# Panel Update

## Business Technologies Panel

Jamie Breakfield, Panel Chair

*HII – Ingalls Shipbuilding*

NATIONAL SHIPBUILDING RESEARCH PROGRAM™
*Taking Shipbuilding and Repair to the Next Level*

# Organization


Executive Control Board

Program Administrator

Extended Team

Major Initiatives

Information, Design, & Integration

Ship Production Technologies

Infrastructure, Logistics, & Sustainment

Panels

Ship Design & Material Technologies

Electrical Technologies

Workforce & Compliance

Ship Warfare Systems Integration

Planning, Production Processes & Facilities

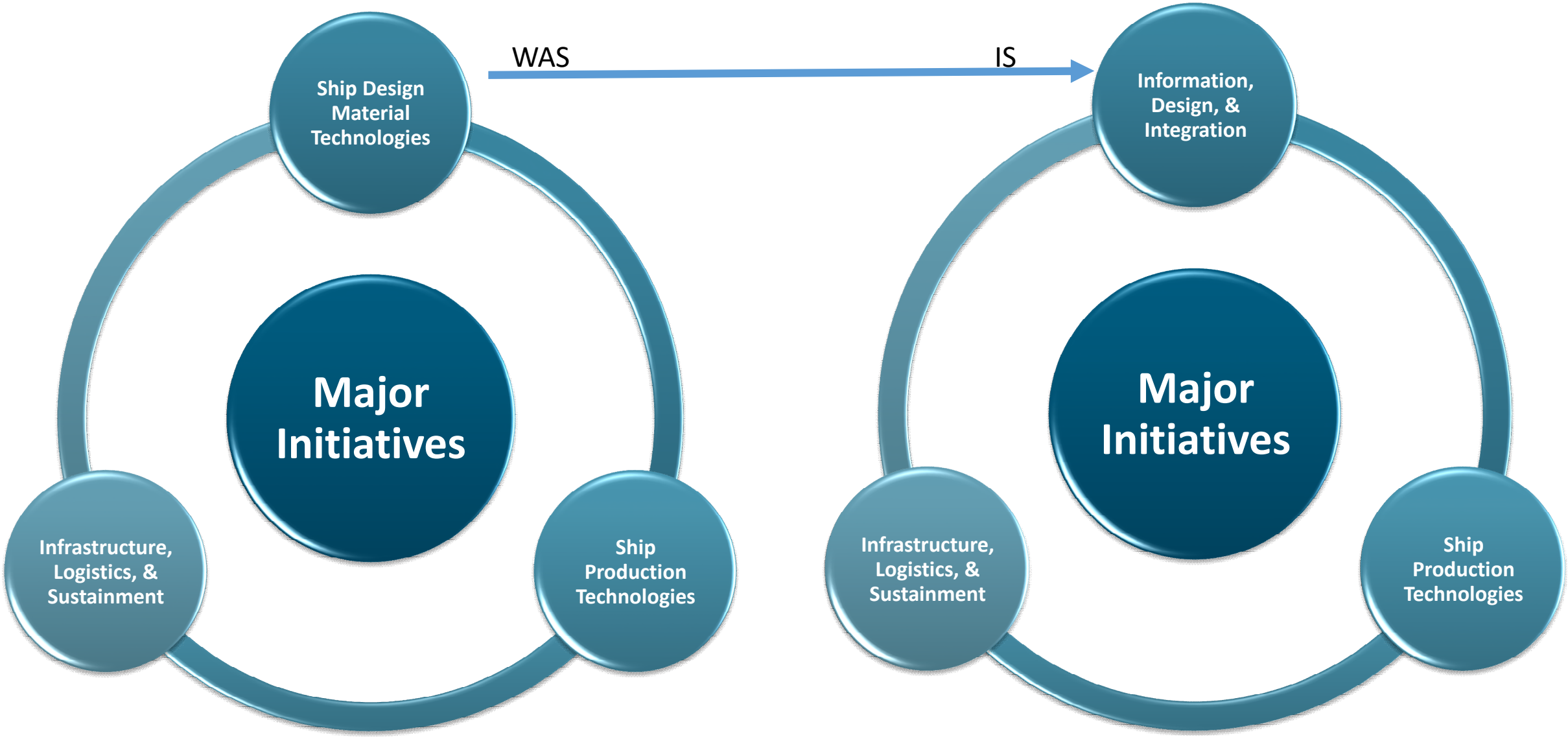
Sustainment

Business Technologies

Surface Preparation & Coatings

Welding Technology

# Major Initiative – Transformation/Alignment



# Business Technologies Panel Leadership

Panel Chair: Jamie Breakfield, Ingalls Shipbuilding

Panel Vice-Chair: Patrick Roberts, SSI-USA

# Business Technologies Panel's Mission

- Focus on emerging digital capabilities, blending process and information to develop advanced solutions that support product lifecycles from concept to disposal.

