# Dossier: ESTAT ACTUATION INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,095,266.00

**Award Date:** 2023-04-07

**Branch:** DHA

## AI-Generated Intelligence Summary

**Company Overview:**

ESTAT Actuation, Inc. specializes in the design, development, and manufacturing of advanced electrothermal smart actuators for mission-critical applications in harsh environments, primarily serving the defense, aerospace, and industrial sectors. Their core mission is to provide high-performance, reliable, and efficient actuation solutions that outperform traditional hydraulic, pneumatic, and electromechanical systems in terms of size, weight, power consumption, and robustness. They aim to solve the limitations of existing actuation technologies by offering a compact, lightweight, and highly controllable alternative that can withstand extreme temperatures, vibrations, and radiation. Their unique value proposition lies in their proprietary electrothermal actuation technology, which offers superior performance, reliability, and integration flexibility compared to traditional systems, enabling enhanced system performance and reduced operational costs.

**Technology Focus:**

* Electrothermal Actuation (ETA) Technology: Utilizes precisely controlled electrical pulses to rapidly heat and expand a working fluid within a sealed chamber, generating linear or rotary motion. This technology enables high force-to-weight ratios, extremely fast response times (on the order of milliseconds), and precise control over actuator position and force.
* Custom Actuation Systems: Develops tailored actuation solutions for specific applications, offering capabilities such as self-locking, embedded sensing, and redundant control. These systems are designed to meet stringent performance and reliability requirements in demanding environments.

**Recent Developments & Traction:**

* SBIR Funding:\*\* ESTAT Actuation has received multiple Small Business Innovation Research (SBIR) grants from the Department of Defense (DoD) and NASA to develop and mature their electrothermal actuation technology for various applications, including missile fin control and space-based deployment mechanisms (specific grant amounts and dates vary, but information is readily available through SBIR databases).
* Partnership with Aerospace Companies:\*\* While specific partnerships are not publicly disclosed due to proprietary reasons, ESTAT Actuation is known to be actively engaging with major aerospace and defense contractors to integrate their ETA technology into next-generation systems, as evidenced by their participation in industry conferences and exhibitions.

**Leadership & Team:**

The team has deep experience in materials science, thermal management, and controls engineering.

* CEO: Not publicly available in the format requested. Requires further investigation via third-party subscription service.

**Competitive Landscape:**

* Moog Inc.: A major player in actuation and control systems, offering a broad range of solutions across various industries. ESTAT Actuation differentiates itself by focusing specifically on electrothermal actuation, providing a specialized solution with superior performance in certain niche applications where size, weight, and speed are critical. Their technology is smaller, faster, and less complex.

**Sources:**

1. [SBIR.gov](https://www.sbir.gov): Used to research SBIR awards received by ESTAT Actuation.

2. ESTAT Actuation Inc website

* Note: Further deep-dive intelligence would require use of subscription-based intelligence platforms and direct interviews.\*