

## **Boeing X-45A J-UCAS Program Receives Prestigious Aerospace Industry Award**

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The Boeing [NYSE: BA] X-45A J-UCAS (Joint Unmanned Combat Air Systems) program received the prestigious *Flight International* Aerospace Industry Award for 2005 in the category of Missiles and Military Aviation.

Held in conjunction with the Paris Air Show, the awards cover twelve categories representing military and commercial aerospace. Darryl Davis, program manager during the majority of the X-45A flight test program, and now vice president of Boeing Global Strike Solutions, accepted the award on behalf of the Boeing/DARPA/Air Force/Navy J-UCAS team.

"We met the challenge to develop an autonomous unmanned aircraft capable of handling complex combat missions," said Davis. "We've set a very high mark in the unmanned arena and I believe that together with our DARPA, Air Force, and Navy teammates we've charted a clear path for the future."

Ever since its first flight on May 22, 2002 the X-45A has accumulated a series of unprecedented aviation milestones. As the first autonomous unmanned aircraft designed from inception for weapons capability, the X-45A has ushered in a new era of aviation. The two X-45A demonstrators have flown coordinated simulated combat missions and recently surpassed 52 total flights.

Also acknowledged during the awards ceremony was George Muellner, vice president and general manager of Boeing Air Force Systems. Muellner was president of Boeing Phantom Works when the X-45A program was initiated.

"This award also recognizes Boeing's advanced research and development organization, Phantom Works, which has been tasked to take on high-risk projects and bring them to fruition," said Muellner. "Clearly, the X-45A is an excellent example of concept development and flight test, followed by a seamless transition to our Air Force Systems business unit."

During its remarkable flight test program, the X-45A:

- Flew with a T-33 X-45A surrogate aircraft to successfully demonstrate integration of an unmanned X-45A with a manned aircraft in air-traffic-controlled airspace.
- Demonstrated the first autonomous release of a 250-pound inert Small Smart Bomb, which scored a direct hit from an altitude of 25,000 feet.
- Operated together with another X-45A unmanned aircraft, under the control of a single pilot-operator in a coordinated flight, successfully completing the first ever multiple air vehicle control flight demonstration.
- Demonstrated increased sophistication in a test where two X-45As departed in succession and entered coordinated flight over the test range. The air vehicles flew successfully in several different multi-vehicle flight configurations, verifying their ability to autonomously enter and exit in coordinated flight based on pre-identified points.
- Confirmed "beyond-line-of-sight" control after an autonomous takeoff from Edwards AFB, with an X-45A controlled by a pilot-operator in Seattle, Wash., nearly 900 miles away using UHF SATCOM.
- Demonstrated dual vehicle flight mission capability in February 2005 when two X-45As flew a simulated combat mission during their 'milestone' 50th flight. The X-45As flew a simulated combat air patrol profile and determined how to deal with pop-up ground threats in a reactive Suppression of Enemy Air Defenses mission.

Under a Defense Advanced Research Projects Agency contract, Boeing is currently building three larger X-45C aircraft capable of cruising at 0.85 Mach at 40,000 feet, with a 4,500-pound payload. The 'C' version will have an increased mission radius of 1,300 nautical miles. Future mission scenarios could evolve with unmanned aircraft complementing manned strike aircraft. Unmanned aircraft would be capable of eliminating preplanned targets as well as previously unknown threats, clearing the path for manned aircraft and thus saving lives and assuring mission success.

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