Orion Spacecraft On The Path To Future Flight

Production Operations Now Under Way at Kennedy Space Center

CAPE CANAVERAL, Fla., Sept. 21 /PRNewswire/ -- Preparations for Orion's first mission in 2013 are well under way as a Lockheed Martin-led crew begins lean assembly pathfinding operations for the spacecraft. The crew is conducting simulated manufacturing and assembly operations with a full-scale Orion mockup to verify the tools, processes and spacecraft integration procedures work as expected.

As the nation's next generation spacecraft for human spaceflight, the Orion crew exploration vehicle is designed to support missions to the International Space Station and far beyond into deep space. The Orion spacecraft will be fully assembled and integrated on site in the Operations & Checkout (O&C) Facility at NASA's Kennedy Space Center (KSC) in Florida, a capability that provides significant time and cost savings.

"The unique benefit of this complete on-site operation is that we will build the spacecraft and then move it directly onto the launch vehicle at KSC, which saves the government transportation costs associated with tests and checkout prior to launch," said Lockheed Martin Orion Deputy Program Manager for production operations Richard Harris. "This capability also facilitates the KSC workforce transition efforts by providing new job opportunities for those employees completing their shuttle program assignments."

Dubbed the "the spacecraft factory of the future", the O&C, underwent a two-year renovation effort led by Lockheed Martin with support from Space Florida and NASA. The collaborative effort created a state-of-the-art complex designed with the flexibility to support NASA's next generation spacecraft fleet.

Technical innovations incorporated into the O&C include 90,000 square feet of air-bearing floor space, paperless work stations, a portable clean room system, and specialized lifting/lowering and support tools that were designed by United Space Alliance (USA). Specially designed air-bearing pallets will enable a small crew to effortlessly maneuver spacecraft hardware across the factory floor. The building renovation also incorporated modern energy efficient HVAC and electrical systems which will further enhance cost savings for the life cycle of the facility.

With the help of an advanced crane that can position the spacecraft within millimeters of its target, the crew module, heat shield and service module will be integrated in tooling stations located on the O&C's factory floor. These tooling stations are portable and will be moved to various Orion facilities around the country to provide low-cost and affordable vehicle processing on the Orion project.

The industry team supporting O&C tooling station operations include Lockheed Martin, USA and EMF, Inc. a small business based in Merritt Island, Fla., that built the tooling station and support pallets.

According to EMF Vice President Jeff Flick, the Orion program has been a "bright spot" in the space industry. "As a small business owner that supports NASA and the Department of Defense, I believe it is critical for our country to retain the unique skill mix of expertise that supports key national programs such as human space flight and defense initiatives."

Lockheed Martin is the prime contractor to NASA for the Orion Project and leads the industry team that includes major subcontractors as well as a network of minor subcontractors and small businesses working at 88 facilities in 28 states. In addition, the program contracts with more than 500 small businesses across the United States through its expansive supply chain network.

Headquartered in Bethesda, Md., Lockheed Martin (NYSE: LMT) is a global security company that employs about 136,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation reported 2009 sales of $45.2 billion. http://www.lockheedmartin.com

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