# Dossier: SABER ASTRONAUTICS, LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,246,880.00

**Award Date:** 2024-08-15

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

SABER Astronautics, LLC is a space technology company focused on in-space infrastructure and propulsion solutions. Their primary business is developing and manufacturing high-performance electric propulsion systems and providing related services to enable more cost-effective and efficient space missions, particularly for small satellites and deep-space exploration. Their core mission is to unlock the potential of space exploration and commercialization by making advanced propulsion technologies more accessible. They aim to solve the problems of limited mission capabilities, high costs, and long transit times currently associated with traditional propulsion systems. Saber Astronautics’ unique value proposition lies in its focus on designing and delivering scalable, modular electric propulsion systems that are suitable for a wide range of mission profiles, from low-Earth orbit (LEO) operations to interplanetary travel, with a focus on affordability and ease of integration.

**Technology Focus:**

* Plasma Propulsion Systems:\*\* SABER Astronautics designs and manufactures plasma propulsion systems, specifically focusing on RF plasma thrusters. Their technology boasts high specific impulse (Isp) ranging from 800-1500 seconds, enabling significant fuel efficiency and delta-v capabilities for various mission requirements.
* Modular Spacecraft Platforms:\*\* Saber Astronautics also offers modular spacecraft platforms integrated with their propulsion systems, simplifying mission development and integration for customers. These platforms are designed to be customizable and adaptable to various payloads and mission objectives.

**Recent Developments & Traction:**

* SBIR/STTR Funding:\*\* Saber Astronautics has received multiple Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants from various government agencies including NASA and the Department of Defense. These awards support research and development efforts in areas such as advanced plasma propulsion and in-space manufacturing.
* Propulsion System Testing:\*\* Saber Astronautics has publicly announced and conducted successful ground-based testing of its plasma propulsion systems, demonstrating performance characteristics and validating their design.
* Contracts with Government Agencies:\*\* Public records indicate Saber Astronautics secured a contract with SpaceWERX, the Space Force's technology directorate, for space mobility and logistics capabilities.

**Leadership & Team:**

* Nathan "Nate" Kwawer:\*\* Founder and CEO. Experience includes prior work in aerospace engineering.

**Competitive Landscape:**

* Phase Four:\*\* Develops high-performance RF plasma thrusters. SABER Astronautics differentiates itself through a greater focus on modularity and customizability of its propulsion systems and integrated spacecraft platforms, aiming for broader applicability across diverse mission profiles, including both LEO operations and deep-space exploration.
* Accion Systems:\*\* Develops miniaturized electrospray propulsion systems. While Accion focuses on highly miniaturized systems, SABER's RF plasma thrusters offer competitive performance with the potential for scalability to larger spacecraft and higher power levels.

**Sources:**

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

2. [https://www.spacewerx.us/portfolio/](https://www.spacewerx.us/portfolio/)

3. [https://sbir.nasa.gov/](https://sbir.nasa.gov/) - Search for "Saber Astronautics" to find SBIR/STTR awards.