# Dossier: ADVANCED CERAMICS MANUFACTURING, LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $899,996.00

**Award Date:** 2023-12-01

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Advanced Ceramics Manufacturing, LLC (ACM) specializes in the design, engineering, and manufacturing of high-performance technical ceramic components for demanding applications, particularly in defense, aerospace, and industrial sectors. Their core mission revolves around providing customized, precision-engineered ceramic solutions that withstand extreme environments (high temperatures, corrosive atmospheres, high pressures, and extreme wear), ultimately enhancing the performance, reliability, and lifespan of critical systems. ACM aims to solve the limitations of traditional materials in these environments by offering advanced ceramic alternatives with superior properties. Their unique value proposition lies in their vertically integrated manufacturing process, from material selection and custom formulation to precision machining and rigorous quality control, allowing them to provide tailored solutions optimized for specific customer needs and demanding specifications with short lead times.

**Technology Focus:**

* ACM offers a wide range of technical ceramics, including alumina, zirconia, silicon carbide, silicon nitride, and aluminum nitride, tailored for specific applications. They specialize in producing complex geometries with tight tolerances through precision machining techniques, including diamond grinding, ultrasonic machining, and laser machining.
* Their core competency lies in the fabrication of ceramic components for high-temperature environments, such as rocket nozzles, turbine blades, and heat shields. They also produce wear-resistant components, such as seals, bearings, and pump components, and electrical insulators for high-voltage applications. ACM's ability to rapidly prototype and scale production is crucial to meeting DoD requirements.

**Recent Developments & Traction:**

* In late 2021, ACM announced a major contract with a leading aerospace company for the production of custom ceramic components used in hypersonic missile systems (details unavailable without accessing confidential information).
* ACM invested significantly in expanding its manufacturing capabilities in 2022, including the addition of advanced CNC machining equipment and upgraded quality control systems. This expansion aimed to meet increasing demand from the defense and aerospace sectors.
* In early 2023, ACM received AS9100D certification, demonstrating its commitment to quality management systems and aerospace industry standards.

**Leadership & Team:**

* While specific individual names of leadership are not widely publicized, the company's LinkedIn profile and website emphasize a team of experienced materials scientists, engineers, and manufacturing professionals with a strong background in advanced ceramics and precision manufacturing.

**Competitive Landscape:**

* CoorsTek: CoorsTek is a much larger, more diversified ceramics manufacturer. ACM differentiates itself through its specialization in rapid prototyping and customized solutions for the defense and aerospace industries, often offering faster turnaround times and more personalized service.
* Kyocera: Similar to CoorsTek, Kyocera is a global giant. ACM competes by focusing on niche applications, flexible manufacturing, and building stronger relationships with smaller defense contractors and research institutions.

**Sources:**

1. [https://www.advancedceramicsmfg.com/](https://www.advancedceramicsmfg.com/) (Official Company Website)

2. [https://www.thomasnet.com/profile/46548933/advanced-ceramics-manufacturing-llc](https://www.thomasnet.com/profile/46548933/advanced-ceramics-manufacturing-llc) (ThomasNet Profile)

3. [https://www.linkedin.com/company/advanced-ceramics-manufacturing-llc](https://www.linkedin.com/company/advanced-ceramics-manufacturing-llc) (LinkedIn Company Page)