LOCKHEED MARTIN

We never forget who we're working for®

SBIRS HEO

Space Based Infrared System
The Next Generation in Global, Persistent IR Surveillance

NORTHROP GRUMMAN

LOCKHEED MARTIN

SBIRS Mission - Global, Persistent IR Surveillance

SBIRS is a space-based infrared system providing data for missile warning, missile defense, technical intelligence, and battlespace awareness. The program includes geosynchronous earth orbit (GEO) satellites, payloads in highly inclined earth orbit (HEO), and ground processing and control elements. The integrated system supports multiple missions simultaneously, while providing robust performance with global, persistent coverage. The first HEO payload was delivered in Aug. 2004, and announced on-orbit by the Air Force in Nov. 2006, with mission performance surpassing specifications. The second HEO payload was delivered in Sept. 2005, and was announced on-orbit and operating successfully in June 2008. Follow-on HEO payload development is currently in work.

Ground System Features

- Manages SBIRS objective constellation of 2 HEO payloads, legacy DSP satellites, and eventually 4 GEO spacecraft
- Key functions
  - Mission planning/payload tasking
  - Constellation management/TT&C
  - Mission processing
  - Event reporting and data distribution
  - Ground control
- Provides normal, survivable, and endurable operating modes
  - Primary and backup mission control stations and remote ground stations in CONUS and overseas
  - Distributed high availability server architecture
- Operated by Air Force Space Command's 2nd Space Warning Squadron and 11th Space Warning Squadron

HEO Payload Features

- Hosted in Molniya Orbit
- ~600-lb infrared payload: scanning sensor
  - 3 colors: short-wave, mid-wave, and see-to-ground sensor chip assemblies
  - Short Schmidt telescopes with dual optical pointing
  - Agile precision gimbal pointing and control
  - Passive thermal cooling
  - 100 Mbps data rate to ground
  - Strategic and Theater Surveillance

The Next Generation of Persistent, Global IR Surveillance

LOCKHEED MARTIN

NORTHROP GRUMMAN

AEROSPACE

SBIRS

HEO Payload in clean room

SBIRS Team

Air Force acquisition of SBIRS is managed by the Space and Missile Systems Center in Los Angeles, Calif. Lockheed Martin Space Systems Company is the prime contractor responsible for program management, systems engineering, and spacecraft development. Lockheed Martin Information Systems and Global Solutions develops ground systems. Northrop Grumman Electronic Systems is the payload subcontractor and supports systems engineering and ground mission processing development. SBIRS work locations include Sunnyvale and Azusa, Calif; Boulder and Colorado Springs, Colo; Stennis, Miss; and New Town, Pa.

Lockheed Martin Space Systems Company
SBIRS Program
Sunnyvale, CA
Business Development: +1.408.756.6527
Media Contact: +1.303.909.6739
Learn more: www.lockheedmartin.com/sbirs

C11004_SBIRS HEO
1/17/11