

Press Release

For Immediate Release

National Shipbuilding Research Program Awards \$8 million for R&D Project Portfolio

September 28, 2020-- The Executive Control Board of the [National Shipbuilding Research Program](#) (NSRP) has selected a new round of R&D 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 \$8.2M in government funding and industry cost share, were among those proposed in response to a Research Announcement issued on March 25, 2020. Abbreviated descriptions follow; prime contractors are listed first and noted in **bold text**:

Tele-Welding Shipyard Prototype for Welding

Edison Welding Institute | Huntington Ingalls Industries - Newport News Shipbuilding | Robotic Technologies of Tennessee | Visible Welding

NSRP Investment: \$877K | **Industry Investment:** \$880K

Duration: 24 Months

Objective:

This project will extend progress gained in an ongoing NSRP project that has developed an Alpha-prototype of a welding device controlled by an operator who is physically separated from the actual weld site. This project will build a shipyard-ready Beta-prototype operational system incorporating enhancements to the earlier version.

Scaling Up 3D Printed Steel Castings

General Dynamics NASSCO | Huntington Ingalls Industries - Ingalls Shipbuilding | MELD Manufacturing | Naval Surface Warfare Center – Carderock Division

Altair

NSRP Investment: \$787K | **Industry Investment:** \$246K

Duration: 12-18 Months

Objective:

This project will investigate a new technology for scaling up the size of 3D-printed metal parts by several meters. The project team will focus on increasing the deposition rate using higher grade material, then on tool development, deposition trials, deposition parameters, and coupon testing.



Custom and Digitized ABS Rules with Executable Knowledge Packets

American Bureau of Shipping (ABS) | Conrad Shipyard | Auros Knowledge Systems

NSRP Investment: \$318K | **Industry Investment:** \$318K

Duration: 12 Months

Objective:

This project will deliver an application to generate an ABS Custom Rule Book to be made available to industry stakeholders. This will further simplify the regulatory compliance workflow by providing customized ABS Rule sets that contain only the rules and guides specific to the vessel being designed and built, and/or based on shipyard discipline, avoiding the complexity of overlapping or ambiguous rule sets. Included rules and guides will be based on vessel parameters such as vessel type, function and class notations.

Shore-Based Additive Manufacturing in Support of MSC

American Bureau of Shipping (ABS) | Austal USA | Old Dominion University | Military Sealift Command | Naval Sea Systems Command

NSRP Investment: \$417K | **Industry Investment:** \$437K

Duration: 24 Months

Objective:

This project will introduce additive manufacturing (AM) capability within the Military Sealift Command (MSC) through a technology insertion project demonstrating two specific AM applications to address supply/obsolescence issues: a polymer-based AM application producing a custom hand wheel commonly used across the fleet; and a metal-based AM application producing an impeller for an aging class of pumps.

Early-Stage Structural Design Optimization

MAESTRO Marine | Austal USA | American Bureau of Shipping (ABS) | Ship Design USA | Naval Surface Warfare Center – Carderock Division | SPAR Associates

NSRP Investment: \$1,200K | **Industry Investment:** \$1,200K

Duration: 24 Months

Objective:

This project will implement into design and production planning software the accomplishments of prior NSRP project work in structural design optimization. The project team will develop a new generation of ship structural design optimization tools for early-stage design that will result in:

- assuring that structural design criteria are met while improving structural producibility and reducing design-build cycle time;
- improving structural design and service-life assessment to reduce service-life corrosion, heavy weather damage, and structural fatigue cracking while mitigating excessive structural repair and maintenance costs and increasing ship availability; and
- providing comprehensive structural design space exploration capability for U.S. Navy and shipbuilder early-stage ship design processes, resulting in robust structures with reduced Total Ownership Costs.



Electrical Cable Fire Protection Cost Reduction

Hepburn and Sons | Fire Security | Fincantieri Marinette Marine | American Bureau of Shipping (ABS) | Roxtec | AeroNAV Testing

NSRP Investment: \$300K | **Industry Investment:** \$300K

Duration: 24 Months

Objective:

This project will demonstrate a fire protection product for electrical cables expected to benefit new construction, repair and modernization phases of shipbuilding. Fire Security's FS1 product is an intumescent fire protection coating sprayed on like paint; it will be demonstrated on a shipboard mock-up.

Mobile Laser Scan to CAD Analysis

Huntington Ingalls Industries - Newport News Shipbuilding | Huntington Ingalls Industries - Fleet Support Group | Elysium | General Dynamics Bath Iron Works

NSRP Investment: \$470K | **Industry Investment:** \$470K

Duration: 18 Months

Objective:

This project will build on a previous NSRP project that has developed capabilities to capture and maintain ship configuration via laser scan overlay on the 3D Product Model. This project will employ a mobile device that will:

- provide a more complete compartment scan by including hard to access spaces;
- result in lower scanner cost, reduced set-up time, reduced scanning time;
- improved quality and timeliness for logistics information; and
- quick-capture, light file-weight, no-light capabilities.

Questions? Contact the NSRP Team at: nsrp@ati.org or visit the NSRP website at: www.nsrp.org