# Panel's Purpose

- Strategically align with US Navy Initiatives

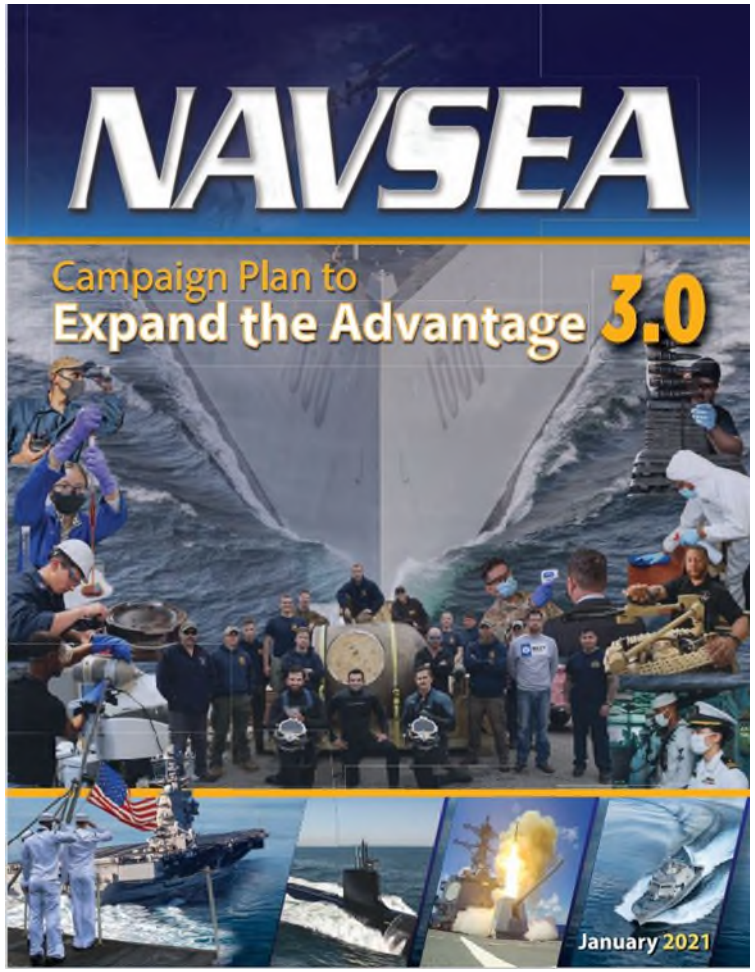
## Business Technologies Targeted Initiatives

1. Advance and Leverage Digital Shipbuilding
2. Enable Digital Thread
3. Work towards MBE/MBSE
4. Cybersecurity Compliance, Solutions, Education & Awareness

# Benefit and Assistance to the Navy, shipbuilding and ship repair industries

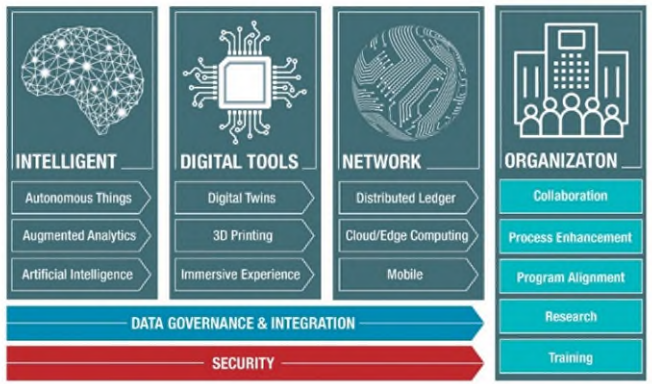
# NAVSEA Strategic Framework 3.0
## Mission Priorities

