ScanEagle UAV Demonstrates New Software; Prepares for Joint Military Demonstration

Boeing [NYSE:BA] and The Insitu Group recently demonstrated new autonomy software aboard ScanEagle, a long-endurance unmanned aerial vehicle (UAV). The software, imbedded in ScanEagle's auxiliary processor board, allowed the UAV to autonomously map its route while in flight and complete a series of maneuvers.

The new technology would enable a UAV in the field to map its own path without operator input and fly to an area to locate fixed and moving ground targets, monitor weapon strikes or provide imagery for damage assessment. At present, an operator on the ground must plot the UAV's course via waypoints to ensure the vehicle reaches and remains in the proper position to accomplish its assigned task.

"The ultimate goal is to increase UAV autonomy so there doesn't always have to be a human in the loop," said Patrick Stokes, Boeing program manager for Network Centric Operations Contracted Research and Development programs. "This real-time autonomous software technology, developed as part of the Defense Advanced Research Projects Agency's Program Composition of Embedded Systems (PCES) program, will also enhance the warfighter's time-critical intelligence, surveillance and reconnaissance (ISR) mission capabilities."

ScanEagle's two-hour flight at the Boeing Boardman test range was a precursor to an April joint Army/Air Force PCES capstone flight demonstration at White Sands Missile Range, New Mexico. During flights at White Sands, ScanEagle will utilize its autonomous software to track targets, provide aim points for Army and Air Force weapon deployment and provide imagery to support post-strike damage assessment.

Since ScanEagle was deployed in theater with the First Marine Expeditionary Force (I MEF) last summer, the UAV has provided critical information to tactical commanders. The Marines have relied heavily on the system due to its long-endurance capability, unique ISR value, clear detailed imagery and ability to operate in a harsh weather environment. Boeing received a contract from the U.S. Marine Corps in July 2004 to provide two ScanEagle "mobile deployment units" for use with the I MEF.

ScanEagle is the first small tactical UAV with an inertially stabilized turret. As standard payload, ScanEagle carries either an electro-optical or an infrared camera. The gimbaled camera allows the operator to easily track both stationary and moving targets, providing real-time intelligence to users.

Phantom Works, the advanced research and development unit and catalyst of innovation for the Boeing enterprise, is assisting in ScanEagle's development. It provides leading edge systems and technology solutions to Boeing Integrated Defense Systems.

A unit of The Boeing Company, Boeing Integrated Defense Systems is one of the world's largest space and defense businesses. Headquartered in St. Louis, Boeing Integrated Defense Systems is a $30.5 billion business. It provides network-centric system solutions to its global military, government, and commercial customers. It is a leading provider of intelligence, surveillance and reconnaissance systems; the world's largest military aircraft manufacturer; the world's largest satellite manufacturer and a leading provider of space-based communications; the primary systems integrator for U.S. missile defense; NASA's largest contractor; and a global leader in sustainment solutions and launch services.

The Insitu Group, located in Bingen, Wash., develops miniature robotic aircraft for commercial and military applications. Insitu, which introduced the first UAV to cross the Atlantic Ocean, developed its Seascan UAV to serve the commercial fishing industry for fish spotting, and has developed vehicles for other commercial applications. For more information about the company, see www.insitugroup.com.

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