



# NATIONAL SHIPBUILDING RESEARCH PROGRAM ADVANCED SHIPBUILDING ENTERPRISE

Reducing Naval Ship Construction & Repair Costs

FOR IMMEDIATE RELEASE

May 5, 2011

## NATIONAL SHIPBUILDING RESEARCH PROGRAM AWARDS

### \$14.6 MILLION IN NEW COST-REDUCING SHIPBUILDING R&D PROJECTS

The Executive Control Board of the [National Shipbuilding Research Program](#) (NSRP) has awarded funding for six new research and development projects to continue the program's mission to reduce the costs associated with U. S. shipbuilding and ship repair. These new projects, valued at approximately \$14.6 million in both Navy funding and industry cost share, were among those proposed in response to a September 2010 Research Announcement.

The NSRP collaboration periodically funds major R&D projects through which breakthrough technologies and processes can be developed and implemented as a means of reducing shipbuilding and repair costs for the Navy and shipbuilding industry. The current project portfolio reflects the program's strategic focus on:

- Reduction in Total Ownership Cost of ships
- Improved quality in ship construction and/or repair
- Improved energy efficiency and environmental impact in shipyards and ships

A brief description of each of the new projects, with a list of participants and funding information, follows:

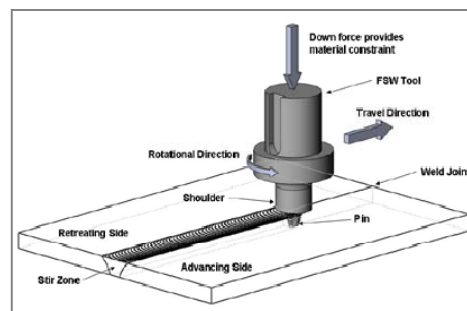
#### First Time Quality, Non-Destructive Examination, & Fitness for Service Technology for Friction Stir Welding & Manufacturing Aluminum Panels for Ships

**Project Lead:** Bollinger Shipyards

**Team Members:** Ingalls Shipbuilding, Marinette Marine, Austal USA, Alcoa, Naval Surface Warfare Center-Carverock, Gatekey Engineering, American Bureau of Shipping, V. Dlugokecki, Hepinstall Consulting, Friction Stir Link, Concurrent Technologies Corporation, Edison Welding Institute, Manufacturing Technology Inc., Tabor Industries

**Objective:** To develop best practices to achieve first-time quality using Friction Stir Welding for different combinations of alloys, joint designs and thicknesses. New non-destructive examination processes will also be developed and tested for weld evaluations.

**Program Funding:** \$3.3M      **Industry Cost Share:** \$2.2M



#### Swaged Bulkhead Analysis Verification

**Project Lead:** GD NASSCO

**Team Members:** Marinette Marine, University of California at San Diego

**Objective:** Develop, validate by test and refine for efficiency analytical FEA methodologies that will support structural engineering/design of swage bulkheads in ships. Paint adherence will also be tested and compared to stiffened bulkheads.

**Program Funding:** \$935K      **Industry Cost Share:** \$777K

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## Elimination of Over Welding to Reduce Distortion in Naval Shipbuilding Applications

**Project Lead:** Ingalls Shipbuilding

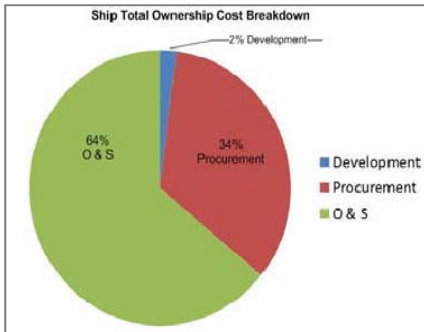
**Team Members:** Applied Thermal Sciences, Concurrent Technologies Corporation, University of New Orleans, University of Maine, Naval Surface Warfare Center-Carderock

**Objective:** Develop an optimization process on weld size control and production process improvement, intended to significantly reduce the cost of lightweight steelwork production.

**Program Funding:** \$1.7M      **Cost Share:** \$1.4M



## Reduction of Total Ownership Costs Through Application of Design For Maintenance and Repair Methodologies



**Project Lead:** Bollinger Shipyards

**Team Members:** BAE Systems SE Shipyards, Todd Pacific, GD Electric Boat, Trident Refit Facility Kings Bay, Naval Surface Warfare Center-Carderock, Matt Tedesco, Hepinstall Consulting Group, V. Dlugokecki

**Objective:** To develop a comprehensive Design for Maintenance (DFM) product (methodologies, repair standards and design templates) that focuses on reducing life-cycle maintenance costs by enabling more efficient installation and replacement.

**Program Funding:** \$1.0M      **Industry Cost Share:** \$840K

## Naval Vessel Ice Capability Optimization Effort

**Project Lead:** GD NASSCO

**Team Members:** GD Bath Iron Works, American Bureau of Shipping

**Objective:** To develop analytical methods and templates to meet a range of Ice Capability requirements for a variety of generic ship types/classes. Results will be independently reviewed and validated by ABS.

**Program Funding:** \$912K      **Industry Cost Share:** \$912K



## 21<sup>st</sup> Century Smart Weld Inspection to Improve Ship Performance

**Project Lead:** Servo-Robot Corp.

**Team Members:** Ingalls Shipbuilding, Newport News Shipbuilding, Marinette Marine

**Objective:** Develop a portable weld inspection tool optimized for shipyard weld joints and applicable weld quality standards. The project will improve the existing Servo-Robot WikiScan portable weld inspection tool and the Portable Weld Inspection Management System (PWIMS).

**Program Funding:** \$456K      **Industry Cost Share:** \$ 364 K

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The National Shipbuilding Research Program (NSRP) is a collaboration of 12 U.S. shipyards working with government, industry, and academia. NSRP's mission is to manage and focus national shipbuilding and ship repair research and development funding on technologies that will reduce the cost of warships to the U.S. Navy and other National Security customers by leveraging commercial practices and improving the efficiency of the U.S. shipbuilding and ship repair industry. NSRP also provides a collaborative forum to improve business and acquisition processes. NSRP is sponsored by the Naval Sea Systems Command and the Program Executive Offices for Ships, Submarines and Aircraft Carriers. For more information, visit: [NationalShipbuildingResearchProgram](http://NationalShipbuildingResearchProgram)

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