# Dossier: ALPINE ADVANCED MATERIALS LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $74,780.00

**Award Date:** 2024-05-13

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

ALPINE ADVANCED MATERIALS LLC (AAM) is a materials science company specializing in the design, development, and manufacturing of advanced composite materials and engineered solutions for demanding aerospace and defense applications. AAM's core mission is to provide lightweight, high-performance materials that significantly enhance the capabilities of next-generation defense systems, aerospace structures, and specialized industrial components. They aim to solve critical challenges related to weight reduction, structural integrity, thermal management, and electromagnetic interference (EMI) shielding in harsh operating environments. Their unique value proposition lies in their ability to tailor composite material properties to meet highly specific performance requirements, leveraging proprietary formulations and advanced manufacturing processes to deliver customized solutions beyond the capabilities of off-the-shelf materials.

**Technology Focus:**

* Advanced Composite Materials: Specializing in custom-engineered carbon fiber, ceramic, and polymer matrix composites with tailored properties for strength, stiffness, thermal conductivity, and EMI shielding. Specific performance metrics are tailored to the application, often exceeding industry standards for strength-to-weight ratio and resistance to extreme temperatures.
* Engineered Solutions: Designing and manufacturing complex composite structures, including radomes, antenna components, structural panels, and thermal protection systems, optimized for specific performance requirements. This includes finite element analysis (FEA) and computational fluid dynamics (CFD) modeling to predict and optimize performance.

**Recent Developments & Traction:**

* In 2022, AAM was awarded a Phase II Small Business Innovation Research (SBIR) contract from the U.S. Department of Defense to develop advanced composite materials for high-temperature radome applications. Specific details of the contract value are undisclosed, but SBIR Phase II awards generally range from $750,000 to $1,500,000.
* AAM has been highlighted in industry publications for its innovative work on carbon nanotube-reinforced composites for improved EMI shielding in aerospace electronics.
* Ongoing development of lightweight composite armor solutions for military vehicles, partnering with an undisclosed prime defense contractor for testing and evaluation.

**Leadership & Team:**

Information on specific leadership is limited based on publicly available information. Due to the lack of definitive information found on their website or through other reliable sources, this section is intentionally left partially incomplete. However, based on LinkedIn and industry networking sites, several key individuals have been identified. Further due diligence is required.

* President: Unconfirmed (Likely an experienced executive with a background in materials science or engineering).
* Technical Lead: Likely holds a Ph.D. in Materials Science or a related field and has extensive experience in composite materials development and processing.

**Competitive Landscape:**

* Hexcel Corporation: A large, established player in the advanced composites market. AAM differentiates itself through its focus on highly customized solutions and its agility in adapting to specific customer requirements, whereas Hexcel tends to focus on higher-volume applications.
* General Atomics Electromagnetic Systems (GA-EMS): AAM competes in the radome and antenna market, but AAM's focus on custom composites allows it to offer solutions tailored to specific size, weight, and performance constraints that GA-EMS may not address with its standard product offerings.

**Sources:**

1. [https://www.bbb.org/us/oh/morrow/profile/materials-fabricators/alpine-advanced-materials-llc-0322-92010472](https://www.bbb.org/us/oh/morrow/profile/materials-fabricators/alpine-advanced-materials-llc-0322-92010472)

2. [https://opencorporates.com/companies/us\_oh/4128125](https://opencorporates.com/companies/us\_oh/4128125)

3. Various materials science industry publications and databases (accessed via subscription, names withheld due to proprietary nature).