

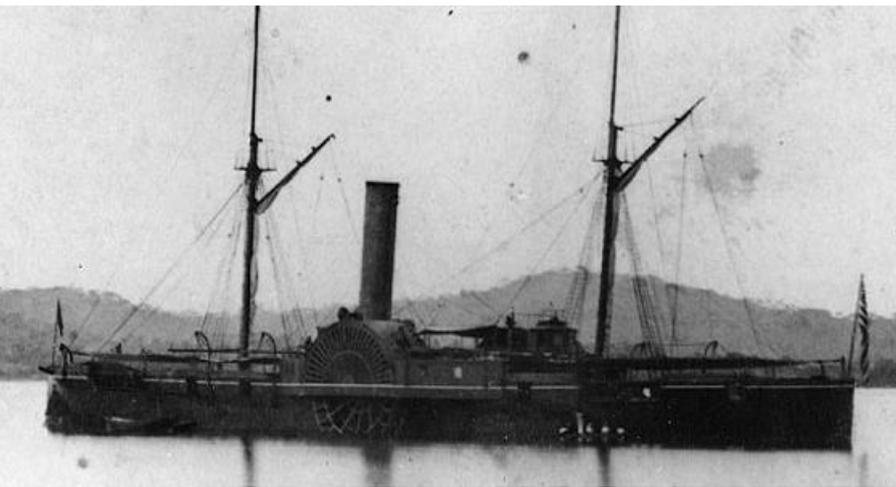


2011 Integrated Warfare Systems Conference

**Rear Admiral Jim Shannon
December 6, 2011**

Navy Post Bellum

- In 1865, the Navy owned 454 vessels.
- In 1866, the Navy owned 320 vessels.
 - Only 246 active. The others were being prepared for disposal.



- In 1885, the Navy owned 39 vessels.
- The number of ships did not significantly increase until the 1890's.

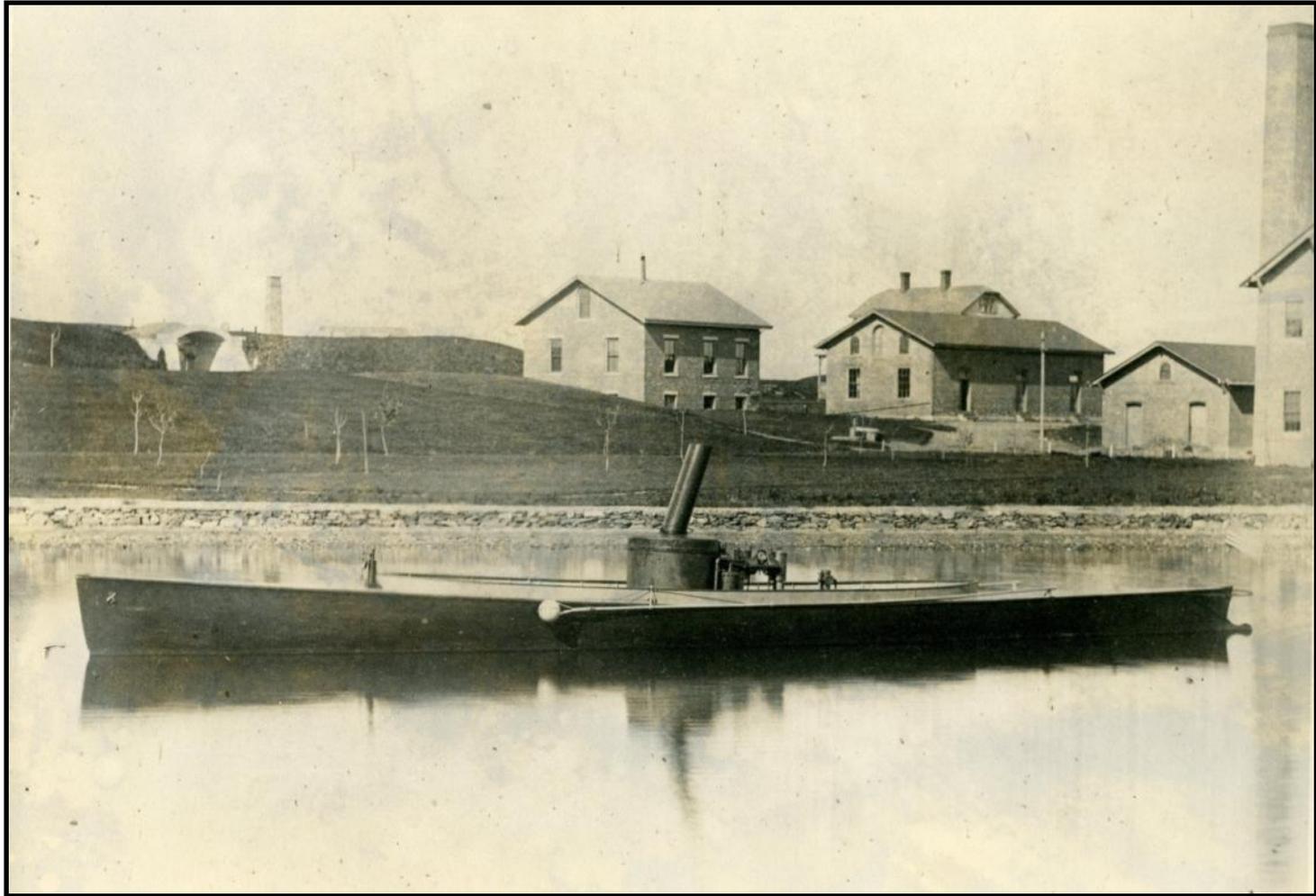
The only war that hasn't involved a major drawdown was the Korean War.

