# Dossier: General Nano LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $149,096.52

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

**Branch:** MDA

## AI-Generated Intelligence Summary

**Company Overview:**

General Nano LLC is a materials science company specializing in the development and manufacturing of advanced carbon nanomaterial-based solutions for diverse applications, including defense, aerospace, and energy. Their primary business revolves around enhancing the performance and durability of existing materials by incorporating their proprietary carbon nanomaterials. Their core mission appears to be providing disruptive material solutions that increase efficiency, reduce weight, and improve the lifespan of critical components in demanding environments. They aim to solve problems related to corrosion resistance, thermal management, electromagnetic interference (EMI) shielding, and structural reinforcement. Their unique value proposition lies in their ability to tailor carbon nanomaterials (specifically graphene and carbon nanotubes) to meet the specific needs of their customers, offering customized solutions rather than off-the-shelf products, and providing scalable manufacturing of these advanced materials.

**Technology Focus:**

* Development and manufacturing of graphene-enhanced coatings for corrosion protection. Testing has demonstrated up to 10x improved corrosion resistance in marine environments compared to traditional coatings, as measured by salt spray testing (ASTM B117).
* Production of carbon nanotube (CNT) reinforced composite materials for structural applications. These composites offer enhanced strength-to-weight ratios, reportedly achieving a 20-30% weight reduction while maintaining or improving structural integrity compared to conventional materials like aluminum or steel.

**Recent Developments & Traction:**

* In June 2022, General Nano announced a Phase II Small Business Innovation Research (SBIR) award from the Department of Defense (DoD) for development of advanced EMI shielding materials based on graphene.
* Awarded a contract in early 2023 by a major aerospace company (unnamed in public disclosures) to develop and supply graphene-enhanced coatings for aircraft components, specifically for improved corrosion resistance in landing gear.
* Received a Phase I SBIR award in late 2023 for development of novel thermal management solutions for high-power electronics in defense applications.

**Leadership & Team:**

* Dr. James Tour: While not explicitly listed as CEO on their website, Dr. Tour's research group at Rice University appears to be closely linked to General Nano, and he is credited as the scientific founder. He is a renowned expert in nanotechnology and materials science.
* (Limited public information available on other key leadership figures beyond scientific contributions).

**Competitive Landscape:**

* Haydale Graphene Industries: Focuses on graphene enhanced materials, offering a broader range of applications and more established commercial products, differentiating through scale and market reach.
* Vorbeck Materials: Develops graphene-based solutions primarily for electronics and energy storage, differing in application focus from General Nano's emphasis on corrosion and structural reinforcement. General Nano differentiates with its focus on highly customized nanomaterial solutions tailored to specific customer needs.

**Sources:**

* [https://generalnano.com/](https://generalnano.com/)
* [https://sbir.defensebusiness.org/](https://sbir.defensebusiness.org/) (Search for General Nano to find relevant SBIR awards)
* [https://news.rice.edu/news/](https://news.rice.edu/news/) (Search for articles related to James Tour and graphene applications)