

Lockheed Martin Concludes 2007 With Record Accomplishments In Operational And Next-Generation Missile Defense Capabilities

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Lockheed Martin achieved significant milestones on several critical missile defense programs during 2007, including nine target missile intercepts by weapons systems developed by the corporation. Lockheed Martin-developed missile defense systems now have achieved more than 40 successful intercepts since the 1980s. Lockheed Martin also continues to lead the development of new missile defense technology and is the only company to do so across the spectrum of boost-, mid-course- and terminal-phase defenses.

"Lockheed Martin's capable products allow our friends and allies to find and engage missile threats with speed, precision and confidence," said David Kier, Lockheed Martin vice president and managing director of Missile Defense. "Our strong record of performance and mission success means safety and protection for our deployed troops and civilian populations at home."

Lockheed Martin's operational missile defense milestones in 2007 included:

- Lockheed Martin was awarded a \$619 million contract from the U.S. Missile Defense Agency (MDA) to begin production of the Terminal High Altitude Area Defense (THAAD) Weapon System. The contract for the first two THAAD fire units included 48 interceptors, six launchers and two fire control and communications units.
- Lockheed Martin was awarded contracts totaling \$556 million from the U.S. Army Aviation and Missile Command for hardware and services associated with the combat-proven Patriot Advanced Capability-3 (PAC-3) Missile program. The contracts included production of 148 PAC-3 Missiles, 17 launcher modification kits, spares and other equipment, as well as activities related to the upgrading of U.S. Army Patriot fire units to the PAC-3 capability, which is part of the U.S. Army's "Pure Fleet" initiative.
- Lockheed Martin was awarded a \$458 million contract extension from the U.S. MDA for development, integration and installation of the Command, Control, Battle Management and Communications (C2BMC) capability for the ballistic missile defense system. C2BMC delivers the future architecture for missile defense, integration capabilities for missile warning, tracking and intercept in to a seamless, global enterprise.
- In April, the Aegis Ballistic Missile Defense (BMD) Weapon System on the USS Lake Erie simultaneously intercepted a ballistic missile target and an anti-ship cruise missile target, highlighting Aegis' multi-mission capability and flexibility. Currently, a total of 11 Aegis-equipped warships -- 10 in the U.S. Navy and one in the Japanese Maritime Self-Defense Force -- have the ability to both conduct long-range search and track missions, as well as to engage ballistic missiles. Another seven U.S. Navy Aegis warships are equipped with Aegis BMD long range surveillance and track capability. Ultimately, the U.S. Navy will outfit 15 Aegis destroyers and three Aegis cruisers to engage short to intermediate-range ballistic missile threats and support other BMDS engagements using the Aegis BMD Weapon System and the Standard Missile (SM)-3 missile.
- In June, the Aegis BMD Weapon System on USS Decatur successfully guided a Standard Missile (SM)-3 Block 1A missile to intercept a medium range, separating ballistic missile target outside the Earth's atmosphere - the first intercept attempt by an Aegis-equipped destroyer. In addition to USS Decatur, the Aegis BMD Cruiser USS Port Royal (CG 73) and the Spanish Navy Aegis-equipped frigate Mendez Nunez (F-104)

participated in the test as a training event to assess the future capabilities of the F-100 Class. USS Port Royal used its SPY-1B radar augmented by a prototype Aegis BMD signal processor to detect and track the separating warhead in real time, and to differentiate - or discriminate - the simulated warhead from the rest of the missile. USS Port Royal exchanged tracking data with a ground-based THAAD system ashore. The Aegis BMD-THAAD link verified interoperability of systems and sensors in the nation's ballistic missile defense system.

