



Pittsburgh, PA

<https://www.NearEarth.aero>

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SINCE ITS FOUNDING IN

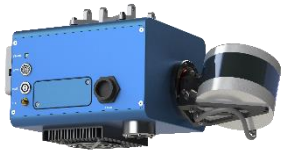
2012

23 SBIR Awards

86 Employees

N/A Socioeconomic Categories

1 Patents from SBIR/STTR



Autonomy system used across vehicle sizes



Solicitation:

Miniature Optical Guidance & Navigation

DARPA SBIR Sponsor

SB151-006 Topic Number

Improved Performance Primary Innovation

Adaptability / Upgradability Secondary Innovation

Miniaturized Autonomy System for Unmanned Aircraft

Military operations depend critically on a well-functioning supply chain to bring water, food, fuel, munitions, and medical supplies to warfighters in any place and at any time. Autonomous unmanned aircraft systems will significantly impact cargo delivery by increasing logistics speed and flexibility and reducing risk and cost. In time, they may replace ground convoys and manned aircraft that today are at risk of attack when bringing warfighters the supplies they need to conduct their missions.

Near Earth Autonomy developed an autonomy system that enables safe unmanned flight operations beyond visual line-of-sight and in complex, low-altitude, GPS-denied environments. The small, low-cost, modular system provides guidance and navigation for aircraft ranging in size from small drones to full-size helicopters. Vehicles equipped with the technology can avoid unanticipated obstacles during take-off, cruise, and descent, and can select safe landing points on the ground free from obstructions, even if GPS is degraded or unavailable.

IMPACT

Unmanned logistics is one of the three highest priorities for the US Marines' modernization of their supply chain, along with additive manufacturing and improved processes. Near Earth's system is currently being used to demonstrate autonomous flight on a variety of platforms as part of the US Army/Marines Joint Capability Technology Demonstration (JCTD) Unmanned Logistics Systems Aerial (ULS-A) program. Beyond in-theater military applications, Near Earth's autonomy system will enable reductions in the cost and burden of humanitarian assistance and disaster relief operations.

BEYOND PHASE II

The prototype autonomy system developed in this SBIR evolved into an autonomy development kit well-suited for a new generation of defense and commercial vertical take-off and landing vehicles. The system can enable a wide variety of missions including urban air mobility, package delivery, and transport to and from ships. Near Earth received several million dollars in strategic funding from The Boeing Company. The investment helped Near Earth Autonomy partner with the world's largest aviation and avionics manufacturers to bring the technology to market.