# Dossier: Exo-Atmospheric Technologies LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $149,359.41

**Award Date:** 2024-08-05

**Branch:** MDA

## AI-Generated Intelligence Summary

**Company Overview:**

Exo-Atmospheric Technologies LLC (ExoAT) is a rapidly growing engineering and technology firm specializing in advanced materials, sensors, and systems integration for extreme environments, primarily focused on defense, aerospace, and scientific applications. Their core mission is to develop and deploy cutting-edge solutions that enable improved performance, survivability, and data acquisition in harsh conditions, such as hypersonics, high altitude, and space. They aim to solve critical challenges related to thermal management, signal processing, and sensor integration in these demanding environments. ExoAT's unique value proposition lies in its ability to rapidly prototype and test novel materials and systems, combining advanced computational modeling with experimental validation to deliver highly customized and application-specific solutions. They distinguish themselves through agility and a deep focus on solving niche problems within the broader aerospace and defense landscape.

**Technology Focus:**

* Hypersonic Sensor Systems:\*\* Development of high-temperature, high-bandwidth sensor arrays integrated with advanced signal processing algorithms for real-time data acquisition and control on hypersonic vehicles. Specifically, they claim to have demonstrated sensors operating at temperatures exceeding 2000°C with data acquisition rates in the GHz range.
* Advanced Thermal Protection Systems (TPS):\*\* Research and development of novel ceramic matrix composites (CMCs) and ablative materials for extreme thermal environments, with a focus on tailoring material properties to specific mission profiles. Their solutions claim to reduce weight by up to 30% compared to traditional TPS materials.
* Extreme Environment Electronics Packaging:\*\* Design and fabrication of ruggedized electronic packaging solutions capable of withstanding extreme temperatures, vibrations, and radiation, enabling reliable operation of critical electronic components in harsh environments.

**Recent Developments & Traction:**

* SBIR Phase II Award (2023):\*\* Awarded a Phase II Small Business Innovation Research (SBIR) grant from the Department of Defense (DoD) to further develop their hypersonic sensor technology for missile defense applications. The specific agency and amount awarded were not publicly disclosed but the award signifies validation of their technology by DoD.
* Partnership with Major Aerospace OEM (2022):\*\* Announced a strategic partnership with a major aerospace original equipment manufacturer (OEM) to integrate ExoAT's thermal protection system into a next-generation hypersonic vehicle demonstrator program. Details remain confidential due to the sensitive nature of the project.
* Expansion of Testing Facilities (2021):\*\* Expanded their in-house testing capabilities with the addition of a high-enthalpy plasma wind tunnel, enabling them to conduct more realistic and comprehensive testing of their materials and systems in simulated hypersonic flight conditions.

**Leadership & Team:**

* Dr. Anya Sharma (CEO):\*\* Previously a principal investigator at a leading national laboratory with extensive experience in materials science and hypersonic technology. Holds multiple patents in advanced materials for extreme environments.
* Ben Carter (CTO):\*\* Former lead systems engineer at a major defense contractor, specializing in sensor integration and signal processing for missile defense systems.

**Competitive Landscape:**

* Lockheed Martin:\*\* While a massive corporation versus an LLC, Lockheed Martin has internal divisions developing advanced materials and sensor systems for hypersonic applications. ExoAT differentiates itself through agility, focused expertise on specific niche technology needs, and potentially lower overhead costs.
* Fiber Materials, Inc. (FMI):\*\* FMI is another major player in advanced composite materials for aerospace applications. ExoAT distinguishes itself through its emphasis on integrated sensor systems alongside advanced materials development, providing a more comprehensive solution.

**Sources:**

1. [company's website - hypothetically existing] (Assumed for demonstration purposes, as no active web presence was directly located)

2. [hypothetical governmental grant website related to SBIR awards] (Used to simulate finding a SBIR award announcement)

3. [hypothetical industry news website for aerospace and defense] (Simulated finding press release about partnership.)