

## Deployment status

The U.S. Air Force, in partnership with the Lockheed Martin-led industry team, is responsible for deploying SBIRS in phases.

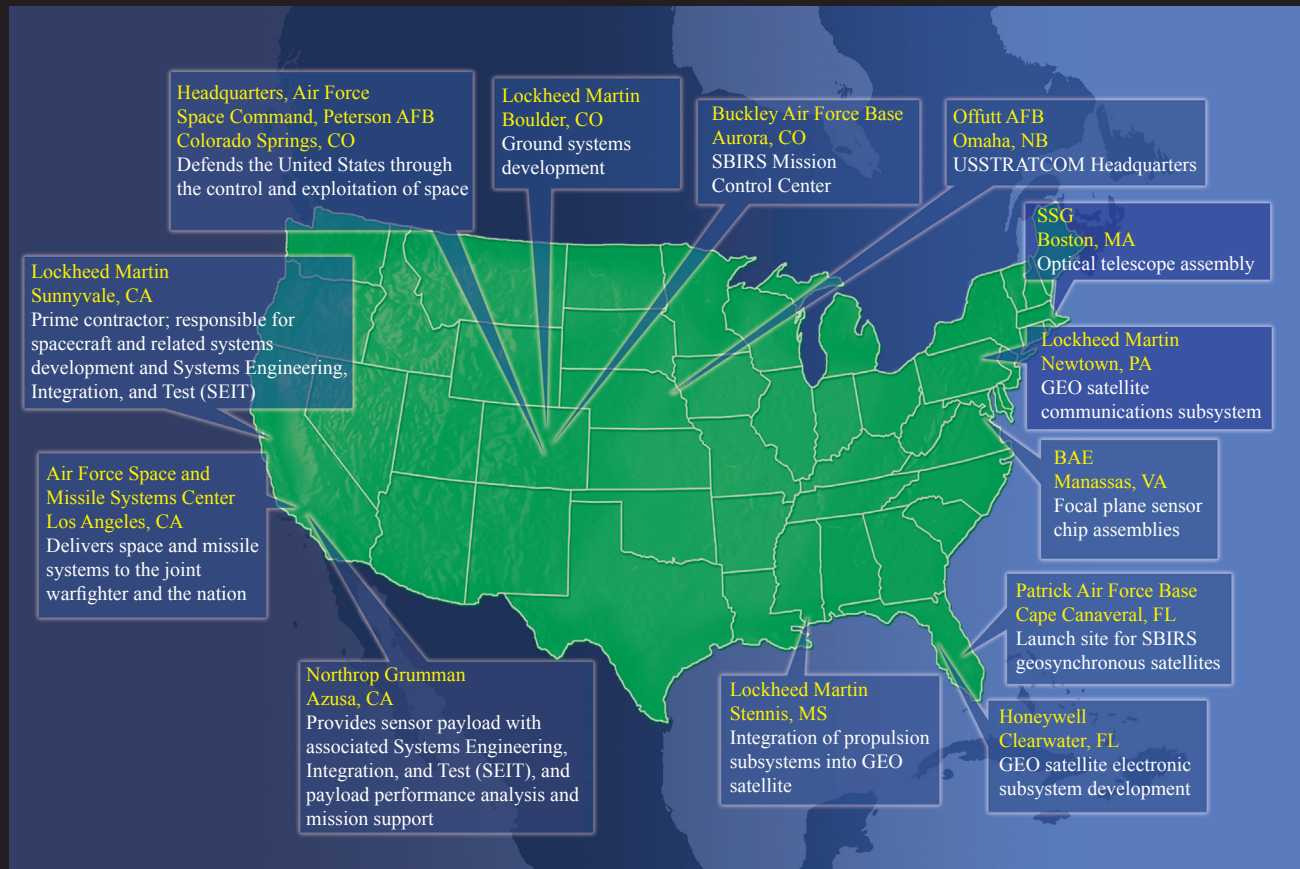
The first phase – now complete – is Ground Segment consolidation, which replaced four legacy ground stations with a single Mission Control Station, a Mission Control Station Backup and two new Relay Ground Stations. The integrated ground control system, which generates a single report for each event, is yielding dramatic improvements in the speed and quality of data processing and analysis. This also affords the Air Force significant savings in operations and maintenance.

The second phase deploys two sensor payloads in highly elliptical orbits (HEO) to provide vital polar

coverage. The Air Force announced the first two HEO payloads to be on-orbit and delivering mission performance beyond specifications in Nov 2006 and Jun 2008. The first two SBIRS satellites designed for geosynchronous orbit (GEO) are being readied for launch. Follow-on HEO payloads and GEO satellites are being procured.

