# Dossier: NANOIONIX, LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $146,499.78

**Award Date:** 2024-08-01

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

NANOIONIX, LLC is a materials science company focused on the development and manufacturing of advanced ion conducting materials for energy storage applications, primarily for high-performance batteries and capacitors. Their core mission is to revolutionize energy storage by creating solid-state electrolytes that enable safer, more energy-dense, and longer-lasting batteries compared to traditional lithium-ion technology. The company addresses the limitations of current liquid electrolyte-based batteries, such as flammability, limited temperature range, and capacity degradation. NANOIONIX offers a unique value proposition by engineering solid-state electrolytes with exceptionally high ionic conductivity and stability, allowing for the creation of next-generation batteries with enhanced safety, increased energy density, and improved performance characteristics, specifically targeting defense, aerospace, and electric vehicle applications.

**Technology Focus:**

* Solid-state electrolytes: NANOIONIX specializes in developing and manufacturing solid-state electrolytes based on ceramic and composite materials with high lithium-ion conductivity. Their proprietary materials aim to achieve ionic conductivity comparable to liquid electrolytes (e.g., >1 mS/cm) at room temperature and operate across a wide temperature range (-40°C to 150°C).
* Battery prototyping and testing: The company designs, fabricates, and tests prototype solid-state batteries using their electrolytes. They can provide custom battery solutions tailored to specific application requirements and performance metrics.

**Recent Developments & Traction:**

* US Army Contract (2021): Received a contract from the U.S. Army to develop high-energy, safe, solid-state batteries for soldier-worn power and vehicle applications.
* SBIR Funding: Securing multiple SBIR (Small Business Innovation Research) grants from various government agencies to advance their solid-state electrolyte technology and battery development.
* Electrolyte Production Scale-Up: Investment in increasing production capacity for their solid-state electrolytes to meet growing demand from battery manufacturers and end-users.

**Leadership & Team:**

* Dr. J.B. Bates (Founder): An expert in solid-state ionics and materials science with decades of research experience.
* The company boasts a team comprised of scientists and engineers with extensive experience in materials synthesis, electrochemistry, and battery development.

**Competitive Landscape:**

* QuantumScape: A leading developer of solid-state batteries. NANOIONIX differentiates itself by potentially focusing on niche applications and specific electrolyte chemistries that complement or improve upon the solutions offered by QuantumScape.
* Solid Power: Another competitor in the solid-state battery space. NANOIONIX aims to offer a more flexible and adaptable platform for custom battery designs, leveraging its expertise in materials science and manufacturing.

**Sources:**

1. [https://www.nanoionix.com/](https://www.nanoionix.com/)

2. [https://www.defenseinnovation.org/portfolio/advanced-energy-storage-for-u-s-army-applications/](https://www.defenseinnovation.org/portfolio/advanced-energy-storage-for-u-s-army-applications/)

3. [https://www.nextbigfuture.com/2021/06/quantumscape-with-solid-state-batteries-making-progress.html](https://www.nextbigfuture.com/2021/06/quantumscape-with-solid-state-batteries-making-progress.html) (Competitor analysis)