



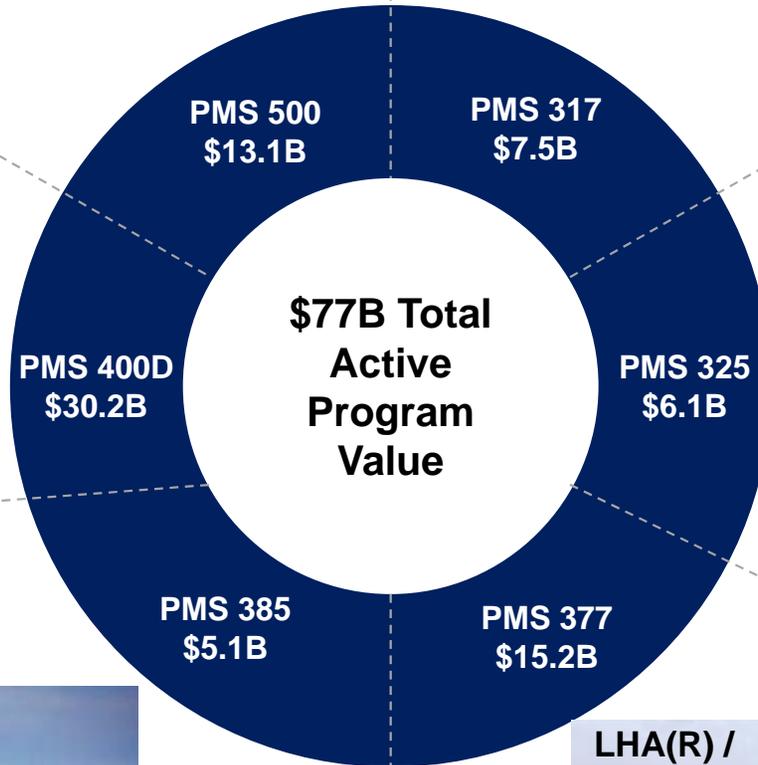
*NAVSEA
Team Ships
(PEO Ships and SEA 21)*

Cybersecurity Industry Day

October 30, 2015

PEO Ships Acquisition Programs

Six PMSs
 7 ACAT I
 2 ACAT II
 5 ACAT III
 29 NON-ACAT
 FMS



Support Ships / Boats & Craft



Future Programs: T-AO(X) and T-ATF



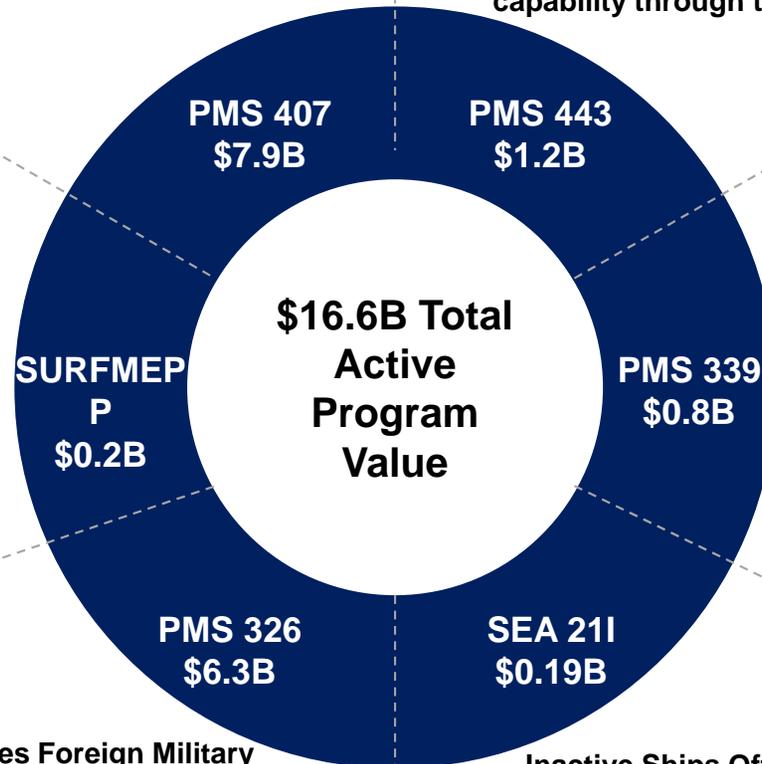
SEA 21 Portfolio

ACAT I Equivalent Programs: DDG Mod, CG/LSD Phased Mod \$16.6B through FYDP managed including backlog

Surface Ship Modernization: Lead and integrate all surface ship modernization policy, planning, and execution.



