



CNRMC Innovation for NSRP

17 Sept 2024

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Discussion Framework



Motivation

Quick Review

- Innovation Strategic Plan
- ONR Technology Transfer
- Innovation and Experimentation Campaign Plan (IECP)

Lines of Effort and Related Projects

Collaboration

- CNRMC 'Show me Anything'
- Ships S&T, SEA 05T
- Non-traditional pathways



Motivation



Innovation: Reduce DoMD

Maintenance and Sustainment is complex

High level scrutiny

Growing performance concerns

Approach

- **Organize**
- **Man**
- **Train**
- **Equip**

Culture

National Security Goals



Navy Times

[https://www.navytimes.com/news/your ...](https://www.navytimes.com/news/your...)

Navy ships face growing maintenance delays, costs

WEB Feb 4, 2023 · While **maintenance** delays, casualty reports and parts cannibalization have increased in the surface fleet, days underway have decreased.



The Maritime Executive

<https://maritime-executive.com/article/...>

U.S. Navy's Surface Fleet Faces Worsening ...

WEB Feb 1, 2023 · For 10 key ship classes, mechanical casualty reports are up, **maintenance** delays are up, cannibalization is up and costs are up - all as the service faces increasing odds of a high-end fight in...



U.S. Naval Institute

<https://www.usni.org/magazines/proce...>

Change the Surface Navy's Maintenance Philosophy.

WEB After two decades of consuming service life through abnormally high operational tempo and deferred **maintenance**, the **Navy's** current **maintenance** philosophy will not recoup the material condition lost.



National Defense Magazine

<https://www.nationaldefensemagazine...>

Navy Chasing North Star of 75 Available Surface Ships

WEB Mar 14, 2024 · While the Navy, Defense Department and Congress continue to debate how many **ships** the Navy needs — with assessments ranging from some 290 to 380 manned **ships** — the service has set a “North Star” ...





Quick Review



- SEA21/CNRMC Innovation Strategic Plan for *Organize, Man, Train, Equip*
- **Innovation is implementing changes in technologies, processes, business and policy to be faster and better at our mission to fix ships**
- MARMC/SWRMC/SERMC are ONR-approved Navy Transition Activity
 - Each activity has an 'ORTA' (Office of Research and Technology Agency) Rep
 - ORTAs are POCs for new ideas (spin in/spin out)
 - Additive Manufacturing to replace broken parts
- Innovation and Experimentation Campaign Plan
 - Established Lines of Effort (LOE) via interviews, bottom ups suggestions
 - Aligned to NAVSEA Strategy
 - Used to communicate with potential partners
 - Reduce DoMD
- Focus by Leadership



Lines of Effort & Example Projects



IECP Lines of Effort

LOE 1: Digital Transformation for Waterfront Execution and Planning Accuracy
Wireless Connectivity for IWT with USCG
Shipmate/iMAPS – space planning SBIR

LOE 2: Automation of Communication and Reporting
Jira workflow management and metrics generation (w NMD/SMDII/MRO)
Alteration Installation Team (AIT) Tracker

LOE 3: Structural Health and Performance Based Maintenance
Insertable Stalk Inspection System (ISIS)
CRADA for Flexible Non-Skid, EX Paul Foster install

LOE 4: Additive and Advanced Manufacturing
Training sailors in metal/polymer printing and installation on ships

LOE 5: Marine Systems Engineering
Technical process management for propeller shafts

Focused Topics of Interest

UHP Water Blasting for hulls

Tank and Void Inspection Improvement, better and earlier

Propulsion Shaft Unshipping/Installation (Chancellorsville BDAR)



Wireless Fire Alarm System

Coast Guard prototype Notifier system with a readily available panel for interim use until shift to 3.0 wired panel.

Upgraded sensors will be hard wired properly through transits.

Fireline wired sensors

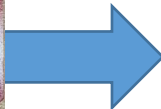
Fireline Security Provided Honeywell Notifier Panel (no text and dial out)

STS417 panel for text and dial out

Daily rounds to certify system

One week turnaround for installation

Currently Installed on SEQUOIA and HARRIET LANE





Shipmate/iMAPS



SHIPMATE SBIR transitioned to Phase III to SEA 21 iMAPa (NSWC Corona)

Software allows leaders and PMs/waterfront managers at RMCs to execute by answering three key questions:

1. Given a specific Work Item Number, what spaces are affected?
2. Given a Ship Location, what is going on in the space?
3. Given a Major System/Category, what and where are the relevant Work Items relative to completion goals?

Questions through search functionality and an interactive ship image map giving users the ability to identify space locations by work item numbers.





