# Dossier: MANTIS COMPOSITES INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $2,964,713.00

**Award Date:** 2024-02-08

**Branch:** MDA

## AI-Generated Intelligence Summary

**Company Overview:**

Mantis Composites Inc. is a developer and manufacturer of out-of-autoclave (OOA) composite manufacturing technologies, specializing in robotic deposition systems and advanced materials. Their primary business focuses on enabling rapid and cost-effective production of large-scale, geometrically complex composite structures. Mantis aims to solve the challenges associated with traditional composite manufacturing, which often requires extensive tooling, long lead times, and high costs, especially for aerospace and defense applications. Their unique value proposition lies in providing automated, scalable, and adaptable solutions that significantly reduce manufacturing time and costs while enhancing the performance and design freedom of composite parts. This allows for rapid prototyping, on-demand manufacturing, and the creation of highly customized, high-performance composite structures for demanding environments.

**Technology Focus:**

* Formosa™ Additive Molding:\*\* A robotic deposition system that uses thermoset and thermoplastic composite materials to create complex shapes without the need for traditional autoclaves or molds.
* Advanced Materials Development:\*\* Mantis Composites focuses on developing tailored composite materials specifically for use with their deposition systems, offering enhanced performance characteristics (e.g., high strength-to-weight ratio, impact resistance, thermal stability) and optimized processability.

**Recent Developments & Traction:**

* AFWERX Funding (September 2021):\*\* Mantis Composites received funding from AFWERX, the innovation arm of the US Air Force, to further develop its Formosa™ technology for defense applications. This underscores their relevance to DoD needs.
* Strategic Partnership with Composites Automation, LLC (Date Unknown but active):\*\* Mantis partners with Composites Automation, LLC a company that helps develop end effector tools for Mantis Composites deposition systems.
* Continued Technology Development:\*\* While specific launch events are unavailable from public sources, Mantis continues to refine its Formosa™ system and explore new materials for wider applications, demonstrated by ongoing participation in industry events and research publications.

**Leadership & Team:**

* Ryan O'Toole (CEO):\*\* Experience with various companies within the composites industry, focusing on business development, engineering, and technology sales and marketing.

**Competitive Landscape:**

* Electroimpact:\*\* Focuses on automated composite manufacturing solutions for large aerospace structures, similar to Mantis. Mantis' differentiator lies in its emphasis on OOA processing and robotic molding technology designed for rapid prototyping and adaptable production.
* Automated Dynamics (AD):\*\* Specializes in Automated Fiber Placement (AFP) and Automated Tape Laying (ATL) technologies. Mantis' robotic molding offers increased geometric freedom and reduces the need for extensive tooling compared to traditional AFP/ATL.

**Sources:**

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

2. [https://www.linkedin.com/company/mantis-composites-inc/](https://www.linkedin.com/company/mantis-composites-inc/) (Used for Team and background)

3. [https://www.compositesautomation.com/partners](https://www.compositesautomation.com/partners)