Naval Shipbuilding and Advanced Manufacturing

THE SIGNAL

Our Mission

The Naval Shipbuilding and Advanced Manufacturing Center (NSAM) is a Navy ManTech Center of Excellence, chartered by the Office of Naval Research (ONR) to develop advanced manufacturing and sustainment technologies and deploy them in the U.S. defense industrial base. NSAM's primary goal is to fund projects that drive manufacturing improvements and ultimately reduce the cost and time required to build and repair Navy platforms.

Inside This Issue...

NSRP

NATIONAL SHIPBUILDING RESEARCH PROGRAM™

Taking Shipbuilding and Repair to the Next Level

NSRP All-Panel Meeting

February 25 - 27, 2025

NSAM3 Award

Advanced Technology International, Summerville, South Carolina, is awarded an indefinite-delivery/indefinite-quantity contract with a total cumulative value of $99,000,000 for the Manufacturing Technology (ManTech) Naval Shipbuilding and Advanced Manufacturing Center of Excellence (NSAM COE). Click here to view press release.

Managed by:

ATI ADVANCED TECHNOLOGY INTERNATIONAL ®

The Naval Shipbuilding & Advanced Manufacturing Center is under Contract No. N00014-24-D-7001 to the Office of Naval Research as part of The Navy ManTech Program.

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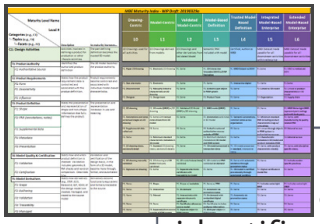
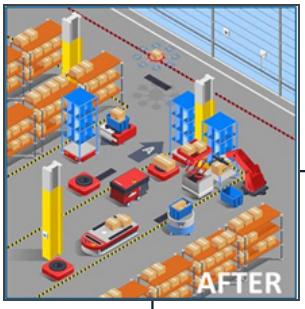
FY24 New Projects



S2976 MBE Maturity Index Update

Period of Performance: August 2023 - April 2025
Platform: DDG
Stakeholder: PEO SHIPs (PMS 400D4)
ManTech Investment: $301,000

Based on widespread manufacturing industry adoption and acceptance of the MBE Maturity Index, Navy ManTech leadership has identified the tool as the preferred method in quantifying specific needs and benefits of Model Based Enterprise projects for future Navy ManTech Ideation Planning Meetings. Navy ManTech leadership expects this project will enable key Navy shipbuilders to evaluate and recommend updates to the existing MBE Maturity Index that will ensure effective and efficient use of the tool in future Navy ManTech projects and related activities.



S2973 Improved Warehouse Efficiency

Period of Performance: September 2023 - January 2026
Platforms: DDG-51, VCS, CLB
Stakeholders: PMS-397, PMS-400D, PMS-450
ManTech Investment: $2,188,000

The objective of this project is to investigate and test true process improvement solutions for antiquated warehouse processes and tools. Process improvements to investigate include streamlining record keeping processes and optimizing rack designs. While resolving the inefficient process concerns, the team will identify technology insertion solutions that could be leveraged to gain further benefit. Technology insertions to investigate include improved storage racks, automated picking technology, and improved warehouse software tools.

A2979-A Improved Leak Detection

Period of Performance: February 2024 - December 2025
Platform: F-35 Lightning II Aircraft
Stakeholder: F-35 Program Office
ManTech Investment: $1,100,000

The objective of this Naval Shipbuilding and Advanced Manufacturing (NSAM) Center project is to investigate and improve methods to detect and isolate leaks from F-35 tanks within the production and sustainment phases. The project will enable mechanics to quickly and accurately identify and troubleshoot leaks on aircraft by investigating relevant technologies, modifying and evaluating leak detection systems in a production and sustainment environment and then developing and demonstrating a prototype detection system.

Integrating Automated Schedule Optimization and Machine Learning into Shipyard AI

Objective:

The objective of this project is to integrate automated schedule optimization and machine learning (ML) into Shipyard Artificial Intelligence (AI) and use these data sets to support more robust construction schedules with closer centers (shorter overall time spans for blocks of vessels), enhanced communication with internal supply chain management departments, and a better consideration to efficiency and safety concerns. The technology developed within this project will not be limited to a single yard, but could be deployed, with the underlying Shipyard AI software, to other locations supporting Navy vessel production.

Payoff:

- Estimated combined five-year savings of $20.7M ($15.6M for NNS and $5.1M for Ingalls) with a combined five-year return on investment of 9.4:1
- Ability for Production Planning and Supply Chain to rapidly inform each other of construction need dates, availability dates, and subsequent changes to reduce risk to schedule compliance
- The tool leverages ML to analyze historical decisions made by capacity planners to create a more robust recommender system that rapidly produces a properly structured footprint by feeding the placement recommendations into Shipyard AI's engine.
- Upgraded Shipyard AI software will be available to the wider shipyard community and include the additional benefits improved upon during the project

Implementation:

Implemented at NNS and Ingalls in FY2024, the system is estimated to save the combined shipyards nearly $21M over the initial five years of use. Additional savings are anticipated when the software is offered to the broader shipbuilding community in FY2025.

