# Dossier: MARYLAND ENERGY AND SENSOR TECHNOLOGIES, LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $142,213.00

**Award Date:** 2023-07-17

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Maryland Energy and Sensor Technologies, LLC (MEST) appears to specialize in advanced material solutions with a focus on energy storage and sensor technologies for harsh environments, primarily targeting the defense and aerospace industries. MEST's mission seems to center on creating novel materials that enhance the performance and safety of batteries and sensors in demanding applications. They aim to solve problems related to the limitations of existing battery technologies (e.g., low energy density, flammability, limited temperature range) and sensor capabilities (e.g., accuracy and reliability in extreme conditions). Their unique value proposition seems to be their expertise in developing custom, high-performance materials optimized for specific defense and aerospace needs, differentiating them from off-the-shelf solutions.

**Technology Focus:**

* Development of solid-state electrolyte materials for high-energy, safe lithium-ion batteries designed for extreme temperatures (-40°C to 150°C). This includes materials engineering at the nano-scale to improve ionic conductivity and stability.
* Fabrication of advanced chemical sensors based on novel nanomaterials for real-time monitoring of critical parameters in harsh environments such as high temperature or corrosive atmospheres, often found in aerospace propulsion systems.

**Recent Developments & Traction:**

* May 2023: Awarded a Phase II SBIR grant from the Department of Energy for "High-performance Solid-State Battery for Extreme Environment Applications" indicating continued government interest and funding for their battery technology.
* October 2022: Patent issued (US Patent 11,476,554 B2) on "Solid-state lithium-ion batteries with high ionic conductivity and improved cycling stability," suggesting advancement and protection of their core technology.

**Leadership & Team:**

Information on specific leadership personnel is limited in publicly available resources. The available documentation suggests a team comprised of materials scientists and engineers with expertise in solid-state chemistry and nanotechnology. Further research is needed to determine the exact roles and backgrounds of key individuals.

**Competitive Landscape:**

Primary competitors include companies and research institutions involved in advanced battery and sensor development for defense applications. Potential competitors:

* Saft Batteries: Well-established manufacturer of specialized batteries for demanding applications. MEST differentiates itself through a specific focus on solid-state technology and extreme environment performance.
* General Electric (GE): Engaged in sensor technology for aerospace, particularly engine monitoring. MEST specializes in advanced materials that specifically target enhancement of sensor capabilities for high temperature/corrosive environments, perhaps giving them a niche advantage.

**Sources:**

1. [https://www.sbir.gov/sbirsearch/detail/2216632](https://www.sbir.gov/sbirsearch/detail/2216632) (SBIR Award details)

2. [https://patents.google.com/patent/US11476554B2/en](https://patents.google.com/patent/US11476554B2/en) (Patent Information)

3. [https://manta.com/c/mt66680/maryland-energy-and-sensor-technologies-llc](https://manta.com/c/mt66680/maryland-energy-and-sensor-technologies-llc) (Company listing, provides limited information)