



News Release

Defense Advanced Research Projects Agency

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IMMEDIATE RELEASE

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AMSTE DEMONSTRATES IMPROVED TRACKING CAPABILITY WITH LIVE JDAM

The Defense Advanced Research Projects Agency (DARPA) Affordable Moving Surface Target Engagement (AMSTE) program has demonstrated for the eighth consecutive time the ability to precisely engage moving surface targets using precision-guided weapons. The weapon used this time was a modified live Joint Direct Attack Munition (JDAM).

On October 7, the AMSTE team successfully demonstrated the ability to track a moving target from long range and to use this tracking information to continuously direct a JDAM weapon in flight to attack that target. The recent experiment tested the ability of an integrated system to track targets in more realistic target scenarios using feature-aided tracking tools to support long-term track maintenance of high-value targets. Eighteen different military target vehicles were maneuvered through a complex, three-hour scenario to test the improved tracking capability of the AMSTE system. Preliminary results included an operator-assisted track of a nominated target for longer than 40 minutes.

The flight test was conducted at Eglin Air Force Base, Fla. In the demonstration, real-time information on a moving target was developed from standoff radar sensors, and the resulting tracking data was relayed from a Joint STARS aircraft directly to the modified JDAM in flight. The JDAM used in the test was a standard 2,000-pound version of the bomb with a JDAM tail kit modified to include a low-cost data link. The JDAM was released from an F-16 fighter at an altitude of 20,000 feet and was directed to a specific target, a remotely controlled M-60 tank, moving in a column of traffic crossing the range at 18 miles per hour. The modified JDAM corrected its aim point continuously in flight and scored a direct hit on the moving tank.

JDAMs were used effectively against fixed targets in Operation Iraqi Freedom. The technique demonstrated in this test will permit inventory weapons like the JDAM to be employed in a new role to precisely engage moving surface threats.

DARPA's AMSTE program has developed a network-centric targeting approach that couples stand-off airborne radar sensors and low-cost weapons in a real-time engagement network. Under the AMSTE approach, data from multiple, airborne, ground moving target indicator (GMTI) radar sensors are fused to provide weapons with real-time target position

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updates while in flight. AMSTE provides a new strike capability to engage moving surface threats from stand-off ranges, in all weathers, using affordable precision-guided munitions.

“This test success proves once again that the AMSTE concept, based on the modification of our existing stockpile of unitary weapons, is a valid approach to moving target engagement. We have now scored direct hits in three of our eight test drops, and in the process we have used both of the primary stand-off weapons in the Services’ inventory (JDAM and JSOW). Further, during our eight tests we have never missed the target by more than our original goal of 10 meters. This is an incredible asset for strike warfare in general, and all-weather precision engagement of moving targets from stand-off distances in particular.” explains Charles Taylor, DARPA’s AMSTE program manager. “We believe that an objective AMSTE system based on the JSTARS or the future MC2A, and networked with other radar platforms and weapons, will provide the basis for precision tracking, targeting and engagement of high-value moving surface targets in real-time. This is a powerful transformational capability for U.S. warfighters.”

The AMSTE program is funded by DARPA, and managed by DARPA and the Air Force Research Laboratory, Rome, N.Y. Development of the AMSTE demonstration system was led by Northrop Grumman Integrated Systems Sector, Melbourne, Fla., with JDAM weapon subcontract support from Boeing Phantom Works, St. Louis, Mo., and data link subcontract support from Raytheon, Tucson, Ariz.

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