

Robots Moving Robots: Lockheed Martin Conducts First Fully Autonomous Mission

K-MAX unmanned helicopter deploys SMSS unmanned ground vehicle

PR Newswire

DALLAS

DALLAS, Aug. 18, 2014 /[PRNewswire](#)/ -- Lockheed Martin [NYSE: LMT], in collaboration with the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC), successfully conducted a fully autonomous resupply, reconnaissance, surveillance and target-acquisition demonstration using its [Squad Mission Support System \(SMSS\)](#) unmanned ground vehicle, [K-MAX](#) unmanned helicopter and [Gyrocam](#) optical sensor.

During the "Extending the Reach of the Warfighter through Robotics" capability assessment at Fort Benning, Georgia, K-MAX delivered SMSS by sling load to conduct an autonomous resupply mission scenario for Soldiers defending a village. At mission completion, SMSS proceeded to an observation point where it raised its Gyrocam sensor and began scanning the area for enemy forces. In an actual mission, upon observation of enemy forces, the remote operator would notify the commander on the ground, who would assess the threat and determine the appropriate method of neutralizing it.

"Fully autonomous capabilities as we've just demonstrated will allow service members to focus on important missions and remain out of harm's way," said Scott Greene, vice president of Ground Vehicles for Lockheed Martin Missiles and Fire Control. "This successful demonstration with both unmanned air and ground vehicles shows us that these missions are not only possible, but can be available much sooner than you would expect."

"The synergistic use of unmanned air and ground vehicles will give warfighters a larger operational reach, and allow execution of missions that are currently performed at great risk to the warfighter," said Dr. Paul Rogers, TARDEC director.

In 2011, K-MAX became the first unmanned aircraft system to deliver cargo in-theater for the U.S. Marine Corps. As troops were frequent targets of improvised explosive

devices and insurgent attacks, K-MAX answered the call to reduce the number of truck resupply convoys and their troop escorts to protect Soldiers on the ground.

Manufactured by Kaman Aerospace Corporation and outfitted with its mission package of systems and sensors, the heavy-lifting K-MAX unmanned system is a transformational technology that can lift 6,000 pounds of cargo at sea level. Capable of flying delivery missions day and night, K-MAX can reach remote locations without risking a life.

"This demonstration signifies another use for robots and this brings us closer to the pinnacle of how we use unmanned systems," said Dan Spoor, vice president of Aviation and Unmanned Systems at Lockheed Martin's Mission Systems and Training business. "There is significant potential for these types of systems for humanitarian aid, the civilian oil and gas industry, firefighting and for other military applications."

During the test, the Gyrocam 9-inch, mid-wave surveillance sensor provided constant video surveillance during each phase of the mission, including while in flight. The elevated system scanned for threats and provided geo-location coordinates of hostile personnel for indirect-fire missions.

Both SMSS and K-MAX were equipped with mobile Satellite Communications (SATCOM) systems as well as local line-of-sight communications systems. A remote operations center equipped with SATCOM controlled and monitored the vehicles' activities throughout the demonstration.

ABOUT LOCKHEED MARTIN

Headquartered in Bethesda, Maryland, Lockheed Martin is a global security and aerospace company that employs approximately 113,000 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 2013 were \$45.4 billion.

ABOUT TARDEC

Headquartered at the U.S. Army - Detroit Arsenal in Warren, Michigan, TARDEC is the Nation's laboratory for advanced military automotive technology and serves as the Ground Systems Integrator for all Department of Defense (DOD) manned and unmanned ground vehicle systems. With roots dating back to the World War II era, TARDEC is a full life-cycle, systems engineering support provider-of-first-choice for all DOD ground combat and combat support weapons, equipment and vehicle systems. TARDEC develops and integrates the right technology solutions to improve Current

Force effectiveness and provides superior capabilities for Future Force integration. TARDEC's technical, scientific and engineering staff lead cutting-edge research and development in Ground Systems Survivability; Power and Mobility; Ground Vehicle Robotics; Force Projection; and Vehicle Electronics and Architecture. TARDEC is a major research, development and engineering center for Research, Development and Engineering Command and an enterprise partner in the TACOM Life Cycle Management Command.

For additional information, visit our website:

<http://www.lockheedmartin.com/unmanned>

<http://www.army.mil/tardec>

Video - http://youtu.be/Ne2Do0sJ_-o

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