# Dossier: A & P TECHNOLOGY, INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,245,479.00

**Award Date:** 2023-07-20

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

A & P Technology, Inc. is a Massachusetts-based company specializing in the design and manufacturing of braided composites, focusing primarily on the aerospace, defense, and industrial sectors. Their core mission is to provide lightweight, high-performance structural solutions for demanding applications by leveraging advanced braiding technology. They aim to solve the challenges associated with traditional composite manufacturing, such as high material waste, limited design flexibility, and inconsistent mechanical properties. Their unique value proposition lies in their automated braiding processes, which enable the creation of complex, net-shaped preforms with tailored fiber orientations, leading to optimized strength-to-weight ratios and reduced manufacturing costs. This allows them to produce parts with near-zero waste and highly repeatable mechanical properties, addressing critical needs for lightweighting and performance optimization in aerospace and defense applications.

**Technology Focus:**

* Automated Braiding Technology:\*\* A & P Technology offers a range of braiding machines and processes, including 2D, 3D, and multiaxial braiding, which allow for precise control over fiber orientation and volume fraction. They are especially known for their triaxial braiding capabilities, where fibers are oriented in three directions (axial and +/- angles) to provide exceptional torsional and shear stiffness.
* Braided Composite Preforms:\*\* They design and manufacture custom braided preforms using materials like carbon fiber, fiberglass, and aramids, tailored to specific customer requirements. These preforms can be used to create complex shapes, including tubes, I-beams, and other structural components. The company also produces hybrid preforms integrating multiple fiber types.

**Recent Developments & Traction:**

* Contract with US Army Combat Capabilities Development Command (CCDC) Army Research Laboratory (ARL) (October 2021):\*\* Awarded a contract to develop novel braided composite materials for advanced rotorcraft applications. This contract focused on improving rotor blade performance and durability through the use of tailored fiber architectures.
* Expansion of Manufacturing Facility (2022):\*\* Announced the expansion of their manufacturing facility to increase production capacity for braided composite preforms, driven by growing demand from the aerospace and defense sectors.
* Partnerships for Advanced Air Mobility (AAM) Applications (Ongoing):\*\* A & P Technology has formed partnerships with several companies in the AAM space to develop lightweight composite structures for electric vertical takeoff and landing (eVTOL) aircraft. Details of the partners are not readily available, but the industry trend indicates a strong focus on next-generation aviation solutions.

**Leadership & Team:**

* While specific names and titles were not readily available within the research timeframe, the company is known to be led by a team of engineers and material scientists with extensive experience in composite materials and manufacturing processes. Further information on specific leaders could be acquired through direct contact.

**Competitive Landscape:**

* Albany Engineered Composites (AEC):\*\* AEC also provides engineered composite solutions for aerospace and defense. A & P Technology differentiates itself through its specialized focus on advanced braiding techniques and its ability to create highly customized preforms with tailored fiber orientations, especially triaxial braiding.
* Textron Systems (division):\*\* Textron Systems, particularly its business units focused on advanced composites, offers competing technologies. A&P’s focus on braiding and preform technology makes them more specialized than Textron, which has a broader scope.

**Sources:**

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

2. [https://govtribe.com/contractor/a-p-technology-inc-086221968](https://govtribe.com/contractor/a-p-technology-inc-086221968)

3. [https://www.thomasnet.com/profile/30855046/a-p-technology-inc](https://www.thomasnet.com/profile/30855046/a-p-technology-inc)