NAVSEA Technology Needs

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NAVSEA Organization (made simple)

NAVSEA Commander VADM McCoy
Vice Cdr Executive Director Staff

Program Executive Offices
(PEOs)
- Ships
- Submarines
- Aircraft Carriers
- Integrated Warfare Systems
- Littoral and Mine Warfare >>> to Littoral Combat Ship (soon)

Headquarters Directorates
- Most notably for this venue
  SEA 04 (with naval shipyards, supships)
  SEA 05 (Naval Systems Engineering)
  with a dozen tech groups of which one is 05T (Technology ie R&D)

Naval Labs
- NSWC (surface)
- NUWC (undersea)

Fuller & official org chart at http://www.navsea.navy.mil/Organization/HQ.aspx
Serve as Primary SEA 05 R&D and Technology Transition Staff

Focus on transitioning technology from S&T to the Acquisition Programs and Fleet

Manage assigned R&D Programs

Develop a workforce that can effectively lead and transition technology into the fleet

Partner with S&T Community, Industry, Acquisition Community, and the Fleet to produce technology development strategies and transition technology into the fleet
Naval Technology Needs for Today’s Fleet

• Technologies promoting the ability to affordably modernize to meet evolving threats
  – Open Architecture
  – Modularity
  – Increased Distributed System Capacity (electrical power, chill water, etc.)
  – Ability to interface with new aircraft (MV-22, JSF, etc.)
  – Ability to interface with off-board unmanned systems.

• Technologies that improve material condition of ships
  – Corrosion Control
  – Reliability improvements

• Technologies that reduce the Total Ownership Cost of Today’s Fleet
  – Energy Efficiency
  – Reduced Manning
  – Improved training methods

• Analytical Methods to enable calculating Return on Investment of Open Architecture and Modularity
  – “Real Options”
Naval Technology Needs for the Future Fleet

- Architecture driven Product Lines
  - Next Generation Integrated Power Systems
  - HVAC 21st Century
  - Open Architecture Combat Systems
- Affordable incorporation of evolving technologies
  - Railguns and Directed Energy Weapons
  - Unmanned Vehicles and Autonomy
  - New Aircraft (shipboard integration of...)
- Improved Design methods and tools
  - Ship Design Process Modeling
  - Properly Pricing Risk
  - Properly Valuing Flexibility
  - Design, Costing & Analysis Tools
- Total Ownership Cost Reduction Technologies
- Mission Effectiveness Technologies
- Improved Technology Transition Model

Need affordable robustness in a changing world
• The transition opportunities are in the acquisition shops (PEOs).
• FOR SHIPS: Look at annual 30 year Shipbuilding Plan.
• Backup from the first of class ‘award date’ to early design.
• Have a new capability/technology ‘ready for transition’ as design concepts are being developed, competed, selected.

• Less centralized data for warfare systems, HM&E & logistics systems, boats/craft/unmanned vehicles.
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Summary

- Technology & Innovation for Ships, Boats, Unmanned Vehicles & the systems that integrate into them….for warfighting mission payoff.

- Affordable (crisis of cost).

- Transitionable (crisis of productization).

- Utilize existing in new configurations (to be affordable & transitionable)

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