Naval Technocrats circa 1865



The bureaucratic structure of the Navy incentivized those with more traditional skills to stay in the Navy and those with engineering skills to leave.

Civil War Technology: LIGHTNING (c. 1869)



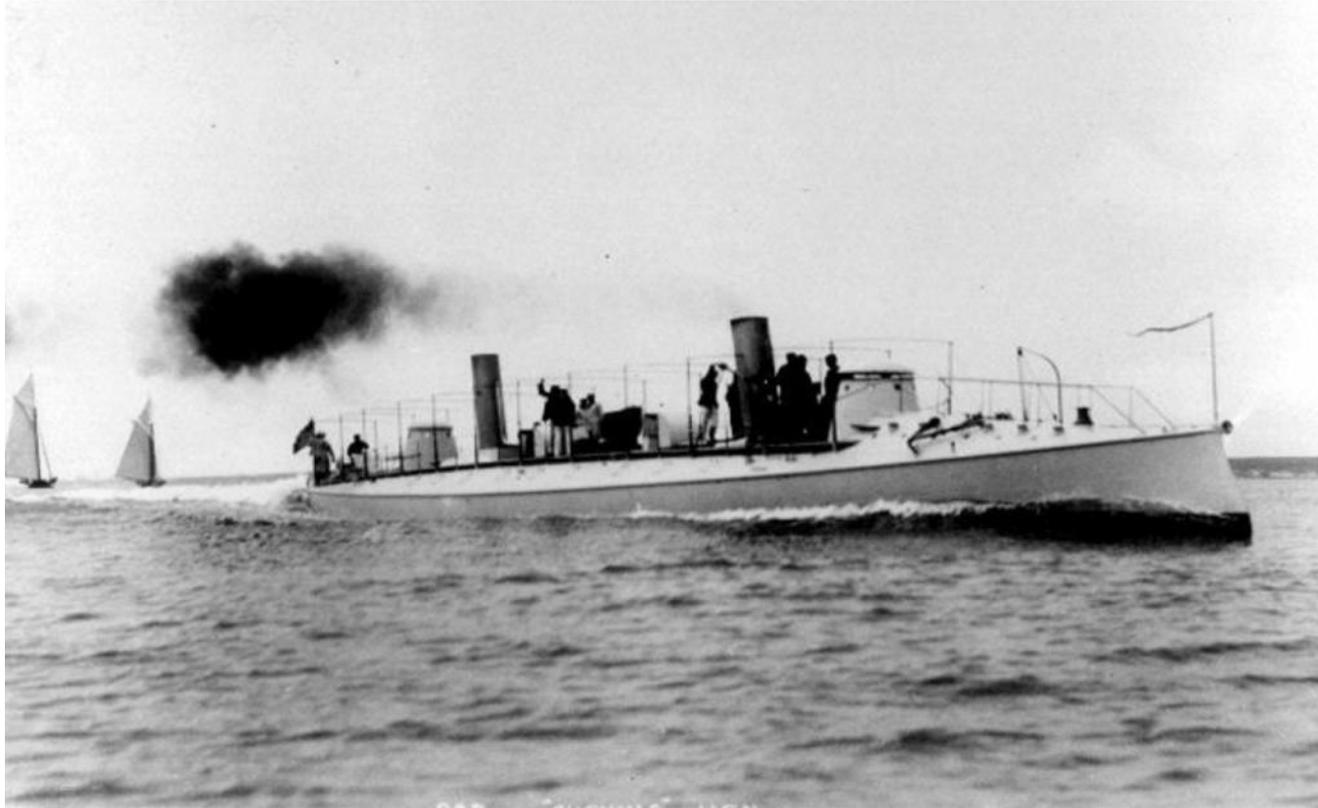
No further US Navy torpedo boat development until 1886.

