# Dossier: RADIAN AEROSPACE INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $73,804.00

**Award Date:** 2023-12-15

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Radian Aerospace Inc. is a US-based aerospace company developing a fully reusable, single-stage-to-orbit (SSTO) spaceplane called Radian One. Their primary business is to provide low-cost, on-demand access to space for a variety of missions, including on-orbit servicing, research and development, Earth observation, and ultimately, human spaceflight. Their core mission is to revolutionize space access by making it more frequent, reliable, and affordable. They aim to solve the limitations of traditional multi-stage rockets which are expensive, have long lead times, and are largely single-use. Radian's unique value proposition lies in the fully reusable nature of their spaceplane, which promises to drastically reduce the cost per launch and enable rapid turnaround times, potentially disrupting the current launch market.

**Technology Focus:**

* Radian One is a fully reusable, single-stage-to-orbit (SSTO) spaceplane designed for horizontal takeoff and landing. The design utilizes proprietary technology for high-performance propulsion and thermal protection.
* The spaceplane is projected to be capable of carrying up to 5,000 lbs (2,268 kg) to low Earth orbit (LEO) and returning to land on a conventional runway.
* Radian is developing innovative heat shield and propulsion systems to enable the SSTO capability and high reusability.

**Recent Developments & Traction:**

* February 2022:\*\* Radian Aerospace raised $27.5 million in a seed funding round led by Fine Structure Ventures, with participation from Draper Associates, Ecliptic Capital, and others. This funding supports continued development and testing of the Radian One spaceplane.
* Public Partnerships:\*\* Radian is actively pursuing partnerships with government agencies and commercial entities to explore potential applications of their spaceplane, particularly in the areas of on-orbit servicing and research.
* Ongoing Development:\*\* Radian Aerospace is currently focused on key technology demonstrations, including engine testing and thermal protection system validation.

**Leadership & Team:**

* Richard Humphrey (CEO):\*\* Richard brings decades of experience in aerospace engineering and program management, including work on reusable spacecraft and advanced propulsion systems.
* The leadership team includes experienced engineers and scientists from diverse backgrounds in the aerospace industry, including expertise in propulsion, aerodynamics, and spacecraft design.

**Competitive Landscape:**

* SpaceX:\*\* While SpaceX's Falcon 9 is partially reusable, Radian's fully reusable SSTO design offers potentially lower operational costs and faster turnaround times.
* Sierra Space (Dream Chaser):\*\* Dream Chaser is a spaceplane designed for cargo and crew transport to LEO. Radian differentiates itself with its SSTO capability and focus on rapid, on-demand access to space.

**Sources:**

1. [https://www.radian.space/](https://www.radian.space/)

2. [https://techcrunch.com/2022/02/01/radian-aerospace-emerges-from-stealth-with-27-5m-to-build-a-fully-reusable-spaceplane/](https://techcrunch.com/2022/02/01/radian-aerospace-emerges-from-stealth-with-27-5m-to-build-a-fully-reusable-spaceplane/)

3. [https://spacenews.com/radian-aerospace-raises-27-5-million-for-single-stage-to-orbit-spaceplane/](https://spacenews.com/radian-aerospace-raises-27-5-million-for-single-stage-to-orbit-spaceplane/)