# Dossier: VERNE INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $248,033.68

**Award Date:** 2024-05-02

**Branch:** ARMY

## AI-Generated Intelligence Summary

**Company Overview:**

VERNE Inc. is a US-based company focused on developing and manufacturing high-density hydrogen energy storage systems for long-duration applications, particularly in the defense and aerospace sectors. Its core mission is to provide safe, compact, and cost-effective hydrogen storage solutions that overcome the limitations of traditional compressed or liquid hydrogen storage, enabling decarbonization and increased operational capabilities for applications such as drones, aviation, heavy-duty transportation, and stationary power. Their unique value proposition lies in a proprietary metal hydride technology that dramatically increases hydrogen storage density, resulting in smaller, lighter, and safer fuel tanks compared to existing solutions, thereby extending range, payload capacity, and deployment flexibility in challenging environments.

**Technology Focus:**

* Verne’s core technology centers around a metal hydride powder, synthesized from abundant and widely available elements, which reversibly absorbs and releases hydrogen at near-ambient temperatures and pressures. This provides a significantly higher volumetric energy density compared to traditional compressed or liquid hydrogen systems. Early data indicates a 4-6x volumetric energy density improvement, with potential for further optimization.
* Verne designs and manufactures complete hydrogen storage systems incorporating their proprietary metal hydride material, including tanks, thermal management systems, and gas handling components, tailored for specific applications. They offer customizable solutions ranging from small-scale systems for UAVs to larger systems for aircraft and ground vehicles.

**Recent Developments & Traction:**

* In June 2023, Verne announced securing a $36.5 million Series A funding round led by Playground Global. Other investors included Jeff Bezos’s Bezos Expeditions, Breakthrough Energy Ventures, Prelude Ventures, Refactor Capital, and prominent climate tech angel investors. The funding will be used to scale up production of Verne's hydrogen storage systems and expand its team.
* In April 2024, Verne was selected for a multi-million dollar contract from the U.S. Department of Defense (DoD) as part of the Operational Energy Prototyping (OEP) program to develop advanced hydrogen energy storage solutions for defense applications, suggesting growing recognition and validation of their technology within the defense sector. This contract follows initial smaller contracts with DoD agencies.
* Verne has demonstrated its hydrogen storage systems in flight demonstrations with drone partners, showcasing extended flight times and improved performance compared to battery-powered alternatives. Details on specific drone partners and quantifiable performance improvements are limited in public domain, but demonstrations validate practical application of their technology.

**Leadership & Team:**

* Ted McKlveen (CEO): Prior to Verne, McKlveen has a background in renewable energy and technology commercialization. Specific details on prior roles are not readily available, but media appearances suggest a strong understanding of energy markets and technology innovation.
* Daniel Rayner (CTO): Rayner holds a PhD in Materials Science and Engineering and has extensive experience in metal hydride research and development. His technical expertise is crucial to the company's core technology.

**Competitive Landscape:**

* HyPoint (acquired by ZeroAvia): Similar focus on hydrogen fuel cell systems for aviation. Verne differentiates itself through its specific focus on advanced metal hydride storage technology, whereas HyPoint emphasized fuel cell development, which is now ZeroAvia's core focus.
* Universal Hydrogen: Developing modular hydrogen capsules for aviation. While also targeting aviation, Universal Hydrogen's approach relies on a different hydrogen storage method (gaseous hydrogen) and a different distribution model compared to Verne's material science-driven approach to high-density onboard storage.

**Sources:**

* [https://www.verne.energy/](https://www.verne.energy/)
* [https://techcrunch.com/2023/06/20/verne-bags-36-5m-series-a-to-develop-hydrogen-storage-technology/](https://techcrunch.com/2023/06/20/verne-bags-36-5m-series-a-to-develop-hydrogen-storage-technology/)
* [https://www.playground.global/portfolio/verne](https://www.playground.global/portfolio/verne)
* [https://www.defense.gov/News/Releases/Release/Article/3729186/dod-announces-winners-of-multi-million-dollar-operational-energy-prototyping-pro/](https://www.defense.gov/News/Releases/Release/Article/3729186/dod-announces-winners-of-multi-million-dollar-operational-energy-prototyping-pro/)