One-Off Robotics:
Robotic Metal Additive Manufacturing Systems

NCMS Technology Showcase
Puget Sound Naval Shipyard

PROBLEM STATEMENT

One-Off Robotics' metal additive systems solve key issues in defense, aerospace, and specialized sectors, notably the high costs, lengthy processes, and constraints of traditional manufacturing. Our innovative systems enable efficient production of complex metal parts, reducing material waste and cutting lead times. This technology revolutionizes manufacturing, offering a faster, more cost-effective, and adaptable solution, ensuring that intricate component fabrication meets today's demanding standards in a streamlined, efficient manner.

BENEFITS

One-Off Robotics' metal additive technology propels industries forward by enhancing design flexibility and product durability. It unlocks new potentials in creating parts with geometries previously deemed impossible, fostering innovation across sectors. The technology stands out by facilitating rapid prototyping and customization, which directly translates into competitive advantages for defense. Moreover, it upholds sustainability by optimizing material usage and energy consumption. Anticipated outcomes include transformative advancements in product development cycles, operational resilience, and a significant leap towards eco-friendly manufacturing practices.

TECHNOLOGY SOLUTION

Hardware: One-Off Robotics leads with WAAM for large-scale metal parts and precise WLAM systems, achieving deposition rates from 0.25 to 10 Kg/hr. Our 6-axis robots, equipped with advanced sensors and automated tooling, are designed for flexibility and precision across various metals.

Software: Proprietary software underpins our technology, enabling single-point control, machine vision analysis, and real-time quality correction. This ensures efficiency, precision, and quality in every print, catering to demanding and developing standards.

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