- Deliver Combat Power: On-time Delivery of Combat Ready Ships, Submarines and Systems
- Transform Digital Capability
- Build a Team to Compete and Win



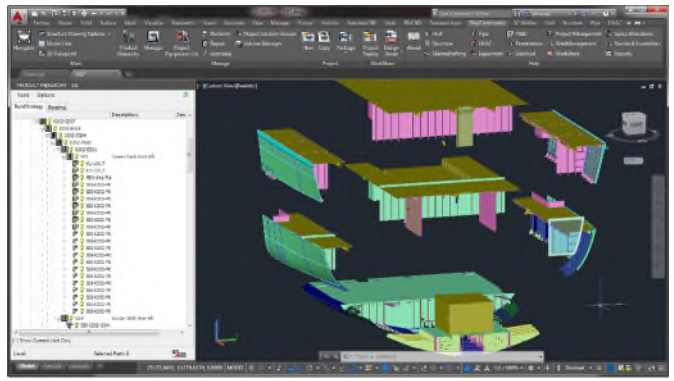
# NSRP BT Panel – Benefit to Navy & Industry

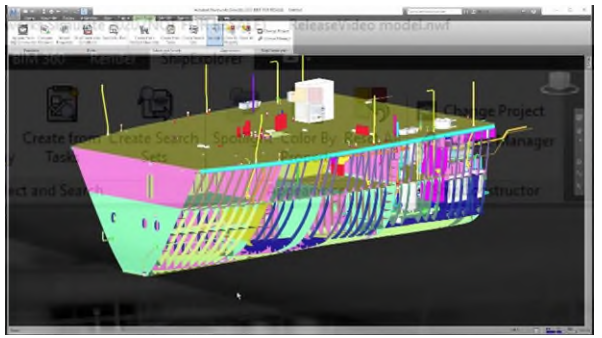
- Forum for collaboration of industry/Navy/vendors
- Navy and industry are in the midst of digital transformation
- BT Panel focus on initiatives that benefit both the Navy and the shipbuilding and ship repair industries
- Seek exposure to and understanding of common problems and vision towards providing solutions

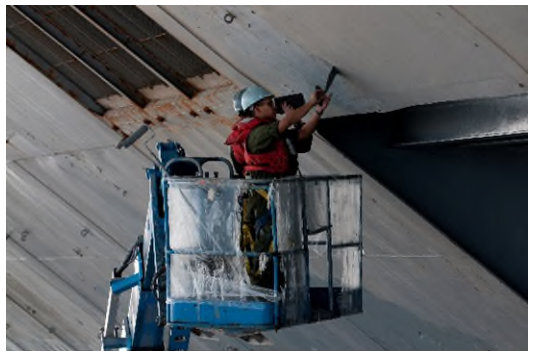




# 2021 Panel Projects

- Automated Detailed Planning and Instant Earned Value Control
  - Benefit: Automate the detail planning process coordinated with the project plan through a direct integration with engineering data allowing for automated sequencing, budgeting, scheduling, resource allocation, and Earned Value Management System (EVMS) control.
- Utilizing Ship Product Model Information for Corrosion Control and Coatings
  - Benefit: Better coupling of product model to paint schedule; leverage product model to assist with paint schedule creation and automate calculation of design variables.

