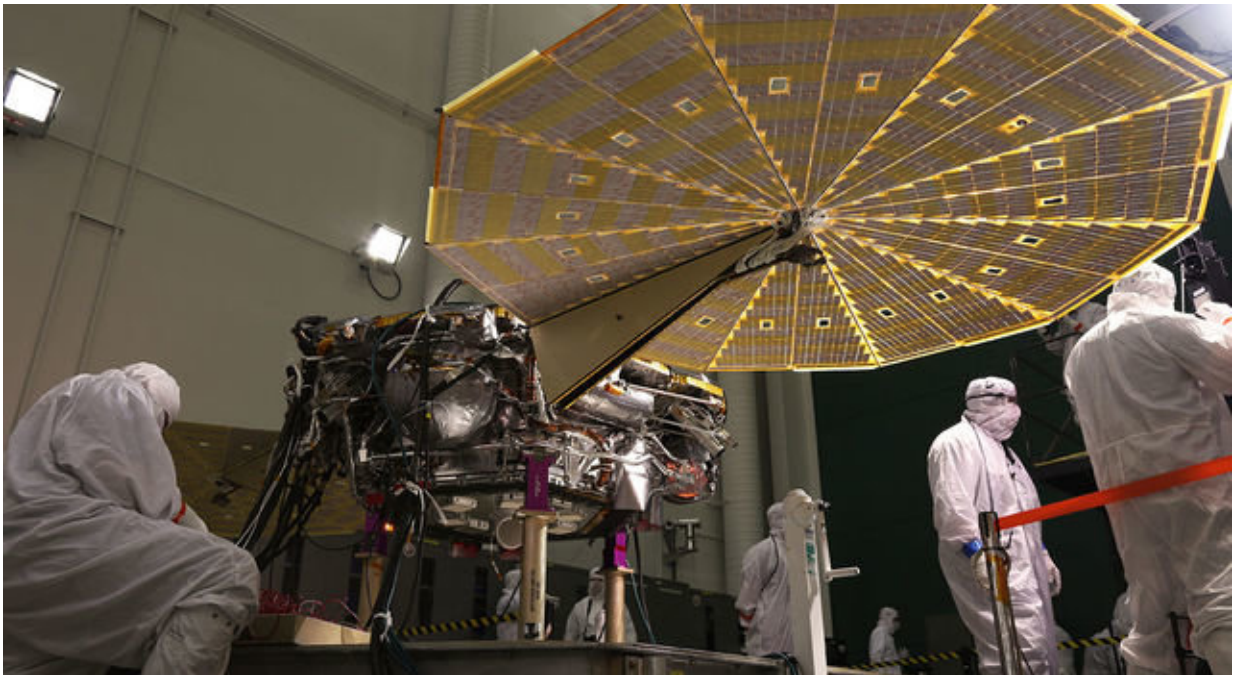


NASA's next Mars lander spreads its solar wings

January 24 2018, by Andrew Good



Credit: NASA

NASA's next mission to Mars passed a key test Tuesday, extending the solar arrays that will power the InSight spacecraft once it lands on the Red Planet this November.

The test took place at Lockheed Martin Space just outside of Denver, where InSight was built and has been undergoing testing ahead of its

launch. The mission is led by NASA's Jet Propulsion Laboratory in Pasadena, California.

"This is the last time we will see the spacecraft in landed configuration before it arrives at the Red Planet," said Scott Daniels, Lockheed Martin InSight Assembly, Test and Launch Operations (ATLO) Manager.

"There are still many steps we have to take before launch, but this is a critical milestone before shipping to Vandenberg Air Force Base in California." The InSight launch window opens in May.

The fan-like solar panels are specially designed for Mars' weak sunlight, caused by the planet's distance from the Sun and its dusty, thin atmosphere. The panels will power InSight for at least one Martian year (two Earth years) for the first mission dedicated to studying Mars' deep interior. InSight's full name is Interior Exploration using Seismic Investigations, Geodesy and Heat Transport.

"Think of InSight as Mars' first health checkup in more than 4.5 billion years," said Bruce Banerdt of JPL, the mission's principal investigator. "We'll study its pulse by 'listening' for marsquakes with a seismometer. We'll take its temperature with a heat probe. And we'll check its reflexes with a radio experiment."

In addition to the solar panel test, engineers added a final touch: a microchip inscribed with more than 1.6 million names submitted by the public. It joins a chip containing almost 827,000 names that was glued to the top of InSight back in 2015, adding up to a total of about 2.4 million names going to Mars. "It's a fun way for the public to feel personally invested in the mission," Banerdt said. "We're happy to have them along for the ride."

The chips were inscribed at JPL's Microdevices Laboratory, which has added names and images to a number of spacecraft, including the Mars

Spirit, Opportunity and Curiosity rovers. Each character on the InSight microchips is just 400 nanometers wide. Compare that to a human hair, 100,000 nanometers wide, or a [red blood cell](#), 8,000 nanometers wide.

More information: For more information on InSight, visit mars.nasa.gov/insight/

Provided by NASA

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