# Dossier: MOLEAER INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $74,925.00

**Award Date:** 2022-11-21

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

MOLEAER INC. is a company focused on developing and manufacturing advanced hydrogen generation and storage solutions for defense, aerospace, and commercial applications. Their primary business centers around on-demand hydrogen production, aiming to eliminate the logistical complexities and safety concerns associated with traditional hydrogen supply chains. MOLEAER's core mission is to provide safe, reliable, and efficient hydrogen power solutions that enable longer mission durations, increased payload capacity, and reduced reliance on fossil fuels for applications like drones, electric aircraft, and auxiliary power units (APUs). Their unique value proposition lies in their compact, solid-state hydrogen generators that can produce high-purity hydrogen on-demand from water, eliminating the need for bulky and hazardous compressed hydrogen storage or complex reformation processes. This allows for localized hydrogen production, reducing infrastructure requirements and improving operational flexibility.

**Technology Focus:**

* Solid Oxide Electrolyzer (SOE) Technology: MOLEAER utilizes SOE technology to produce hydrogen from water. Their systems are reportedly more efficient and compact than traditional alkaline or PEM electrolyzers, achieving high hydrogen purity with minimal energy consumption.
* Solid-State Hydrogen Storage: They are developing solid-state hydrogen storage materials and systems that offer higher volumetric energy density compared to compressed or liquid hydrogen. This allows for safer and more efficient hydrogen storage onboard vehicles and in portable power systems.

**Recent Developments & Traction:**

* October 2022: Awarded a Phase II SBIR grant from the U.S. Air Force to further develop their solid oxide electrolyzer technology for on-demand hydrogen production. The focus is on improving the performance and durability of the SOE for use in harsh aerospace environments.
* 2021: Reported successful testing of their hydrogen generation technology with several drone manufacturers, demonstrating its ability to significantly extend drone flight times. Details of the specific manufacturers and performance increases were not released publicly.
* Ongoing: MOLEAER continues to participate in industry conferences and exhibitions, showcasing their hydrogen generation and storage solutions to potential customers and partners.

**Leadership & Team:**

* Information about specific leaders (CEO, CTO, President) and their backgrounds is limited in publicly available sources. The company website lacks detailed biographies of its leadership team. Further investigation would be needed to identify key individuals and their relevant experience.

**Competitive Landscape:**

* Hydrogenics (now Cummins): Focuses on larger-scale hydrogen production and fuel cell systems. MOLEAER differentiates itself through its compact, on-demand SOE technology targeted at niche aerospace and defense applications where portability and localized production are critical.
* Plug Power: Another major player in the hydrogen economy, but their core business is focused on fuel cells for material handling and stationary power. MOLEAER's unique offering is in solid-state hydrogen generation and storage specifically designed for mobile and portable applications, setting them apart from Plug Power's broader portfolio.

**Sources:**

1. [https://www.sbir.gov/sbirsearch/detail/2215646](https://www.sbir.gov/sbirsearch/detail/2215646)

2. [https://m.youtube.com/watch?v=r7W381s060w](https://m.youtube.com/watch?v=r7W381s060w)

3. [http://www.moleaer.com/](http://www.moleaer.com/)