# Dossier: FORMALLOY TECHNOLOGIES INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,799,915.92

**Award Date:** 2023-10-13

**Branch:** DARPA

## AI-Generated Intelligence Summary

**Company Overview:**

FormAlloy Technologies, Inc. is a leading provider of Directed Energy Deposition (DED) additive manufacturing solutions, specializing in metal 3D printing equipment and services. Their core mission is to enable customers to produce high-performance, complex metal parts with enhanced material properties and reduced lead times. The company addresses the limitations of traditional manufacturing processes by offering flexible and scalable solutions for repair, prototyping, and production of metal components, particularly for demanding applications in aerospace, defense, energy, and oil & gas industries. FormAlloy's unique value proposition lies in their ability to combine advanced DED technology with a broad materials portfolio, closed-loop process control, and expertise in metallurgy, allowing customers to create parts with superior mechanical properties and greater design freedom compared to traditional manufacturing or other additive methods.

**Technology Focus:**

* Directed Energy Deposition (DED):\*\* FormAlloy focuses on DED, a metal 3D printing process that uses a focused energy source (laser or electron beam) to melt and fuse metallic materials as they are deposited layer by layer. This allows for large-scale part production, cladding, and repair applications.
* Alloy Development and Processing:\*\* The company offers expertise in developing and processing various metals, including titanium alloys, nickel-based superalloys, stainless steels, and aluminum alloys. They emphasize closed-loop control systems for precise monitoring and adjustment of deposition parameters to ensure consistent material properties.

**Recent Developments & Traction:**

* Partnership with nTopology (2021):\*\* Announced a partnership integrating nTopology's design software with FormAlloy's DED systems, enabling streamlined workflows for designing and manufacturing complex, high-performance parts.
* Expanded Materials Portfolio (Ongoing):\*\* Continuously expanding the range of materials compatible with its DED systems, demonstrating a commitment to meeting diverse customer needs. Publicly available research indicates increasing use of Inconel alloys.
* Focus on Repair Applications:\*\* Public releases and case studies highlight FormAlloy's DED systems for component repair, specifically in the energy and aerospace sectors, addressing significant cost savings and extended component lifecycles.

**Leadership & Team:**

* Jeff Erickson (CEO):\*\* Background not easily accessible from publicly available information. Further due diligence required.
* Adam Simone (CTO):\*\* Possesses significant expertise in additive manufacturing and materials science.

**Competitive Landscape:**

* Optomec:\*\* Optomec is a primary competitor, offering DED-based additive manufacturing solutions. FormAlloy differentiates itself through its emphasis on closed-loop process control and a strong focus on developing and processing a wide range of high-performance alloys tailored for demanding applications.
* Sciaky:\*\* Sciaky is another competitor in large-scale DED systems. FormAlloy is potentially more nimble and adaptable with its system configurations.

**Sources:**

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

2. [https://www.3dprintingmedia.network/directory/formaloy/](https://www.3dprintingmedia.network/directory/formaloy/)

3. [https://ntopology.com/blog/ntopology-formaloy-partner-design-complex-metal-parts/](https://ntopology.com/blog/ntopology-formaloy-partner-design-complex-metal-parts/)