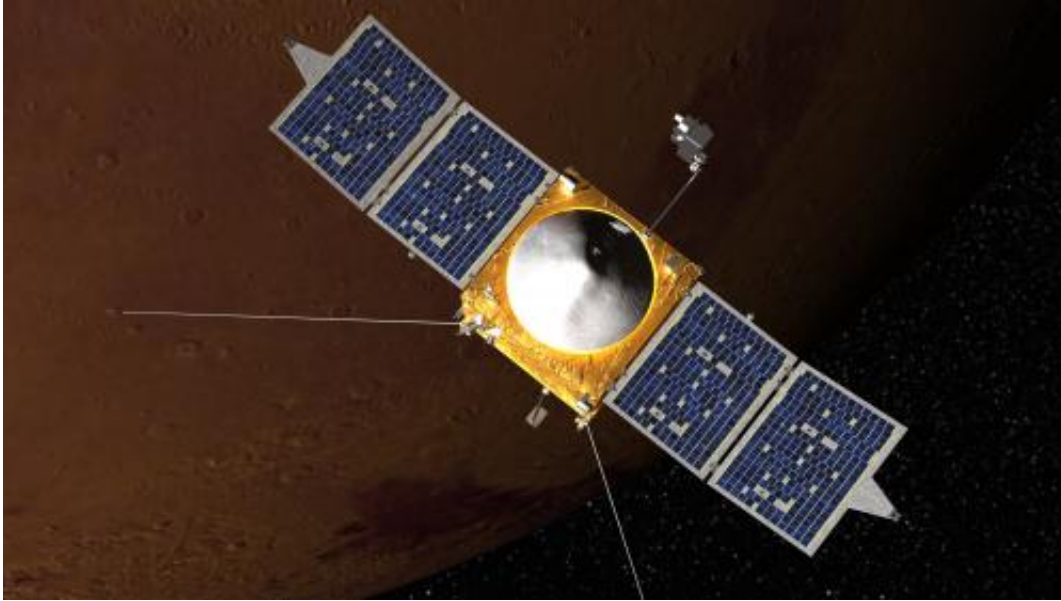


MAVEN mission completes major milestone

July 22 2011



An artist's conception of the MAVEN spacecraft orbiting Mars. Credit: NASA/Goddard Space Flight Center

(PhysOrg.com) -- The Mars Atmosphere and Volatile Evolution (MAVEN) mission reached a major milestone last week when it successfully completed its Mission Critical Design Review (CDR).

MAVEN, scheduled for [launch](#) in late 2013, will be the first mission devoted to understanding the Martian upper atmosphere. The goal of MAVEN is to determine the history of the loss of [atmospheric gases](#) to [space](#) through time, providing answers about Mars climate evolution. It will accomplish this by measuring the current rate of escape to space and

gathering enough information about the relevant processes to allow extrapolation backward in time.

Noting this milestone, Michael Meyer, Lead Scientist for NASA's Mars Exploration Program at NASA Headquarters said. "It is a real pleasure to see the MAVEN team is doing an exemplary job on this important mission, which was identified as a top priority mission in the 2002 National Research Council Decadal Survey and addresses high-priority goals of two Divisions—Planetary Sciences and Heliophysics."

"Understanding how and why the atmosphere changed through time is an important scientific objective for Mars," said Bruce Jakosky, MAVEN Principal Investigator from the Laboratory for Atmospheric and Space Physics at the University of Colorado (CU/LASP) at Boulder. "MAVEN will make the right measurements to allow us to answer this question. We're in the middle of the hard work right now—building the instruments and spacecraft—and we're incredibly excited about the science results we're going to get from the mission."

From July 11 – 15, 2011, the MAVEN Critical Design Review was held at NASA Goddard Space Flight Center in Greenbelt, Md. An independent review board, comprised of reviewers from NASA and several external organizations, met to validate the system design. Critical Design Reviews are one-time programmatic events that bridge the design and manufacturing stages of a project. A successful review means that the design is validated and will meet its requirements, is backed up with solid analysis and documentation, and has been proven to be safe. MAVEN's CDR completion grants permission to the mission team to begin manufacturing hardware.

"This team continues to nail every major milestone like clockwork, as laid out three years ago when the mission was proposed," said Dave

Mitchell, MAVEN Project Manager at NASA Goddard Space Flight Center in Greenbelt, Md. "CDR success is very important because it validates that the team is ready for fabrication, assembly, and test of all mission elements. It also enables us to stay on plan for launch in November 2013."

MAVEN will carry three instrument suites. The Particles and Fields Package, built by the University of California at Berkeley with support from CU/LASP and NASA Goddard, contains six instruments that will characterize the solar wind and the ionosphere of the planet. The Remote Sensing Package, built by CU/LASP, will determine global characteristics of the upper atmosphere and ionosphere. The Neutral Gas and Ion Mass Spectrometer, provided by NASA Goddard, will measure the composition and isotopes of neutral ions.

MAVEN's principal investigator is based at the University of Colorado at Boulder's Laboratory for Atmospheric and Space Physics. The university will provide science operations, build instruments, and lead Education/Public Outreach. Goddard Space Flight Center in Greenbelt, Maryland, will manage the MAVEN mission. Lockheed Martin of Littleton, Colo., will build the spacecraft and perform mission operations. The University of California-Berkeley Space Sciences Laboratory will build instruments for the [mission](#). NASA's Jet Propulsion Laboratory, Pasadena, Calif., will provide Program management via the Mars Program Office, as well as navigation support, the Deep Space Network, and the Electra telecommunications relay hardware and operations.

More information: For more about MAVEN, refer to:
www.nasa.gov/maven

Provided by JPL/NASA

Citation: MAVEN mission completes major milestone (2011, July 22) retrieved 19 April 2024 from <https://phys.org/news/2011-07-maven-mission-major-milestone.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.