Boeing X-45A Unmanned Aircraft Demonstrates Autonomous Capability

A Boeing [NYSE: BA] X-45A unmanned aircraft completed its 52nd flight recently, demonstrating its ability to adapt to a realistic and changing wartime operational environment.

During the test flight, a Joint Unmanned Combat Air Systems (J-UCAS) X-45A departed from NASA's Dryden Flight Research Center, Edwards Air Force Base, Calif., climbed to 29,000 ft. and entered the base's test range. While flying the mission, several simulated Surface-to-Air Missile (SAM) emitters were activated and the unmanned aircraft autonomously created its own flight plan to remain out of lethal range of the simulated SAM sites. Always managed by the pilot-operator, the X-45A then attacked its simulated priority ground target and showcased the ability to suppress enemy air defenses. Once the aircraft had conducted a simulated battle damage assessment, the X-45A safely returned to Edwards.

"The X-45A proved it could autonomously react to a dynamic threat environment while engaging a priority target," said David Koopersmith, Boeing J-UCAS X-45 vice president and program manager. "Onboard planning and decision capabilities like these will make our next unmanned system, the X-45C, a highly survivable platform for the warfighter."

The first X-45C will be completed in 2006, with flight-testing scheduled to begin in 2007. It will be 39 feet long with a 49-foot wingspan, cruise at 0.80 Mach at an altitude of 40,000 feet, carry a 4,500 pound weapon payload, and be able to fly a combat radius of more than 1,200 nautical miles. The software used and tested on the X-45A may be offered as a candidate for functionality in the development of the J-UCAS *Common Operating System*.

Boeing began its unmanned combat aircraft program in 1998. The following year, the Defense Advanced Research Projects Agency (DARPA) and the U.S. Air Force chose Boeing to build two X-45A air vehicles and a mission control station under the J-UCAS Advanced Technology Demonstration Program.

Winner of a 2005 Flight International Aerospace Industry Award, the J-UCAS X-45 program is a Boeing/DARPA/Air Force/Navy effort to demonstrate the technical feasibility, military utility and operational value of an unmanned air combat system for the Air Force and the Navy. Operational missions for the services may include persistent strike; penetrating electronic attack; suppression of enemy air defenses; and intelligence, surveillance and reconnaissance.

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.
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