



Fact Sheet

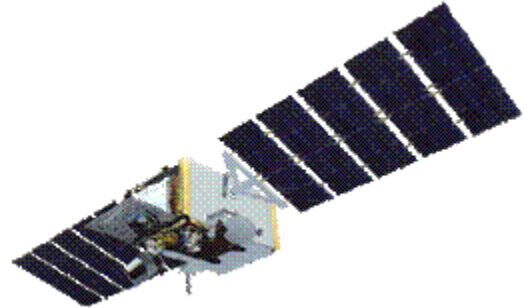
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Space Tracking and Surveillance System

The Missile Defense Agency (MDA) is operating the Space Tracking and Surveillance System (STSS), a two satellite constellation serving as the experimental space layer of the Ballistic Missile Defense System (BMDS). Using sensors capable of detecting visible and infrared light, the STSS satellite constellation is part of a collection of land-, sea-, air-, and space-based BMDS sensors.

Program Overview

- On Sept. 25, 2009, MDA, NASA, and the Air Force teamed to successfully launch two tandem satellites into low earth orbit on a NASA Delta II launch vehicle from Cape Canaveral, Florida.
- Both satellites are operating nominally on-orbit under the control of the Missile Defense Space Experiments Center.
- STSS is participating in integrated BMDS testing and providing significant risk reduction in support of the development and fielding of a future missile defense operational satellite constellation.



Program Update and 2011 Accomplishments

- STSS Demonstration Satellites completed an Early On-orbit Test series of 127 System Functionality Tests and achieved a critical milestone of demonstrating full calibrated performance of both satellites, their crosslink systems, and the acquisition and track sensor payloads.
- Completed FTX-16: Aegis Launch-on Risk Reduction HWIL test with dockside ship (Mar 11)
- Participated in 9 BMDS Flight Tests
- Calibrated acquisition and track sensor payloads
- Demonstrated mono stereo tracking of boosting objects and post-boost objects
- Demonstrated mono and stereo tracking of midcourse objects
- Demonstrated ability to send commands and tracking data from lead to trail vehicle via satellite-satellite communications crosslink
- Demonstrated ability to send real time STSS data into BMD data architecture via Enterprise Sensors Laboratory
- Definitized STSS Ops and Sustainment CLINs
- Transferred STSS Program Office Responsibility from Los Angeles AFB to Colorado Springs (MDIOC)

Program Outlook

- STSS will continue on-orbit testing, by participating in a series of performance demonstration tests with ground, airborne, resident space objects, and ballistic missile targets.
- The additional flight tests will demonstrate the ability to track various targets providing critical demonstrator performance characterization required for PTSS risk reduction efforts while progressing towards closing the fire control loop with BMDS interceptors using space-based infrared tracking.
- The STSS satellites will demonstrate MDA Director Knowledge Points by:
 - Conducting an Aegis Launch-on-Remote
 - Demonstrating an Aegis Engage-on-Remote
 - Integrating with the BMDS to demonstrate the ability to cue and be cued
- Critical Engagement Conditions and Empirical Measurement Event data will be collected during all flight tests as outlined in the MDA's Integrated Master Test Plan (IMTP v11.1).
- STSS will continue to participate in MDA scheduled test events and track available targets and missiles in all phases of flight and provide track data to the integrated BMDS
- STSS Demonstration Satellites will provide invaluable engineering and integration data for development of a follow-on operational BMDS Space Layer for accurate and timely object tracking and reporting of missile attacks against U.S., its allies, and deployed forces.

