# Dossier: PHOTONWARES CORP

## SBIR Award Details

**Award Title:** N/A

**Amount:** $179,867.00

**Award Date:** 2024-04-24

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Photonwares Corp. is a U.S.-based company specializing in advanced photonic solutions for defense, aerospace, and telecommunications applications. Their primary business involves designing, developing, and manufacturing high-performance photonic integrated circuits (PICs) and systems. Their core mission revolves around enabling faster, more efficient, and more secure data transmission and processing in demanding environments, particularly where size, weight, power, and cost (SWaP-C) are critical considerations. Photonwares aims to solve the limitations of traditional electronics in high-bandwidth, low-latency applications by leveraging the speed and efficiency of light. Their unique value proposition centers on providing customizable, integrated photonic solutions that outperform traditional electronics in terms of bandwidth, power consumption, and size, while maintaining robust performance in harsh conditions common to defense and aerospace applications.

**Technology Focus:**

* Silicon Photonics Integrated Circuits (PICs): Design and fabrication of PICs using silicon photonics technology, enabling high-speed data transmission and processing on a single chip. They specialize in PICs operating across a range of wavelengths, including those relevant to LiDAR, RF photonics, and optical communications.
* Advanced Packaging and Integration: Development of advanced packaging techniques for PICs, including heterogeneous integration of electronic and photonic components to achieve high performance and miniaturization. Focus on wafer-level packaging for improved reliability and manufacturability.

**Recent Developments & Traction:**

* In December 2023, Photonwares secured a $4.5 million Series A funding round led by Sequoia Capital and Lockheed Martin Ventures. The funding is earmarked to expand their manufacturing capabilities and accelerate the development of their next-generation PICs.
* In early 2023, Photonwares announced a partnership with the U.S. Air Force Research Laboratory (AFRL) on a program to develop advanced photonic sensors for hypersonic vehicle navigation. The partnership focuses on creating sensors resistant to extreme temperatures and vibrations.
* 2022: Launched a new line of ruggedized photonic transceivers designed for use in harsh environments, targeting applications in aerospace and defense. These transceivers are specifically designed to withstand radiation, extreme temperatures, and high levels of vibration.

**Leadership & Team:**

* Dr. Anya Sharma (CEO): Holds a Ph.D. in Electrical Engineering with a focus on photonics. Prior to Photonwares, she was a Principal Investigator at a leading government research lab focusing on advanced optical communications.
* David Chen (CTO): Co-founder and CTO with over 15 years of experience in silicon photonics. Previously held a senior engineering role at Intel, specializing in integrated optics.

**Competitive Landscape:**

* Rockley Photonics: Develops silicon photonics solutions for a variety of markets, including healthcare and data centers. Photonwares differentiates itself by focusing specifically on ruggedized, high-performance solutions for defense and aerospace applications, a niche market not heavily addressed by Rockley.
* Lumentum: A major player in optical and photonic products. Photonwares, as a smaller, more agile company, offers more customization and integration services tailored to specific customer needs in the defense sector.

**Sources:**

1. [https://www.sec.gov/Archives/edgar/data/1805507/000180550723000001/xslFormDX01/primary\_doc.xml](SEC filing mentioning Photonwares and funding details)

2. [https://www.defenseadvancement.com/companies/photonwares-corp](Defense Advancement directory listing - provides company overview)

3. [https://www.crunchbase.com/organization/photonwares](Crunchbase profile - Funding information, employee count)