# Dossier: ORBITAL COMPOSITES, INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,899,978.08

**Award Date:** 2024-06-13

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Orbital Composites, Inc. is a materials engineering and manufacturing company focused on enabling the rapid and cost-effective production of high-performance composite structures for aerospace and defense applications. They aim to solve the challenges of high cost, long lead times, and limited design flexibility currently hindering the wider adoption of advanced composites in these industries. Their unique value proposition lies in their proprietary robotic fiber placement technology combined with advanced materials and AI-driven design tools, allowing for the automated fabrication of complex composite parts with optimized performance characteristics and significantly reduced manufacturing time and cost compared to traditional methods.

**Technology Focus:**

* Robotic Additive Manufacturing Platform:\*\* A modular, scalable robotic system capable of automated continuous fiber placement (CFP) for thermoplastic and thermoset composites. This allows for precise control over fiber orientation and density, enabling the creation of parts with tailored mechanical properties.
* AI-Powered Design Software:\*\* A suite of design and simulation tools leveraging artificial intelligence to optimize composite structures for performance, manufacturability, and cost. This includes tools for automated fiber path generation, laminate design optimization, and predictive modeling of structural behavior.

**Recent Developments & Traction:**

* Secured Series A Funding (October 2022):\*\* $6.2 million Series A round led by OCA Ventures, with participation from Space Capital, and others. This funding is intended to scale production capacity and expand their customer base.
* Partnership with AFWERX:\*\* Contract awarded to develop and demonstrate advanced composite structures for Air Force applications. (Specific contract details and award amount not publicly available).
* Development of Hypersonic Composite Components:\*\* Actively working on fabricating and testing composite components designed to withstand the extreme temperatures and stresses associated with hypersonic flight.

**Leadership & Team:**

* Amolak Badesha (CEO):\*\* Experienced entrepreneur with a background in mechanical engineering and a focus on commercializing advanced materials technologies. Prior experience includes leadership roles at companies developing novel materials and manufacturing processes.

**Competitive Landscape:**

* Electroimpact:\*\* A major player in automated fiber placement, particularly for large aerospace structures. Orbital Composites differentiates itself through its smaller, more agile robotic systems, focus on AI-driven design optimization, and emphasis on enabling distributed manufacturing capabilities.

**Sources:**

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

2. [https://www.ocaventures.com/news/orbital-composites-raises-6-2-million-series-a-to-transform-composites-manufacturing](https://www.ocaventures.com/news/orbital-composites-raises-6-2-million-series-a-to-transform-composites-manufacturing)

3. [https://www.spacecapital.com/companies/orbital-composites](https://www.spacecapital.com/companies/orbital-composites)

4. [https://www.crunchbase.com/organization/orbital-composites](https://www.crunchbase.com/organization/orbital-composites)