

National Shipbuilding Research Program Selects \$3.38 million for Panel Project Portfolio

November 10, 2025 -- The Executive Control Board of the [National Shipbuilding Research Program](#) (NSRP) has selected 18 panel projects for award as part of the Program's continuing mission to reduce costs and expand capability for U.S. shipbuilding and ship repair. These new projects, valued at over \$3.38M in government funding, were among those proposed in response to the Panel Project Solicitation issued in May 2025. Abbreviated descriptions follow; prime contractors are listed first and noted in **bold text**:

Autonomous Equipment in a Shipyard Environment

Pratt & Miller Engineering & Fabrication | Oshkosh Corporation | JLG | Oshkosh Defense | Austal USA | HII – Newport News Shipbuilding | HII – Ingalls Shipbuilding

Duration: 12 Months

Objective:

The goal is to virtually demonstrate an integrated boom lift system capable of maintaining a multipurpose end effector at a set distance from the hull of a ship while simultaneously moving it down the length of the ship at a constant speed.

Improving Shock M&S Requirements and Criteria

HII – Newport News Shipbuilding | HII – Ingalls Shipbuilding | NAVSEA 05P1 | NSWC-CD Code 661

Duration: 12 Months

Objective:

This project will improve specifications and associated guidance to provide more detail on exactly how industry should analyze systems to achieve shock qualification by analysis via TSA.

Development and Implementation of an AI Island within a Shipyard Network

GD - NASSCO | GD – Electric Boat | GD – Bath Iron Works | Avathon

Duration: 12 Months

Objective:

The goal of this project is to implement an internal AI island that can scale across departments or shipyard sites regardless of the maturity of local infrastructure.

Comparison of Laser Ablation to SSPC-SP Surface Preparation of Bare Steel

Elzly Technology | HII - Newport News Shipbuilding

Duration: 12 Months

Objective:

The goal of the project is to gauge shipyard laser ablation equipment availability and usage while also comparing laser ablation to hand tool, power tool, and abrasive blasting surface preparation.

EASE – Exoskeleton Assistance for Shipyard Workforce Enhancement

Austal USA | Florida Institute for Human and Machine Cognition | Austal USA Advance Technologies
| NSWCCD

Duration: 12 Months

Objective:

The primary goal of the EASE project is to provide the shipyard industrial base with a cost-effective counter to workforce fatigue and injury in certain shipbuilding activities.

1K Oxsol (PCBTF) Free MIL-PRF-24635F Type V Comp 1 Coatings in OE Shipyards

Elzly Technology | HII – Newport News Shipbuilding | HII - Ingalls Shipbuilding | BAE Jacksonville | NCP Coatings

Duration: 12 Months

Objective:

This program will compare 1k and 2k polysiloxane systems by evaluating production rates when switching to a 1k topcoat, reduction in material waste, and coating performance focused on corrosion protection, adhesion, flexibility and UV resistance.

Improved Fasteners for False-Deck Panels

HII – Ingalls Shipbuilding | HII – Newport News Shipbuilding | NAVSEA 05P2 | NSWC CD

Duration: 12 Months

Objective:

This project seeks to find or develop an alternative method(s) to secure both the MIL-PRF-32664 composite false deck panels and legacy Nomex core panels used in false decks aboard US Navy vessels.

Improving Impact Properties of Resistance Flash Butt Welding

HII – Ingalls Shipbuilding | Colorado School of Mines | Automation International | NAVSEA 05

Duration: 12 Months

Objective:

The goal of this project is to develop an optimized heating cycle and forging temperature on HSLA-65 flat bar and replicate it with a Resistance Flash Butt Welding machine to produce welds which pass NAVSEA impact requirements for structural compensation rings.

Multiphysics-Driven Arc-Fault Detection for Shipboard Electrical Systems

New Jersey Institute of Technology | HII – Ingalls Shipbuilding | NAVSEA 05Z33

Duration: 12 Months

Objective:

The goal of this project is to develop a next-generation arc-fault detection system that fuses multiphysics modeling, optical/acoustic/current sensing, and machine learning to cut false alarms to <1% and detection time to <2.5 ms.

