

MUOS-5 secure communications satellite reaches orbit, begins pre-operational testing

November 7 2016



On March 3, MUOS-5, arrived at Cape Canaveral after shipping from Lockheed Martin's satellite manufacturing facility in Sunnyvale, California. Credit: Lockheed Martin

The fifth Mobile User Objective System (MUOS) satellite built by Lockheed Martin for the U.S. Navy has reached orbit, successfully deployed its solar arrays and antennas, and is beginning pre-operational, on-orbit testing.

Originally launched from Cape Canaveral Air Force Station on June 24, MUOS-5 experienced an anomaly with its orbit raising propulsion system on its way to [geosynchronous orbit](#) on June 29. Out of caution, the Navy and Lockheed Martin engineering team immediately placed the satellite in a safe mode in transfer orbit as they investigated and examined their options.

"In the end, the Navy and Lockheed Martin engineering team were able to isolate the issue and develop a work-around using alternative propulsion," said Mark Woempner, director of Narrowband Communications Systems at Lockheed Martin. "Once we had a plan together, in early October we carefully re-started orbit raising maneuvers."

MUOS-5 completed orbit raising on Oct. 22, and successfully deployed its [solar arrays](#) for power generation and its antennas for mission operations on Oct. 30. The satellite will begin on-orbit testing before being turned over to the Navy for further testing and eventual commissioning into service.

For the Navy, MUOS-5 completes a network of orbiting satellites and relay ground stations that is revolutionizing secure communications for mobile military forces. Users with MUOS-capable terminals will be able to seamlessly connect beyond line-of-sight around the world and into the Global Information Grid, as well as into the Defense Switched Network. MUOS' capabilities include simultaneous, crystal-clear voice, video and mission data over a secure high-speed Internet Protocol-based system.



MUOS-3 and MUOS-4 pictured in Lockheed Martin's satellite manufacturing facility in Sunnyvale, California. Credit: Lockheed Martin


The MUOS network provides near-global coverage, including communications reach deep into polar regions. Once fully operational, the network will provide users with 16 times more communications capacity than the legacy system it will eventually replace.

The Navy's Program Executive Office for Space Systems and its Communications Satellite Program Office responsible for the MUOS program are based in San Diego. Lockheed Martin assembled and tested all five now-on-orbit MUOS satellites at its Sunnyvale, California, facility.


MUOS

"HEAR" ALL ABOUT NARROWBAND COMMUNICATIONS


The Mobile User Objective System (MUOS) MUOS operates like a Global Military Cellular Network. The orbiting satellites and relay ground stations improve secure mobile satellite communications for mobile military forces. Check out some of the key game-changing features.




Safe and Secure
The advanced waveform technology can connect radio terminal users wherever they are – keeping them out of harm's way and making them even more effective.




Worldwide Network Coverage
MUOS users will be able to talk, text and transfer data with other MUOS users almost anywhere around the world. The current technology only allows users to "talk" if they are "under" the same satellite.




Global Demand
Once declared operational, the number of users will grow worldwide. Today more than 55,000 currently fielded radio terminals can be upgraded for the MUOS System.






"Iceberg Ahead!"
MUOS communications can connect through tough terrain including far into the polar regions. Recently MUOS provided communications during an Antarctic resupply mission.



Voice and Data
MUOS provides simultaneous voice and data transmissions (Multi-RAB) – meaning users can talk and transfer imagery, video and mission data at the same time over a high-speed IP system.

Learn more:
www.lockheedmartin.com/muos

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