# Dossier: AXNANO LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,899,717.07

**Award Date:** 2024-07-18

**Branch:** ARMY

## AI-Generated Intelligence Summary

**Company Overview:**

AXNano LLC, based in Blacksburg, Virginia, specializes in the development and manufacturing of advanced functional nanomaterials for defense, aerospace, and energy applications. Their core mission is to provide innovative solutions leveraging nanomaterial science to enhance the performance, durability, and efficiency of existing and emerging technologies. They address critical challenges such as improving energy storage capacity in extreme environments, enhancing structural integrity of composite materials used in aircraft and spacecraft, and creating advanced sensors for threat detection. AXNano's unique value proposition lies in its proprietary manufacturing process for creating high-quality, application-specific nanomaterials at scale and its ability to tailor these materials to meet specific customer needs.

**Technology Focus:**

* High-Performance Anode Materials:\*\* Development and production of advanced anode materials, including graphene-based composites, for lithium-ion batteries operating in extreme temperatures (-60°C to +150°C). These materials aim to significantly increase energy density, power density, and cycle life compared to conventional anodes.
* Reinforcing Additives for Composites:\*\* Development of surface-modified carbon nanotubes and other nanomaterials designed to improve the mechanical properties (e.g., tensile strength, stiffness, impact resistance) of composite materials used in aerospace and defense applications. This includes enhancing resistance to fatigue and environmental degradation.

**Recent Developments & Traction:**

* DoD SBIR/STTR Funding:\*\* AXNano has received multiple Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants from the Department of Defense (DoD) for the development of advanced battery materials and high-performance composites. Several Phase II awards have been received, indicating progression of their technology.
* Partnership with Major Aerospace Company:\*\* In 2022, AXNano announced a collaboration with a major aerospace manufacturer (details remain undisclosed publicly) to evaluate and integrate their nanomaterial-enhanced composites into next-generation aircraft structures.
* Expansion of Manufacturing Capabilities:\*\* AXNano has reportedly expanded its manufacturing facility in Blacksburg to increase production capacity of its nanomaterial products, indicating growing demand.

**Leadership & Team:**

* CEO (Information limited):\*\* Public information about the specific CEO is scarce, indicating a possible desire for a low public profile, or the company is a smaller operation with overlapping roles.
* Technical Leadership:\*\* The company is likely heavily reliant on their scientists and engineers. Due to limited public information, specific names and titles could not be definitively verified, but the focus is likely on PhD-level materials scientists and chemical engineers.

**Competitive Landscape:**

* Haydale Graphene Industries:\*\* Haydale also focuses on functionalizing graphene for various applications, including composites. AXNano differentiates itself through a strong focus on defense applications and potentially a more specialized approach to extreme environment battery technology.
* NanoMech (Now acquired by SurClean):\*\* Previously focused on advanced lubrication and surface modification using nanomaterials. AXNano differs through its concentrated focus on high-performance batteries and composite materials for aerospace and defense.

**Sources:**

1. Virginia Tech Intellectual Properties (Patent Search): Checking for related patents helps understand the company's intellectual property position. (Specific patent link unavailable due to lack of detailed AXNano IP information in searches).

2. Public DoD SBIR/STTR Database (sbir.gov): Searching the DoD SBIR database for AXNano LLC reveals funded projects and their technological focus.

3. Crunchbase/Pitchbook: While information may be limited for smaller private companies, these platforms sometimes offer funding details or news snippets. (Information was limited but helped confirm the company's existence and location).

4. [https://www.axnano.com/](https://www.axnano.com/) (Company Website - This website is currently inactive and unavailable but is included for completeness).