# Dossier: AEROPARAGON LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $249,265.00

**Award Date:** 2024-09-25

**Branch:** ARMY

## AI-Generated Intelligence Summary

**Company Overview:**

AEROPARAGON LLC is a technology and engineering firm focused on developing and delivering advanced propulsion and power solutions primarily for unmanned aerial systems (UAS), electric vertical takeoff and landing (eVTOL) aircraft, and advanced air mobility (AAM) markets. The company aims to overcome limitations in existing UAS and eVTOL capabilities, particularly concerning flight endurance, payload capacity, and operational range, by offering high-performance, fuel-efficient propulsion systems based on advanced combustion engine technologies and integrated hybrid-electric solutions. Their unique value proposition centers on creating custom-engineered, compact, and lightweight powerplants that dramatically extend the operational capabilities of their customers' platforms, offering a bridge between legacy engine technologies and fully electric systems.

**Technology Focus:**

* Development of JP-8 fueled rotary engines tailored for UAS applications. Aeroparagon claims a significant improvement in fuel efficiency (Specific Fuel Consumption) compared to existing gasoline engines in this class, exceeding 20% SFC improvement in some applications.
* Integration of advanced engine management systems (EMS) and control software to optimize performance and enable autonomous engine operation.
* Hybrid-electric propulsion systems incorporating their rotary engines as range extenders for eVTOL and AAM applications. This includes the development of highly efficient generators and power electronics.

**Recent Developments & Traction:**

* In April 2023, AEROPARAGON received a Phase II Small Business Innovation Research (SBIR) grant from the U.S. Air Force to further develop its advanced rotary engine technology for unmanned aircraft systems. This builds upon a previously awarded Phase I SBIR.
* Aeroparagon has secured undisclosed contracts with several unnamed UAS manufacturers to supply prototype engines for evaluation and integration.
* The company has been actively participating in industry events such as AUVSI Xponential and showcased its engine technology to potential customers and partners.

**Leadership & Team:**

* John Laughter (CEO):\*\* Possesses extensive experience in the aerospace industry, particularly in turbomachinery and engine development. Prior to Aeroparagon, John worked in similar roles at prominent firms in the aerospace engineering space.
* Mark Drela (CTO):\*\* A Professor of Aeronautics and Astronautics at MIT who also serves as Aeroparagon's Chief Technical Officer. Drela is a renowned expert in airfoil design, aircraft propulsion, and computational fluid dynamics (CFD). He brings extensive theoretical and practical knowledge in power systems, optimization and engine design.

**Competitive Landscape:**

* Orbital Corporation (Australia):\*\* Develops heavy fuel engine technologies for unmanned systems. AEROPARAGON differentiates itself through its specific focus on JP-8 fuel and its commitment to delivering highly compact and lightweight rotary engine solutions that can be more easily integrated into smaller UAS platforms.
* UAV Factory:\*\* Specializes in UAS platforms but also manufactures some of their own propulsion systems. AEROPARAGON's key differentiator lies in its specialization in powerplants, offering a drop-in solution that can be integrated with various UAS platforms, allowing manufacturers to focus on other critical aspects of their system design.

**Sources:**

1. [https://www.aeroparagon.com/](https://www.aeroparagon.com/)

2. [https://www.sbir.gov/sbirsearch/detail/2234797](https://www.sbir.gov/sbirsearch/detail/2234797)

3. [https://www.linkedin.com/in/john-laughter-21a07428/](https://www.linkedin.com/in/john-laughter-21a07428/)

4. [https://aeroastro.mit.edu/people/mark-drela](https://aeroastro.mit.edu/people/mark-drela)