# Dossier: MACHINA LABS INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,799,115.00

**Award Date:** 2024-06-27

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Machina Labs is a U.S.-based manufacturing technology company focusing on advanced robotics and AI-powered manufacturing solutions for complex aerospace and defense components. Its core mission is to revolutionize manufacturing by enabling rapid, cost-effective production of highly customized parts with complex geometries that are difficult or impossible to create using traditional methods. They aim to solve the problems of long lead times, high costs, and limited design flexibility associated with conventional manufacturing processes in the aerospace and defense sectors. Their unique value proposition lies in their ability to combine advanced robotics, machine learning, and additive manufacturing techniques to offer a highly automated and adaptable manufacturing platform for on-demand production of intricate parts.

**Technology Focus:**

* Sheet Metal Forming using Robotic Manipulators:\*\* Machina Labs uses multi-axis robotic arms equipped with specialized end effectors to incrementally form sheet metal parts. This process allows for the creation of complex 3D shapes without the need for expensive tooling or dies. They claim their process can achieve tolerances comparable to conventional methods but with significantly reduced lead times.
* AI-Powered Process Optimization:\*\* The company utilizes machine learning algorithms to optimize the robotic forming process in real-time. This includes adjusting parameters such as force, speed, and path planning based on material properties and desired part geometry. This adaptive control system improves accuracy and reduces scrap rates.

**Recent Developments & Traction:**

* $32 Million Series B Funding (September 2023):\*\* Machina Labs raised $32 million in a Series B funding round led by Nvidia's NVentures Program, bringing the total raised to $54 million, allowing the company to significantly expand their manufacturing capabilities and operations.
* Contract with U.S. Air Force (Publicly Announced):\*\* Machina Labs secured a contract with the U.S. Air Force to develop and demonstrate its robotic sheet metal forming technology for aircraft components. Details of the contract's value and specific objectives have been less detailed in press releases.
* Expansion of Manufacturing Facility:\*\* Machina Labs has recently invested in and expanded its manufacturing facility to increase production capacity and accommodate larger-scale projects.

**Leadership & Team:**

* Edward Mehr, CEO:\*\* Prior experience includes leadership roles in various engineering and technology companies.
* Daniel Biezad, CTO:\*\* Possesses a strong background in robotics, automation, and machine learning. Specific details of prior companies are harder to verify.

**Competitive Landscape:**

* Electroimpact:\*\* Specializes in automated assembly systems for aerospace structures. Machina Labs differentiates itself by focusing on the automated forming of sheet metal parts rather than primarily focusing on assembly.
* MELD Manufacturing:\*\* Offers large-scale additive manufacturing capabilities for metal parts. Machina Labs offers an alternative with subtractive/formative manufacturing which may be more suited to sheet metal forming.

**Sources:**

1. [https://www.machinalabs.ai/](https://www.machinalabs.ai/)

2. [https://techcrunch.com/2023/09/05/machina-labs-raises-32m-to-automate-the-production-of-aerospace-parts/](https://techcrunch.com/2023/09/05/machina-labs-raises-32m-to-automate-the-production-of-aerospace-parts/)

3. [https://www.prnewswire.com/news-releases/machina-labs-announces-32m-series-b-funding-round-301917270.html](https://www.prnewswire.com/news-releases/machina-labs-announces-32m-series-b-funding-round-301917270.html)

4. [https://www.aerospacetestinginternational.com/news/manufacturing/machina-labs-secures-32m-funding-to-expand-manufacturing-capabilities.html](https://www.aerospacetestinginternational.com/news/manufacturing/machina-labs-secures-32m-funding-to-expand-manufacturing-capabilities.html)