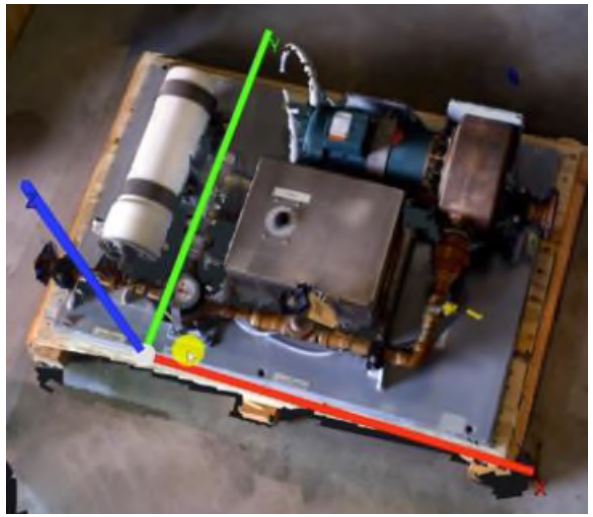


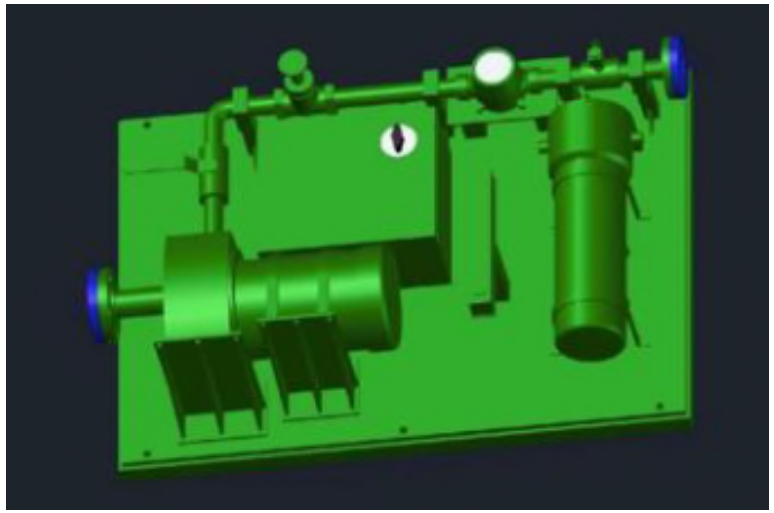


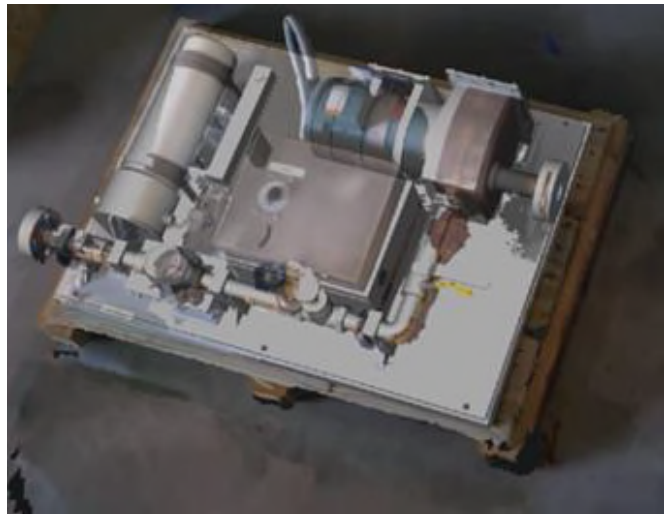


# 2022 Panel Projects

- Equipment Validation Through Scanning
  - Benefit: Provide an efficient process using a COTS handheld 3D scanner to digitally compare items at receiving to the 3D model for verification of form/fit.







# Panel Activities
# Past, Current, and Future

# BT/SDMT Joint Panel Meeting Honolulu, HI

## August 2022

- 71 Attendees Total (44 in person + 27 virtual)
- Tour of Pacific Shipyard International
  - Demonstration of 3 Prototype Vessels
- Collaboration with Pearl Harbor Naval Shipyard and Innovate Hawaii
- 2.5 days
  - 27 Presentations

# Future Activities

- BT Virtual Panel Meeting
  - Panel Project topic discussion/review – August timeframe
- BT/SDMT/Sustainment Joint Panel Meeting Planning
  - August, 2024 – Honolulu, HI
  - Working towards multiple tours

# NSRP SDMT Leadership

- Monika Skowronska: Panel Chair
- Vicky Dlugokecki: Panel Vice Chair
- Dan Sfiligoi: Major Initiative Team Lead
- Michael Gerardi: Major Initiative Team Lead

| Ship Design & Material Technologies |
| --- |
| Chair: **Monika Skowronska** (NASSCO)<br>Vice Chair: **Victoria Dlugokecki** (Naval Consultant) |

