

National Shipbuilding Research Program- NSRP

All Panel Meeting

25 FEB 2025

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NSRP Executive Control Board Chair

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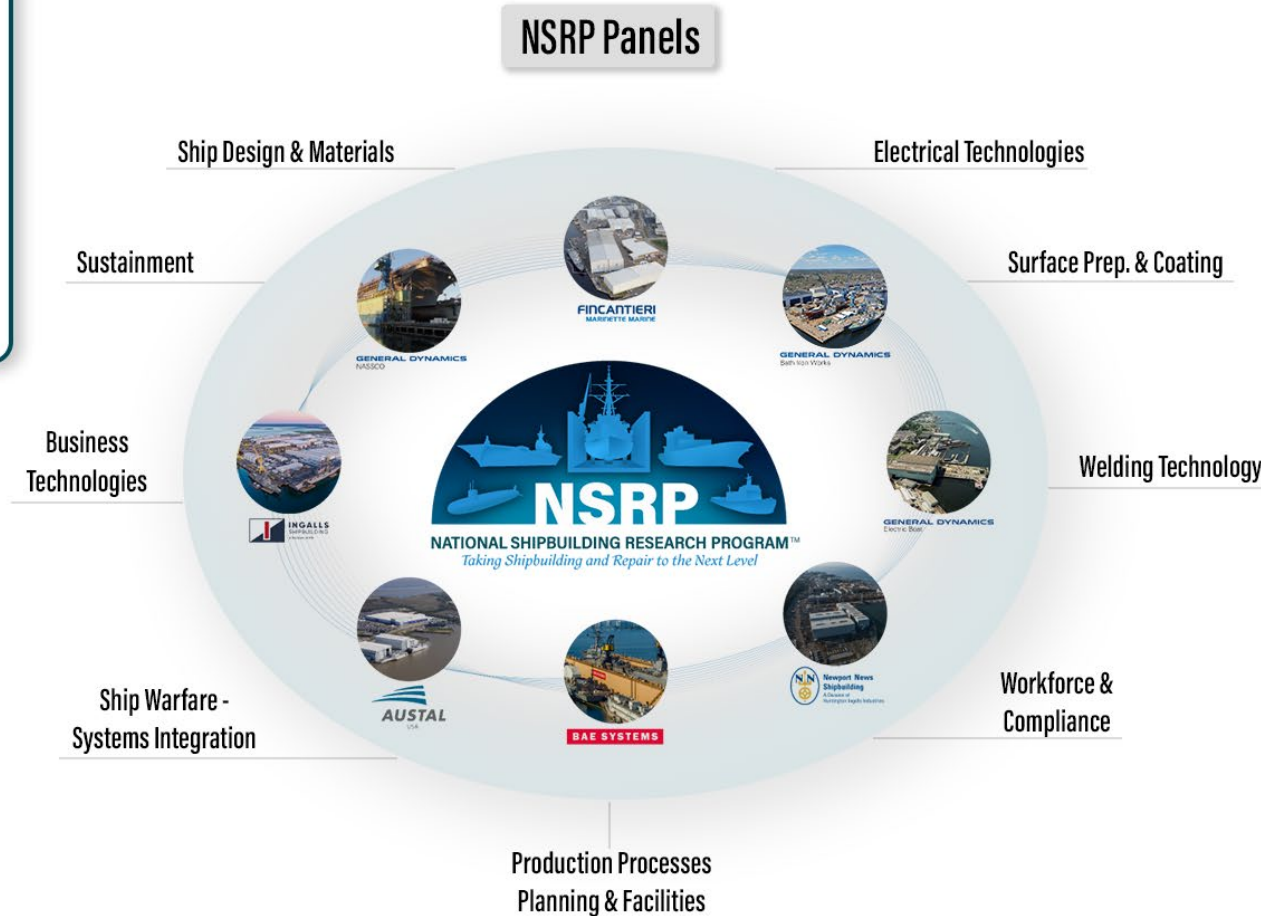
Mission statement: "Employ a unique collaborative framework to research, develop, mature, and implement industry-relevant shipbuilding and sustainment technologies and processes, improving efficiency across the U.S. shipyard industrial base and meeting future demand."

