

## Press Release

For Immediate Release

### Executive Control Board awards \$2.46M for R&D Project Portfolio

**November 20, 2020** - The Executive Control Board of the National Shipbuilding Research Program (NSRP) has selected 17 panel projects for award, as part of the Program's continuing mission to reduce costs associated with U.S. shipbuilding and ship repair. These new projects, valued at over \$2.46M, were among those proposed in response to the Panel Project Solicitation, issued in June 2020.

Abbreviated descriptions follow; prime contractor are noted in **bold** in organization listing:

#### Industry-Wide Collaboration to Address the Navy's Shipboard Industrial Fire Safety Problem

**HII-Newport News Shipbuilding**

**NSRP Investment:** \$124K

**Duration:** 12 Months

**Objective:**

The purpose of this project is to take the first steps in globally addressing the Navy's shipboard industrial fire safety problem, by undertaking a "pilot" initiative in industry-wide communication and collaboration on standards and best practices associated with the control of combustible materials.

#### Portable Single-Pass Buried Arc Welding of Steel Plate During Ship Erection

**Edison Welding Institute** | Vigor | **HII-Newport News Shipbuilding** | Naval Surface Warfare Center-Carver Division | VT Halter

**NSRP Investment:** \$150K

**Duration:** 12 Months

**Objective:**

The goal of the proposed project is to reduce the cost and time associated with welding single-sided joints onboard vessels during ship erection, and to reduce plate preparation and post-weld straightening costs by using single-pass square groove Buried Arc Gas Metal Arc Welding (GMAW-B).

#### Shipbuilding Apprenticeship: A Qualitative Analysis

**GD-Bath Iron Works** | GD-NASSCO | Fincantieri Marinette Marine | Austal USA | **HII-Newport News Shipbuilding** | HII-Ingalls Shipbuilding

**NSRP Investment:** \$150K

**Duration:** 12 Months

**Objective:**

To aid shipyards and other NSRP organizations sponsoring apprenticeship programs, this proposed research seeks to learn and share current practices relating to shipbuilding apprenticeship programs.



## Automated Label Plate Generation

**ShipConstructor USA** | Conrad Shipyard | Fincantieri Marinette Marine | Austal USA | LMI | Bancroft Enterprises | Praeses LLC

**NSRP Investment:** \$150K

**Duration:** 12 Months

### **Objective:**

This panel project will assess which label plates can be directly derived from the 3D design model, provide the electronic label plate data to production planning and purchasing to reduce rework, and increase efficiencies from the reuse of digital data.

## High Productivity Reduced Emissions Arc Gouging Process

**Edison Welding Institute** | Vigor | BSI EHS | CSK Mechanical | VT Halter

**NSRP Investment:** \$150K

**Duration:** 12 Months

### **Objective:**

The objectives of this project are to verify that WeldVac methods can produce satisfactory metal removal rates for welds and other materials in U.S. Navy and/or ABS steels and consistently meet the OSHA and other environmental regulations.

## Evaluation of Splice-On Connectors and Termini for Shipboard Applications

**HII-Ingalls Shipbuilding** | HII-Newport News Shipbuilding | Amphenol | Naval Surface Warfare Center Dahlgren

**NSRP Investment:** \$150K

**Duration:** 12 Months

### **Objective:**

This project will evaluate fusion splice-on fiber optic connectors for applications in the ship construction process. The goal is to identify connector hardware for use in US Navy shipboard systems that improve ship installation process and improve optical system performance.

## Optimized Weld Records

**TruQC** | Edison Welding Institute | Fincantieri Marinette Marine

**NSRP Investment:** \$150K

**Duration:** 12 Months

### **Objective:**

TruQC will adapt their current software to meet NAVSEA welding practices requirements, while proving system functionality, savings and data availability.



## Crane Lift Data Aggregation

**GD-NASSCO**

**NSRP Investment:** \$99K

**Duration:** 12 Months

**Objective:**

To automate and augment crane data collection in order to improve understanding of assembly throughput in the yard. Develop database of load weight, time, lift and laydown locations by crane.

