

Lockheed Martin Delivers GPS III Contingency Operations (COps) Ground System Upgrade To Control More Powerful GPS Satellites

Second GPS III Satellite Readies for Launch; Third Satellite Declared "Available for Launch"

DENVER, June 11, 2019 /PRNewswire/ -- The next step in modernizing the Global Positioning System (GPS) satellite constellation with new technology and capabilities is happening from the ground up!

On May 22, Lockheed Martin (NYSE: LMT) delivered the GPS III Contingency Operations (COps) software upgrade to the U.S. Air Force's current GPS ground control system. The upgrade will enable the Air Force to start commanding the new, next-generation GPS III satellites now coming off the production line and beginning to launch.

And the new GPS III satellites are coming. The [first GPS III](#) satellite launched in December 2018; the [second GPS III](#) shipped to Cape Canaveral in March for a July launch; and the Air Force, on May 17, declared the third new GPS III "Available for Launch" next.

The challenge was modernizing the current ground system -- formally known as the GPS Architecture Evolution Plan Operational Control System (AEP OCS) -- to fly the legacy constellation, as well as the new, modern GPS III satellites, until the next generation Operational Control System (OCX) Block 1, still in development, is delivered.

To address this, in 2016, the Air Force contracted Lockheed Martin to develop the GPS III COps program. Currently, the AEP OCS controls 31 GPS IIA, IIR, IIR-M and IIF satellites launched between 1993-2016. With the AEP OCS' new GPS III COps upgrade, the Air Force will be able to command and control both the legacy satellites, as well the more powerful GPS III satellites.

"Positioning, Navigation and Timing is a critical mission for our nation and COps will allow the Air Force to gain early access to its new GPS III satellites," said Johnathon Caldwell, Lockheed Martin's vice president for Navigation Systems. "We just finished Final Qualification Testing and delivery on COps, and it will be integrated and installed on the AEP OCS over the summer. We look forward to the Air Force 'flying' a GPS constellation on the COps OCS which includes the new GPS III satellites, later this year."

Meanwhile, the first GPS III space vehicle (GPS III SV01), launched in December 2018, is finishing up pre-operational on-orbit check-out. It continues to be controlled by OCX Block 0 software installed at Lockheed Martin's GPS III Launch and Checkout Center at the company's Denver facility. GPS III SV01 is expected to be "handed over" to the COps OCS later this year after the legacy constellation is moved over to the updated AEP OCS.

Lockheed Martin has sustained the AEP OCS since 2013. In November 2018, the company completed the AEP 7.5 upgrade -- the largest architectural change in the systems history -- replacing significant code, hardware and software to improve the system's cybersecurity capabilities and positioning the Air Force to better operate in contested, degraded and operationally limited environments.

In December 2018, the Air Force awarded Lockheed Martin the [GPS Control Segment Sustainment II \(GCS II\)](#) contract to continue to further modernize and sustain the AEP OCS through 2025. In 2020, the AEP OCS is expected to receive the M-Code Early Use (MCEU) upgrade, which will allow control of M-Code, an advanced, new signal designed to improve anti-jamming and anti-spoofing, as well as to increase secure access to military GPS signals for U.S. and allied armed forces.

Lockheed Martin is under contract to develop and build up to 32 GPS III/IIF satellites. GPS III will deliver three times better accuracy and provide up to eight times improved anti-jamming capabilities. GPS III's new L1C civil signal will make it the first GPS satellite to be interoperable with other international global navigation satellite



The U.S. Air Force recently declared Lockheed Martin's third GPS III satellite "Available For Launch" or "AFL."

systems. Additional "IIIF" capabilities, beginning at the 11th satellite, will include a fully digital navigation payload, Regional Military Protection, an accuracy-enhancing laser retroreflector array, and a Search & Rescue payload.

For additional GPS III information, photos and video visit:www.lockheedmartin.com/gps.

About Lockheed Martin

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