Evaluate Nord-Lock Wedge Washers for Electrical Applications on Navy Ship

HII – Ingalls Shipbuilding | HII – Newport News Shipbuilding | NAVSEA

Duration: 12 Months

Objective:

The goal of the project would be to investigate the suitability of Nord-Lock wedge washers for electrical applications on U.S. Navy ships and perform third party testing to validate manufacturer claims of product performance that bolted connections using Nord-Lock wedge washers do not loosen under vibration.

Use of Nanotechnology-Based Fire Boundaries on U.S. Navy Ships

HII – Newport News Shipbuilding | HII – Ingalls Shipbuilding

Duration: 12 Months

Objective:

HII-NNS and HII-Ingalls will collaborate to research and benchmark the industry to replace fire zone insulation with spray applied “coating” product. Nanotech products—particularly fire-resistant coatings—offer a significant opportunity to improve cost efficiency, labor productivity, and design flexibility in fire zone boundary systems.

Defect Characterization of Navy Ship Pipe Elbows with Active UMI Technology

Antech Systems Inc. | Norfolk Naval Shipyard

Duration: 12 Months

Objective:

The project objective is to investigate the technical feasibility of an active UMI guided wave ultrasound system capable of locating corrosion and wall thinning under coatings and coverings in Navy ship piping structures with elbows.

Flexible Digital Detector Array Radiographic Testing of Weld Joints

The Pennsylvania State University Applied Research Laboratory | GD – Bath Iron Works | Carestream

Duration: 12 Months

Objective:

Through this NSRP Panel Project, the Pennsylvania State University Applied Research Laboratory (PSU ARL) will partner with General Dynamics Bath Iron Works (GDBIW) and Carestream (CS) to identify and demonstrate accelerated methods of non-film radiographic testing for use in ship construction and repair processes.

Accelerated Workforce Readiness via Dynamic Workforce Modeling

Association for Materials Protection and Performance (AMPP) | BAE Systems | GD – Bath Iron Works | Portsmouth Naval Shipyard | NAVSEA 05P2

Duration: 12 Months

Objective:

This project will align workforce development to scenario planning: it will create AI-enabled, dynamic workforce models overlaying critical skills gaps across jobs related to corrosion protection and performance. The models will rapidly guide mitigation strategies and enable data-driven, future-ready workforce management for Navy and industry need.

Shore Power Connector Testing Prototype System

D'Angelo Technologies | HII – Ingalls Shipbuilding | NAVSEA 05Z33 | NAVFAC Atlantic | The Pennsylvania State University Applied Research Laboratory

Duration: 12 Months

Objective:

The overall goal of this effort is to improve the safety of connection to shore power and improve the reliability of testing prior to connection to shore power.

Smart Supports – AI-Enhanced Navy Pipe Hanger Standardization

Hawk Technologies | SSIUSA | Fincantieri Marinette Marine | Austal USA

Duration: 12 Months

Objective:

The overall goal of this effort is to reduce cost and time spent on qualification, design and build of non-standard pipe supports through utilization of pre-qualified designs while improving quality metrics (corrective action reports) related to pipe supports.

Modular Overhead Grid System Applicability Assessment

HII – Newport News Shipbuilding | HILTI North America

Duration: 12 Months

Objective:

The project aims to assess the suitability of the HILTI MT Overhead Grid System components for use on Navy platforms, with the objective of minimizing manual welding through the use of studs that are shot in the shop and mechanical attachment connections onboard the ship.

Robotic Arc Welding Digital Transformation Roadmap

EWI | HII – Newport News Shipbuilding | NSWCCD

Duration: 12 Months

Objective:

This project will generate an implementation roadmap for robotic arc welding digitization transformation and AI/ML adoption to improve cost and schedule for the shipbuilding industry