Surface Ship Readiness and Sustainment: Lead and manage comprehensive portfolio of programs providing surface ships with the highest level of operational readiness, and sustain ships at peak capability through their service life.



Surface Training Systems: Single point of contact for strategic program planning, policy, acquisition, life cycle management and technical insertion for existing and future Navy Surface Training Systems.



Surface Maintenance Engineering Planning Program: Provide centralized surface ship lifecycle maintenance engineering, class maintenance and modernization planning and management of maintenance strategies aligned to Fleet needs and priorities.



International Fleet Support: Executes Foreign Military Sales programs to support the operational readiness of our international partner's ships, boats, systems and equipment.

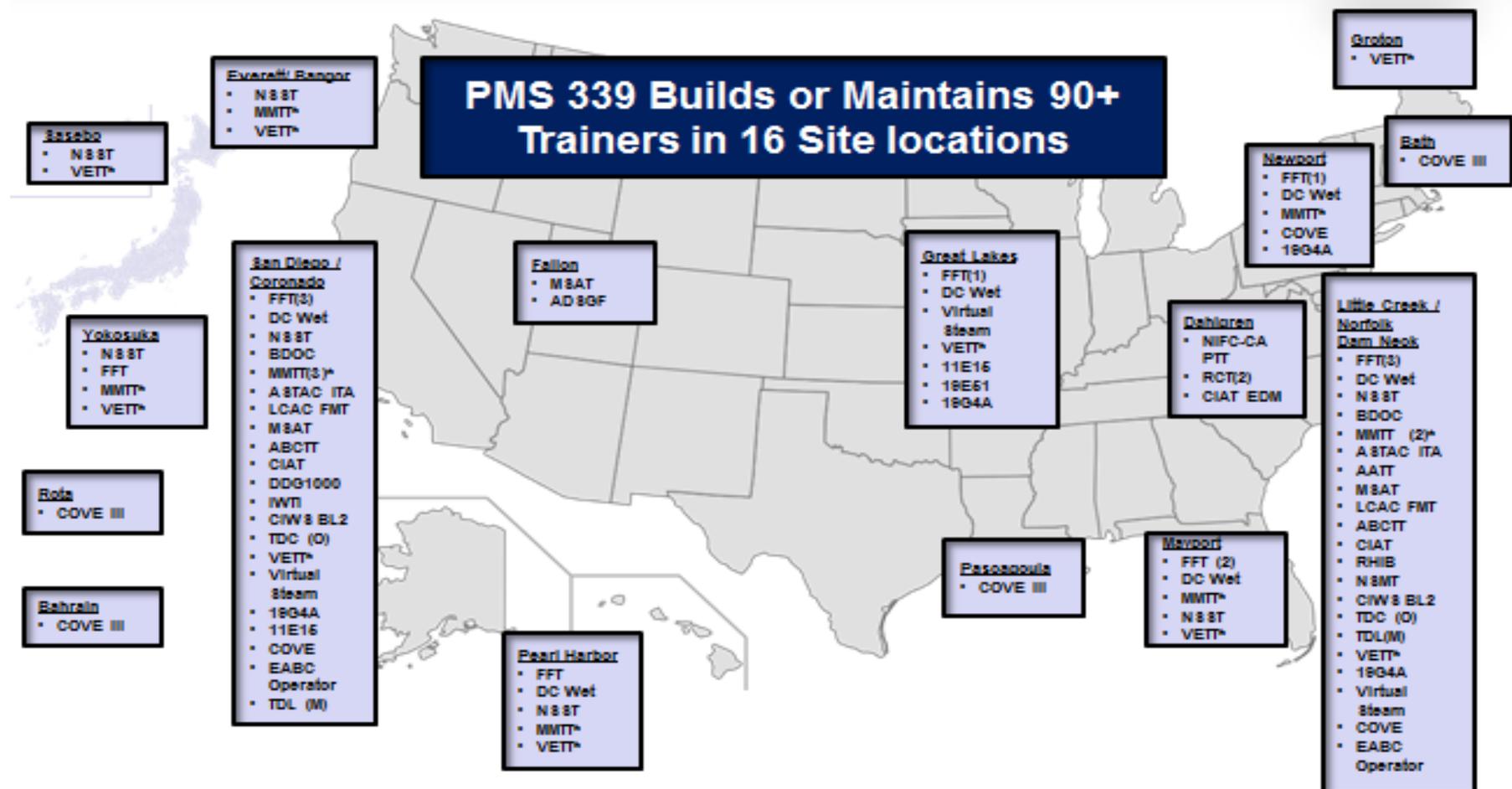
Inactive Ships Office: Support the Fleet with inactivation, inactive retention, and disposal of the Navy's conventionally powered ships and service craft.