Admiral David Porter



A return to the old customs

The Herreshoff Torpedo Boats



Innovators of the time

A Brother's Agreement:

- Borrow no money
- Best workers & material
- Build only to our designs
- Sell our designs to no one
- Products advertise themselves
- Contract only with those willing to pay the price

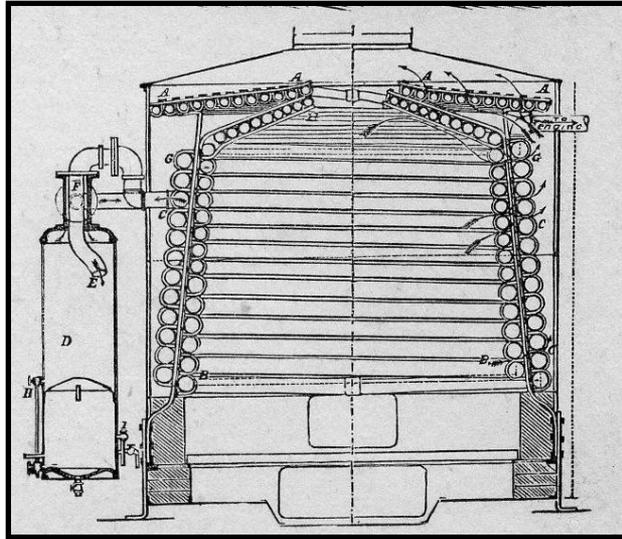


“SBIR” in a different time...

