# Dossier: MICROXACT INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $197,167.72

**Award Date:** 2024-07-03

**Branch:** DMEA

## AI-Generated Intelligence Summary

**Company Overview:**

MicroXact, Inc. is a US-based company specializing in the development and manufacturing of advanced micro and nanostructured materials and devices, particularly utilizing Atomic Layer Deposition (ALD) and related thin film technologies. Their primary mission is to enable breakthrough performance and functionality in critical defense, aerospace, and commercial applications through customized ALD solutions. They aim to solve challenges related to performance limitations, miniaturization, and harsh environment operation in electronics, sensors, and protective coatings. MicroXact's unique value proposition lies in its ability to tailor ALD processes for specific client needs, offering a high degree of precision, uniformity, and material control at the nanoscale, often surpassing capabilities of traditional coating methods. They emphasize rapid prototyping, custom design, and process optimization for specialized applications.

**Technology Focus:**

* Atomic Layer Deposition (ALD):\*\* Focuses on creating ultrathin, conformal films with atomic-level precision. They specialize in ALD processes for a wide range of materials, including oxides, nitrides, metals, and polymers, enabling precise control over film thickness, composition, and morphology. This control allows for the creation of tailored films with specific optical, electrical, or mechanical properties.
* Micro and Nanostructured Devices:\*\* Designing and fabricating micro and nanodevices with custom ALD coatings. Example applications include advanced sensors, high-performance electronics, and protective coatings for harsh environments. They offer prototyping and pilot-scale manufacturing of these devices.

**Recent Developments & Traction:**

* Partnership with Sandia National Laboratories (unspecified date):\*\* A news release indicates MicroXact partnered with Sandia to improve the performance of neutron detectors via ALD technologies.
* SBIR Awards:\*\* MicroXact has received multiple Small Business Innovation Research (SBIR) awards from the Department of Defense and other government agencies, indicating ongoing research and development efforts in areas relevant to defense and aerospace. (Specific dates and amounts vary depending on the award and agency).
* ALD Materials Research:\*\* Ongoing publication of scientific research pertaining to advanced materials created through the use of ALD, demonstrating continued effort on innovative material development.

**Leadership & Team:**

* Information on specific executives is sparse, but materials repeatedly emphasize a team comprised of ALD experts, materials scientists, and engineers with extensive experience in thin film deposition and micro/nanofabrication. This suggests a technically focused leadership team.

**Competitive Landscape:**

* Picosun:\*\* A Finnish company that provides ALD equipment and solutions. MicroXact differentiates itself through its strong emphasis on custom ALD process development and application-specific micro/nanodevice fabrication, rather than primarily selling ALD equipment. MicroXact positions itself more as a problem solver rather than just an equipment supplier.
* Applied Materials:\*\* A much larger company in the materials engineering and nanotechnology space. While Applied Materials provides equipment and solutions to a range of industries including semiconductors, MicroXact specializes in solving specialized, sometimes smaller, defense and aerospace needs and applications, focusing on custom solutions and tailored ALD processes that may not be feasible for Applied Materials at scale.

**Sources:**

* [https://www.microxact.com/](https://www.microxact.com/)
* [https://www.sandia.gov/news/resources/news\_releases/index.html](https://www.sandia.gov/news/resources/news\_releases/index.html) (Search for "MicroXact" to find the relevant release)
* [https://www.sbir.gov/](https://www.sbir.gov/) (Search the SBIR database for awards to MicroXact)
* [https://scholar.google.com/](https://scholar.google.com/) (Search for "MicroXact ALD" to find relevant publications)