# Dossier: POLARIS SENSOR TECHNOLOGIES INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $179,533.75

**Award Date:** 2024-09-30

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Polaris Sensor Technologies, Inc. (PST) specializes in advanced optical sensing and imaging solutions, primarily serving the defense, aerospace, and commercial markets. Their core mission revolves around developing and deploying cutting-edge polarimetric imaging technology to enhance situational awareness, improve object detection, and enable accurate target identification in challenging environments like fog, smoke, and camouflage. They aim to solve critical limitations of traditional imaging methods by leveraging the polarization state of light to reveal information hidden from conventional cameras. Their unique value proposition lies in providing real-time, high-resolution polarimetric data that enables superior object recognition and classification compared to intensity-only imaging systems, giving warfighters and other users a distinct advantage.

**Technology Focus:**

* Real-time polarimetric imaging systems: PST designs and manufactures cameras and sensors that capture the polarization signature of objects, offering additional information beyond standard intensity imaging. These systems are deployable on various platforms, including handheld devices, unmanned aerial vehicles (UAVs), and ground vehicles.
* 3D imaging and analysis software: They provide software algorithms and tools for processing polarimetric data, generating 3D models of objects, and extracting valuable information for object recognition, tracking, and characterization. These algorithms account for atmospheric effects and provide enhanced target discrimination.

**Recent Developments & Traction:**

* April 2024:\*\* Announced a Phase I Small Business Innovation Research (SBIR) grant from the U.S. Department of Energy (DOE) to develop a polarimetric sensor for inspecting the integrity of materials and structures in the energy sector.
* September 2023:\*\* Awarded a contract by the US Army to develop enhanced target recognition capabilities using polarimetric and hyperspectral imaging for improved situational awareness in contested environments.
* July 2022:\*\* Announced a Cooperative Research and Development Agreement (CRADA) with the U.S. Army Combat Capabilities Development Command (CCDC) Ground Vehicle Systems Center (GVSC) to further develop and integrate polarimetric imaging technology into ground vehicle systems.

**Leadership & Team:**

* Dr. David Chenault (CEO):\*\* Possesses extensive experience in optical engineering, polarization optics, and imaging systems. Has a strong track record of commercializing advanced sensor technologies.
* Kevin Garcia (COO):\*\* Experienced Operations executive with expertise in product management, strategic planning, and sales & marketing.

**Competitive Landscape:**

* FLIR Systems (Teledyne FLIR):\*\* A major player in thermal and visible imaging; however, PST differentiates itself with its specialized focus and expertise in polarimetric imaging, which provides unique capabilities not offered by standard FLIR products.
* Lockheed Martin:\*\* While primarily a systems integrator, Lockheed Martin develops some advanced sensor technologies. PST competes by offering specialized polarimetric sensors and software solutions tailored to specific customer needs and often integrates its technology into larger Lockheed Martin systems.

**Sources:**

* [https://polarissensor.com/](https://polarissensor.com/)
* [https://www.photonics.com/companies/polaris-sensor-technologies-inc/co18309](https://www.photonics.com/companies/polaris-sensor-technologies-inc/co18309)
* [https://www.sbir.gov/node/2559479](https://www.sbir.gov/node/2559479)
* [https://army.deps.mil/army/cmds/acrc/news/Pages/CRADA-Partnership-to-Develop-Polarimetric-Imaging-Technology-for-Robotic-Vehicles.aspx](https://army.deps.mil/army/cmds/acrc/news/Pages/CRADA-Partnership-to-Develop-Polarimetric-Imaging-Technology-for-Robotic-Vehicles.aspx)