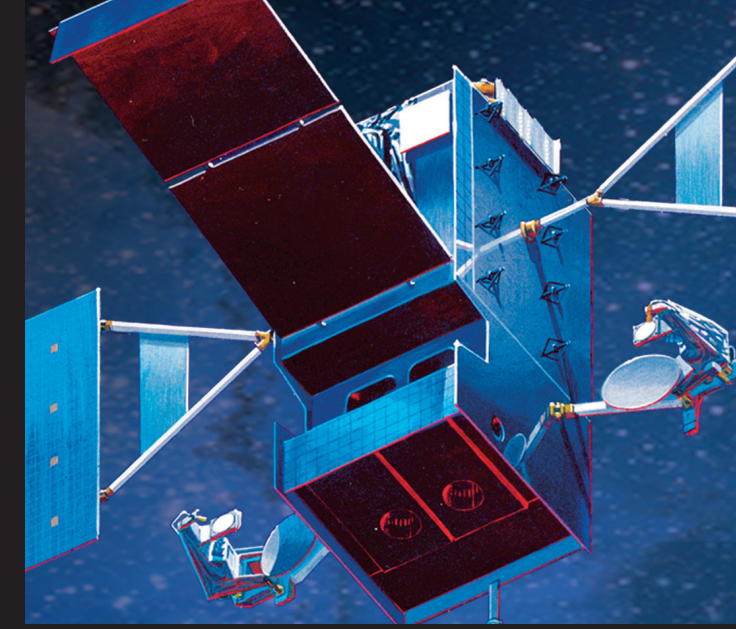
As the SBIRS team achieves each step in the deployment, system performance will improve. These enhancements include faster report times, better global coverage, greater sensitivity to dim infrared short-range threats and more accurate launch and impact pointed termination. Improved performance enables superior military utility, the key enabler for winning on the battlefield.

In partnership with the U.S. Air Force, a SBIRS industry team led by Lockheed Martin is improving the nation's space based surveillance capability



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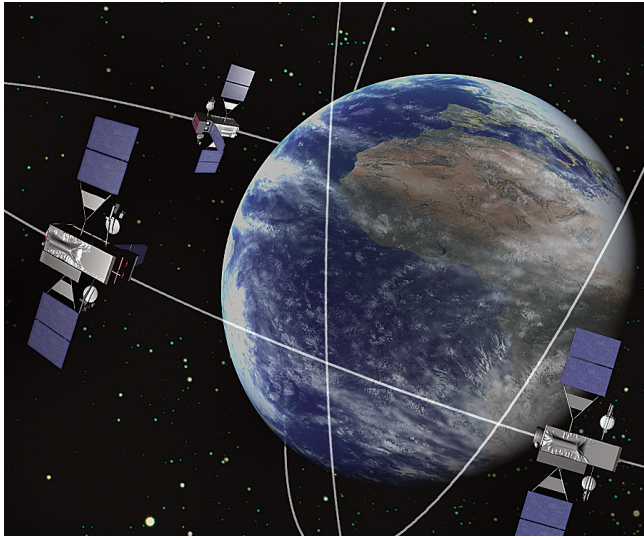


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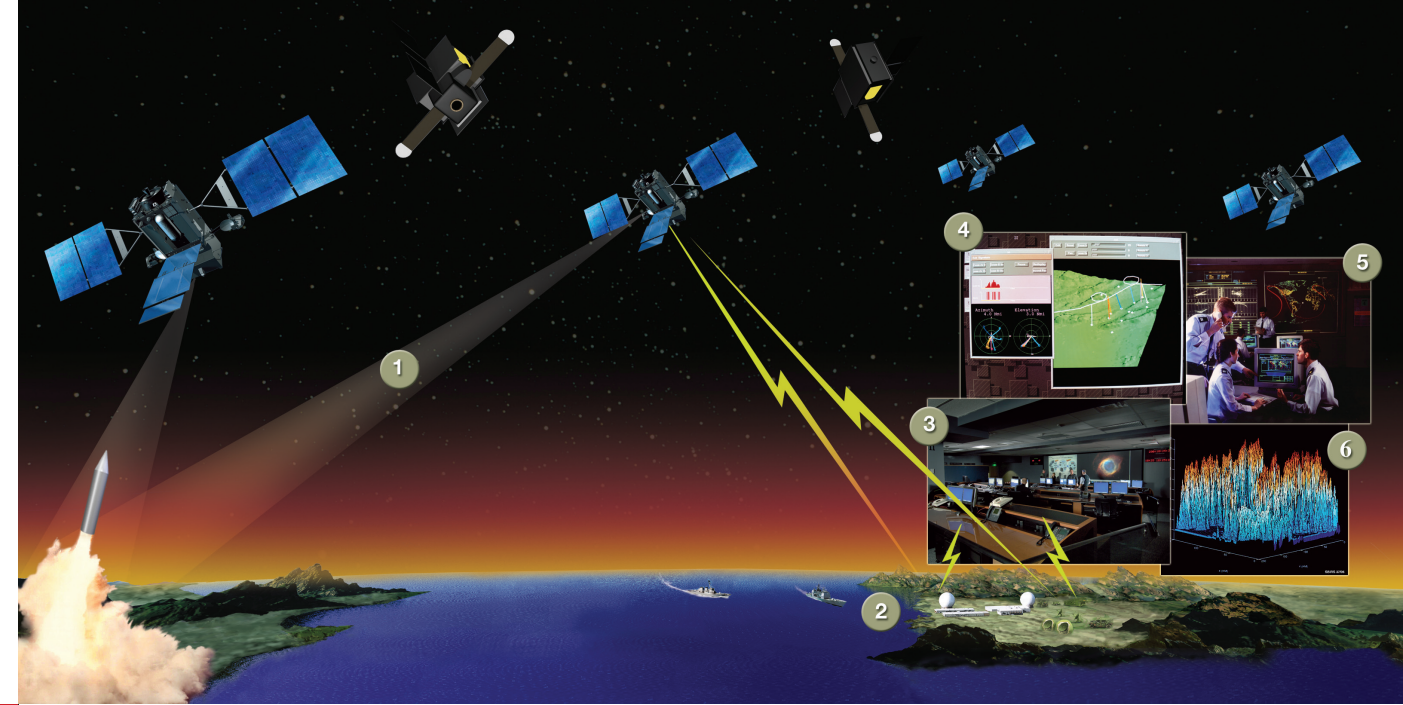
# SBIRS: A quantum leap in infrared event detection and reporting



