# Dossier: ANELLO PHOTONICS INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $139,533.00

**Award Date:** 2024-09-24

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Anello Photonics Inc. is a Silicon Valley-based company focused on developing and commercializing Silicon Photonics-based inertial navigation systems (INS). Their primary business is creating highly accurate and reliable navigation solutions for autonomous vehicles, drones, robotics, and other applications that require precise positioning and orientation, particularly in GPS-denied environments. Their core mission is to revolutionize inertial navigation by leveraging the advantages of integrated photonics to create smaller, lighter, more affordable, and more accurate INS compared to traditional mechanical or fiber optic gyroscopes. Their unique value proposition lies in their potential to significantly reduce the size, weight, power, and cost (SWaP-C) of high-performance INS, enabling broader adoption in a variety of applications. They aim to overcome the limitations of legacy INS technologies, which are often bulky, expensive, and sensitive to environmental factors.

**Technology Focus:**

* Silicon Photonics Gyroscope (SiPhOG):\*\* Anello develops a gyroscope based on integrated silicon photonics. This allows for miniaturization and integration with other electronic components. Their technology utilizes the Sagnac effect to measure rotation rates with high precision.
* Inertial Measurement Unit (IMU) and Inertial Navigation System (INS):\*\* Anello is integrating their SiPhOG gyroscopes with accelerometers to create complete IMUs and INS. This provides six degrees of freedom (6DoF) motion sensing, enabling precise position and orientation tracking.

**Recent Developments & Traction:**

* Partnership with Dronelink (March 2023):\*\* Announced a partnership to integrate Anello's SiPhOG inertial navigation systems into Dronelink's drone autonomy platform, enabling more reliable navigation and mapping in complex environments.
* Strategic Investment from Lockheed Martin Ventures (October 2022):\*\* Received an undisclosed strategic investment from Lockheed Martin Ventures, indicating confidence in Anello's technology and its potential for defense applications.
* $95 Million Series B Funding (May 2022):\*\* Closed a $95 million Series B funding round led by Catalyst Investors, with participation from Lockheed Martin Ventures, and existing investors. This funding is being used to scale production and expand into new markets.

**Leadership & Team:**

* Mike Grunwald (CEO):\*\* Experienced executive with a background in technology and manufacturing, including roles at Applied Materials and other semiconductor-related companies.
* Dr. Mario Paniccia (CTO):\*\* A leading expert in silicon photonics, with significant prior experience at Intel and other companies pioneering silicon photonics technologies.

**Competitive Landscape:**

* KVH Industries:\*\* A well-established player in fiber optic gyroscopes (FOGs) and inertial navigation systems, primarily serving defense and industrial markets. Anello's differentiator is their potential to significantly reduce SWaP-C compared to KVH's FOG-based systems.
* Northrop Grumman:\*\* A major defense contractor that produces high-performance INS for aerospace and military applications. Anello aims to disrupt the high-end INS market with a more compact and affordable alternative.

**Sources:**

1. [https://www.anellophotonics.com/](https://www.anellophotonics.com/)

2. [https://www.catalystinvestors.com/anello-photonics-raises-95m-in-series-b-financing-led-by-catalyst-investors/](https://www.catalystinvestors.com/anello-photonics-raises-95m-in-series-b-financing-led-by-catalyst-investors/)

3. [https://news.lockheedmartin.com/2022-10-05-Lockheed-Martin-Ventures-Invests-in-Silicon-Photonics-Startup-Anello-Photonics](https://news.lockheedmartin.com/2022-10-05-Lockheed-Martin-Ventures-Invests-in-Silicon-Photonics-Startup-Anello-Photonics)

4. [https://dronelink.com/blog/anello](https://dronelink.com/blog/anello)