NSRP Collaboration



Government Labs

Government Shipyards



400+ Participating Companies



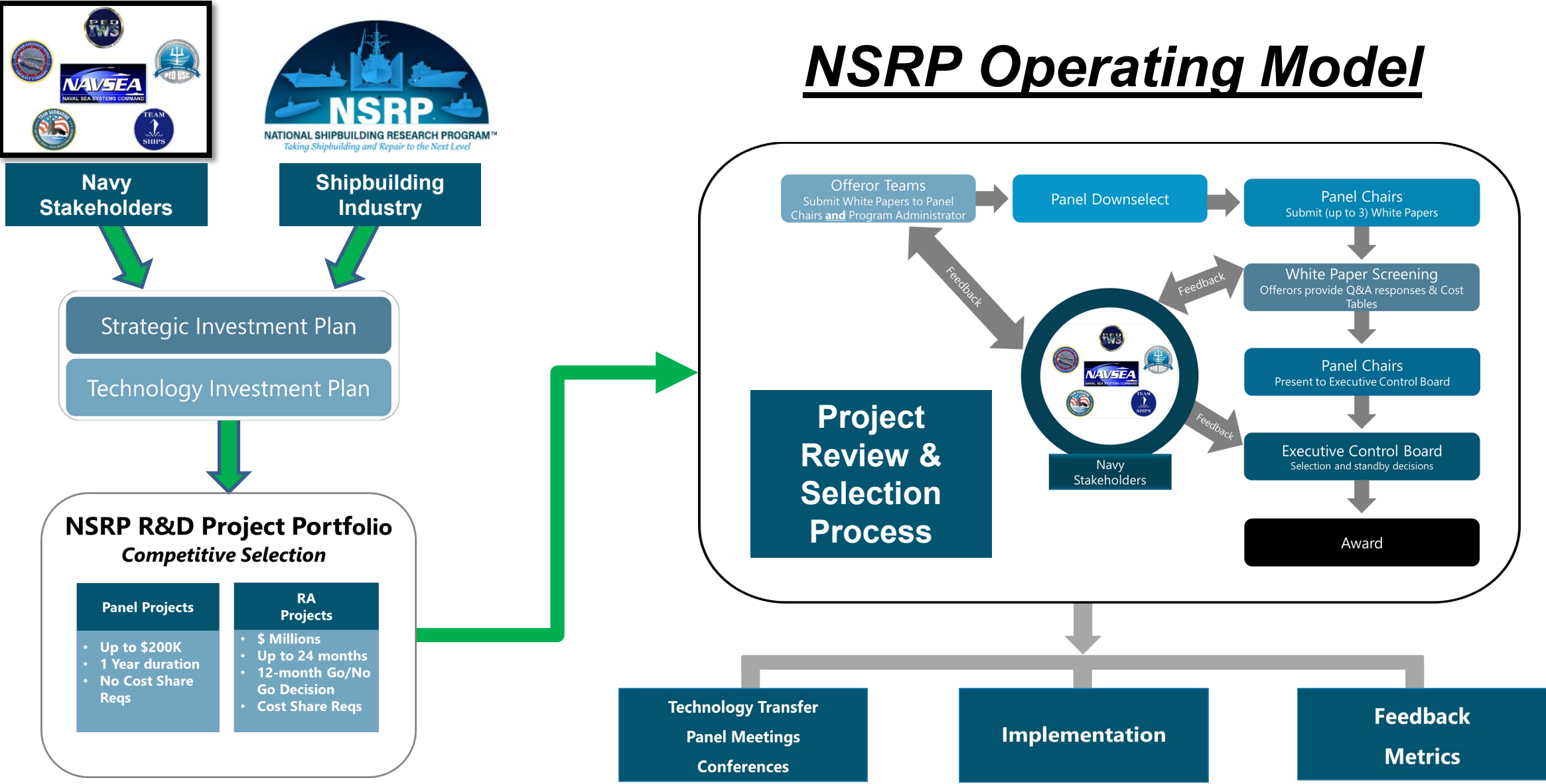
21 Universities/ Learning Centers

Expanding the Reach



Public yards can now endorse NSRP projects increasing both engagement and transition opportunities into the organic industrial base