Jira for Workflow Analysis/Metrics

ASN(RDA) COTS software for Navy-Maintenance Repair Overhaul (NMRO)

NAVSEA, NAVAIR, NAVWAR have licenses

SWRMC is currently using it for all CNO Avails, expanding to other RMCs

Jira is used to: enhance project visibility, team collaboration, support agility when changes are needed, provide customization and integration options tailored to project management teams

More than 40,000 companies use Jira to manage work and track progress across complex, distributed projects

RMCCTR: Contracts, Contract Mods, CLINs and RCCs / Rich Filter Controller

Ship ▾ Assignee ▾ Q SSP Q Contract Number Q CLIN Q MOD or TDL # Status ▾ Order Type ▾ Availability Type ▾ Change Type (list) ▾ Sponsored by ▾ Resolution ▾

Additional Details ▾ Project Manager ▾ Contract Specialist ▾ KO ▾ Q Work Item # 3 1/2 RCC Number Created Vendor (list) ▾ Q Funding Document Number Command ▾

3 1/2 Initial Funding Amount

RMCCTR: Contracts, Contract Mods, CLINs and RCCs / Contracts

Contracts Contracts - Additional Info Contract RCC Times

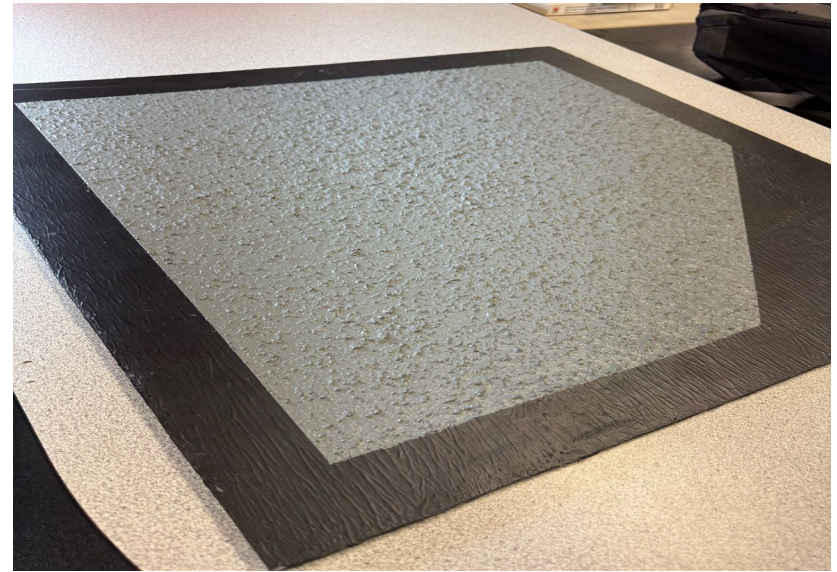
Summary	Ship	SSP ↑	Availability Type	Status	Assignee	Avail Start	Avail End	DO / Contract #
LCS Class-FY25-LCS PMAV--FMC	LCS Class	LCS-FY25-PMAV-FMC	LCS PMAV	FUNDING RECEIVED	Kathryn Carrillo	2024-10-01	2025-03-31	
USS Wichita LCS-13-FY24-CMAV-8-24	USS Wichita LCS-13	SERM-028-24	CMAV	DRAFT	Tom Schlosser (CTR)	2024-06-11	2024-06-30	
USS Billings LCS-15-FY24-CMAV-3-24	USS Billings LCS-15	SERM-033-24	CMAV	DRAFT	Tom Schlosser (CTR)	2024-06-12	2024-06-30	
USS Mississippi Coast LCS-21-FY24-CMAV	USS Mississippi Coast	SERM-042-24	CMAV	EXECUTION	Scott Bushard	2024-06-01	2024-06-30	NEED2624FVVVV



Flexible Waterproof Non-Skid



Observations aboard a ship in Norfolk



Product under consideration/testing

Observations of deck in multiple areas revealed unknown amounts of corrosion under non-skid



Multi-Cable Transits (MCTs)



Recorded observations of MCTs aboard a DDG in Norfolk



As Designed

Repaired

- Navy needs a cheaper faster way to reliably repair MCTs
- Improvements to be made during Industry/Government design



Collaboration



We are very interested in continuing the collaboration with NSRP

In addition, we are actively partnering with:

PEO Ships S&T, SEA 05T, Warfare Centers

Take advantage of our spin-in/spin-out capabilities (ORTA)

CNRMC 'Show me Anything' – monthly demos and discussion of innovative ideas (processes, technologies)

Looking for non-traditional pathways to innovate

- University STEM
- Skills training and certifications



Questions and Comments

