Horizon Manufacturing Technologies

Autonomous Mobile Manufacturing

HORIZON
MANUFACTURING TECHNOLOGIES

Problem Statement

The U.S. manufacturing industry is emerging from a decades-long decline and demands leap ahead technology solutions for the future. Horizon Manufacturing Technologies is leading the American reindustrialization effort by developing and deploying manufacturing technologies that address the urgent need for large-scale metal castings in the defense sectors.

The casting industry is heavily dependent on skilled, labor-intensive work, and the shortage of qualified welders presents a throughput bottleneck that drives backlog across the shipbuilding supply chain.

Benefits

Warfighter Impact

- Utilizing robotic welding helps mitigate workforce constraints
- Limiting human exposure to identified hazards
- Expert knowledge is captured in a scalable robotic platform

Industrial Base Savings

- $58M recovered in repaired castings/forgings per year

Operational Improvements

- Adaptive manufacturing drives greater operational flexibility
- Traditional Weld Cells Not Required: Mobile robots take the repair operation to the workpiece
- Full end-to-end manufacturing traceability with digital repair thread for every article

Technology Solution

Horizon is expanding additive manufacturing and casting repair processes beyond traditional welding cells by delivering cooperative robotics capable of dimensional scanning, welding, and subtractive restoration of large castings in a mobilized platform.

Mounted on a ruggedized vehicle platform, the mobile robotic system will augment the existing workforce and improve technician safety by decreasing human operations in mission critical casting repairs, inherently reducing supply chain uncertainty by driving consistency and throughput only possible with advanced manufacturing.

