# Dossier: ADVANCED SPACE LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $179,988.00

**Award Date:** 2024-08-27

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Advanced Space LLC is a space tech company dedicated to developing and operating advanced systems and services for lunar and cislunar space. Their primary business revolves around mission design, guidance, navigation, and control (GN&C) solutions, and space domain awareness for complex space missions, particularly those beyond Earth orbit. The core mission is to enable sustainable exploration and development of space, focusing on reliable and precise positioning, navigation, and timing (PNT) services in the lunar environment, and developing SSA systems to improve space safety. They aim to solve the problem of limited navigation capabilities and situational awareness in the growing cislunar economy, enabling safer, more efficient operations for both government and commercial entities. Their unique value proposition is providing specialized expertise and proprietary software tools specifically tailored for the challenges of operating in the complex gravitational environment of the Moon and beyond, as well as their focus on creating operational space domain awareness systems.

**Technology Focus:**

* Guidance, Navigation, and Control (GN&C) Software and Expertise:\*\* Development of proprietary software tools for precise trajectory design, navigation, and control in cislunar space, addressing the unique gravitational challenges of the Moon's environment and utilizing a wide variety of navigation sensor data. This includes algorithms for autonomous navigation, orbit determination, and maneuver planning.
* Space Domain Awareness (SDA) Systems:\*\* Building and operating systems for tracking and characterizing objects in cislunar space. This includes integrating space-based sensors, ground-based observatories, and advanced data analytics to improve situational awareness and space traffic management.

**Recent Developments & Traction:**

* Cislunar Autonomous Positioning System Technology Operations and Navigation Experiment (CAPSTONE) Mission:\*\* Successfully designed the trajectory and provided navigation solutions for the NASA CAPSTONE mission, a pathfinder for the Lunar Gateway, launched in June 2022. This mission demonstrated their ability to navigate in the Near Rectilinear Halo Orbit (NRHO) around the Moon.
* Contract with AFWERX for Space Domain Awareness:\*\* Awarded a contract with AFWERX, the innovation arm of the U.S. Air Force, to develop advanced space domain awareness capabilities in cislunar space. (Recent contracts are ongoing).
* Participation in NASA's Lunar Communications Relay & Navigation Services Study:\*\* Actively participated in NASA's study to identify potential approaches for developing a lunar communications relay and navigation services capability.

**Leadership & Team:**

* Jeff Gillis-Davis (CEO):\*\* Holds extensive experience in space mission design and navigation, particularly in lunar and cislunar environments.
* (Unable to find specific CTO or President named, information is less public.)\*\*

**Competitive Landscape:**

* Leidos:\*\* A major defense contractor providing a broad range of space services, including space domain awareness. Advanced Space differentiates itself through its highly specialized focus on cislunar navigation and SDA.
* Numerica Corporation:\*\* Offers commercial SSA services, including cislunar tracking. Advanced Space differentiates itself through its deep integration with government programs (NASA, USAF) and specialized software for cislunar navigation and maneuver planning.

**Sources:**

* [https://www.advancedspace.com/](https://www.advancedspace.com/)
* [https://www.nasa.gov/mission/capstone/](https://www.nasa.gov/mission/capstone/)
* [https://afwerx.com/](https://afwerx.com/) (Search 'Advanced Space' for contracts)