# Dossier: SYSTEMS TECHNOLOGY, INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,190,330.00

**Award Date:** 2024-06-07

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Systems Technology, Inc. (STI) is a research and development company specializing in flight dynamics, control theory, and human-machine interface design, primarily focused on enhancing the performance, safety, and autonomy of aerospace vehicles and systems. STI’s core mission is to improve the effectiveness and reduce the workload of pilots and operators across various platforms, including fixed-wing aircraft, helicopters, unmanned aerial vehicles (UAVs), and advanced air mobility (AAM) vehicles. They aim to solve challenges related to aircraft handling qualities, flight control system design, adaptive control, model-following control, pilot-induced oscillation (PIO) prevention, and human factors engineering. STI's unique value proposition lies in its deep theoretical understanding of flight dynamics coupled with practical application experience, allowing them to provide tailored solutions that improve aircraft performance, enhance safety, and reduce pilot workload. They are known for their expertise in advanced control law design and analysis, flight simulation, and human-in-the-loop testing.

**Technology Focus:**

* Control Law Design & Analysis:\*\* Development of advanced control laws using techniques like model predictive control, adaptive control, and robust control to improve handling qualities, performance, and stability of aircraft. This includes mitigation of PIO and other stability issues.
* Flight Simulation & Human-in-the-Loop Testing:\*\* Development and use of high-fidelity flight simulation environments for control system design, evaluation, and pilot training. They conduct human-in-the-loop simulations to assess pilot workload, handling qualities, and system performance.
* Human-Machine Interface (HMI) Design:\*\* Development and evaluation of intuitive and effective HMI designs for aircraft cockpits and ground control stations, focusing on reducing pilot workload and improving situational awareness. This includes research on displays, controls, and automation features.

**Recent Developments & Traction:**

* AFWERX SBIR Phase II Award (Date not specified, likely 2022-2023):\*\* Developed and tested advanced control algorithms for improving the performance and safety of unmanned aerial vehicles (UAVs) in challenging environments. The focus of the project, called PHOENIX, was on "robust, safe, and reliable autonomous operations, specifically for UAS in the presence of disturbances."
* Research and Development of Advanced Flight Control Systems:\*\* Continued involvement in multiple research programs funded by NASA and the DoD focusing on advanced control system design and analysis for next-generation aircraft, including electric vertical takeoff and landing (eVTOL) vehicles.
* Publication of Technical Papers and Presentations:\*\* Consistently publishes research findings in peer-reviewed journals and presents at industry conferences, demonstrating ongoing innovation and leadership in the field of flight dynamics and control.

**Leadership & Team:**

* Dr. David Klyde (President):\*\* Extensive experience in flight dynamics, control theory, and human-machine interface design.
* Dr. Jeffrey Schroeder (Senior Research Engineer):\*\* Extensive knowledge of adaptive control, pilot-induced oscillations, and flight dynamics.

**Competitive Landscape:**

* Aurora Flight Sciences (A Boeing Company):\*\* Similar focus on advanced flight control systems and autonomous aircraft technologies, but operates at a larger scale with broader capabilities.
* Charles River Analytics:\*\* Offers a range of human-centered AI and decision-support technologies, some of which overlap with STI's HMI and human factors expertise. STI's differentiator is its deeper, more specialized focus on flight dynamics and control systems, backed by decades of experience and fundamental theoretical knowledge.

**Sources:**

* [https://www.systemstech.com/](https://www.systemstech.com/)
* [https://www.systemstech.com/research.html](https://www.systemstech.com/research.html)
* [https://www.systemstech.com/publications.html](https://www.systemstech.com/publications.html)
* [https://www.afwerx.com/afwerx-sbir-sttr-results-details/?recid=05ca6234-32c8-eb11-a813-000d3a55a519](https://www.afwerx.com/afwerx-sbir-sttr-results-details/?recid=05ca6234-32c8-eb11-a813-000d3a55a519)