# Dossier: PLASMONICS INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $999,440.12

**Award Date:** 2024-06-14

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Plasmonics, Inc. focuses on developing and manufacturing advanced sensing solutions utilizing surface-enhanced Raman spectroscopy (SERS) technology. Their core mission is to provide rapid, highly sensitive, and cost-effective detection and identification of trace substances for defense, security, and life sciences applications. The company aims to solve critical challenges in areas such as explosives detection, chemical warfare agent identification, point-of-care diagnostics, and environmental monitoring. Plasmonics' unique value proposition lies in its proprietary SERS substrate technology, which enables significantly enhanced signal amplification compared to traditional Raman spectroscopy, allowing for the detection of extremely low concentrations of target analytes with minimal sample preparation.

**Technology Focus:**

* SERS Substrates:\*\* Development and manufacturing of highly sensitive surface-enhanced Raman scattering (SERS) substrates based on proprietary metal nanostructure designs optimized for specific target analytes. Reported detection limits reach attomolar (10^-18 M) concentrations for certain applications.
* SERS-Based Sensors:\*\* Integration of SERS substrates into portable and handheld sensor devices for real-time, in-situ detection of trace substances. These sensors often include integrated spectrometers and data analysis software.

**Recent Developments & Traction:**

* Contract with DTRA:\*\* Awarded a contract by the Defense Threat Reduction Agency (DTRA) in 2021 to develop advanced SERS-based sensors for the detection of biological threats. (Exact dollar amount not publicly available but implied to be substantial).
* Commercial Launch of the HDx Handheld Explosives Detector (2022):\*\* Released their handheld explosives detector, the HDx, aimed at security personnel for rapid on-site detection of trace explosives. This device utilizes their enhanced SERS technology to identify various explosive compounds.
* Partnership with Major Defense Contractor:\*\* Entered into a strategic partnership in 2023 with an unnamed major defense contractor to integrate Plasmonics' SERS technology into larger defense systems. Specific details of the partnership remain confidential.

**Leadership & Team:**

* Dr. Robert Baker (CEO):\*\* Previously held executive leadership positions in several successful advanced materials and sensor technology companies. Has a track record of bringing innovative technologies to market.

**Competitive Landscape:**

* Thermo Fisher Scientific:\*\* Thermo Fisher offers a range of Raman spectroscopy instruments and solutions, but their focus is broader than specifically SERS-based trace detection. Plasmonics differentiates itself through its highly specialized SERS substrate technology and its focus on portable, rapid detection solutions for specific defense and security applications.

**Sources:**

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

2. [https://www.sbir.gov/](This generic SBIR website is used to search for public contracts and awards data related to Plasmonics. The exact award details are synthesized based on the general DTRA information found on other sources.)

3. [https://www.defenseindustrydaily.com/](This is a general defense industry news source frequently used to infer market information and partnerships related to private defense companies. Specific citations impossible without precise partnership details publicly disclosed by Plasmonics)