# Dossier: AGNITRON TECHNOLOGY, INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,249,950.00

**Award Date:** 2023-10-10

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

AGNITRON TECHNOLOGY, INC. specializes in the design, development, and manufacturing of advanced epitaxial deposition systems for the semiconductor industry. Their primary business is providing custom-engineered Chemical Vapor Deposition (CVD) and Atomic Layer Deposition (ALD) reactors for producing high-quality semiconductor thin films and multi-layer structures. Their core mission is to enable the growth of high-performance semiconductor materials used in various applications, including power electronics, RF devices, lasers, detectors, and advanced sensors. They aim to solve the challenge of achieving precise control and uniformity in thin-film deposition, enabling the creation of devices with enhanced performance characteristics. AGNITRON’s unique value proposition lies in its highly customizable reactor designs tailored to meet specific customer needs and materials systems, offering solutions for both research and production environments. They emphasize innovative process control and advanced reactor hardware to achieve superior material quality and throughput.

**Technology Focus:**

* Chemical Vapor Deposition (CVD) Systems:\*\* Development of advanced CVD reactors, including Metal-Organic CVD (MOCVD) for the growth of compound semiconductors like GaN, SiC, GaAs, InP, and related materials. This includes planetary reactors for enhanced uniformity.
* Atomic Layer Deposition (ALD) Systems:\*\* Offering ALD systems for conformal thin-film deposition of various materials, including oxides, nitrides, and metals. Emphasis on precise thickness control and high-quality film properties.

**Recent Developments & Traction:**

* April 15, 2021:\*\* AGNITRON announced that it has been awarded a Phase II Small Business Innovation Research (SBIR) contract by the U.S. Department of Energy (DOE) for continued research and development of a novel low-cost, high-throughput, large-area production process for SiC homoepitaxy using a high-efficiency CVD reactor.
* May 1, 2024:\*\* AGNITRON announced that it has been awarded a Phase I SBIR contract by the U.S. Department of Energy (DOE) for development of a Novel Reactor Configuration for High-Throughput Epitaxy.
* Partnerships:\*\* Collaborations and contracts with various universities, research institutions, and government agencies, demonstrated through published papers and presentations using AGNITRON equipment in material science research.

**Leadership & Team:**

* Andrei Osinsky, CEO:\*\* Demonstrated extensive experience in semiconductor material growth and device fabrication, reflected in numerous publications and patents.

**Competitive Landscape:**

* AIXTRON SE:\*\* A global leader in deposition equipment. AGNITRON differentiates itself by offering highly customized solutions and focusing on niche markets and specific material systems, while AIXTRON targets larger-scale production facilities.
* Veeco Instruments Inc.:\*\* Another competitor in the MOCVD and ALD space. AGNITRON's strength lies in its agility and responsiveness to customer-specific requirements, offering flexible reactor designs that larger companies may find difficult to accommodate.

**Sources:**

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

2. [https://www.sbir.gov/sbirsearch/detail/2069405](https://www.sbir.gov/sbirsearch/detail/2069405)

3. [https://www.sbir.gov/sbirsearch/detail/2418017](https://www.sbir.gov/sbirsearch/detail/2418017)

4. [https://www.linkedin.com/company/agnitron-technology-inc/](https://www.linkedin.com/company/agnitron-technology-inc/)