## AMUET 4.0: Tooling to Accelerate Installation and Quality Control of Electrical Cables in Ships with Augmented Reality Using Existing Digital Models

**Austal USA** | Solavitek Inc. | ShipConstructor USA| Pearl Harbor Naval Shipyard & Intermediate Maintenance Facility

**NSRP Investment:** \$146K

**Duration:** 12 Months

**Objective:**

Deploy AMUET as a new manufacturing process to guide the electrician to route and install wires using digital work instructions, AR, and built-in testing.

## Next Generation Double Electrode GMAW Processes for Precision Fillet Welding

**Edison Welding Institute** | GD-NASSCO | HII-Ingalls Shipbuilding| Naval Surface Warfare Center-Carver Division

**NSRP Investment:** \$150K

**Duration:** 12 Months

**Objective:**

This project proposes to evaluate next generation double electrode processes for 4-mm fillet welds as this fillet size is more likely to transition into existing shipyard facilities. (The ability to deposit 3-mm fillets requires precision no gap fit-up, clean bright metal surfaces, and highly accurate seam tracking and is an area for future work.) Double electrode processes also offer maximum productivity for both small and large fillets.

## Development of an Additive Manufacturing Capability for CuNi Seawater Heat Exchangers

**ElectraWatch Inc** | Austal USA | Metallum 3D| HII-Newport News Shipbuilding| NAVSEA 05T

**NSRP Investment:** \$149K

**Duration:** 12 Months

**Objective:**

To enable a new generation of high performance, compact seawater heat exchangers, the team proposes to employ a first-of-its-kind capability to develop a material processing pathway for the additive manufacture of CuNi alloys.



## Modern Shipbuilding Design Courses 3

**ShipConstructor USA** | Austal USA | Fincantieri Marinette Marine | Conrad Shipyard | Southern Maine Community College | Genoa Design

**NSRP Investment:** \$149K

**Duration:** 12 Months

### **Objective:**

This project will update the original Marine Design coursework and provide an implementation path and resources to allow them to be offered at a local level to train and prepare a capable marine design workforce for the modern shipbuilding industry.

## Automated Detail Planning and Instant Earned Value Control

**Austal USA** | Floororganise B.V. | ShipConstructor USA | Philly Shipyard PSI | Fincantieri Marinette Marine

**NSRP Investment:** \$148K

**Duration:** 12 Months

### **Objective:**

This project aims to automate the detail planning process coordinated with the project plan through a direct integration with engineering data, which allows for automated sequencing, budgeting, scheduling, resource allocation, and Earned Value Management System (EVMS) control. Integrating a 3D engineering design model allows metadata at the part level to drive the automated planning algorithm to support planning, shop floor control, EVMS, and ERP systems.

## Using Artificial Intelligence (AI) to Simplify Provisioning of Navy Standard Requirements

**Auros LLC** | Fincantieri Marinette Marine | Hepinstall Consulting Group

**NSRP Investment:** \$150K

**Duration:** 12 Months

### **Objective:**

This project will develop a toolset using Artificial Intelligence / Machine Learning to digitize Navy Standard Requirements to facilitate provisioning and compliance tracking.



## Utilizing Ship Product Model Information for Corrosion Control and Coatings

**HII-Ingalls Shipbuilding** | ShipConstructor USA

**NSRP Investment:** \$150K

**Duration:** 12 Months

### **Objective:**

The goal of this project will be to develop an improved corrosion control systems design process with efficient utilization of available 3D ship models and their data, as well as developing automated solutions using back end 3D ship model data to calculate design variables and algorithmically perform checks for conformance to applicable requirements.

## Standardization of UxV Shipboard Interfaces

**GD-NASSCO**

**NSRP Investment:** \$147K

**Duration:** 12 Months

### **Objective:**

A standard for UxV systems will simplify the complicated methods of connection through a common interface with the ship.

## Visual Guide for Non-Ferrous and Stainless-Steel Surface Preparation

**Elzly Technology** | Naval Surface Warfare Center-Philadelphia Division | SSPC

**NSRP Investment:** \$150K

**Duration:** 12 Months

### **Objective:**

Develop a Visual Guide for Non-Ferrous Surface Preparation which can be used by Shipyards and the Navy as a guide for interpreting the new standard, SSPC-SP17.

**Questions?** Contact the NSRP Team at: [nsrp@ati.org](mailto:nsrp@ati.org) or visit the NSRP website at: [www.nsrp.org](http://www.nsrp.org)

