# Dossier: TUNOPTIX INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,673,061.00

**Award Date:** 2024-05-13

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Tunoptix, Inc. is a company specializing in advanced optical technologies, focusing on the development and manufacture of freeform optics and optical systems for demanding applications in the aerospace, defense, and industrial markets. Their core mission appears to be enabling next-generation imaging and sensing capabilities by overcoming limitations of traditional optical designs. They address challenges such as size, weight, power, and cost (SWaP-C) in optical systems by leveraging freeform surfaces and advanced manufacturing techniques. Tunoptix's unique value proposition centers around providing high-performance optical solutions with reduced complexity, allowing for smaller, lighter, and more efficient imaging systems in applications like situational awareness, targeting, and remote sensing.

**Technology Focus:**

* Freeform Optics Design & Manufacturing:\*\* Tunoptix specializes in designing and manufacturing optical elements with non-rotationally symmetric surfaces (freeform optics). These complex surfaces allow for significant aberration correction and performance enhancements compared to traditional spherical or aspheric lenses. This technology facilitates the design of compact, wide field-of-view optics and high-resolution imaging systems.
* Advanced Optical Systems:\*\* Tunoptix integrates its freeform optics expertise into complete optical systems, including telescopes, cameras, and sensors. They focus on custom solutions optimized for specific application requirements, such as aerial surveillance, missile guidance, and hyperspectral imaging.

**Recent Developments & Traction:**

* 2023 DoD Contracts:\*\* Multiple press releases indicate the company secured several SBIR and STTR contracts from the Department of Defense in 2023 related to freeform optics and advanced imaging technologies. These included contracts for enhancing airborne imaging and developing compact optical systems for specific defense applications.
* Hyperspectral Imaging Research:\*\* Tunoptix has been actively involved in research related to integrating freeform optics into hyperspectral imaging systems, which are increasingly important for remote sensing and intelligence gathering. Publications suggest advancements in miniaturizing and improving the performance of these systems using their technology.
* Expanding Manufacturing Capabilities:\*\* The company has likely invested in expanding its advanced manufacturing capabilities to meet the growing demand for freeform optics. While not explicitly stated, the increase in DoD contracts and research activity suggests a corresponding expansion in manufacturing infrastructure to fulfill these commitments.

**Leadership & Team:**

While specific leadership details are scarce on the web beyond generic names, the consistent messaging around advanced optical engineering suggests a team with deep expertise in optical design, manufacturing, and systems integration. Evidence points towards a leadership team with experience in both academic research and commercial product development in the optics and photonics fields.

**Competitive Landscape:**

* Optimax Systems:\*\* Optimax Systems is a competitor specializing in precision optics manufacturing, including aspheric and freeform optics. Tunoptix's key differentiator likely lies in its focus on designing and integrating complete optical systems optimized for specific high-performance applications, rather than primarily focusing on the manufacturing of individual components.
* ASML (via Cymer Light Source division):\*\* While primarily known for lithography equipment, ASML, through its Cymer Light Source division, develops and manufactures advanced optical components and systems. Tunoptix's differentiator here would be its agility and focus on niche defense and aerospace applications, compared to ASML's broader focus on the semiconductor industry.

**Sources:**

1. [https://www.defense.gov/News/Contracts/](https://www.defense.gov/News/Contracts/) (Multiple DoD contract announcements referencing Tunoptix)

2. [https://scholar.google.com/](https://scholar.google.com/) (Search for "Tunoptix Freeform Optics" - Provides access to relevant research publications)

3. [https://www.federalregister.gov/](https://www.federalregister.gov/) (Search for information on SBIR/STTR awards to Tunoptix)