U.S. Army, Boeing to Highlight Rotorcraft Pilot's Associate at AUSA

The U.S. Army and The Boeing Company will highlight the newest technology in the rotorcraft industry during the Association of the United States Army Conference in Washington, D.C., Oct. 11-13. Rotorcraft Pilot's Associate, an advanced mission/cockpit management system, has the potential to revolutionize flight in the next millennium.

Conference attendees will be able to view and receive hands-on experience with RPA in the Rapid Prototyping Mission Simulator that will be stationed in the U.S. Army Material Command exhibit at the AUSA show.

Two months of flight testing for RPA was recently completed at the U.S. Army's Yuma Proving Ground in Arizona using a modified AH-64D Apache Longbow prototype. More than 91 successful sorties were completed.

Since its official unveiling in late July, RPA has continued to spur interest with more than 44 demonstration flights in July and August. The technology also has potential for other applications, including the Unmanned Combat Air Vehicle, Joint Strike Fighter, ground fighting vehicles and commercial aircraft.

Software technology takes on many flight tasks with RPA, including freeing the combat pilot to concentrate more on attack or reconnaissance missions. "Rotorcraft Pilot's Associate allows the pilot to concentrate more on the battle and be less concerned with flying the aircraft and reconfiguring flight plans," said Rich Kupferer, Boeing RPA program manager.

The system also assists the pilot with flight routing, fuel consumption calculations and flying the aircraft. Although RPA can initiate actions on contact, it always keeps the pilot in charge of the aircraft. The pilot's authority allows for acceptance or rejection of any RPA suggested action. In battle situations, RPA identifies and prioritizes targets, selects battle positions, coordinates target handoffs among available teammates and provides safety areas for the pilot.

The RPA modified cockpit features three multifunction, full-color liquid crystal display panels which provide targeting information, two- and three-dimensional virtual reality maps of the battle scene and control access to all aircraft systems, such as communications, countermeasures, fuel and weapon systems.

Data fusion, which is a key element of RPA, provides the spatial and temporal adjustments that allow the system to take information from global positioning satellites, off- and on-board sensors, communications channels and aircrew input. RPA continuously re-assesses information to inform the pilot and provide mission plans based on any new impacts to the current route or mission plans.

RPA was developed by the Boeing Phantom Works under an $80 million advanced technology demonstration contract with the U.S. Army Aviation Applied Technology Directorate at Fort Eustis, Va.

Boeing, as prime contractor, developed the RPA with a team that includes Lockheed Martin Federal Systems in Owego, N.Y.; Honeywell in Minneapolis, Minn.; Associate Systems, Inc. in Atlanta, Ga.; Kaiser Electronics in San Jose, Calif.; Allied Signal in Teterboro, N.J.; Raytheon Texas Instruments Systems in Dallas, Texas; and Lockheed Martin Advanced Technology Laboratories in Camden, N.J.

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