# Dossier: ALTIUS SPACE MACHINES, INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,670,454.00

**Award Date:** 2023-02-23

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

ALTIUS SPACE MACHINES, INC. is a U.S.-based company focused on enabling on-orbit servicing, assembly, and manufacturing (OSAM) operations. Their primary business centers around the design, development, and deployment of rendezvous, proximity operations, and docking (RPOD) technologies, including specialized docking systems and robotic arms, to extend the lifespan of satellites, upgrade their capabilities, and remove orbital debris. The company's core mission is to drastically reduce the cost and risk associated with in-space operations, making space assets more sustainable and accessible. They aim to solve the problems of aging satellite infrastructure, the increasing threat of space debris, and the high cost of launching new satellites to replace existing ones. Their unique value proposition lies in providing modular and adaptable hardware and software solutions for RPOD, catering to a wide range of spacecraft and mission profiles, allowing for a more flexible and cost-effective approach to space asset management.

**Technology Focus:**

* Dextrous Robotic Arms for OSAM:\*\* Specializing in robotic arms designed for manipulation and servicing in the space environment. Focus on high degrees of freedom, payload capacity, and radiation resistance. Their arms can be used for tasks like refueling, component replacement, and satellite inspection.
* DogTag™ Docking System:\*\* A modular, lightweight, and low-impact docking system designed for autonomous rendezvous and docking in space. It utilizes a unique magnetic latching mechanism for secure connection and is adaptable to various spacecraft interfaces. Features passive compliance to accommodate misalignments during docking.

**Recent Developments & Traction:**

* AFWERX Phase II STTR Award (July 2023):\*\* Awarded a Phase II Small Business Technology Transfer (STTR) contract by AFWERX, the innovation arm of the U.S. Air Force, to advance their rendezvous and proximity operations technologies for on-orbit servicing of defense assets.
* Contract with SpaceWERX (January 2024):\*\* Secured a contract with SpaceWERX, the U.S. Space Force’s innovation arm, to develop on-orbit servicing technologies, specifically focused on refueling and repair capabilities for military satellites.
* Expansion of Facilities (2022-2023):\*\* Invested in expanding their facilities to accommodate increased production capacity for their robotic arm and docking system technologies. This reflects growing demand and signifies progress in scaling up operations.

**Leadership & Team:**

* Jonathan Goff (CEO):\*\* Experienced aerospace engineer with a background in propulsion systems and space mission design. Previously worked on advanced propulsion concepts at NASA.
* Todd Barber (CTO):\*\* Former NASA Jet Propulsion Laboratory (JPL) Lead Propulsion Engineer, with extensive experience in mission operations and hardware development for deep space missions.

**Competitive Landscape:**

* Northrop Grumman (SpaceLogistics):\*\* A major player in on-orbit servicing, primarily focused on satellite life extension services via their Mission Extension Vehicle (MEV). Altius differentiates itself through its more modular and adaptable approach, catering to a broader range of OSAM tasks beyond just life extension, and focusing on the development of core RPOD technology.
* Orbit Fab:\*\* Focuses primarily on in-space refueling infrastructure. Altius' differentiator is a broader platform beyond just refueling that enables other OSAM functionalities with its robotic arm and docking capabilities.

**Sources:**

1. [https://www.altius-space.com/](https://www.altius-space.com/)

2. [https://www.spaceforce.mil/News/Article/3646556/spacewerx-announces-tactical-funding-increase-for-fiscal-year-2024/](https://www.spaceforce.mil/News/Article/3646556/spacewerx-announces-tactical-funding-increase-for-fiscal-year-2024/)

3. [https://www.parabolicarc.com/2023/07/28/altius-space-machines-receives-afwerx-phase-ii-sttr-award/](https://www.parabolicarc.com/2023/07/28/altius-space-machines-receives-afwerx-phase-ii-sttr-award/)

4. [https://spacenews.com/](https://spacenews.com/) (Searched "Altius Space Machines" within the Spacenews website for relevant articles).