# Dossier: HYDROPLANE LTD

## SBIR Award Details

**Award Title:** N/A

**Amount:** $174,812.00

**Award Date:** 2024-01-08

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

HYDROPLANE LTD is a company focused on developing and manufacturing hydrogen fuel cell power systems specifically for aviation applications, including both manned and unmanned aircraft. Their core mission is to decarbonize aviation through the development of lightweight, efficient, and scalable hydrogen fuel cell technology, ultimately enabling zero-emission flight. They aim to solve the range and endurance limitations of battery-powered electric aircraft, as well as the emissions associated with traditional jet fuel-powered aircraft. Their unique value proposition lies in their focus on designing and building high-power, low-weight fuel cell systems optimized for aerospace applications, coupled with a modular design for flexible integration into various aircraft platforms.

**Technology Focus:**

* Development of megawatt-class hydrogen fuel cell propulsion systems for aircraft. Their initial focus is on a 1MW system aimed at regional aircraft applications. They are utilizing a modular architecture to allow for scalability and adaptability to different aircraft sizes and missions.
* Engineering complete fuel cell power modules, including fuel cell stacks, power electronics, thermal management systems, and hydrogen storage integration solutions. Key to their approach is the emphasis on system-level optimization for aerospace environments.

**Recent Developments & Traction:**

* In October 2023, Hydroplane received a $6.3 million contract from the U.S. Air Force’s AFWERX program to develop hydrogen fuel cell propulsion systems for unmanned aerial vehicles (UAVs).
* In May 2023, Hydroplane announced successful testing of a key component in their megawatt-class hydrogen fuel cell system, demonstrating progress towards their goals of designing and producing hydrogen fuel cell systems.
* In February 2024, announced partnerships with organizations in hydrogen refueling infrastructure and aerospace to accelerate the adoption and commercialization of hydrogen fuel cell systems in aviation.

In June 2024, announced successful completion of their second round funding; specific amount was not publicly disclosed

**Leadership & Team:**

* Dr. Anita Sengupta (CEO): Experienced aerospace engineer with a Ph.D. in Aerospace Engineering from the University of Southern California. Previously worked at NASA on projects including the Curiosity Rover, and as Senior Vice President of Engineering at Hyperloop Technologies.

**Competitive Landscape:**

* ZeroAvia: Another company developing hydrogen fuel cell powertrains for aircraft. A key differentiator for Hydroplane appears to be their emphasis on megawatt-class systems from the outset, aiming for larger regional aircraft applications, while ZeroAvia's earlier focus was primarily on smaller aircraft.
* Universal Hydrogen: Developing hydrogen storage and transport solutions alongside powertrain technologies. Hydroplane's focus on fuel cell stack and systems engineering may create opportunities for collaboration with companies like Universal Hydrogen for integrated hydrogen solutions.

**Sources:**

1. [https://hydroplaneco.com/](https://hydroplaneco.com/)

2. [https://www.greencarcongress.com/2023/10/20231025-hydroplane.html](https://www.greencarcongress.com/2023/10/20231025-hydroplane.html)

3. [https://www.aviationtoday.com/2024/06/10/hydroplane-hydrogen-fuel-cells-aerospace/](https://www.aviationtoday.com/2024/06/10/hydroplane-hydrogen-fuel-cells-aerospace/)

4. [https://fuelcellsworks.com/news/hydroplane-completes-key-milestone-for-high-power-hydrogen-fuel-cells-for-aviation/](https://fuelcellsworks.com/news/hydroplane-completes-key-milestone-for-high-power-hydrogen-fuel-cells-for-aviation/)