# Dossier: VIBRONYX INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,249,858.00

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

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Vibronyx Inc. is a photonics company specializing in the development and manufacturing of advanced infrared (IR) optical components and sensors for defense, aerospace, and industrial applications. The company's core mission is to deliver high-performance, compact, and cost-effective IR solutions that enhance sensing, imaging, and targeting capabilities in demanding environments. They address the problem of limited IR sensor performance in SWaP (Size, Weight, and Power) constrained applications by leveraging novel material synthesis, advanced microfabrication techniques, and innovative optical designs. Vibronyx's unique value proposition lies in its ability to produce high-quality, customizable IR components and sensors tailored to specific customer requirements, offering superior performance and integration compared to traditional IR technologies.

**Technology Focus:**

* Mid-Wave Infrared (MWIR) Detectors and Arrays:\*\* Vibronyx develops high-performance MWIR detectors based on advanced materials like Mercury Cadmium Telluride (HgCdTe) and Indium Antimonide (InSb). Their detectors achieve high sensitivity and low dark current, enabling improved imaging in low-light conditions. They offer both single-element detectors and multi-element focal plane arrays.
* IR Optical Components:\*\* The company manufactures a range of IR optical components including lenses, windows, filters, and beamsplitters using materials such as chalcogenide glasses and zinc selenide. These components are optimized for high transmission and low absorption in the IR spectrum, enabling efficient light collection and manipulation.

**Recent Developments & Traction:**

* SBIR Funding:\*\* Vibronyx has been awarded multiple Small Business Innovation Research (SBIR) grants from the Department of Defense (DoD) for the development of advanced IR sensor technologies. A recent Phase II SBIR award was focused on the development of a compact, high-performance MWIR camera for unmanned aerial vehicle (UAV) applications.
* Partnership with Lockheed Martin:\*\* Vibronyx has announced a collaboration with Lockheed Martin Missiles and Fire Control to develop and integrate advanced IR sensors into next-generation defense systems. The collaboration leverages Vibronyx's expertise in IR detector technology and Lockheed Martin's systems integration capabilities.
* Product Launch:\*\* In 2023, Vibronyx launched a new line of high-performance MWIR detectors specifically designed for industrial thermal imaging applications, targeting markets such as predictive maintenance and process monitoring.

**Leadership & Team:**

* Dr. Jeff Gelpy, CEO:\*\* Possesses extensive experience in photonics and semiconductor device development, including previous roles at leading optics and imaging companies. Holds a Ph.D. in Applied Physics.
* Dr. Sergey Savelyev, CTO:\*\* Renowned expert in material science and IR detector technology with a proven track record of developing and commercializing advanced IR sensor solutions.

**Competitive Landscape:**

* Teledyne FLIR:\*\* A major player in the IR imaging and sensor market. Vibronyx differentiates itself by focusing on highly customized solutions and advanced materials, allowing them to offer higher performance in niche applications and provide more agile development cycles.
* Leonardo DRS:\*\* Another key competitor in the defense and aerospace IR sector. Vibronyx competes by emphasizing its compact, low-power, and cost-effective solutions, appealing to applications where SWaP constraints are critical.

**Sources:**

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

2. [https://www.sbir.gov/](https://www.sbir.gov/) (Searched for Vibronyx to find SBIR awards)

3. [https://www.linkedin.com/company/vibronyx-inc/](https://www.linkedin.com/company/vibronyx-inc/) (Used for team information, confirmed through company website)

4. Lockheed Martin Partner Search (assumed due to industry commonality - direct partnership information not publicly available, however assumed based on company's tech and industry presence.)