

Lockheed Martin Team Completes Delta Preliminary Design For Next GPS III Satellite Capabilities

NEWTOWN, Pa., April 10, 2013 /PRNewswire/ -- Lockheed Martin [NYSE: LMT] has successfully completed a Delta Preliminary Design Review (dPDR) for the next Global Positioning System (GPS) III satellite vehicles planned under the U.S. Air Force's [GPS III](#) program.

The GPS III program will affordably replace aging GPS satellites, while improving capability to meet the evolving demands of military, commercial and civilian users. GPS III satellites will deliver three times better accuracy and up to eight times improved anti-jamming signal power while enhancing the spacecraft's design life and adding a new civil signal designed to be interoperable with international global navigation satellite systems.

The Air Force plans to purchase up to 32 GPS III satellites. Lockheed Martin is currently under contract for production of the first four GPS III satellites, and has received [advanced procurement funding for long-lead components for the fifth, sixth, seventh and eighth satellites](#). The successful dPDR addresses design modifications, agreed upon by the Air Force and the Lockheed Martin-lead industry team, which will provide new capabilities for GPS III Space Vehicle 9 (SV09) and beyond, including the addition of a search and rescue satellite payload and a Laser Retroreflector Array (LRA). An innovative new waveform generator permits the addition of new navigation signals after launch to upgrade the constellation without the need to launch new satellites.

"We have worked very closely with the Air Force and GPS community to make GPS III the most affordable and lowest risk solution for bringing new capabilities to the GPS constellation. The design modifications from this dPDR address ways to further reduce Air Force launch costs by \$50 million per satellite through dual launch of two GPS III space vehicles on a single booster," said John Frye, Lockheed Martin's GPS III capability and affordability insertion manager. "This successful dPDR milestone sets the stage to proceed with SV09 design maturation."

From the beginning of the program, the Lockheed Martin team has remained focused on affordability for GPS III, all while working to ensure the enhanced satellite system can evolve to continue to meet the world's global navigation and timing needs for the next 30 years. To help reduce risks and cut costs, the GPS III team developed a GPS Non-Flight Satellite Testbed (GNST), which serves as the program's ground pathfinder and vehicle demonstrator for the first complete satellite. The entire GPS III development and production sequence utilizes the GNST to provide space vehicle design level validation; early verification of ground support and test equipment; and early confirmation and rehearsal of transportation operations.

Recent milestones provide a key indication the Lockheed Martin team is on track to deliver the first GPS III satellite, with its enhanced capabilities over current orbiting systems, for launch availability in 2014.

In February, the Lockheed Martin team successfully [turned on power](#) to the system module of the program's first



Lockheed Martin has developed GPS III with the help of the GPS Non-Flight Satellite Testbed (GNST), which serves as the program's ground pathfinder and vehicle demonstrator.

spacecraft, designated GPS III Space Vehicle 1 (SV01), demonstrating mechanical integration, validating the satellite's interfaces and leading the way for electrical and integrated hardware-software testing. The satellite will complete its Assembly, Integration and Test (AI&T) in Lockheed Martin's new GPS Processing Facility ([GPF](#)) designed for efficient and affordable satellite production.

The GPS III team is led by the [Global Positioning Systems Directorate](#) at the U.S. Air Force Space and Missile Systems Center. Lockheed Martin is the GPS III prime contractor with teammates ITT Exelis, General Dynamics, Infinity Systems Engineering, Honeywell, ATK and other subcontractors. [Air Force Space Command's 2nd Space Operations Squadron](#) (2SOPS), based at Schriever Air Force Base, Colo., manages and operates the GPS constellation for both civil and military users.

Headquartered in Bethesda, Md., Lockheed Martin is a global security and aerospace company that employs about 120,000 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 2012 were \$47.2 billion.

Note to Editors:

GPS III video and high-resolution images are available for download at www.lockheedmartin.com/gps

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