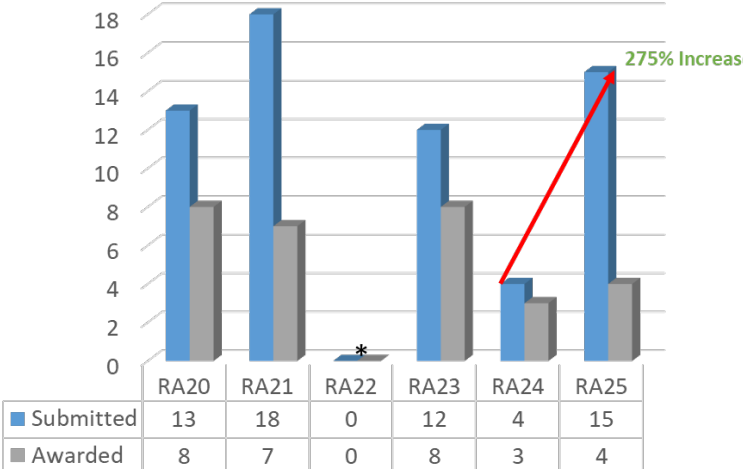
NSRP Operating Model



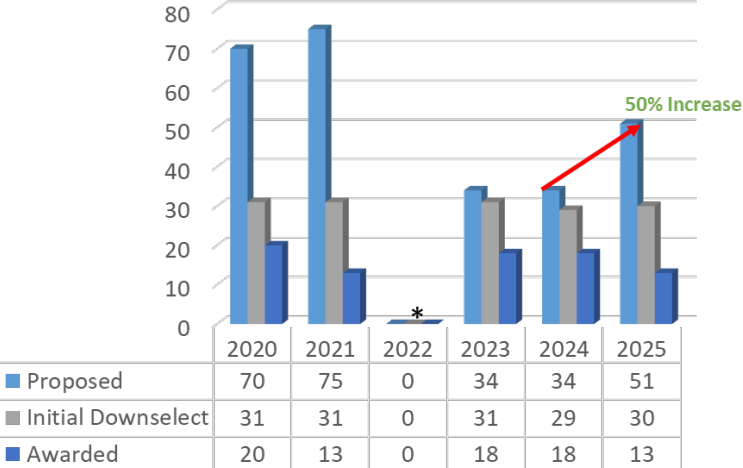
Improvements to Solicitation Process

- December 2023 survey sent to enterprise looking to identify improvements to the solicitation process
- Implemented several enhancements:
 - Earlier and wider outreach for solicitations, including through Panel meetings and SBIR events
 - Relaxed initial cost share requirement for small businesses, non-profits, and academia
 - Launched 'Project Idea Submission Forms' via website; routed 35 ideas through member shipyards; 10 have become proposals
 - Raised the Panel Project ceiling (est. 2011) from \$150K to \$200K
- The Results: 15 RA proposals and 51 panel projects received last year

Research Announcement (RA) Projects



Panel Project Submissions and Award



Thanks for your input – we listened!

NSRP is delivering value to the Navy and Industry

- Continued coordination with PEOs
 - NSRP's Technology Investment Plan, the list of targeted solution needs, covers 96% of the PEO's list of priority interests (gap list)
 - Developed a standard process for review and execution of Navy-initiated funding projects
- NSRP has a solid success rate on R&D investment
 - Of 109 projects completed on current JFA, 38% implemented, 53% planned, and 9% not implemented
- Implemented projects have a ROM 5-year benefit of **\$66M**
 - Rough ROI of these projects is **5.26**
 - 'Planned' projects when implemented will further increase ROI
- NSRP enhances performance of other Industrial programs
 - NSRP preceded or supported 16 recent **ONR ManTech** projects with 5-year ROM benefits totaling **\$221M**

