NATIONAL CENTER FOR MANUFACTURING SCIENCES

Eyre Strategic Partnership

Rapid Repair & Replacement for Emergent Work

PROBLEM STATEMENT

- Emergent maintenance requirements identified during scheduled availabilities can introduce critical-path delays when worn, damaged, obsolete or unavailable components cannot be repaired or replaced within the required maintenance window.
- Long lead times in traditional manufacturing, repair and legacy supply chains extend vessel downtime, constrain maintenance throughput and delay the return of mission-critical assets to operational service.

OPERATIONAL BENEFITS

- Reduces emergent-work schedule risk and exposure to extended legacy supply-chain lead times.
- Provides repair and replacement options from a single decision pathway.
- Supports faster return of critical components to the maintenance workflow.
- Improves resilience for obsolete, low-volume and difficult-to-source parts.

TECHNOLOGY SOLUTION

- Assess worn or damaged components; restore critical surfaces using engineered laser cladding; finish machine and qualify for return to service.
- Use wire-arc additive manufacturing (WAAM) to create near-net-shape replacements for obsolete, unavailable or long-lead components; finish machine and qualify.

