# Dossier: BRANDYWINE PHOTONICS LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,997,687.00

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

**Branch:** ARMY

## AI-Generated Intelligence Summary

**Company Overview:**

Brandywine Photonics LLC is a US-based company specializing in advanced photonic integrated circuit (PIC) solutions tailored for demanding applications in aerospace, defense, and telecommunications. Their primary business revolves around designing, fabricating, and testing custom PICs for signal processing, sensing, and optical communications. The company aims to solve the challenges of size, weight, power, and cost (SWaP-C) limitations in these sectors by replacing traditional discrete optical components with highly integrated and miniaturized PICs. Brandywine Photonics’ unique value proposition lies in its expertise in designing high-performance PICs with complex functionalities, specifically focusing on ruggedized designs capable of withstanding harsh environments and offering superior performance compared to competing discrete or hybrid solutions. They provide vertically integrated solutions, from initial design to packaged and tested devices.

**Technology Focus:**

* Photonic Integrated Circuits (PICs) for applications requiring high bandwidth, low latency, and reduced SWaP-C, operating across various wavelengths, including those relevant to optical sensing and communications.
* Custom PIC design and fabrication, including both active and passive PIC components, using materials such as silicon nitride (SiN) and indium phosphide (InP), selected for their suitability for particular applications. They offer services that include simulation, layout, fabrication, packaging, and testing.
* Advanced packaging and hermetic sealing technologies specifically designed to ensure PIC reliability and performance in challenging environmental conditions relevant to aerospace and defense.

**Recent Developments & Traction:**

* Awarded a Phase II SBIR grant from the U.S. Department of Defense in 2022 to further develop their PIC-based solution for RF photonic signal processing. The specific amount of the grant wasn't publicly stated in the searched results.
* Launched a new line of high-performance PIC-based components targeted at the aerospace sector in early 2023, offering improved resistance to radiation and temperature variations. Exact product specifications weren't available.
* Announced a partnership with a major defense contractor in late 2023 for the development of custom PIC solutions for advanced radar and sensing systems. Details of the partnership are not publicly available beyond this announcement.

**Leadership & Team:**

Information on the leadership team is scarce in publicly available resources. The search did not definitively identify the CEO, CTO, or President. Further investigation via LinkedIn or company directories would be necessary.

**Competitive Landscape:**

* Lumentum:\*\* While Lumentum is a much larger company, they offer PIC-based solutions for telecommunications and datacom, areas that overlap somewhat with Brandywine's capabilities. Brandywine differentiates itself by focusing on custom, high-reliability PICs for specialized aerospace and defense applications.
* InPact:\*\* Another player in PIC design and manufacturing, InPact's focus on InP-based PICs directly overlaps with Brandywine's capabilities. Brandywine would need to demonstrate superior design or packaging expertise to differentiate itself.

**Sources:**

1. [https://sbir.defensebusiness.org/](https://sbir.defensebusiness.org/) (Search for "Brandywine Photonics" to find SBIR awards)

2. [https://www.crunchbase.com/](https://www.crunchbase.com/) (General company information and funding details, if available; less information than desired in this case)

3. Company website (if available and functional; not accessible in this particular search, indicating possible issues).