FTI-01 MISSION DATA SHEET
Ballistic Missile Defense System

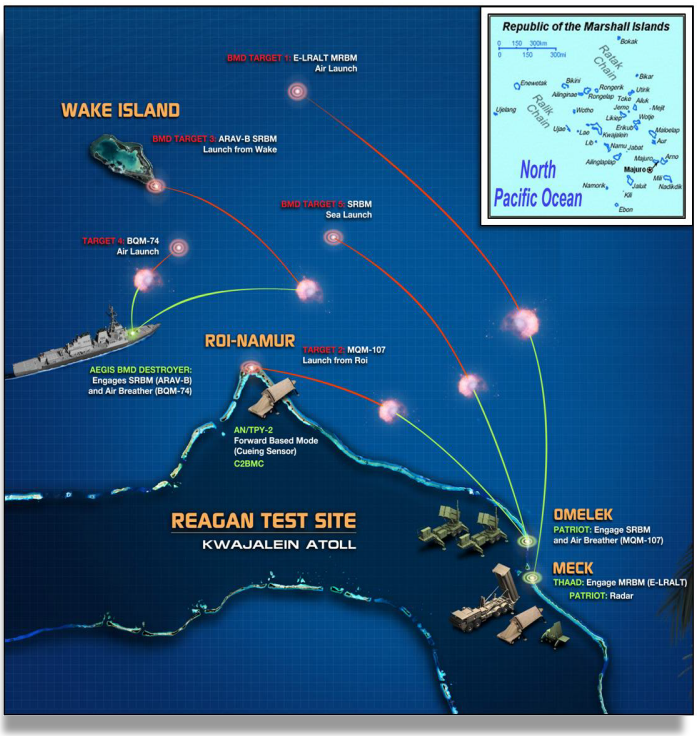
Flight Test Overview

Flight Test Integrated (FTI)-01 will demonstrate regional Ballistic Missile Defense System (BMDS) ability to defend a raid of up to five near-simultaneous threats in an operationally relevant scenario. FTI-01 is a combined Developmental Test/Operational Test of BMDS regional/theater, integrated operations.

FTI-01 is an unprecedented, integrated, system-level, live-fire event to be conducted at U.S. Army Kwajalein Atoll (USAKA)/Reagan Test Site (RTS). It will demonstrate interoperability among three currently-fielded weapons platforms with proven, individual track records: Aegis Ballistic Missile Defense (BMD), Terminal High Altitude Area Defense (THAAD) (including Army-Navy Transportable Radar Surveillance-Model 2 (AN/TPY-2) Terminal Mode (TM)), and Patriot.

Other assets, including AN/TPY-2 Forward-Based Mode (FBM) and Command, Control, Battle Management, and Communications (C2BMC) will contribute essential interoperability capabilities to FTI-01.

Representative threats in FTI-01 include three ballistic missiles and two air-breathing (cruise missile) targets (ABTs). Targets will be flown at multiple ranges and trajectories in an operationally-realistic scenario.



FTI-01 Primary Objective

Demonstrate regional BMDS ability to defend against a raid of up to five near-simultaneous threats in an operationally relevant scenario.

Engagement Scenario

FTI-01 begins with the launch of a medium-range ballistic missile (MRBM), represented with an Extended Long Range Air Launch Target (E-LRALT). A U.S. Air Force C-17 aircraft, staged from Joint Base Pearl Harbor-Hickam, Hawaii, will airdrop the E-LRALT over the broad ocean area north of Wake Island.

BMDS radars, including the AN/TPY-2 (FBM), will detect and track the E-LRALT, providing information to C2BMC. The AN/TPY-2 (FBM) will be managed by operators at the 613th Air and Space Operations Center at Joint Base Pearl Harbor-Hickam, HI, using C2BMC to share track information with Aegis BMD, THAAD, and Patriot.

An MQM-107 ABT will launch from Roi-Namur on an attack run towards Meck Island. Next, a BQM-74E ABT will drop from a Gulfstream aircraft and initiate an attack run towards an Aegis 3.6.1 BMD destroyer.

Following the BQM-74E launch, an Aegis Readiness Assessment Vehicle (ARAV)-B, representing a short-range ballistic missile, will launch from Wake Island. The Aegis destroyer will detect and track the ARAV-B with its onboard AN/SPY-1 radar.

The THAAD system, located on Meck Island, will detect, track, develop a fire-control solution and engage the E-LRALT with a THAAD interceptor.

