# Lockheed Martin Moves Into Full-Scale Assembly And Test Of NASA's Orion Spacecraft

DENVER, Oct. 26, 2015 /PRNewswire/ -- Lockheed Martin (NYSE: LMT) and NASA have completed the majority of Orion's Critical Design Review (CDR) which means the spacecraft's design is mature enough to move into full-scale fabrication, assembly, integration and test of the vehicle. It also means that the program is on track to complete the spacecraft's development to meet NASA's Exploration Mission-1 (EM-1) performance requirements. The complete Orion EM-1 CDR process will conclude after the European Service Module CDR and a presentation to the NASA Agency Program Management Council in the spring.

Orion's CDR kicked off in August of this year. The review focused on the EM-1 design as well as additional common elements that will be included on the Exploration Mission-2 (EM-2) spacecraft. These elements include the structure, pyrotechnics, Launch Abort System, software, guidance, navigation and control, and many others.

Although the EM-1 vehicle is designed to accommodate all the necessary elements for human exploration of deep space, systems unique to the EM-2 mission, such as crew displays and the Environmental Control and Life Support System, will be evaluated at a later EM-2 CDR.

"The vast majority of Orion's design is over, and now we will only change things when new requirements come into play," said Michael Hawes, Lockheed Martin Orion vice president and program manager. "Considering the incredible complexity of this spacecraft, the team is very proud to have successfully completed the design review and is looking forward to seeing it fly."

In early 2016, Orion's crew module pressure vessel will be shipped to the Operations and Checkout Facility at NASA's Kennedy Space Center. There it will undergo final assembly, integration and testing in order to prepare for EM-1 when Orion is launched atop NASA's Space Launch System (SLS) for the first time. The test flight will send Orion into lunar distant retrograde orbit—a wide orbit around the moon that is farther from Earth than any human-rated spacecraft has ever traveled. The mission will last more than 20 days and will help certify the design and safety of Orion and SLS for human-rated exploration missions.

For additional information, visit our website: www.lockheedmartin.com/orion

**About Lockheed Martin**
Headquartered in Bethesda, Maryland, Lockheed Martin is a global security and aerospace company that employs approximately 112,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation's net sales for 2014 were $45.6 billion.

**Media Contact**:
Allison Rakes, +1 303-977-7135; Allison.m.rakes@lmco.com

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