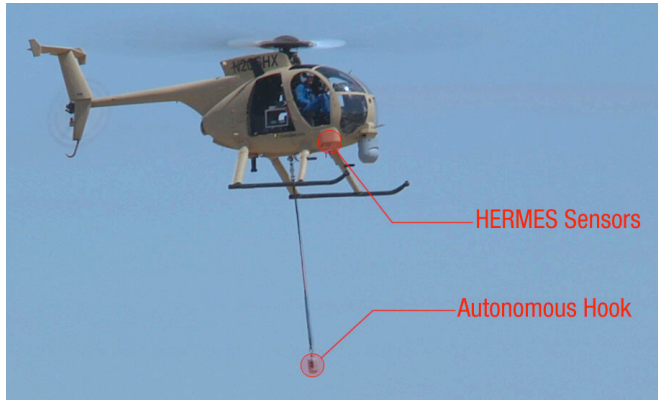


## Press Release: Advanced Optical Systems, Inc. (AOS) Demonstrates Fully Autonomous Helicopter Load Pick-up and Delivery System. Holds promise to reduce troop exposure to road convoy dangers.

Wednesday May, 12<sup>th</sup>



(Phoenix, AZ) – Advanced Optical Systems (AOS) has expanded the role unmanned cargo helicopters can play by demonstrating its precision guidance and autonomous slung load pickup and delivery system on board Boeing’s Unmanned Little Bird (ULB) helicopter technology demonstrator on May 12.

The HERMES pickup and delivery system autonomously directs a helicopter to a slung load, identifies that it is the correct load, and guides the helicopter through load pickup. The

helicopter then moves to a drop-off zone, where the HERMES system directs the helicopter to deliver the load to a precise location marked by an optical beacon. The demonstration was part of the Army Advanced Science & Technology Directorate’s (ASTD) Family of Unmanned Systems Experiment (FUSE).

The four fully autonomous flights extended the operational envelope of AOS’s video sensor technology [previously demonstrated on the Aero-Flight Dynamics Directorate’s \(AFDD\) autonomous RMAX helicopter.](#) In addition, this demonstration marked the introduction of AOS’s new Optical Load Location and Identification (OLLI) sensor and broadened the HERMES system’s mission capability by demonstrating operation with an autonomous AOS cargo hook rated to carry over 1000lb.

AOS fully integrated the HERMES system with ULB’s flight computers and provided precision guidance of the helicopter to the load. The sensor then verified the load’s identity, performed a precision pick-up, and autonomously delivered it to both GPS and beacon delivery points. The demonstrated capability also supports retrograde cargo missions after initial delivery.

“This demonstration marks a major milestone in the development of a fully autonomous rotorcraft cargo capability,” said Dr. Keith Farr, President of AOS. “In the next year we plan to demonstrate this technology on at least two additional helicopters and to begin transitioning to operational platforms. Both the Army and the Marines are considering replacing some truck convoys with unmanned cargo delivery. With the continued threat of IEDs and ambushes, the sooner we get our war fighters off the roads, the more lives we can save” The demonstration proved that AOS’s HERMES technology can improve both the capabilities and efficiency of manned and unmanned cargo rotorcraft.

AOS is a Veteran Owned Small Business (VOSB) located in Huntsville, Alabama’s high tech hub. AOS specializes in delivering image processing, proximity operations, and target recognition hardware and software to the DOD and NASA.

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