- In November, USS Lake Erie's Aegis BMD weapon system successfully detected, tracked and targeted two ballistic missiles simultaneously, marking the 10th and 11th intercepts in 13 attempts. Aegis BMD then guided two SM-3 missiles to a successful intercept of both targets - the first time two ballistic missile targets were simultaneously engaged in the exo-atmosphere.
- In December, JS Kongo's Aegis BMD Weapon System successfully detected, tracked, targeted and guided a Standard Missile (SM)-3 Block 1A missile to intercept a ballistic missile in the exo-atmosphere. This was the first test for Japan's Aegis BMD capability. This test also included a successful track data exchange between USS Lake Erie's Aegis BMD and THAAD.
- Lockheed Martin successfully conducted a PAC-3 Missile flight test on July 18 at White Sands Missile Range, NM. The test was an engagement against a low-flying, air-breathing target, which was intercepted and destroyed by a PAC-3 Missile. Also in July, Lockheed Martin recognized delivery of the 500th PAC-3 Missile to the U.S. Army during a celebration at the PAC-3 Missile production facility in Camden, AR. PAC-3 Missiles have been delivered and deployed around the world with U.S. forces and to U.S. allies. The Netherlands took delivery of their first PAC-3 Missiles.
- The Command, Control, Battle Management and Communications program (C2BMC) completed 20 spiral deliveries. C2BMC is operational across 14 time zones. C2BMC began development of a new requirement for concurrent testing and training across the entire ballistic missile defense system while simultaneously conducting real world operations. In December, C2BMC Spiral 6.2 was promoted to operational status. With this spiral, capabilities provided include Link 16 track, parallel staging of networks for support to development/integration and operations, new communication capabilities for Aegis UHF/EHF and Situational Awareness and Planner capability enhancements.
- Lockheed Martin delivered an AN/TPS-59(V)3B ballistic missile defense radar system to the Kingdom of Bahrain. The radar proceeded smoothly through a site acceptance test in August and now is being used by the Bahrain Defence Force for air surveillance.
- Lockheed Martin successfully completed five missions as the U.S. MDA's Targets and Countermeasures prime contractor, providing ballistic missile targets to test weapon system elements of the MDA's Ballistic Missile Defense System. This brought the success rate to 10 for 10 since the first mission in 2005. In 2007, the U.S. MDA and Lockheed Martin inaugurated the new Targets and Countermeasures Single Integration Capability in Courtland, AL, which will produce the Flexible Target Family, the most flexible, cost-effective, reliable targets available.
- MEADS, the 21st century replacement for Patriot air and missile defense systems in the United States and Germany, and for the Nike Hercules system in Italy, successfully completed a 27-event preliminary design review event cycle in December. Prime contractor MEADS International was one of 30 companies to receive the James S. Cogswell Outstanding Industrial Security Achievement Award, and for the third consecutive year, MEADS International received Superior ratings in an annual audit by the U.S. Defense Security Service.

Lockheed Martin's next-generation capability milestones in 2007 included:

- Lockheed Martin and the U.S. MDA conducted successful endo- and exo-

atmospheric tests of the THAAD Weapon System at the Pacific Missile Range Facility on Kauai, HI, and White Sands Missile Range, NM, in January, April, June and October. Additionally, Lockheed Martin inaugurated the new THAAD launcher production facility in Camden, AR.

- The U.S. MDA's Airborne Laser (ABL) team demonstrated the capability to accurately point and focus the elements of the Lockheed Martin-developed Beam Control/Fire Control system on an airborne target. The ABL team successfully directed the beam generated by a surrogate High Energy Laser at a missile-shaped target on the side of an Air Force Big Crow aircraft. To enable the surrogate beam to focus on the simulated target, the system first located and tracked the target, determined range to the target and then compensated for atmospheric turbulence. ABL will destroy a ballistic missile during its boost phase, while it is still accelerating in the Earth's atmosphere and before it can deploy warheads.
- The Lockheed Martin team successfully tested a key element of the U.S. MDA's revolutionary Multiple Kill Vehicle payload. An extended duration demonstration of the carrier vehicle's divert and attitude control system met all of the performance objectives established by the agency. The Multiple Kill Vehicle adds volume kill capability for the Warfighter and is a force multiplier for all of the land- and sea-based weapons of the integrated mid-course missile defense system.
- Defense appropriators approved \$2.5 million in fiscal year 2008 funding for the High Altitude Airship (HAA(TM)) program, to provide the Warfighter with affordable, ever-present intelligence, surveillance and reconnaissance and rapid communications connectivity over the entire battle space. The HAA technology is available now and ready for integration and flight test. Pre-production runs of fabrics exhibit lower weight, higher strength and longer lifetimes, exceeding the customer's requirements. Pre-production runs of solar cells and batteries also meet or exceed requirements. The U.S. MDA exercised the HAA Technology Improvement Project contract option in February 2007 to evolve key technologies for the operational vehicle. This effort is being done in parallel with the prototype activities.

Lockheed Martin plays a critical role in the nation's ballistic missile defense system being used today. In addition to operational defenses, Lockheed Martin provides the backbone systems that integrate the sensors, command and control, and weapon system elements of the ballistic missile defense system. The corporation is also focused on next-generational capabilities, and provides targets and other methods to test system elements.

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. It also has considerable experience in missile design and production, infrared seekers, command and control, battle management, and communications, precision pointing and tracking optics, as well as radar and signal processing. The company makes significant contributions to major U.S. missile defense systems and participates in several global missile defense partnerships.

Headquartered in Bethesda, Md., Lockheed Martin employs about 140,000 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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