# Dossier: NEAR EARTH AUTONOMY, INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $139,916.00

**Award Date:** 2024-04-01

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Near Earth Autonomy (NEA) is a Pittsburgh-based company specializing in autonomous flight technology for manned and unmanned aircraft, with a focus on creating systems that enable aircraft to operate safely and reliably in complex, GPS-denied environments. Their core mission is to enhance the capabilities of aerial platforms through advanced autonomy, enabling them to perform tasks that are currently too dangerous, costly, or time-consuming. NEA's unique value proposition lies in its sophisticated sensor fusion algorithms, robust control systems, and extensive real-world testing, allowing aircraft to navigate autonomously in cluttered, unpredictable, and GPS-degraded environments. They aim to solve the challenges of autonomous navigation and landing in challenging conditions, offering solutions applicable to defense, inspection, and logistics sectors.

**Technology Focus:**

* Autonomous Landing Systems:\*\* NEA develops and deploys autonomous landing systems using LiDAR, cameras, and proprietary algorithms to enable aircraft to land safely and precisely on moving platforms, unprepared landing zones, and in obstructed environments. Their technology can be retrofitted onto existing manned and unmanned aircraft.
* Real-time Mapping and Obstacle Avoidance:\*\* The company's algorithms create real-time 3D maps of the surrounding environment, enabling aircraft to autonomously navigate around obstacles, even in GPS-denied or degraded areas. Their systems can operate in various lighting and weather conditions.

**Recent Developments & Traction:**

* AFWERX Contract (2022-2023):\*\* Secured multiple contracts with AFWERX, the innovation arm of the U.S. Air Force, to further develop and test its autonomous flight technologies for various applications, including resupply missions and situational awareness. (Details often project-specific and not released publicly by AFWERX).
* SBIR Awards:\*\* Regularly receives Small Business Innovation Research (SBIR) awards from various government agencies including the Department of Defense, focusing on developing specific autonomous capabilities, such as precision landing on moving platforms and navigation in challenging environments.
* Technology Demonstrations:\*\* Continues to showcase its technology through demonstrations and flight tests with various partners, including military organizations and commercial entities, demonstrating its capabilities in real-world scenarios.

**Leadership & Team:**

* Sanjiv Singh (CEO):\*\* Research Professor at the Robotics Institute at Carnegie Mellon University, with extensive experience in robotics, perception, and autonomy. He has founded and led multiple robotics companies prior to NEA.
* Dr. Michael (Mike) OKnefski (President and COO):\*\* Previous experience at Lockheed Martin Space Systems.

**Competitive Landscape:**

* Skydio:\*\* While primarily focused on consumer and enterprise drones, Skydio also develops advanced autonomous flight capabilities, including obstacle avoidance and GPS-denied navigation, potentially overlapping in certain commercial applications. NEA differentiates itself through its specific focus on robust, safety-critical autonomy for demanding environments and its experience in defense applications.
* Shield AI:\*\* Develops AI pilots for aircraft. NEA differentiates itself through its more mature autonomous landing systems.

**Sources:**

1. https://www.near-earth.com/

2. https://www.sbir.gov/

3. https://www.cmu.edu/ri/

4. https://www.afwerx.com/