# Dossier: KEJAIR LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $74,969.00

**Award Date:** 2024-05-13

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

KEJAIR LLC, based in Huntsville, Alabama, is a company specializing in advanced aerospace propulsion and energy solutions. Its primary business centers around developing and commercializing high-power, high-efficiency electric propulsion systems, particularly focusing on rotating detonation engine (RDE) technology and related advanced combustion solutions. Their core mission is to revolutionize space access and in-space mobility by providing more efficient, reliable, and cost-effective propulsion options compared to traditional chemical rockets. They aim to solve the problems of high launch costs, limited in-space maneuverability, and the reliance on environmentally unfriendly propellants. KEJAIR's unique value proposition lies in their proprietary RDE technology that promises significantly higher thrust-to-weight ratios and improved specific impulse compared to conventional rocket engines, potentially enabling faster, more frequent, and more economical access to space. They also appear to be developing power generation solutions based on similar core technology.

**Technology Focus:**

* Rotating Detonation Engine (RDE) Technology: KEJAIR is focused on RDE development. RDEs are advanced propulsion systems that use a supersonic detonation wave to combust fuel and oxidizer, theoretically leading to higher efficiency and performance. Specific impulse targets are above current chemical propulsion systems.
* High-Efficiency Power Generation: Leveraging their combustion expertise and RDE technology, KEJAIR is developing power generation systems that offer improvements in fuel efficiency and reduced emissions compared to existing combustion-based generators.

**Recent Developments & Traction:**

* Contract with the U.S. Air Force Research Laboratory (AFRL):\*\* In 2022, KEJAIR was awarded a contract by the AFRL to further develop and test their rotating detonation engine technology. The contract details and exact amount are not publicly available.
* Ongoing Research and Development:\*\* KEJAIR continues to publish scientific papers and present at conferences demonstrating ongoing research in RDE technology, advanced combustion, and related areas.
* Expanding team:\*\* They have been actively recruiting engineers and scientists in related fields, indicating growth and expansion of their capabilities.

**Leadership & Team:**

* Hossam Hafez (CEO):\*\* Has extensive experience in aerospace engineering and combustion.
* Information regarding other team members is limited,\*\* but public information indicates a team comprised of experienced engineers and scientists with expertise in propulsion systems, combustion, and fluid dynamics.

**Competitive Landscape:**

* Ursa Major Technologies:\*\* Focuses on conventional rocket engine development. KEJAIR differentiates itself by pursuing the more advanced RDE technology, promising potentially superior performance.
* Several academic and research institutions\*\* are also exploring RDE technology. KEJAIR differentiates by focusing on commercialization and practical application of RDE technology.

**Sources:**

* [https://www.linkedin.com/company/kejair-llc/](https://www.linkedin.com/company/kejair-llc/)
* [https://www.zoominfo.com/c/kejair-llc/450749930](https://www.zoominfo.com/c/kejair-llc/450749930)
* [https://www.crunchbase.com/organization/kejair-llc](https://www.crunchbase.com/organization/kejair-llc)