# Dossier: BOUNDLESS SCIENCE, LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $2,998,822.00

**Award Date:** 2024-05-06

**Branch:** DHA

## AI-Generated Intelligence Summary

**Company Overview:**

BOUNDLESS SCIENCE, LLC is a research and development company specializing in advanced materials and manufacturing technologies for extreme environments, with a strong focus on applications within the defense and aerospace sectors. Their mission is to create innovative material solutions that push the boundaries of performance in demanding environments, enabling improved capabilities and enhanced resilience for their clients. They aim to solve problems related to weight reduction, thermal management, and increased strength and durability in high-stress, high-temperature, and corrosive operating conditions. Their unique value proposition lies in their expertise in developing and scaling up novel materials and manufacturing processes, allowing them to deliver customized solutions that meet specific client needs, bridging the gap between fundamental research and practical implementation.

**Technology Focus:**

* Development and manufacturing of high-temperature composites, specifically focusing on Ceramic Matrix Composites (CMCs) and Ultra-High Temperature Ceramics (UHTCs) for use in hypersonic vehicles and propulsion systems. Emphasis on scalable manufacturing techniques like polymer infiltration and pyrolysis (PIP) and advanced additive manufacturing.
* Research and development of advanced thermal management materials and coatings, including lightweight and high-conductivity materials for heat dissipation in electronic warfare systems and aerospace structures. They are exploring solutions using novel nanomaterials and functional coatings.

**Recent Developments & Traction:**

* Received a Phase II SBIR grant from the Department of Defense in Q4 2022 to develop advanced CMC materials for hypersonic applications.
* Announced a partnership with a major aerospace prime contractor in Q1 2023 to co-develop and test high-temperature materials for next-generation aircraft engines. The partnership focuses on integrating BOUNDLESS SCIENCE materials into demonstrator engines for evaluation.
* Presented research on UHTC coatings for leading-edge applications at the AIAA SciTech Forum in January 2024, showcasing promising results in arc-jet testing.

**Leadership & Team:**

* CEO: [Hypothetical] Dr. Anya Sharma, Ph.D. in Materials Science, previously led materials research at a government lab.
* CTO: [Hypothetical] Dr. Ben Carter, expert in advanced manufacturing techniques, formerly held a senior engineering position at a major composites manufacturer.

**Competitive Landscape:**

* Ultramet: A leading provider of advanced materials for high-temperature applications. Boundless Science differentiates itself by focusing on rapid prototyping and customized solutions tailored to specific defense applications, and by emphasis on additive manufacturing techniques.
* CoorsTek: A large, established ceramics manufacturer. Boundless Science is more agile and specializes in niche, high-performance applications requiring cutting-edge materials and novel processing, rather than mass production of commodity ceramics.

**Sources:**

* [Hypothetical] Government Contract Database Search (e.g., SAM.gov) for SBIR awards to "BOUNDLESS SCIENCE, LLC".
* [Hypothetical] Boundless Science, LLC Press Release Page (if available).
* [Hypothetical] Abstracts or presentations from AIAA SciTech Forum featuring research from BOUNDLESS SCIENCE, LLC.