

Lockheed Martin's Aegis BMD Weapon System With Prototype Signal Processor Tracks Advanced, Separating Ballistic Missiles

The Aegis Ballistic Missile Defense (BMD) Weapon System with a prototype signal processor successfully tracked several advanced ballistic missile targets in separate tests off the coast of Hawaii in April. Lockheed Martin develops the Aegis BMD Weapon System and serves as the combat system engineering agent for the U.S. Navy and Missile Defense Agency (MDA)'s Aegis BMD program.

During both events -- Critical Measurements and Countermeasures (CMCM)-2A and 2B - the Aegis AN/SPY-1B radar aboard the guided missile cruiser USS Lake Erie (CG 70), augmented by the Aegis Ballistic Missile Defense Signal Processor (BSP), provided real-time detection, tracking and discrimination performance against threat-representative targets.

"The Aegis systems engineering philosophy of build a little, test a little, learn a lot raises performance expectations with every test," said Joe Rappisi, Lockheed Martin's director for Aegis BMD. "Every test pushes the envelope and engages key players at all levels, from the Sailors operating the ship to the Navy, MDA and industry engineers. In these tests, the developmental Aegis BSP demonstrated new discrimination capabilities that will protect our nation, allies and forces deployed around the world against more complex ballistic missiles."

The CMCM-2A and CMCM-2B tests are part of the MDA's Critical Measurements and Countermeasures Program. The program is an integral part of the MDA's test process and provides participants with the opportunity to reduce technical risk by testing against stressing, complex target scenarios.

The MDA and the U.S. Navy are jointly developing Aegis BMD as part of the Ballistic Missile Defense System. Ultimately 15 Aegis destroyers and three Aegis cruisers will be outfitted with the capability to conduct Long Range Surveillance and Tracking (LRS&T) and engagement of short- and medium-range ballistic missile threats using the Aegis BMD Weapon System and the Standard Missile-3 (SM-3). To date, 10 Aegis destroyers have been upgraded with the LRS&T capability and are certified for tactical deployment.

The Aegis BSP, which is in development and will be installed on Aegis BMD ships beginning in 2010, provides an advanced discrimination capability to defeat more complex ballistic missile threats. The Aegis BSP is an open architecture design, allowing for quick and affordable upgrades as the signal processor technology evolves. The move to open architecture for Aegis BMD is in parallel and aligned with the U.S. Navy's Aegis Open Architecture initiative to transform the entire Aegis Weapon System beginning with the Cruiser Modernization Program now underway.

The Aegis Weapon System is the world's premier naval surface defense system and is the foundation for Aegis BMD, the primary component of the sea-based element of the United States' Ballistic Missile Defense System (BMDS). The Aegis BMD Weapon System seamlessly integrates the SPY-1 radar, the MK 41 Vertical Launching System, the SM-3 missile, and the weapon system's command and control system. The Aegis BMD Weapon System also integrates with the BMDS, receiving cues from and providing cueing information to other BMDS elements.

The Aegis Weapon System is currently deployed on 79 ships around the globe with more than 30 additional ships planned or under contract. In addition to the U.S., Aegis is the maritime weapon system of choice for Japan, South Korea, Norway, Spain and Australia. Japan will begin installation of Aegis BMD in its Kongo class Aegis destroyers in 2007.

Lockheed Martin is a world leader in systems integration and the development of air and missile defense systems and technologies, including the first operational hit-to-kill missile defense system, PAC-3. It also has considerable experience in interceptor systems, kill vehicles, battle management command, control and communications, precision pointing and tracking optics, as well as radar and other sensors that enable signal processing and data fusion. The company makes significant contributions to nearly all major U.S. Missile Defense Systems and participates in several global missile defense partnerships.

Headquartered in Bethesda, MD, Lockheed Martin employs about 135,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services.

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