Boeing/Insitu ScanEagle UAV Sets Ship-Based Endurance Record

ScanEagle, a long-endurance fully autonomous unmanned aerial vehicle (UAV) developed and built by Boeing [NYSE:BA] and The Insitu Group, recently completed a 16+ hour flight, believed to be the longest flight ever by a UAV launched and retrieved at sea.

Following an autonomous take-off via a wedge catapult launcher aboard Shackleton, a 58-foot fishing boat, ScanEagle flew for 16 hours and 45 minutes over Puget Sound, Wash., waters and the Strait of Juan de Fuca doing area surveillance of sea conditions and ships. The milestone flight ended with ScanEagle being retrieved using Insitu's patented "Skyhook" system, in which the UAV catches a rope hanging from a 50-foot-high pole.

"ScanEagle's flight was also significant in that it demonstrated a typical mission anticipated for shipboard operations," said David Martin, Boeing ScanEagle program manager. "Operating ScanEagle and its electro-optical camera from Shackleton, we were able to gather continuous real-time intelligence. The UAV later completed a night flight and demonstrated its infrared camera as well."

ScanEagle's ability to take off and land autonomously on land or sea gives it more flexibility than other UAVs. Boeing foresees customers using ScanEagle vehicles individually or in groups to loiter over trouble spots and provide intelligence, surveillance and reconnaissance (ISR) data or communication relay.

In June 2004, Boeing and Insitu were contracted by the U.S. Marine Corps to provide two ScanEagle mobile deployment units for use with the First Marine Expeditionary Force in Iraq .

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. Capable of flying above 16,000 feet, ScanEagle has also demonstrated the ability to provide persistent, low-altitude reconnaissance.

For a vehicle of its size, ScanEagle's endurance/payload combination is unmatched. The UAV, which is four-feet long and has a 10-foot wingspan, can remain on station for more than 15 hours. Future planned variants will have an endurance of more than 30 hours. Another key design feature of the UAV is its internal avionics bay. The avionics bay allows seamless integration of new payloads and sensors to meet emerging customer requirements, and ensures the vehicle will be able to incorporate the latest technology as it becomes available.

Phantom Works, the advanced research and development unit and catalyst of innovation for the Boeing enterprise, is assisting in the development of ScanEagle. Through its Integrated Defense Advanced Systems group, it provides leading edge systems and technology solutions to Boeing Integrated Defense Systems, one the world's largest space and defense businesses.

Headquartered in St. Louis , Boeing Integrated Defense Systems is a $27 billion business that provides systems solutions to its global military, government and commercial customers. It is a leading provider of intelligence, surveillance and reconnaissance; 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 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 is developing vehicles for other commercial applications.

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For further information:
Chick Ramey
The Boeing Company
(206) 662-0949
charles.b.ramey@boeing.com
Steve Nordlund
The Insitu Group
(509) 493-8600
steve.nordlund@insitugroup.net