



Fact Sheet

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Sea-Based X-Band Radar

The Sea-Based X-Band Radar (SBX) acquires, tracks and discriminates the flight characteristics of threat missiles. The SBX provides an advanced capability to the Missile Defense System, increasing the Missile Defense Agency's ability to conduct operational and realistic testing of the Missile Defense System, while providing an operational capability to the Combatant Commands.



Overview

- The SBX is an advanced X-band radar mounted on a mobile, ocean-going, semi-submersible platform that provides the Missile Defense System with an extremely powerful and capable radar that can be positioned to cover any region of the globe. Its ocean-spanning mobility allows the radar to be repositioned as needed to support the various Missile Defense System test scenarios.
- The vessel is based on a fifth-generation semi-submersible oil drilling platform. It is twin-hulled, self-propelled, and stable in high winds and turbulent sea conditions.
- Operationally, the SBX provides an advanced radar capability to obtain missile tracking information while an incoming threat missile is in flight, discriminates between the hostile missile warhead and any countermeasures, and provides that data to interceptor missiles so they can successfully intercept and destroy the threat missile before it can reach its target. SBX also supports Space Domain Awareness.

Details

- The SBX is 240 feet wide and 390 feet long. It towers more than 280 feet from its keel to the top of the radar dome and displaces nearly 50,000 tons when ballasted.
- Larger than a football field, the main deck houses living quarters, workspaces, storage, power generation, bridge, and control rooms, while providing the space and infrastructure necessary to support the radar antenna array, command control and communications suites.
- SBX can operate at sea for long periods, and completed a 661-day continuous deployment in October 2022.

Development and Operations

- Construction of the vessel and integration of the payloads were completed in two Texas shipyards and extensive sea-trials were conducted in the Gulf of Mexico and the Pacific Ocean.
- SBX operates at sea for Missile Defense System flight and ground test participation or in an active, operational status when indications and warnings signal the need for enhanced discrimination. The SBX is located in a Pacific port when not required at sea. The SBX maintains vessel certifications for operations at sea as well as software compatibility with the Missile Defense System.

Service Transition

- The SBX vessel was transferred to the Military Sealift Command on December 22, 2011. Military Sealift Command operates and maintains the vessel and coordinates logistics support and port services. MDA retains responsibility for the X-band radar.