



United States Navy

Space and Naval Warfare Systems Command
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Mobile User Objective System (MUOS) Fact Sheet

Description

The Mobile User Objective Systems is the Defense Department's next-generation narrowband military satellite communications system. It will support a worldwide, multiservice population of UHF band users, providing increased communications capabilities to smaller terminals while still supporting interoperability with legacy terminals. MUOS is designed to support users that require mobility, high data rates and improved operational availability. The system will provide greater than 10 times the system capacity of the current UHF constellation.

Background

All U.S. military forces and many of their allies rely upon Navy satellites for narrowband communications. More than 60 percent of military satellite communication users are supported via the UHF band. Approximately 67,000 UHF terminals are currently in military use on more than 50 terminal configurations, many of them designed to be small and portable enough to be carried deep into theaters of operation.

Although the Air Force oversees most DoD space systems, the Navy is responsible for all DoD UHF narrowband satellite communications. The UHF spectrum is the military's communications workhorse because it is the only radio frequency that can penetrate jungle foliage, inclement weather and urban terrain.

The UHF Follow-On, or UFO, constellation is the present narrowband military satellite communication system. UFO achieved Initial Operational Capability in November 1993 and Full Operational Capability in February 2000. As a gapfiller between UFO and MUOS, the UFO F11 satellite was launched in December 2003. The current UFO constellation consists of eight operational UFO satellites, which is augmented by two fleet satellites and leased services on commercial satellites, all of which comprise the UHF constellation.

As deployment of the MUOS system continues, the UHF constellation is on-station 24/7 supporting the warfighter. However, as the current UHF constellation approaches its end of life and to satisfy the increased warfighter demand for satellite communication capability, the Navy has developed several mitigation activities to optimize UHF capacity in the event of a loss of an on-orbit satellite. As a result, today's UHF constellation provides the warfighter approximately 111 more channels worldwide than

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requirements mandate. This additional 111 more channels is equivalent to three UFO satellites and is 39 percent more than the required number of worldwide channels.

MUOS adapts a commercial third generation Wideband Code Division Multiple Access cellular phone network architecture and combines it with geosynchronous satellites to provide a new and more capable UHF system. MUOS includes a satellite constellation of four operational satellites with one on-orbit spare, a ground control and network management system, and a new waveform for user terminals. The ground system includes the transport, network management, satellite control and associated infrastructure to both fly the satellites and manage users' communications.

The first MUOS satellite is scheduled for launch from Cape Canaveral, Fla., in February 2012. The MUOS system is scheduled to provide Initial Operational Capability in 2012 and Full Operational Capability in 2016.

Point of Contact

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