

Lockheed Martin Foliage-Penetrating Reconnaissance Radar Integrated With System To Detect Slow Moving Objects And Vehicles

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WASHINGTON, Oct. 23, 2012 /PRNewswire/ -- After multiple ground demonstrations in operational environments, a Lockheed Martin (NYSE: LMT) penetrating radar capability that can peer through trees to detect slowly moving troops and ground vehicles is ready for the next step in testing. A ground/Dismounted-moving target indication (GMTI/DMTI) system developed for the U.S. Army's Tactical Reconnaissance and Counter-Concealment-Enabled Radar (TRACER) has been integrated into a modular pod for airborne testing on a Blackhawk helicopter or a Predator-B aircraft.

(Logo: <http://photos.prnewswire.com/prnh/20110419/PH85737LOGO-b>)

"Integrating MTI into our foliage penetrating capability provides an unprecedented level of situational awareness," said Jim Quinn, vice president of C4ISR Systems with Lockheed Martin Information Systems & Global Solutions-Defense. "By combining these two capabilities we offer analysts the ability to accurately locate virtually any surface target from a standoff range, in any type of weather."

Based on the Lockheed Martin's proven foliage penetrating (FOPEN) radar system, first deployed in 2005, TRACER is a lightweight, low-frequency synthetic-aperture radar that can peer through foliage, rain, darkness, dust storms, or atmospheric haze to provide real-time, high-quality tactical ground imagery. The system combines fine-resolution UHF radar and a broad swath to provide single-pass radar images as well as multi-pass change detection products for multiple imaging modes. Currently deployed in support of the U.S. Southern Command's missions in counter-terrorism, humanitarian assistance and disaster relief, TRACER has flown hundreds of operational missions.

During an exercise at an U.S. Army test range, the team integrated and demonstrated GMTI (which uses a moving target's Doppler radar return to distinguish it from surface clutter) into the TRACER system. In both ground-based and 300-foot tower testing, TRACER consistently detected groups of foliage-obscured moving targets, including moving vehicles and dismounted troops. The addition of MTI capability to TRACER will enable troops to detect subtly obscured dismounted activity in a single pass. TRACER images can overlay GMTI tracks on accurate SAR maps, allowing activity in an area of interest to become easier to detect and interpret.

TRACER is one of the many SAR systems developed by Lockheed Martin. Since inventing SAR in the 1950s (Lockheed Martin owns the original SAR patent titled 'Simultaneous Doppler Build up') this imaging technology has been refined to enable resolution that had been previously measured in feet to now be measured in inches. Recent Lockheed Martin SAR innovations include X-Band SAR with both GMTI and wide area moving target indicator (WAMTI) modes and an advanced Ku Band SAR.

Headquartered in Bethesda, Md., Lockheed Martin is a global security and aerospace company that employs about 120,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The corporation's net sales for 2011 were \$46.5 billion.

For more information, visit website: www.lockheedmartin.com/products/tracer

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