FACT SHEET

U.S. Air Force Fact Sheet

WIDEBAND GLOBAL SATCOM (WGS)

Mission

WGS provides flexible, high-capacity communications for the Nation's warfighters through procurement and operation of the satellite constellation and the associated control systems. WGS provides worldwide flexible, high data rate and long haul communications for marines, soldiers, sailors, airmen, the White House Communication Agency, the US State Department, international partners, and other special users.

WGS satellite

Features

The WGS system is a constellation of highly capable military communications satellites that leverage cost-effective methods and technological advances in the communications satellite industry. With launches in October 2007, April 2009, December 2009, and January 2012, WGS Space Vehicles are the Department of Defense's highest capacity communications satellites. Each WGS satellite provides service in both the X and Ka frequency bands, with the unprecedented ability to cross-band between the two frequencies onboard the satellite. WGS supplements X-band communications, provided by the Defense Satellite Communications System and augments the one-way Global Broadcast Service service through new two-way Ka-band service.

Each WGS satellite is digitally channelized and transponded. These characteristics provide a quantum leap in communications capacity, connectivity and flexibility for U.S. military forces and international partners while seamlessly integrating with current and future X- and Ka-band terminals. Just one WGS satellite provides more SATCOM capacity than the entire DSCS constellation. International partners participating on the program are Australia, Canada, Denmark, Luxembourg, The Netherlands and New Zealand.

Background

WGS provides essential communications services, allowing Combatant Commanders to exert command and control of their tactical forces, from peace time to military operations. Tactical forces will rely on WGS to provide high-capacity connectivity to the Defense Information Systems Network .

Part of the Wideband SATCOM Division of the Space and Missile Systems Center's MILSATCOM Directorate, the WGS system is composed of three principal segments: Space Segment (satellites), Control Segment (operators) and Terminal Segment (users). MILSATCOM is responsible for development, acquisition, fielding and sustainment of the WGS Program. Block II satellites 5 and 6 are projected for launch in 2013. Block II follow-on satellites 7, 8 and

9 are anticipated for launch in FY16, FY17, and FY18 respectively. Satellites are launched either via the Delta IV or the Atlas V Evolved Expendable Launch Vehicle.

General Characteristics

Primary Function: *High-capacity military communications satellite*
Primary Contractor: *Boeing Defense, Space and Security*
Payload: *Transponded, cross-banded-X and Ka-band communications suite*
Antennas: *Electrically steerable, phased array X-band transmit and receive; mechanically steered Ka-band; and fixed Earth-coverage X-band*
Capability: *39 125-MHz Channels via digital channelizer/router, 2.1 Gbps capacity*