# Dossier: NANOSPERSE LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $135,831.00

**Award Date:** 2024-08-21

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

NANOSPERSE LLC, based in State College, Pennsylvania, specializes in the development and manufacturing of advanced materials solutions, particularly focused on nanodispersions and coatings with applications primarily in defense, aerospace, and other industries requiring high-performance materials. Their core mission centers around creating materials with enhanced mechanical, thermal, and optical properties using innovative nano-engineering techniques. They aim to solve problems related to corrosion resistance, thermal management, enhanced strength-to-weight ratios, and improved optical performance for critical defense and aerospace systems. Their unique value proposition lies in their proprietary nanodispersion technology that allows for uniform distribution of nanoparticles within various matrices, resulting in superior material properties compared to traditional methods.

**Technology Focus:**

* Proprietary nanodispersion technology enabling the creation of coatings and composite materials with enhanced performance characteristics, including increased durability, corrosion resistance, and improved thermal conductivity. Their focus is on achieving highly uniform and stable nanoparticle distributions within a variety of matrices (polymers, metals, ceramics).
* Development of specialized coatings for corrosion prevention on military vehicles and aircraft. These coatings utilize nano-sized particles to create a barrier that prevents moisture and other corrosive elements from reaching the underlying substrate. Specific targets include MIL-SPEC compliant coatings with improved durability and lifespan compared to existing solutions.

**Recent Developments & Traction:**

* In September 2023, Nanosperse LLC received a Phase I Small Business Innovation Research (SBIR) grant from the Department of Defense for the development of advanced materials for hypersonic vehicle applications. This project focuses on creating high-temperature coatings to protect vehicles from extreme thermal stress during flight.
* Awarded a contract by the US Army in 2022 to develop enhanced corrosion resistant coatings for military ground vehicles. The project involved testing and validation of their nanodispersion-based coatings in harsh environmental conditions, demonstrating improved performance over existing coating technologies.
* Successfully completed Phase II SBIR project (date unknown, likely 2021 or 2022) focused on developing improved thermal management materials for electronic components in aerospace applications. This involved the development and testing of nanocomposite materials with enhanced thermal conductivity.

**Leadership & Team:**

* Andrew Brozena (Founder and CEO): Possesses extensive experience in materials science and nanotechnology. Background likely includes advanced degrees and research experience in nanomaterials. Further details beyond this are not readily available from cursory search.

**Competitive Landscape:**

* Zyvex Technologies: Zyvex develops and manufactures carbon nanotube-based materials and composites. Nanosperse differentiates itself by focusing on a broader range of nanoparticles and dispersion technologies beyond just carbon nanotubes, allowing for greater flexibility in material design and application.
* Haydale Graphene Industries: Haydale focuses on graphene-enhanced materials. Nanosperse's differentiator is their proprietary nanodispersion technology, which they claim provides superior uniformity and stability compared to other dispersion methods used by graphene-focused companies.

**Sources:**

* [https://www.sbir.gov/sbirsearch/detail/2317084](https://www.sbir.gov/sbirsearch/detail/2317084)
* [https://www.sri.psu.edu/success-stories/nanosperse-llc](https://www.sri.psu.edu/success-stories/nanosperse-llc)
* [https://www.defense.gov/News/Releases/Release/Article/3160690/department-of-defense-announces-2023-small-business-innovation-research-sbir-and/](https://www.defense.gov/News/Releases/Release/Article/3160690/department-of-defense-announces-2023-small-business-innovation-research-sbir-and/) (Mentions award recipient, confirms name)