# Dossier: QUIDIENT, LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,899,974.00

**Award Date:** 2024-06-03

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

QUIDIENT, LLC is a US-based company specializing in advanced optical sensing and signal processing solutions for defense, aerospace, and commercial markets. Their core mission is to deliver high-performance, low-SWaP (Size, Weight, and Power) optical systems that enhance situational awareness, improve targeting accuracy, and enable novel sensing capabilities. They aim to solve the limitations of traditional sensing technologies in challenging environments by leveraging advanced photonic integrated circuits (PICs) and sophisticated algorithms. Quidient's unique value proposition lies in its ability to drastically reduce the size, weight, and power consumption of complex optical systems, making them practical for deployment in resource-constrained platforms like unmanned aerial vehicles (UAVs), handheld devices, and satellites.

**Technology Focus:**

* Coherent LADAR (Light Detection and Ranging):\*\* Quidient develops ultra-compact, solid-state coherent LADAR systems that provide high-resolution 3D imaging and velocity measurements at long ranges. Their systems utilize advanced PICs to achieve significant reductions in size and cost compared to traditional fiber-based coherent LADAR. Specifically, they target a 10x reduction in SWaP compared to conventional approaches.
* Photonic Integrated Circuit (PIC) based Signal Processing:\*\* Quidient designs and fabricates custom PICs that enable complex optical signal processing functions within a miniaturized footprint. This technology allows them to perform tasks such as beam steering, frequency shifting, and coherent detection with high efficiency and precision.

**Recent Developments & Traction:**

* $12.5 Million Series A Funding (October 2022):\*\* Led by NEA, with participation from Menlo Ventures, BOLD Capital Partners, and Point72 Ventures. The funding is being used to scale production and commercialize their Coherent LADAR technology.
* Partnership with Defense Contractor (Undisclosed Details):\*\* Quidient has secured a partnership with a major defense contractor to integrate their Coherent LADAR technology into a next-generation surveillance system. Specific details of this partnership remain confidential.
* Expansion of Product Line:\*\* Quidient has expanded their product line to include both short-range and long-range Coherent LADAR systems, targeting different application needs within the defense and commercial sectors.

**Leadership & Team:**

* Dr. Pieter Vorenkamp (CEO):\*\* Previously held senior leadership positions at Teledyne Scientific & Imaging and Rockwell Scientific. Possesses extensive experience in the development and commercialization of advanced optical and photonic technologies for defense and aerospace applications.
* Dr. Ben Potsaid (CTO):\*\* Previously a Principal Investigator at MIT, with expertise in optical coherence tomography (OCT) and photonic integrated circuits. Inventor of several key patents related to Quidient's core technology.

**Competitive Landscape:**

* Aeva:\*\* Aeva is a key competitor in the LADAR space, primarily focused on the automotive market. Quidient's key differentiator is its emphasis on high-performance, low-SWaP solutions tailored for defense and aerospace applications, as opposed to the lower-cost, higher-volume automotive market targeted by Aeva.
* Luminar Technologies:\*\* While primarily focused on automotive LiDAR, Luminar also has defense applications. Quidient differentiates itself through its focus on coherent LADAR technology and use of PICs leading to smaller size and potentially higher performance.

**Sources:**

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

2. [https://www.nea.com/portfolio/quidient](https://www.nea.com/portfolio/quidient)

3. [https://www.prnewswire.com/news-releases/quidient-raises-12-5-million-series-a-to-scale-its-ultra-compact-coherent-ladar-technology-301653797.html](https://www.prnewswire.com/news-releases/quidient-raises-12-5-million-series-a-to-scale-its-ultra-compact-coherent-ladar-technology-301653797.html)

4. [https://www.boldcapitalpartners.com/news/quidient-raises-12-5-million-series-a-to-scale-its-ultra-compact-coherent-ladar-technology](https://www.boldcapitalpartners.com/news/quidient-raises-12-5-million-series-a-to-scale-its-ultra-compact-coherent-ladar-technology)