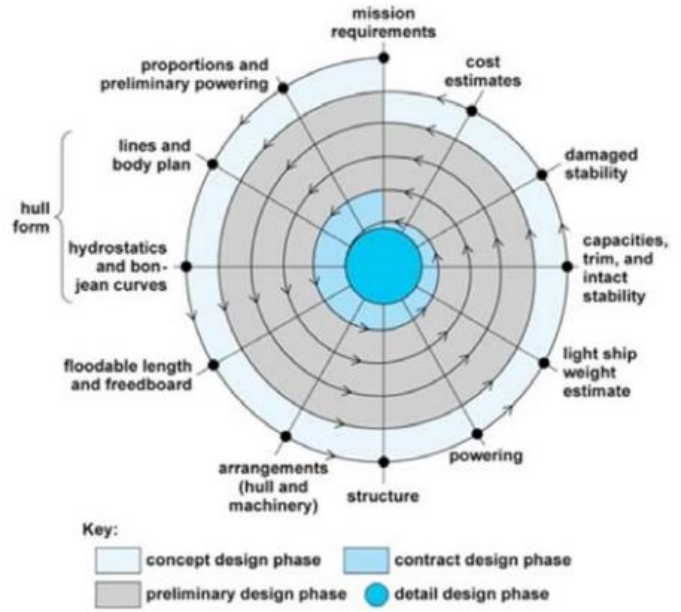
| Ship Design & Material Technologies |
| --- |
| Lead: **Dan Sfiligoi** (NASSCO)<br>Lead: **Michael Gerardi** (BIW) |

# Ship Design and Material Technologies Panel's Mission

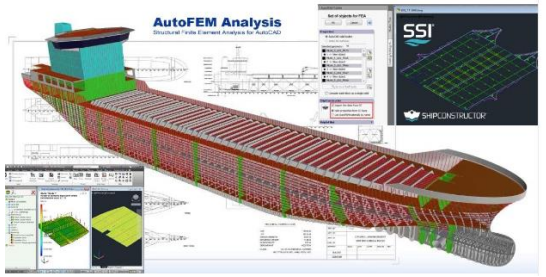
The SDMT Panel focuses on providing increased capabilities and cost reduction initiatives across the complete spectrum of design processes and the identification of materials to support rapid and efficient development, construction, sustainment, and disposal.

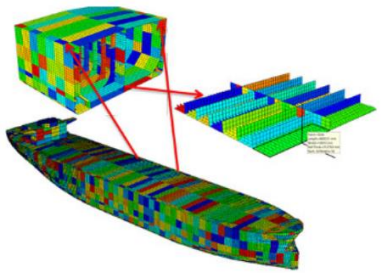
# SDMT Specific Focus Areas

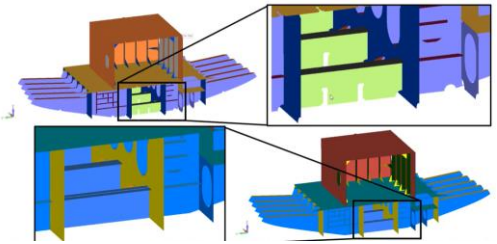
- Improving technologies in early ship design.
- Improving integration of all shipboard systems and undefined mission systems during design.
- Improvement of design technologies, including design and analysis tools, to reduce costs in production engineering and construction.
- Investigate material technologies to improve material performance, standardization, and overall material processes while reducing part count and total ownership costs during all phases of ship design and construction.
- Reduction of re-work in all areas of ship design and construction.
- Improving specifications and standards and investigating new technologies that can be incorporated into Rules or technical requirements documents for both commercial and naval shipbuilding programs.
- Collaborate and partner with other NSRP panels on topics and initiatives that encompass the other panel focus areas.









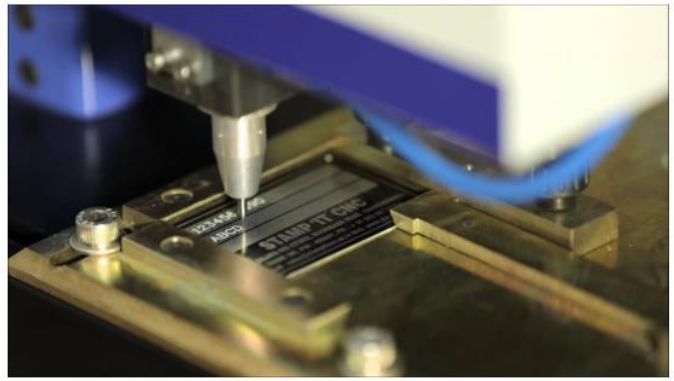
https://www.nsrp.org/sdmt-panel/

# Current SDMT Panel Projects

## Automated Label Plate Generation

- **Project Lead:** Rob Parker, SSI
- **Shipyards:** Austal, Conrad, Fincantieri Marinette Marine

**Goal:** To develop a process to reuse existing data already contained within the 3D design model for label plates. This project will provide a process for passing digital data in a usable format label plate data directly to the supplier through purchasing, provide the label pate digital information to planning, QA, and production, and can be used to develop the Label Plate drawing.



