

Ground Based X-Band Radar (GBR-X)



Proven state-of-the-art, high-resolution, X-band phased array radar, providing early detection, precision tracking, and discrimination of threat missiles in the boost and post-boost phases of flight.

Benefits

- Sensitivity to detect, precision track and discriminate threat missiles
- Significantly expands the ballistic missile defense effective battlespace
- Enhances the capability of Japan's national ballistic missile defense
- Interoperable asset to defend Japan, the United States and our collective allies, friends and deployed forces from ballistic missiles of all ranges in all phases of flight
- Spiral development ballistic missile defense upgrade path

The Ground Based X-Band Radar (GBR-X) is a land-based component for regional ballistic missile defense that provides early detection, precision tracking and discrimination data on threat missiles to the ballistic missile defense sensor network.

Raytheon has leveraged existing technology from our open architecture-based family of X-band radars, which includes the following: Forward Based X-Band Radar-Transportable (FBX-T), Terminal High-Altitude Area Defense (THAAD) radar, Ground Based Radar (GBR) prototype and the Sea Based X-Band (SBX) radar.

This technology investment provides proven capabilities to fulfill ballistic missile defense surveillance needs against increasingly capable threats.

The GBR-X performs surveillance autonomously or as cued by other sensors. It will acquire, track and discriminate threat missiles and missile components, passing this information via direct interface command and control (C2) systems to other ballistic missile tracking and fire control radars.

The X-band precision track radars, coupled with layered sensors, give the Japan ground missile defense system a continuous tracking and discrimination capability with more

shot opportunities to engage the target, resulting in a greater probability for a successful hit.

The design, development, manufacturing and integration work on the X-band family of radars is one of the key competencies of Raytheon's Integrated Defense Systems (IDS) business. IDS provides the cutting-edge integration solutions that make missile defense a reality.

Manufacturing of the X-band family of radars is performed at Raytheon's Integrated Air Defense Center in Andover, Mass., and the Missile Defense Center in Woburn, Mass.

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A Host of Advanced Capabilities

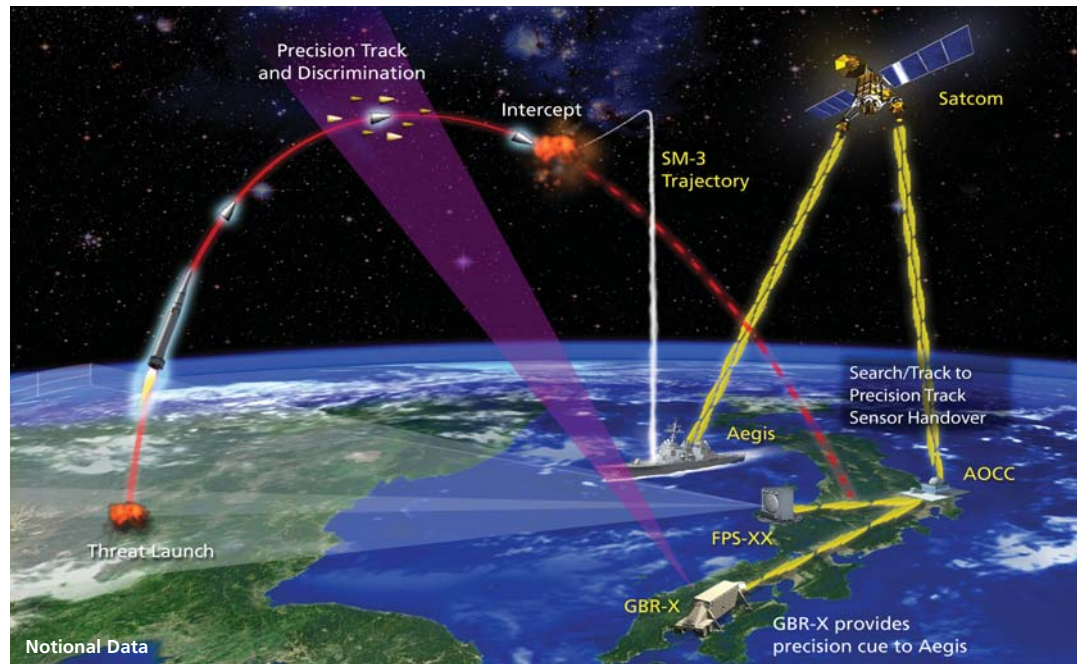
The GBR-X can complement and enhance the ground missile defense of Japan to provide a robust national missile defense and provide an interoperable asset to U.S. forces. The system's capability provides robustness against a wide range of threats for increased protection of Japan. The radars are capable of detecting ballistic missiles early in their flight and providing precise tracking information for use by Japan's missile defense system. This approach provides overlapping sensor coverage with existing sensors and the potential to extend the battlespace. It also has the ability to complicate an enemy's ability to penetrate the defense system.

Flawless Test Performances

The Missile Defense Agency's FBX-T performed flawlessly in its four target-of-opportunity test missions conducted during the second half of 2005. In each of the tests, a Minuteman inter-continental ballistic missile was fired out of Vandenberg Air Force Base in California. The FBX-T tracked the missile in its boost and midcourse phases, generated flight data and then successfully communicated that information.

Operational Concept

- Surveillance/detection
- Tracking
- Discrimination
- Hit assessment
- Sensor cueing



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