NexTech Successfully Completes U.S. Space Force SBIR Phase I Contract for Advanced Lithium-Sulfur Battery Technology

Company Demonstrates Breakthrough Approaches to Extend Cycle Life of Next-Generation Batteries for Space Applications


NexTech Batteries

CARSON, NV, UNITED STATES, December 18, 2025 /EINPresswire.com/ -- NexTech Batteries, Inc., a pioneer in lithium-sulfur battery technology, today announced the successful completion of its Small Business Innovation Research (SBIR) Phase I contract with the Air Force Research Laboratory (AFRL) to develop advanced methods for improving the cycle life of lithium-sulfur batteries for U.S. Space Force missions.

The contract awarded in August 2024, focused on mitigating the "polysulfide shuttling effect"—a primary technical barrier that has historically limited the commercial viability of lithium-sulfur chemistries. Lithium-sulfur batteries offer significantly higher theoretical energy density than conventional lithium-ion batteries, making them an attractive solution for weight-sensitive aerospace and defense applications.

Under the SBIR Phase I program, NexTech Batteries investigated multiple innovative approaches including cathode modifications, anode modifications, and electrolyte formulations to reduce polysulfide migration between electrodes. The company successfully demonstrated promising pathways to extend battery cycle life while maintaining the superior energy density characteristics of lithium-sulfur technology.

"This successful Phase I completion represents a significant milestone for NexTech Batteries and validates our innovative approach to solving one of the most challenging problems in next-generation battery technology," said Bill Burger, CEO and Founder of NexTech Batteries. "Our team has demonstrated that meaningful improvements in lithium-sulfur cycle life are achievable, bringing us closer to delivering batteries that can meet the demanding requirements of Space Force missions. We are excited about the potential to advance this technology in Phase II and ultimately deliver transformative energy storage solutions for our nation's defense."

The contract was awarded through a competitive process involving 20 bidders, underscoring the

strategic importance of advanced battery technology development for national defense applications.
NexTech Batteries' research outcomes position the company to pursue SBIR Phase II funding to further develop and scale its proprietary technologies toward integration into standard 18650 battery cell formats suitable for space and defense applications.

About NexTech Batteries
Founded in 2016, NexTech Batteries is the developer of the world's first commercially viable lithium-sulfur battery technology. The company's proprietary cathode and electrolyte solve traditional Li-S challenges, enabling 400 Wh/kg or greater energy density, depending on application design requirements, with superior safety characteristics, lower cost, ease of recyclability, with a US supply chain. NexTech's technology offers higher energy density than lithium-ion while reducing weight by up to 40%, making it ideal for aerospace, defense and electric mobility applications with a planned total addressable market for all lithium-ion markets. The company holds multiple patents and has achieved UN 38.3 safety certification, positioning it as the first company to bring commercially viable Li-S batteries to market. NexTech is headquartered in Carson City, Nevada, with plans for early commercial production beginning in 2026.

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