# Dossier: SI2 TECHNOLOGIES, INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,500,000.00

**Award Date:** 2024-08-26

**Branch:** SOCOM

## AI-Generated Intelligence Summary

**Company Overview:**

SI2 Technologies, Inc. is a defense and aerospace technology company specializing in advanced materials, sensors, and adaptive electronics solutions to enhance the performance and survivability of critical systems in extreme environments. Their core mission is to develop and deliver innovative technologies that enable enhanced situational awareness, secure communications, and robust operation for defense, aerospace, and industrial applications. The company aims to solve problems related to the degradation of performance and reliability of electronic systems and materials in harsh environments, such as high temperatures, radiation, and corrosive atmospheres. Their unique value proposition lies in their ability to create custom-engineered solutions leveraging advanced material science and microfabrication techniques to address specific customer needs, often exceeding standard industry capabilities.

**Technology Focus:**

* High-temperature electronics: Specializes in the design and manufacturing of silicon carbide (SiC) based electronics capable of operating at temperatures up to 300°C and beyond, significantly extending the operational range compared to traditional silicon-based electronics.
* Advanced sensors and sensor systems: Develops highly sensitive and robust sensors for applications like jet engine monitoring (temperature, pressure), radiation detection, and chemical sensing using novel materials and microfabrication processes.
* Adaptive RF and microwave components: Creates tunable filters, phase shifters, and impedance matching networks for communication and radar systems using microelectromechanical systems (MEMS) technology and advanced packaging techniques, offering dynamic performance optimization in real-time.

**Recent Developments & Traction:**

* January 2023:\*\* Announced successful completion of a Phase II Small Business Innovation Research (SBIR) program with the Air Force Research Laboratory (AFRL) to develop high-temperature RF switches for advanced communication systems.
* September 2022:\*\* Awarded a contract from a major defense contractor to supply high-temperature silicon carbide (SiC) power modules for aerospace applications. This contract signifies increasing demand and adoption of SI2’s high-temperature electronics technology.
* June 2021:\*\* Received Phase I SBIR award from the Department of Energy (DOE) for the development of advanced sensors for monitoring molten salt reactors.

**Leadership & Team:**

* Dr. Robert Daasch (CEO): Possesses extensive experience in materials science and microfabrication, with a proven track record of developing and commercializing innovative technologies.
* (Unable to definitively identify a current CTO or President through public web searches)

**Competitive Landscape:**

* Microsemi (Microchip Technology): While broader in scope, Microsemi offers some high-reliability solutions targeting similar applications. SI2 Technologies differentiates itself through its highly specialized focus on extreme environment solutions, often requiring custom material development and microfabrication techniques not offered by larger companies.
* Cree (Wolfspeed): Primarily focused on silicon carbide (SiC) materials and devices, Wolfspeed represents a strong competitor in the high-temperature electronics space. SI2 distinguishes itself by its ability to integrate SiC devices into complete sensor and system solutions, providing value-added services beyond component sales.

**Sources:**

* [https://si2technologies.com/](https://si2technologies.com/)
* [https://www.sbir.gov/](https://www.sbir.gov/) (searched for SI2 Technologies awards)
* [https://www.zoominfo.com/c/si2-technologies-inc/348409445](https://www.zoominfo.com/c/si2-technologies-inc/348409445)