Boeing Team Demonstrates Expanded Control of Unmanned Aircraft Swarm

Operator uses laptop and military radio to task autonomous systems and receive time-critical information

HUNTINGTON BEACH, Calif., Aug. 6, 2012 -- Boeing [NYSE: BA] and the Johns Hopkins University Applied Physics Laboratory (JHU/APL) have demonstrated that an operator on the ground, using only a laptop and a military radio, can command an unmanned aerial vehicle (UAV) "swarm." Despite limited flight training, the operator was able to connect with autonomous UAVs, task them and obtain information without using a ground control station.

The team conducted flight tests in Oregon for several days in June, using two ScanEagle UAVs manufactured by Boeing subsidiary Insitu and swarm technology developed by JHU/APL. The technology allows UAVs to perform similarly to a swarm of insects, completing tasks more quickly and efficiently by communicating and acting together.

Boeing and JHU/APL conducted two tests last year in which dissimilar unmanned platforms across air, land and sea domains collaborated to autonomously conduct searches and communicate information.

"This swarm technology may one day enable warfighters in battle to request and receive time-critical intelligence, surveillance and reconnaissance information directly from airborne UAVs much sooner than they can from ground control stations today," said Gabriel Santander, program director of Advanced Autonomous Networks for Boeing Phantom Works. "Swarm network technology has the potential to offer more missions at less risk and lower operating costs."

The demonstrations are conducted under a collaborative agreement between Boeing and JHU/APL, a University Affiliated Research Center and a division of Johns Hopkins University that has been addressing critical national challenges through the innovative application of science and technology for nearly 70 years. It maintains a staff of about 5,000 on its Laurel, Md., campus.

UAV swarm technology is one of Boeing's many C4ISR capabilities that provide a seamless flow of information -- from collection to aggregation to analysis -- for customers' enduring need for situational awareness. The breadth of these capabilities will be on display at the AUVSI Unmanned Systems North America 2012 conference and can be experienced online at www.boeing.com/advertising/c4isr.

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Contact:

Cheryl Sampson
Phantom Works
Office: 714-934-9373
Mobile: 714-330-8021
cheryl.a.sampson@boeing.com

Deborah VanNierop
Phantom Works
Office: 314-232-1624
Mobile: 210-454-2656
deborah.a.vannierop@boeing.com

Geoff Brown
Johns Hopkins University Applied Physics Laboratory
Office: 443-778-5618
geoffrey.brown@jhuapl.edu