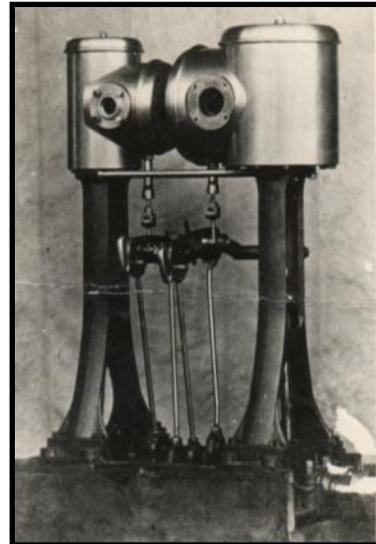
Herreshoff Manufacturing Co. 1868- 1887



The Technology



Coil Boiler



Compound Engine

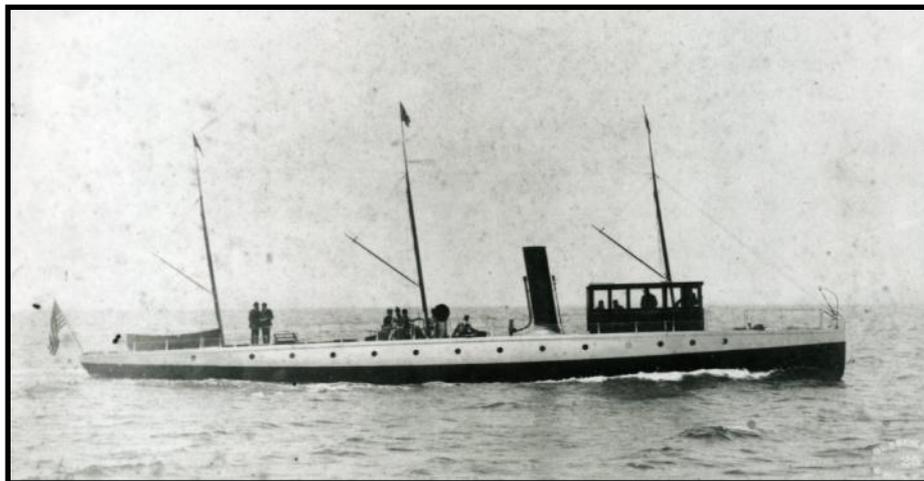
Size	Boilers with										Single Coils									
	Capacity	Length	Width	Height	Weight	Pressure	Temp.	Material	Remarks	Capacity	Length	Width	Height	Weight	Pressure	Temp.	Material	Remarks		
A	20	22	16	18	6 x 9	12	125 x 10	2	3	6	1	1	1	1	1	1	1	1		
B	23	24	19	18	6 x 9	12	125 x 10	2	3	6	1	1	1	1	1	1	1	1		
C	26	27	22	18	7 x 10	12	125 x 10	2	3	6	1	1	1	1	1	1	1	1		
D	30	30	25	18	7 x 10	12	125 x 10	2	3	6	1	1	1	1	1	1	1	1		
E	34	33	29	2	8 x 11	11	14	3	5	10	5.6 x 7.9	1	1	1	1	1	1	1		
F	38	30	32	14	8 x 11	11	14	3	5	10	5.6 x 7.9	1	1	1	1	1	1	1		
G	42	39	36	12	9 x 12	12	12	4	6	12	6.6 x 8	1	1	1	1	1	1	1		
H	46	43	39	12	9 x 12	12	12	4	6	12	6.6 x 8	1	1	1	1	1	1	1		
I	51	47	45	2	10 x 14	13	17	5	7	15	7.6 x 9	1	1	1	1	1	1	1		
J	56	52	47	2	10 x 14	13	17	5	7	15	7.6 x 9	1	1	1	1	1	1	1		
K	61	57	52	2	11 x 16	14	18	6	8	16	8.6 x 10	1	1	1	1	1	1	1		
L	67	64	57	2	11 x 16	14	18	6	8	16	8.6 x 10	1	1	1	1	1	1	1		
M	73	69	62	2	12 x 17	15	19	7	9	17	9.6 x 11	1	1	1	1	1	1	1		
N	80	75	69	2	12 x 17	15	19	7	9	17	9.6 x 11	1	1	1	1	1	1	1		
O	88	86	75	2	14 x 20	16	20	8	10	18	11.6 x 14	1	1	1	1	1	1	1		
P	96	96	83	2	14 x 20	16	20	8	10	18	11.6 x 14	1	1	1	1	1	1	1		
Q	108	110	93	2	17 x 23	18	23	10	12	20	13.6 x 16	1	1	1	1	1	1	1		