Unique Collaboration for Problem-Solving

NSRP is vital for a strong industrial base

- Multiple venues for Government organizational and technical leaders (TWHs) to engage industry directly, and vice versa
- Industry is demonstrating shared commitment to the program
 - Time and talent, as well as project cost share, to address common needs



The 2023 NSRP All Panel Meeting brought over 400 participants from industry, academia, and government together to collaboratively address issues in shipbuilding and ship repair

Research investments engage a broad band of the industrial base

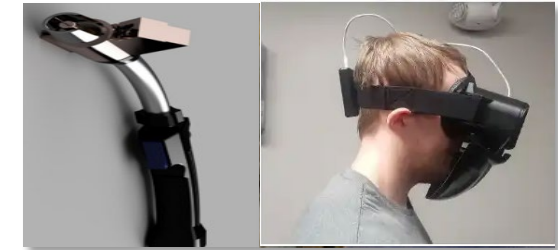
- **40%** of projects were awarded to Small Business (as an OTA, there are no SB goals for the program)
- NSRP offers an enhanced transition path for SBIR/STTR awardees; several SBIR awardees have proposed or been awarded NSRP projects

High-quality collaborations with no contract documents or solicitations to impede sharing

Where the Navy will be tomorrow...

...depends on what we do today to drive towards:

- Improved capability and capacity of the workforce
- Improved speed at which we construct, assess, overhaul, repair, upgrade, etc. every platform
- Reduced time each platform is unavailable for mission tasking
- Reduced cost to build and sustain platforms through their life cycle



**CAMERA “IN THE TORCH WELDING”
(ELIMINATES MIRRORED WELDING)
(2020-302-003)**

Measurable outcomes and transparent communication is key

**SHIPBUILDING APPRENTICESHIP
QUALITATIVE ANALYSIS
(2018-447-017)**



**TELE-WELDING – TELE-WELDING SHIPYARD
PROTOTYPE FOR WELDING (2019-375-006)**



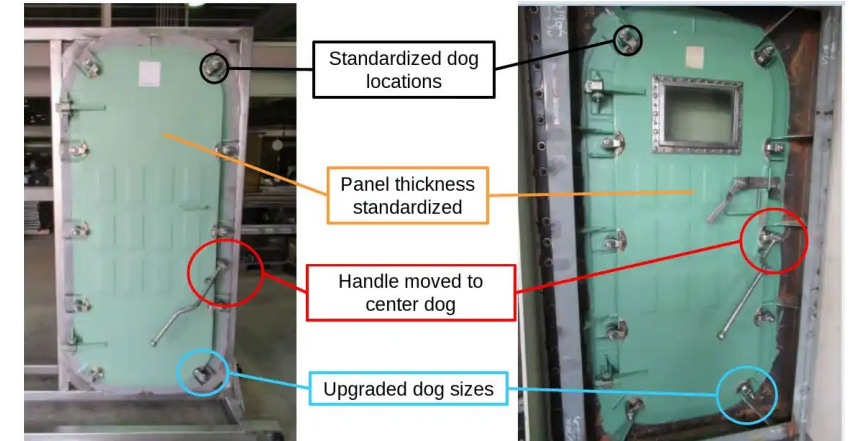
**VIRTUAL SPRAY PAINT TRAINING SYSTEM
(2018-454-006)**

NSRP continues to support the Navy of today and tomorrow

NSRP Projects on Platforms Today

Standardization of Watertight Closures (2016-437)

- Standardized and qualified a family of 6 door sizes and 2 arrangements which cover the vast majority of doors used in new construction
 - Replaces 32 different panel and 36 frame variations
- Reduces design, qualification, logistics, procurement, and rework costs
- Implemented/planned to be implemented



ASTM F1387 Testing for Mechanically Attached Fittings (Press Fittings) (2018-447-016, 2018-447-012, 2005-337A-05)

- Copper and CuNi fittings
- Eliminates hot work fire hazard, especially in fully-outfitted spaces
 - Substantially faster installation time
 - Eliminates need for fire watch labor, and for cleaning/flushing
 - Low defect rate on installation
- Implemented by several yards
- Seeking additional applications for new construction and repair, and in other sizes and materials