The Aegis destroyer will track the ARAV-B, develop a fire-control solution, and engage the target with a SM-3 Block IA missile.

On Meck Island, Patriot radar (AN/MPQ-65), command and control systems will detect and track the MQM-107, engaging it with a Patriot Advanced Capability (PAC)-3 interceptor, launched from Patriot launchers on neighboring Omelek Island.

A short time later, the Aegis BMD ship will engage and intercept the BQM-74E with an SM-2 Block IIIA missile.

Finally, the third ballistic target, a short-range ballistic missile (SRBM) will launch from a mobile platform located in the broad ocean area northeast of Kwajalein Atoll. Using upper-tier debris mitigation, the Meck/Omelek Patriot emplacement will detect, track, and engage the SRBM target with a second PAC-3 interceptor.

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Participating BMDS Assets

Aegis Ballistic Missile Defense (BMD)

Aegis Ballistic Missile Defense (BMD) is the sea-based component of BMDS. Aegis BMD builds upon the Aegis Weapon System, Standard Missile, Navy and joint forces' Command, Control and Communication systems.

Aegis BMD defeats short- to intermediate-range, ascent and midcourse-phase ballistic missile threats with the Standard Missile-3 (SM-3), as well as short-range terminal-phase ballistic missiles with the SM-2.

The Aegis BMD weapon system integrates planning, detection, tracking, engagement, control, and kill assessment functionalities to maintain the multi-mission role (BMD and non-BMD) of Aegis ships.

Aegis has demonstrated 23 successful intercepts in 28 at-sea events.

Terminal High Altitude Area Defense (THAAD)

The THAAD element provides the BMDS with a globally transportable, rapidly deployable capability to intercept and destroy ballistic missiles inside or outside the atmosphere during their terminal, phase of flight.

A THAAD Battery consists of a truck-mounted launcher, interceptors, fire control, and an AN/TPY-2 (TM) X-band radar.

THAAD has successfully completed nine out of nine intercept tests since 2005.

Patriot Weapon System

Patriot is the most mature hit-to-kill BMDS weapon system, providing simultaneous air and missile defense capabilities as the Lower-Tier Element defending U.S. deployed forces and allies.

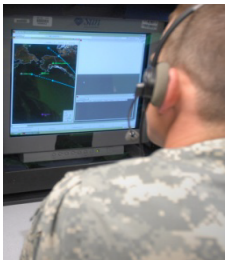
By transmitting precision cueing data to other Elements while simultaneously protecting system assets against short-range ballistic missiles, large-caliber rockets, and air-breathing threats (ABTs), Patriot contributes to operational capability of the entire BMDS.

Patriot's Upper-Tier Debris Mitigation diminishes excessive radar load and potential missile waste caused from upper-tier intercept debris. Patriot successfully intercepted several ballistic missiles in Operation Iraqi Freedom utilizing its Patriot Advanced Capability (PAC)-3 and PAC-2 interceptors.

AN/TPY-2 Radar

AN/TPY-2 radars are transportable, X-band, phased-array radars. AN/TPY-2 radars can be operated in forward-based mode to provide the BMDS with early warning, or can be operated in terminal mode to provide information used by terminal-phase interceptors.

Command, Control, Battle Management and Communications (C2BMC)



C2BMC collects and manages sensor and communication data to provide situational awareness. C2BMC allows combatant commanders to exercise centralized command and control of Ballistic Missile Defense forces and decentralized mission execution. C2BMC provides decision support through interactive graphical displays and pre-approved rules of engagement plans.

Target Systems

Extended Long Range Air Launch Target (E-LRALT) – A medium-range threat-representative air-launched ballistic missile target. The delivery system is air-extracted from a C-17 for launch on any azimuth. The E-LRALT was developed to relieve BMDS test constraints imposed by fixed-ground launch sites

Aegis Readiness Assessment Vehicle - Variant B (ARAV-B) – A short-range ballistic missile target. This two-stage, separating target will be rail-launched from Wake Island in FTI-01.

Short-Range Ballistic Missile Target (SRBM) – A short-range single stage (unitary) ballistic target based on real-world threat hardware.

MQM-107 (air-breathing target) – A manually flown ABT representative of cruise missile threats.

BQM-74 (air-breathing target) – A subsonic, turbojet-powered ABT emulating enemy anti-ship cruise missiles.

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