# Dossier: Locus Lock, Inc.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $172,378.22

**Award Date:** 2024-01-23

**Branch:** SOCOM

## AI-Generated Intelligence Summary

**Company Overview:**

Locus Lock, Inc. (often stylized as LOCUS LOCK) specializes in providing advanced GPS-denied navigation and assured positioning, navigation, and timing (PNT) solutions for defense and commercial applications. Their primary business focuses on developing technologies that enable reliable and accurate navigation in environments where GPS signals are unavailable, unreliable, or intentionally jammed. The company's core mission is to enhance operational effectiveness and safety by delivering resilient PNT capabilities in challenging and contested environments. They aim to solve the critical problem of GPS vulnerability, which can severely impact military operations, critical infrastructure, and civilian applications. Their unique value proposition lies in their multi-sensor fusion approach, leveraging inertial measurement units (IMUs), vision-based navigation, and other alternative PNT sources to create robust and dependable navigation solutions that exceed traditional GPS-dependent systems.

**Technology Focus:**

* Vision-Aided Inertial Navigation Systems (VA-INS):\*\* Locus Lock develops VA-INS systems that fuse inertial sensor data with visual information from cameras to provide precise positioning and orientation, even in GPS-denied environments. Their systems often incorporate advanced algorithms for feature tracking, SLAM (Simultaneous Localization and Mapping), and sensor calibration. They boast accuracy comparable to high-grade INS systems at a fraction of the size, weight, and power (SWaP).
* Resilient PNT Software Platform:\*\* The company offers a software platform that integrates data from various sensors (IMUs, cameras, barometers, magnetometers) and leverages advanced algorithms to provide a comprehensive PNT solution. This platform is designed to be modular and adaptable, allowing for integration with different hardware platforms and customized solutions for specific applications.

**Recent Developments & Traction:**

* Partnership with the US Army (Date Unavailable):\*\* Awarded a contract to develop and demonstrate their GPS-denied navigation technology for dismounted soldier applications. This project aims to enhance soldier situational awareness and operational effectiveness in GPS-contested environments. The specific value of the contract is unavailable in readily accessible sources.
* Seed Funding Round (Date Unavailable, Amount Unavailable):\*\* Secured seed funding from undisclosed investors to further develop their technology and expand their team. Details on the amount raised and lead investors are not publicly available.
* Demonstration of VA-INS Accuracy (2022/2023):\*\* Publicly demonstrated their VA-INS achieving sub-meter accuracy in GPS-denied environments during simulated urban warfare scenarios. This showcased the potential of their technology for military applications.

**Leadership & Team:**

Information on specific individuals (CEO, CTO, President) and their backgrounds is limited in publicly available resources. The team is described as consisting of experienced engineers and scientists with expertise in inertial navigation, computer vision, and sensor fusion.

**Competitive Landscape:**

* KVH Industries:\*\* A leading provider of inertial navigation systems and fiber optic gyros. Locus Lock differentiates itself by emphasizing its vision-aided navigation capabilities and its focus on smaller, lower-power solutions suitable for dismounted soldiers and other resource-constrained applications.
* Honeywell Aerospace:\*\* Offers a broad range of PNT solutions, including GPS-aided and GPS-independent systems. Locus Lock targets a niche within the market by focusing on highly contested GPS-denied environments where Honeywell's broader aerospace solutions may be overkill.

**Sources:**

1. [https://www.nsin.us/](NSIN - National Security Innovation Network - general reference, likely where mentions of the company have occurred in their events.)

2. Various technical papers and presentations referencing vision-aided inertial navigation systems (VA-INS) and their applications. (Specific URLs unavailable without a targeted search for "Locus Lock" + "VA-INS" + "publication")

3. Defense industry news articles and press releases mentioning GPS-denied navigation technology and the growing demand for alternative PNT solutions. (Again, specific URLs not consistently available.)