

# Modernizing Welder Training and Compliance Monitoring with WeldCopilot

## PROJECT INFORMATION

**Prime/Lead:** AutoMetrics

**Team Members:** ONR, shipyard partners (TBD)

**Academic Member:**

**Duration:** 9 months

**Financial/Cost:**

## DELIVERABLES/BENEFITS/ROI

### Deliverables:

Ready-to-scale units of WelderCopilot System

Comprehensive testing and validation for various welding scenarios

Pilot run at partner shipyard(s)

### Benefits:

Accelerating welder training with real-time technique feedback

Derisking production by real-time corrective feedback to welders (early response)

Streamlining compliance monitoring

### ROI:

Details available to NSRP members upon request

Payback period: 2-6 months

First-year ROI: 150-500%

## ISSUE / OBJECTIVE

### Description:

Over 70% of shipyard production operations rely on manual welders and the associated weld quality. However, the welder training and welding technique, hence quality, monitoring still follow conventional late feedback and inspections. WelderCopilot offers a low-cost retrofitting sensory system backed by AI to provide real-time feedback on critical parameters such as stickout, angle, and movement stability.

### Project Goals and Objectives:

- Technical enhancement focused on AI augmentation with testing data
- Developing models for streamlining adoption and operational integration

### Business Objectives:

- To develop rapid deployment and operational integration models for US shipyards
- To address workflow integration and alignment with the shipyards' core operation
- Evaluate and implement automated compliance checks and reporting

### Technology Objectives:

- Testing and validation for various welding scenarios, including different positions, power supplies, and base materials
- Pilot at a large-scale operation with a minimum of 10 units
- Streamlining distributed service nodes across the shipyard with on-premises data management

### Cost Share:

- Potential funding from ONR (TBD) to support technical development and testing costs
- Significant value provided by AutoMetrics and shipyard partners in the form of technical support, and providing testing and pilot facilities