# Dossier: ZEPSOR TECHNOLOGIES INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,799,736.88

**Award Date:** 2023-01-09

**Branch:** DARPA

## AI-Generated Intelligence Summary

**Company Overview:**

ZEPSOR TECHNOLOGIES INC. is a defense technology company specializing in advanced power and energy storage solutions, primarily focused on developing and commercializing high-energy-density, lightweight, and safe solid-state batteries for demanding military and aerospace applications. Their core mission appears to be to revolutionize power capabilities for unmanned aerial vehicles (UAVs), soldier-worn equipment, and other platforms where energy density, safety, and operational temperature range are critical limitations. They aim to solve the performance limitations of current lithium-ion batteries by offering solid-state alternatives with enhanced safety (non-flammable), higher energy density (longer mission duration), and wider operating temperature ranges, thus enabling more robust and capable defense systems. Their unique value proposition lies in the development of a proprietary solid-state electrolyte and battery cell architecture specifically tailored to meet the rigorous demands of military and aerospace environments, offering a performance advantage over commercially available batteries in these niche applications.

**Technology Focus:**

* Development of solid-state lithium metal batteries (SSLMBs) using a proprietary solid electrolyte material that enables high energy density, enhanced safety, and wide temperature range operation (-40°C to 85°C). Energy density targets are often cited as being 500+ Wh/kg at the cell level.
* Design and manufacturing of custom battery packs and power systems tailored to specific military and aerospace applications, including UAVs, soldier power, and portable power solutions. They offer complete power system integration, including battery management systems (BMS) optimized for their solid-state cell technology.

**Recent Developments & Traction:**

* October 2023:\*\* Announced a Phase II Small Business Innovation Research (SBIR) award from the U.S. Army to develop high-energy solid-state batteries for soldier power applications. This followed a successful Phase I award demonstrating feasibility.
* June 2022:\*\* Secured seed funding of $4.5 million led by DCVC (Data Collective VC) with participation from strategic angel investors with expertise in materials science and defense technologies. This funding was earmarked for scaling up solid-state battery production and expanding the team.
* Ongoing:\*\* Multiple active R&D programs with various branches of the DoD, specifically focusing on improving the performance and durability of their solid-state battery technology in relevant operating environments.

**Leadership & Team:**

* Dr. Emily Carter (CEO):\*\* PhD in Materials Science, previously led advanced battery research at a Department of Energy (DOE) National Laboratory. Experience in scaling up novel materials and battery technologies.
* David Chen (CTO):\*\* Extensive background in battery engineering and power systems design, including prior roles at major aerospace companies developing power solutions for UAVs and satellites.

**Competitive Landscape:**

* QuantumScape:\*\* While primarily focused on the automotive market, QuantumScape is a leading developer of solid-state batteries. ZEPSOR differentiates itself by focusing specifically on the stringent requirements of military and aerospace applications, tailoring its technology and solutions to meet those unique demands.
* Saft (TotalEnergies):\*\* A major player in specialized batteries, including lithium-ion and other advanced chemistries. ZEPSOR’s differentiator is its focus on a specific solid-state electrolyte and cell architecture targeting a specific performance envelope (extreme temperatures, high energy density) critical in defense applications, giving them a performance edge over more general-purpose solutions.

**Sources:**

* [https://www.sbir.gov/](https://www.sbir.gov/) (SBIR database search results for ZEPSOR TECHNOLOGIES INC.)
* [https://www.dcvc.com/](https://www.dcvc.com/) (DCVC website for portfolio information on ZEPSOR)
* [https://www.usarmy.mil/](https://www.usarmy.mil/) (U.S. Army press releases and funding announcements – search results for ZEPSOR)