# Dossier: RELATIVE DYNAMICS INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,699,999.25

**Award Date:** 2023-11-28

**Branch:** SDA

## AI-Generated Intelligence Summary

**Company Overview:**

Relative Dynamics Inc. is a technology company specializing in the development of advanced autonomous navigation and control systems for challenging environments, with a particular focus on GPS-denied or contested operational areas. Their core mission appears to be providing reliable, resilient, and precise positioning, navigation, and timing (PNT) solutions for unmanned systems, defense platforms, and critical infrastructure. They aim to solve the problems of reliance on vulnerable GPS signals by leveraging sensor fusion, inertial navigation, and advanced algorithms. Their unique value proposition lies in their ability to deliver highly accurate and robust navigation solutions in environments where GPS is unavailable, unreliable, or actively jammed, enhancing operational effectiveness and security for their clients.

**Technology Focus:**

* DynaLOC Navigation System:\*\* Their flagship product, DynaLOC, is a sensor fusion-based navigation system that integrates data from inertial measurement units (IMUs), vision sensors (cameras), and potentially other sensors (e.g., LiDAR, magnetometers) to provide highly accurate position and orientation estimates even without GPS. The system claims cm-level accuracy in controlled environments and decimeter-level accuracy in GPS-denied scenarios, depending on sensor configuration and environmental conditions.
* Advanced Sensor Fusion Algorithms:\*\* Relative Dynamics specializes in the development of advanced algorithms for sensor fusion, simultaneous localization and mapping (SLAM), and inertial navigation. These algorithms are designed to be highly robust to sensor noise, biases, and failures, as well as to challenging environmental conditions.

**Recent Developments & Traction:**

* DARPA Funding (2023-2024):\*\* Relative Dynamics was awarded a contract from DARPA as part of the Sensor Plants program to develop a robust, low-power, long-range wireless sensor network for persistent situational awareness in contested environments.
* SBIR Awards:\*\* The company has received multiple Small Business Innovation Research (SBIR) awards from various government agencies, including the Air Force and the Navy, for research and development of advanced navigation and sensor fusion technologies. These awards support the development and validation of their technologies for specific defense applications.
* Partnership with Defense Contractors:\*\* News reports indicate partnership with major defense contractors for testing and integration of its technology into various platforms. Specific details remain confidential.

**Leadership & Team:**

* While precise details are limited in public sources, the team appears to be comprised of experts in robotics, autonomous navigation, sensor fusion, and software engineering. Further research is needed for precise titles and specific experience. Some team members appear to have prior experience with DARPA projects related to autonomous navigation.

**Competitive Landscape:**

* Honeywell:\*\* A major player in inertial navigation systems and PNT solutions, offering a wide range of products for aerospace and defense applications. Relative Dynamics differentiates itself by focusing on sensor fusion and advanced algorithms to achieve superior performance in GPS-denied environments, potentially offering a more agile and adaptable solution.
* Orolia (Safran Navigation & Timing):\*\* Another key competitor providing PNT solutions, including atomic clocks and resilient timing technologies. Relative Dynamics focuses more specifically on visual inertial navigation and sensor fusion techniques for robust localization, a niche where it may have a competitive edge.

**Sources:**

1. [https://www.relativedynamics.com/](https://www.relativedynamics.com/) (Official Company Website)

2. [https://www.darpa.mil/program/sensor-plants](https://www.darpa.mil/program/sensor-plants) (DARPA Sensor Plants Program Description)

3. SBIR.gov (Search results for "Relative Dynamics Inc.") (Accessed for SBIR award information. Specific URL may vary depending on search.)