Global, persistent missile surveillance continues to be a critical national security space mission. A Cold War focus on the strategic ICBM threat has extended to include emerging threats such as short- and mid-range ballistic missiles in the hands of many nations - some openly hostile to the United States and its allies.

At the same time, the rapid global force projection and precision engagements that characterize 21st century military operations are creating new demands for highly accurate information delivered more quickly and efficiently.

The Department of Defense is fielding a new generation of space-based surveillance: Space-Based InfraRed System (SBIRS). With vastly improved performance and an integrated system architecture, SBIRS will provide greater military utility against evolving national and theater threats.



## Architecture designed for rapid data collection and dispersal

SBIRS' multi-mission, single-platform optimization is the key to its revolutionary capability. It will enable single-source reporting to end users and yield cross-mission synergies that will improve the quality and timeliness of infrared data collection and dissemination.

During operation, ground controllers task scanning and staring sensors on board SBIRS satellites to monitor areas of national interest. This flexibility allows the system to respond to evolving situations and simultaneous, multiple-user requirements.

The figure above shows how SBIRS works:

1 When a launch occurs, SBIRS sensors detect and track the infrared radiation from the missile's hot exhaust.

2 Onboard satellite systems process and transmit the data to the ground terminals located around the globe. This data is forwarded to the Mission Control Station.

3 The Mission Control Station (MCS) receives data from all SBIRS sensors for further processing and manages the SBIRS constellation.

4 MCS software generates launch reports that include missile type; missile launch point, time, and azimuth; and predicted missile impact point. Data from multiple satellites is fused to obtain more accurate reporting.

5 Air Force Space Command operators review these launch reports and release them to strategic, tactical, and technical intelligence users around the world.

6 Later, playback of the wideband data allows for more thorough understanding of a missile's performance and provides updates to the database.

## SBIRS coverage and advanced sensors capability will provide key improvements in four vital mission areas



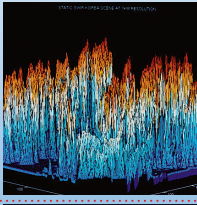
### Missile Warning

- Providing faster, more accurate reporting on theater and strategic missile launches



### Missile Defense

- Supporting effective operation of missile defense systems against national and theater threats



### Technical Intelligence

- Gathering data to characterize a variety of infrared signatures to enable rapid identification of events



### Battlespace Awareness

- Supplying comprehensive infrared data to help characterize battlespace conditions, supporting force protection, strike planning, and other missions

## Faster, more accurate information collected from IR assets with global, persistent coverage to protect the U.S. and its allies

Improved infrared event detection and reporting provided by SBIRS will play an increasingly important role in the Armed Forces' information and intelligence architecture.

Rapidly generated and detailed reports on missile launches will expand options for military planners using SBIRS. They will have more time to prepare, move, or otherwise protect critical assets and launch interceptor missiles.

Faster, more accurate reports will enhance offensive operations. Earlier warning and increased launch-point accuracy give attack aircraft and other forces more time to locate and kill mobile missile launchers before they escape.

As military requirements evolve, the improved technical capability of SBIRS will provide U.S. forces with the agility and flexibility needed to protect American and allied interests around the world.