Engineered Design Series



Model Testing

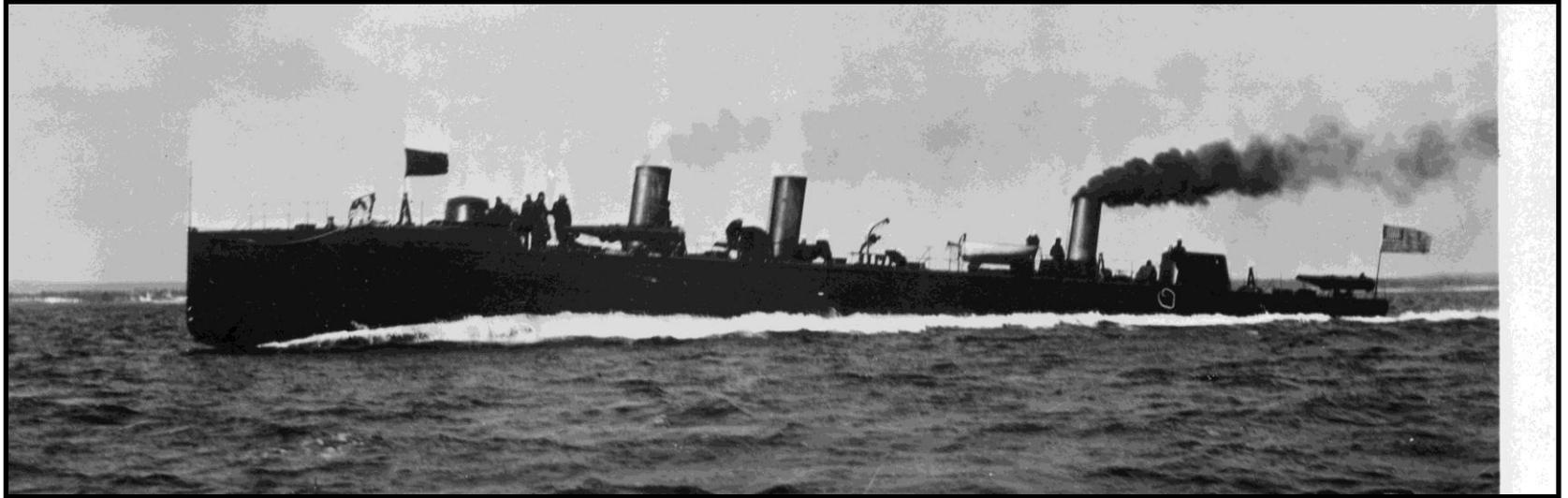
STILETTO 1885- 1887



- Attracted national publicity as a yacht
- Congress authorized \$25,000 for purchase in 1887 for “experimental purposes”
- First bow torpedo tube
- Newport Torpedo Station test vessel until 1911

Torpedo boat type - fitted as yacht

PORTER & DUPONT TB 6&7 1895



- **Congress authorizes 3 boats to be built to Navy specs**
- **HMCo wins 2 to be built per a “Confidential” letter**

Herreshoff Torpedo Boats

A Fitting Tribute



“Herreshoff is as much a master in boat building in general as Edison is in the field of electricity...it is only grief that Herreshoff does not build all our boats or that we do not copy his models and fittings.”

