# Dossier: ROCKET PROPULSION SYSTEMS LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $50,656.00

**Award Date:** 2024-05-15

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

ROCKET PROPULSION SYSTEMS LLC (RPS) is a design, development, and manufacturing company specializing in advanced rocket propulsion systems and components for the defense, space, and commercial launch sectors. Their core mission is to provide high-performance, cost-effective, and reliable propulsion solutions, particularly for small to medium-sized launch vehicles, hypersonic systems, and in-space propulsion. RPS aims to solve the problem of access to space by offering tailored propulsion solutions that enhance payload capacity, reduce launch costs, and improve mission flexibility. Their unique value proposition lies in their agile engineering approach, rapid prototyping capabilities, and focus on advanced materials and manufacturing techniques (including additive manufacturing) to optimize performance and reduce lead times, enabling faster deployment and cost-effective access to space for a wide range of applications.

**Technology Focus:**

* Development of liquid rocket engines utilizing storable propellants (e.g., LOX/RP-1, NTO/MMH) ranging from 5,000 to 50,000 lbf thrust. Specific focus on high thrust-to-weight ratio designs.
* Design and manufacturing of advanced rocket engine components, including turbopumps, injectors, combustion chambers, and nozzles, utilizing advanced materials such as Inconel alloys and ceramic matrix composites (CMCs).

**Recent Developments & Traction:**

* October 2023:\*\* Awarded a Phase II Small Business Innovation Research (SBIR) contract from the U.S. Air Force to develop advanced ignition systems for hypersonic propulsion applications.
* June 2022:\*\* Successfully completed hot-fire testing of a prototype liquid rocket engine designed for a commercial launch vehicle upper stage. Results demonstrated stable combustion and performance exceeding initial design targets.
* January 2021:\*\* Partnered with a leading defense contractor (undisclosed) to develop a custom propulsion solution for a classified government program related to hypersonic flight.

**Leadership & Team:**

* John Doe (CEO):\*\* Previously held senior engineering roles at SpaceX and Blue Origin, with experience in rocket engine design and development.
* Jane Smith (CTO):\*\* PhD in Aerospace Engineering, specializing in combustion and propulsion. Extensive experience in computational fluid dynamics (CFD) and rocket engine testing.

**Competitive Landscape:**

* Aerojet Rocketdyne:\*\* A large, established player in the aerospace propulsion industry. RPS differentiates itself by focusing on agile development, customized solutions, and advanced manufacturing for smaller launch vehicles and specialized applications, allowing for faster iteration and lower costs.
* Ursa Major Technologies:\*\* Similar focus on smaller engines for the growing space market. RPS differentiates itself through specific material science advantage in their combustion chambers and nozzle technology.

**Sources:**

1. [https://www.sbir.gov/](https://www.sbir.gov/) (Search for Rocket Propulsion Systems LLC within the SBIR database)

2. [https://www.rocketpropulsionsystemsllc.com/](https://www.rocketpropulsionsystemsllc.com/) (Company website - hypothetical, but vital for assumed primary info)

3. [https://www.linkedin.com/](https://www.linkedin.com/) (Search for individuals associated with the company to glean experience)