Hull, Mechanical & Electrical (HM&E) Systems



PEO Ships and NAVSEA 21 Will Be Primarily Focused On Providing Increased Cybersecurity For H,M&E Shipboard Systems

Shore-Based Training Systems



High Fidelity Tactical-based Systems



High Fidelity Emulation Labs



Electronic Classrooms with Gaming-based Trainers

H,M&E & Training System Cybersecurity Challenges



- **H,M&E Systems**
 - **H,M&E shipboard control systems are different than traditional IT systems in the way that they are utilized and supported over their life cycles on our ships**
 - **Computer-based H,M&E systems are designed to be fielded, maintained and replaced through obsolescence - not in response to rapid cyber threats**
 - **H,M&E systems are designed for a lifespan much longer than the technology comprising them**
 - **H,M&E system are baselined to maintain configuration management and reduce non-recurring costs**
 - **Vulnerability remediation requires costly, system-wide regression testing**
- **Training Systems**
 - **Additional challenges with alternate training configurations and different usage environments**
 - **Cybersecurity tools have to work seamlessly with distributed training architectures to participate in distributed training events**

The Team Ships Overall Strategy for H,M&E Cybersecurity



Goal: Protect, detect, respond and recover from a cyber attack to our H,M&E Systems

	Applicable To:	
	Legacy In-Service Ships	New (Future) Ships "Ideal State"
Keep individual H,M&E system operating systems current and proactively implement security updates in a controlled manner to ships w/regression testing	✓	✓
Reduce Our Attack Surface - Remove direct H,M&E connections to the Global Information Grid (GIG)	✓	✓
H,M&E Cyber hygiene process Improvement (password changes, disk virus scans, remove unneeded USB ports)	✓	✓
H,M&E Process changes - No mass data transfers via the GIG	✓	✓
Add real time H,M&E Cyber Monitoring Situational Awareness Tools	✓	✓
H,M&E computer program re-architecture: Application Whitelisting, Write-Protection, Software-based USB Security, Malware Scanning, Authentication	✓	✓
Separate H,M&E LANs from Navigation LANs where practical	TBD Implement where practical	✓
Delete or minimize direct interfaces to the combat system or other enclaves	TBD Implement where practical	✓
Compartmentalize H,M&E, Combat System, C4I enclaves	TBD Implement where practical	✓
Add a Boundary Defense Capability (BDC) between the H,M&E enclave and the other shipboard enclaves	TBD Implement where practical	✓

Team Ships Cybersecurity Products/Services - Areas Of Interest



Products

- Cybersecurity situational awareness and event monitoring products
- Network intrusion detection system products
- Network intrusion prevention system products
- Backplane monitoring devices
- Firewall products

Services

- Qualified cyber professionals to assist in the Information Assurance accreditation process

PEO Ships and NAVSEA 21 Both Plan To Implement These Types Of Products/Services And We Are Interested In What Industry Has To Offer

Team Ships Cybersecurity Points of Conduct



Deputy Director, Acquisition Management - (202) 781-2253

Technical Director of Surface Training Systems - (202) 781-4913

Team Ships Information Assurance Manager - (228) 769-4901

AN/USQ-82(V) GEDMS, HM&E and IC LAN Program Manager - (540) 653-6737