- Lieut. A. P. Niblack, USN; SNAME Transactions 1899

Mission

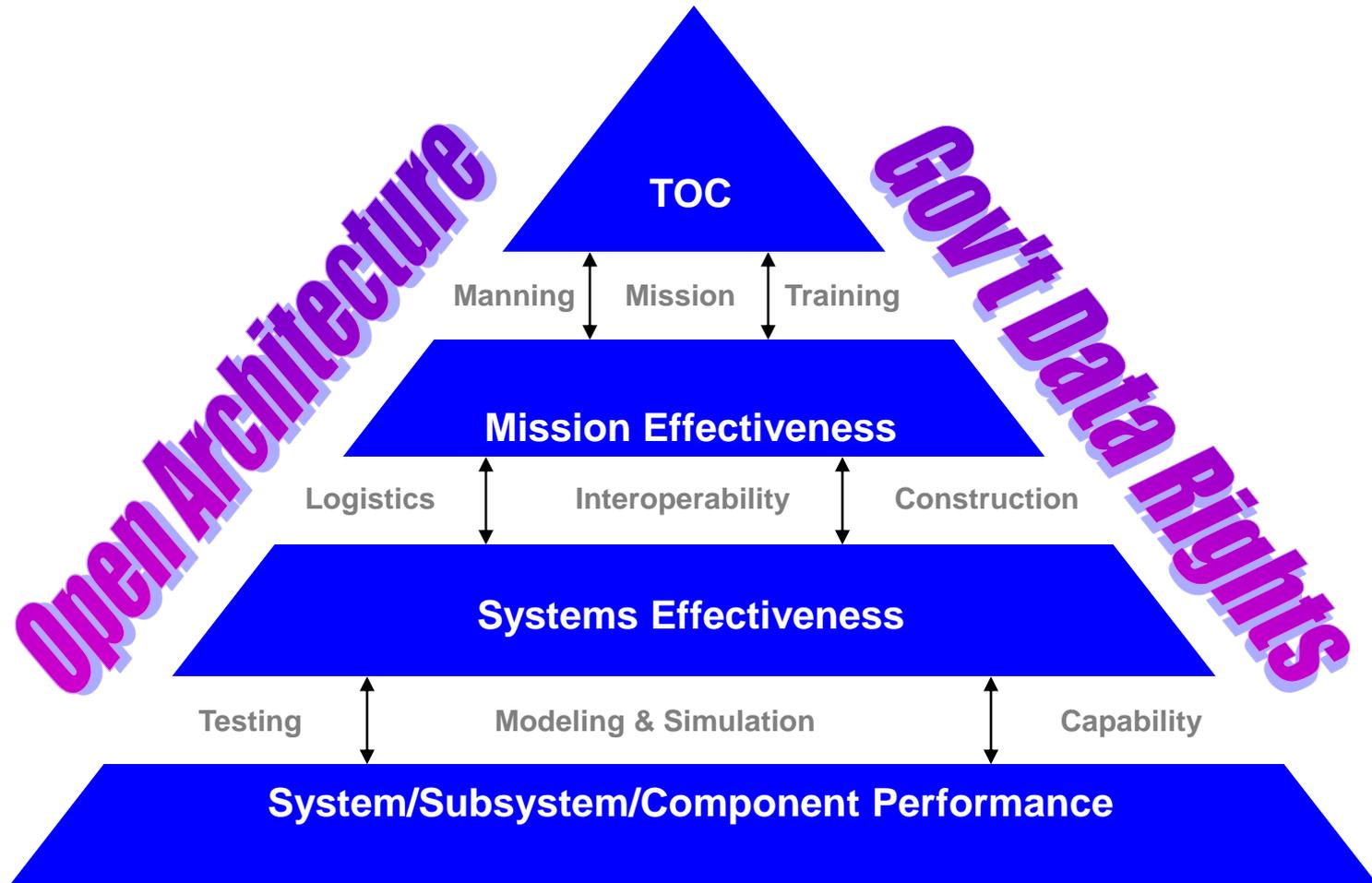
Assets

Threat

Environment

Speed

Mission



Modernization

Building Trust and Transparency is Critical

Assets



***Intellectual Capital of the Navy...
Yesterday... and Today...***

Threat

- **AWS-SPY Readiness Task Force: 48 actionable recommendations**
 - Improve training, restore ISEA support, SPY MER, sparing review
- **Aegis BMD Readiness Task Force: 41 actionable recommendations**
 - Run sparing model for BMD ships, several areas targeted for improvement
- **Navigation Readiness Task Force: 26 actionable recommendations**
 - Mapped to Navigation Vision 2025 and Tasking Letter Wholeness

AWS-SPY Readiness Task Force Status

- **Results:** 48 Actionable Readiness Recommendations
- **Initial FY10-11 Recommendation Implementation:**
 - Improved Training
 - Outfitted AEGIS Training and Readiness Center (ATRC) with additional equipment and training materials
 - Updated curricula to include COTS lessons learned
 - Initiated Self Assessment Groom Training (SAGT) to non-BMD ships
 - Restored ISEA support and started Periodic Assessments
 - Implemented AEGIS Light Off (ALO) and ILS Support at CNO Availabilities
 - Increased ISEA presence in RMCs
 - Improved Operational Readiness Test System Technical Assistance Remote Support (ORTSTARS)
 - Distributed long-line schematics
 - Completed a SPY Material Effectiveness Review (MER)
 - Reviewing Sparing requirements for DDGs
 - \$133M received via Aegis Wholeness plus \$20M FY11 EOY funds
- **Barriers:** Sustainment of assessments & MILCON.
- **Next Steps:** Monitor recommendation execution and measure performance improvements




AEGIS BMD Readiness Task Force Status

- **Results:** 41 Actionable Readiness Recommendations
- **Received \$3M End of Year funds to:**
 - Run sparing model for BMD ships
 - Improve:
 - Reliability & maintainability of Aegis Cooling Skids
 - Sparing for 400Hz static frequency converters
 - Test equipment allowances
 - Reliability of EHF TDMA IP
 - Ship calibration using satellites (SCUS)
- **Barriers:** Funding across FYDP
- **Next Steps:** Monitor recommendation execution and measure performance improvements



