

**Expeditionary Missions Consortium – Crane (EMC²)
Other Transaction Agreement**

Preliminary Statement of Need

Solution of Interest Statement: Supply chain resilience for military energy storage technologies can be achieved in a number of ways, such as finding second sources, developing substitute materials and components, or simply stockpiling these items. The DoD is inviting new and innovative approaches that will alleviate current and future supply chain risks in military batteries. Solution ideas should be described sufficiently so that their merit can be assessed to achieve a degree of confidence that the innovation can likely solve a supply chain problem.

Sub-Title: DoD Battery Improvements & Risk Mitigation

Technical Areas:

- Verification and Validation
- Materials and Processes
- Manufacturing Technology
- Modeling and Simulation
- Power and Energy Systems, Weapons Systems

Background & Problem Statement:

The DoD directly and indirectly acquires many types of specialty electrical energy storage systems but in small quantities in comparison to industry. Specialty energy storage systems are defined as, but are not limited to, reserve, primary (non-rechargeable) and secondary (rechargeable) batteries, supercapacitors, fuel cells and hybrid combinations as currently used and planned for use in military systems. These energy storage devices are made with optimized chemicals, materials and components to achieve required performance levels. They are mostly unique, and many are not interchangeable with more readily available substitutes. When one of these specialty materials or processes becomes unusable or unavailable, major effort is usually required to find or develop economical substitutes that can be acquired in the volumes needed. This statement of need (SON) intends to encourage innovative solutions that accommodate weaknesses in performance and capability of energy storage systems to address supply chain risks by soliciting development, prototyping and demonstration efforts to help mitigate potential problems through application of modernized, advanced manufacturing technologies.

Proposals may provide studies, designs, and/or hardware for suitable prototypes. Partnerships with other contractors are permissible if needed to accomplish the intended tasking. Assignment of Government rights to intellectual property developed with federal funding are usually required in any proposed efforts, but specific limitations can be negotiated. Though not required for non-traditional defense contractors nor small-businesses, cost sharing is encouraged and will be considered favorably, particularly for costs associated with acquisition of major equipment needed to perform the proposed tasking.

Current State of Technology:

The Government acquires and uses many different types of energy storage systems that provide very specific electrical power levels and voltages by relying on specialty materials, components, and subassemblies. These systems are sometimes inadequate to accommodate growing energy

storage demand, have manufacturing weaknesses, or reliance on foreign materials. A web search will provide background the types of specialty batteries, for example, used by the DoD. Other descriptions of these materials and required performance metrics are available with controlled distribution.

Success Criteria: This investment area seeks prototypes that can encompass solutions to design, processing and manufacturing concerns for priority risks that can be reasonably mitigated for defense systems. Areas for this investment are aligned to innovative solutions for these problems. Success is measured by the ability of the developed, domestic technologies to perform the same as, or better than the at-risk materials and subcomponents being used.

Total Estimated Project Value: The total investment amount planned for projects in this area over the next five years is approximately \$50M, with variable yearly funding amounts as determined by the Defense Budget approval process.

Certainty of Funding: Funding is subject to Congressional appropriation for the Fiscal Year 2025 Defense budget.

Length of Project: The anticipated duration of acceptable proposals is 6 to 36 months.

DESIRED PROJECT AWARD DATE: Pending FY25 budget approval and appropriations, the earliest expected funding availability is likely April 2025. First award would be anticipated for late Spring 2025, with additional awards to follow periodically afterwards. All awards are subject to availability of funding and successful negotiation of an agreement through ATI.

Highest Security Classification Level: If required, project information can be handled up to SECRET.

Anticipated Data Rights: Government Purpose Rights

ITAR REQUIRED? Yes

Foreign Company Participation Permitted: Yes, as a U.S. subsidiary