S2959 Machine Learning & Schedule Optimization

Status:

Implemented

Period of Performance:

December 2021 - April 2024

Platform:

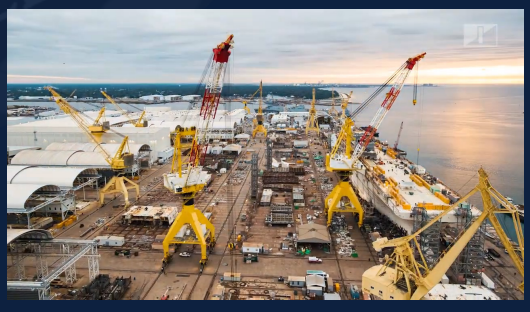
VCS CVN, CLB, DDG

Stakeholder:

HII-Ingalls, HII-NNS, BigBear.ai, Navy ManTech, PMS-450, PMS378, PMS-397, PEO-Ships

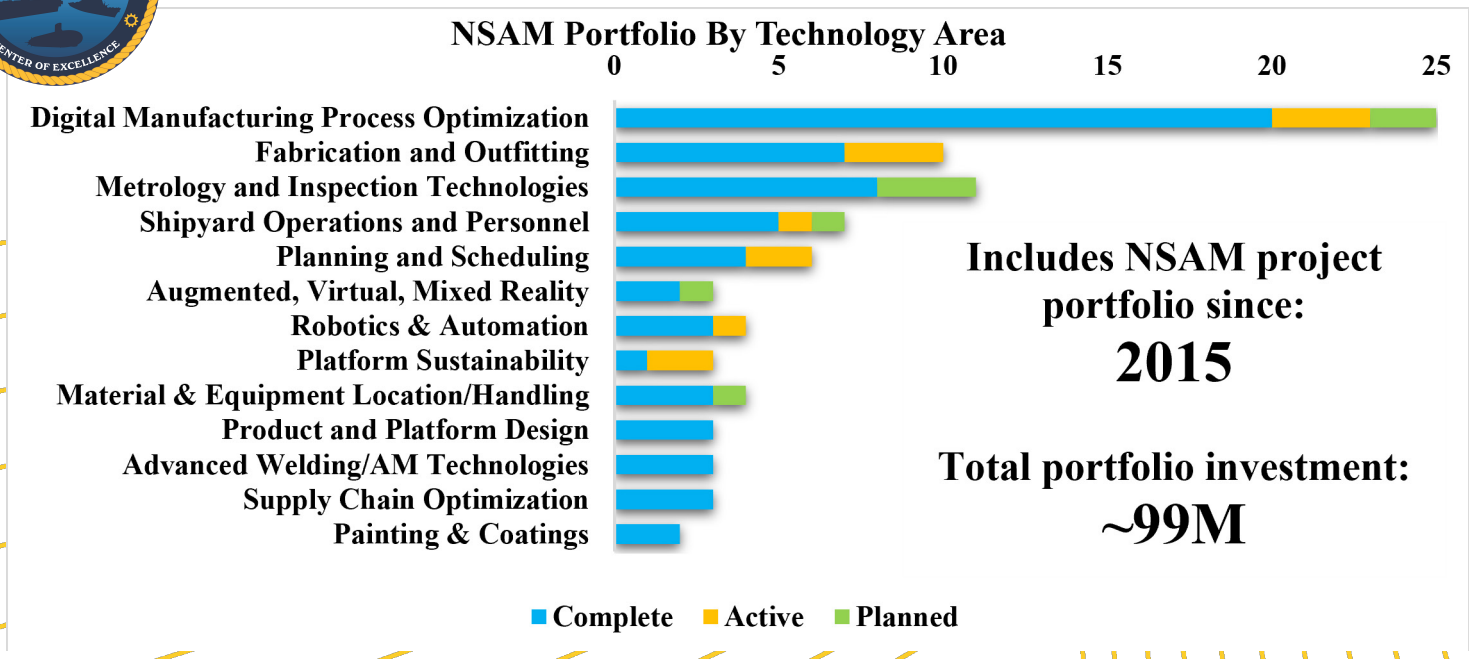
ManTech Investment:

$2,800,000



HII Ingalls Shipbuilding

Image by HII



Recently Attended and Upcoming Events

DMC 24

Defense Manufacturing Conference
December 2-5, 2024
Austin TX

DoD Maintenance Symposium
December 10-13, 2025
Salt Lake City, UT

NSRP
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Taking Shipbuilding and Repair to the Next Level

NSRP All-Panel
February 25-27, 2025
Charleston, SC

Meet the NSAM Team

Daniel Reed, Executive Director

Robert Mashburn, Technical Director

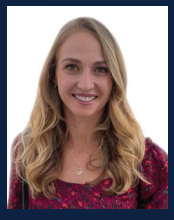
Robert Conley, Project Manager

Steve Gaschler, Project Manager

George Hinerman, Project Manager

Brittany Johnson, Project Manager

Chelsea Murray, Project Manager



Scott Truitt Project Manager