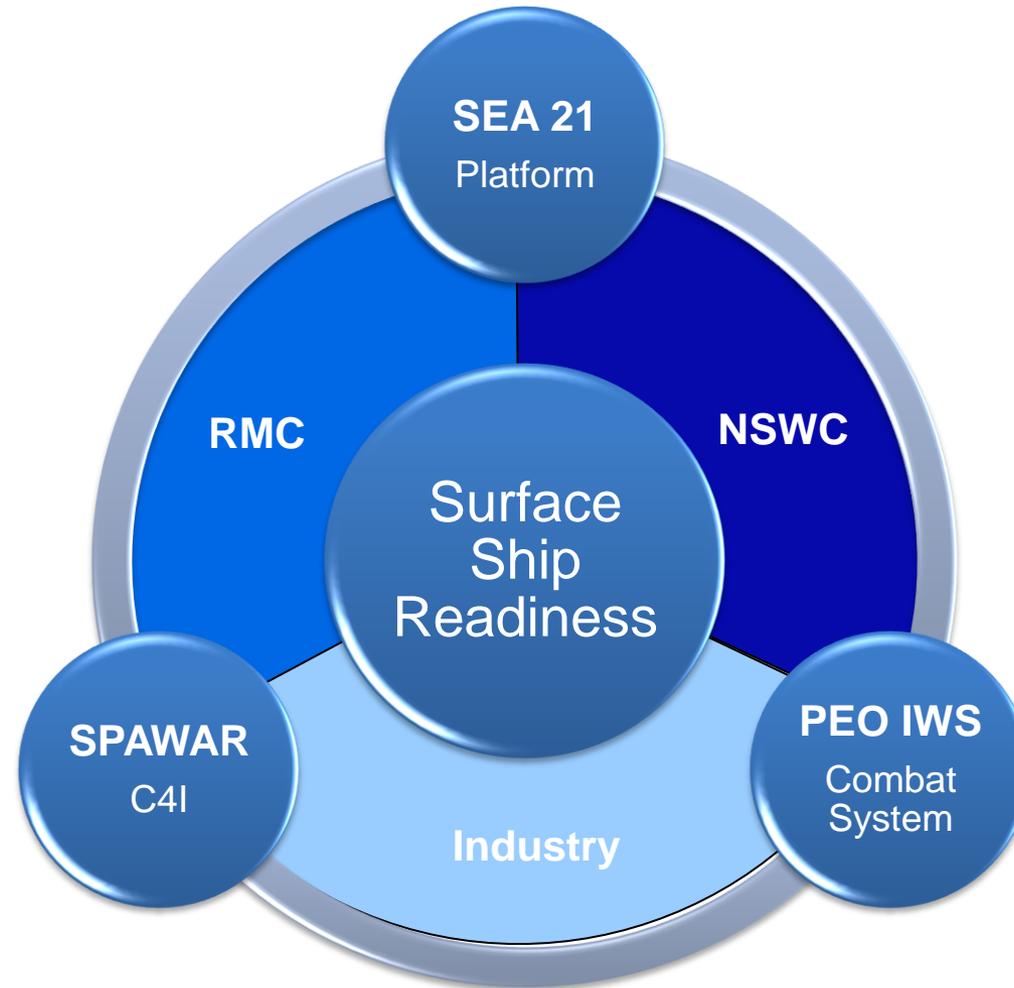

Navigation Readiness Task Force Status

- **Significant Accomplishments to Date:**
 - Developed 26 Actionable Recommendations mapped to Navigation Vision 2025 and Tasking Letter Wholeness
 - Task Force-Wide Actionable Recommendation reviews
 - Worked to Program Managers to incorporate Task Force cost estimates into POM14 submissions
- **Next Steps:**
 - Complete Navigation Task Force Final Report
 - Brief Leadership
 - Create detailed plan of execution and track progress




SEA-21 and PEO IWS collaborated to coordinate the myriad of priorities to sustain the Navy's surface ship capability

Environment



Lifecycle Management Works Across Multiple Organizations

Key Take Aways

- Industry and government all have important roles to play...now and in the future.
- We have to improve the government-contractor relationship by making each party more accountable to the other.
- This is a team effort -- our doors are open