**Reusing the digital data from the 3D Model to the Label Plate Manufacturer / Supplier**

**Dry Stores**
**2 – 10 – 1 – A**

AUSTAL

CONRAD SHIPYARD

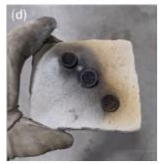
FINCANTIERI MARINETTE MARINE

## Development of an AM Capability for CuNi

- **Project Lead:** Scott Kasen, ElectraWatch
- **Shipyards:** Austal, Electric Boat, Metallum 3D
- **NAVY:** NAVSEA 05T, Dr. Justin Rettaliata

**Goal:** To enable a new generation of CuNi components, the project proposes to employ a first-of-its-kind hybrid manufacturing process. The approach uses the innovative combination of sand 3D printing and microwave heating. The use of this new hybrid process – which does not rely on intense local melting or a powder bed – overcomes the challenges of a Laser Powder Bed Fusion metal 3D printing processes.




ELECTRAWATCH AN AUSTAL USA COMPANY

METALLUM 3D

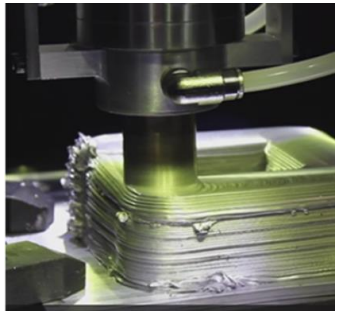
AUSTAL

GENERAL DYNAMICS Electric Boat

# Project Down Select by Panel Member Vote

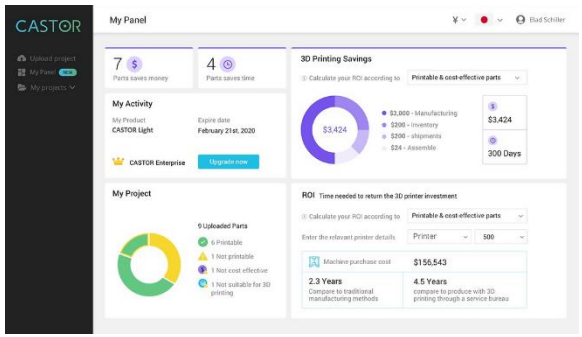
## Using MELD to Additively Manufacture Flight Deck Tie Downs

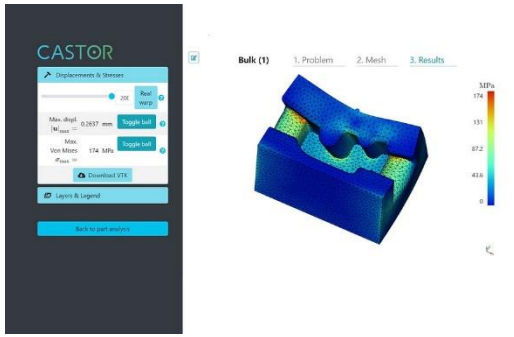
Hepburn and Sons, MELD Manufacturing, Ingalls Shipbuilding, NSWC Carderock, NSWC Philadelphia)



## 3D Printing of Supply Sensitive Parts

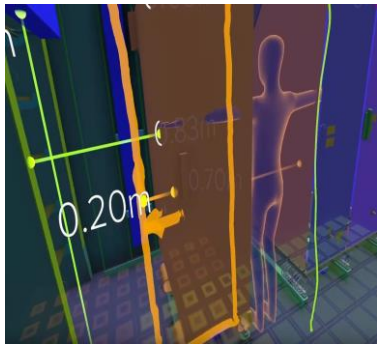
NASSCO, General Dynamics – Electric Boat, Additive Manufacturing Tech Warrant Holder, Submarine Industrial Base Director, PEO SSBN)




## Next Generation of Design Review: Deeper Analysis with Zero Travel

SSI, Fincantieri Marine, Ship Space, D'Angelo Technologies


## Blucher Stainless Steel, Push-Fit Drainage System

Watts Water Technologies/Blucher, Fincantieri Marinette Marine, Hi-Test Labs