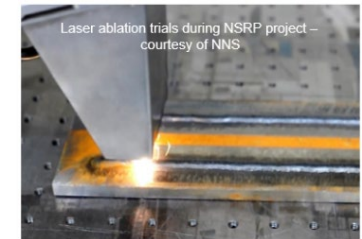
ManTech Engagement

ManTech

- ManTech & NSRP leverages each other's efforts
- ManTech/NSRP active in SHIPTECH and NSRP Panel Meetings for technology transfer
- Since 2020, 16 NSRP and ManTech projects leveraged projects completed by the other
- **Three ManTech projects to be briefed at All Panel leverage past NSRP projects:**
 - ❑ Active S2904 Multi-Function Shipbuilding Robot is using HMMR chassis developed NSRP RA project 2020-303-001 ‘High Mobility Manufacturing Robot’
 - ❑ S2944 Thermal Insulating Coatings is leveraging 2018 Panel Project 2005-340-036
 - ❑ S2823 Laser Ablation of PCP from HSLA Steel leverages both ManTech and NSRP project (2018-482-003)
- NSRP/ManTech projects complement each other, yielding greater benefit for all participants
 - ❑ NSRP RA “Enterprise-Wide Accuracy Control” (2018-455-032) expands on ManTech’s Digital Accuracy Control Management System (S2844)
 - ❑ NSRP Alternative False Deck (2018-455-022) and MCI Alternative Deck Tile Qualification (2018-455-036) implements/leverages the new deck panel developed in ManTech projects S2723 False Deck Panel Improvement



Advanced Development & Implementation of the High Mobility Manufacturing Robot (HMMR) (2020-303-001)



Identify, Evaluating and Mitigation of Ocular Hazards (2018-482-003)



Thermal Insulating Coatings for Achieving R Value (2005-340-036)

NSRP continues to support and leverage ManTech Research

SBIR/STTR Engagement



Unique pathway for technology transition for Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Projects

NSRP Panels meeting provide:

- Network introductions/Teaming opportunities on projects
- Provides a forum for SBIR/STTR awardees to showcase innovative technologies with potential customers (Shipyards/Large Vendors)
- SBIR exhibited at 2023 NSRP All-Panel Meeting

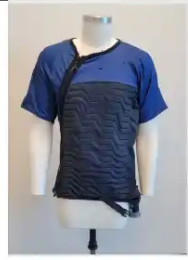

Example SBIR/STTR Awardee: TDA Research is on two FY24 PP projects for Welders Cooling Clothing:

- Evaluation of Newly-Developed Cooling Suit for Improved Worker Efficiency
- Body Cooling Technology Study

SBIR/STTR Coordination

NSRP PM attends NAVSEA SBIR/STTR technology reviews to identify potential NSRP partnerships

- Provides NSRP awareness of innovative small business aligned to NSRP Mission
- Attended NAVSEA SBIR Innovation Forum to encourage SB participation in Panels and solicitations

Suit				
Company	TDA	Ocean IT	Nanomics	Nanomics
Type	Forced Air Evaporative	Pump+ice	Thermoelectric Active Cooling	Cooled air for respirators

NSRP is aligned to support and leverage SBIR/STTR Transitions

Engagement in NSRP

There is an NSRP panel for every discipline of shipbuilding and ship repair

NSRP panels are excellent opportunities to discuss topics with industry as a group

- Attend panel meetings
- Seeking additional panel members

Engagement helps improve shipyard industrial base capabilities

- Identify technical needs
- Review proposals for technical fit and Navy interest
- Submit proposals (RA and Panel) as active participant
- Identify the technical requirements for success
- Monitor project progress

Stay informed

- Regular panel meetings 2-3 times per year
- Articles in The Observer, competency newsletters and LinkedIn
- www.NSRP.org
- Email NSRP@ati.org to get on NSRP Send out List (Panels and General)

NSRP panels and projects help address Navy shipbuilding needs