And we count on our Industry Partners to help us with the cost challenge

Total In-House Capacity					Outsourced Workload			
Core Capability = Gov't Role					Industry Role			
Work Government Must Do	Technical Pipeline	Work Industry Can't or Won't Do	Best Value	Economic Viability	Design & Build	Unique Skills/ Capabilities	Best Value	Economic Viability
<ul style="list-style-type: none"> • Technical Authority • Smart Buyer • Independent Assessment • Avoid technical surprise (innovation) • Directed by higher authority • Title 10 	<ul style="list-style-type: none"> • Hands-on work • Sustain Knowledge Areas 	<ul style="list-style-type: none"> • Last source • High risk • Not profitable • WFPP 	<ul style="list-style-type: none"> • Data Rights • Design Disclosure • No fees • Life Cycle Maint. • Cost • Schedule • Performance 	<ul style="list-style-type: none"> • Generate sufficient OH • Sustain affordable rates • All other technical work 	<ul style="list-style-type: none"> • Produce end products and services 	<ul style="list-style-type: none"> • Only source • No compelling reason for government source • Not available in govt & critical to successful task completion 	<ul style="list-style-type: none"> • Efficient Production • Commercial gains • Cost • Schedule • Performance 	<ul style="list-style-type: none"> • Work is needed to sustain critical assets that are fragile in the private sector
Total Force Requirement								

Finding the right balance to optimize Navy Fleet



Definitions

Criteria for In-House Performance	Criteria for Outsourcing
<p>Technical Authority: Is the work specifically required to establish technical standards, tools and processes; and to ensure adherence to those standards? Does the work require an independent evaluation and certification of suitability or effectiveness of warfighting solutions with respect to stated requirements?</p>	<p>Design and Build: Is the work appropriate for industry to perform; i.e., it involves support to the government decision making roles, it exceeds the level needed to right size the in-house technical capability, and meets the following conditions:</p> <ul style="list-style-type: none"> • Is a commercially available function/service • The commercial source has a good track record • The market is sustainable over time (sufficient workload and profit incentive for industry) • The work has a definable outcome or product and is measurable
<p>Smart Buyer: Does the work require delegated or derived authority and the resources to initiate actions or activities? Does this work involve selecting and authorizing a contractor/governmental entity to produce military products or services?</p>	
<p>Independent Assessment: Is the work needed based on the delegated or derived authority plus the ability to judge the absolute or relative worth, quality or value of an activity, product or process relative to national security requirements?</p>	
<p>Avoid Technical Surprise (Innovation): Is the work needed to advance a critical warfighting capability that is needed but does not exist today, and for which no private sector entity is willing to invest? Is the work needed to provide solutions to complex technical problems for which government must have a strong technical understanding and involvement? Does the work needed to anticipate and respond to current and future National needs?</p>	
<p>Technical Pipeline: Will this work provide “hands-on” engineering design and development experience necessary to grow future inherently governmental technical decision makers (smart buyers, honest brokers, technical authority warrant holders)? Will this work help to sustain knowledge areas critical to a needed in-house technical capability?</p>	<p>Unique Skills/Capabilities: Is Industry the only source for this work and is there no compelling reason to establish a government source as an insurance policy in the case of a national crisis? Does industry provide needed skills/capabilities that are critical to the successful completion of this task and are not available in government?</p>
<p>Last Source: Does the work require access to unique or national facilities that are not available in Industry (due to the associated facility maintenance and modernization costs)? Is industry not able to perform is work (due to issues of propriety, security, or special expertise only available in government)?</p>	
<p>High Risk: Is there a high risk of contractor default? Is there high risk to warfighting capability should the contractor default? Is industry unwilling to accept the work because they are unwilling to accept potential liabilities? Does the work ensure interoperability of warfare systems and integrated warfighting capability?</p>	
<p>Not profitable: Is the work not able to be performed by a private sector source due to profitability issues by the private sector</p>	
<p>Work For Private Party: Is the work within your mission area and being requested by a contractor because no similar capability exists in the private sector; and can be defined by a one-time product or service with a specific deliverable?</p>	
<p>Best Value: Can results be achieved soonest by employing the Government source while maintaining the least cost and delivering the greatest overall value?</p>	<p>Best Value: Is this work available in the private sector and is Industry the best value in terms of cost, schedule and performance?</p>
<p>Economic Viability: Will performing this work in-house help to sustain a needed, but fragile National asset, technical capability and/or Warfare Center Division.</p>	<p>Economic Viability: Is this work needed to sustain critical assets that fragile in the private sector.</p>