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Naval Postgraduate School Acquisition Symposium

Department of Defense Field Activity Roles as
Enablers for the Industrial Base: Naval
Laboratory Analysis that Supports Key
Acquisition Decision

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Overview

- **Analysis for acquisition decisions**
 - Analysis produced by Department of Defense (DoD) Field Activities serve as enablers to the defense industrial base
 - Focus on pre-Milestone B activities provide technical analysis and study leadership
 - Types of analysis performed
- **NSWCDD and real-world success examples**
 - Analysis of Alternatives (AoAs) and trade studies
 - Combat system mission analysis
 - Force structure analysis

Enable leadership to effectively focus the efforts of the industrial base



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Analysis for Acquisition Decisions

- **DoD Field Activities as enablers**
 - DoD relies heavily on Field Activities to help it be a “smart buyer”
 - Engineers, scientists, and technical and program managers are Field Activities stakeholders
 - Field Activities impact combat systems, mission analysis, warfare analysis, and acquisition managers
 - Field Activities have direct links to the operational community via command and sponsors
 - Field Activities understand the capability needed to fill operational gaps and provide the acquisition process with valid requirements
- **Focus on pre-Milestone-B technical analysis and study leadership**
 - Produce technical analysis and requirement documents
 - Directly affect formal documents and decision milestones
 - Support the Planning Programming Budgeting and Execution process and the yearly Program Objective Memorandum submissions
 - Affect budget decisions on combat systems, ships, and force structure
- **Enable senior leadership to effectively focus the efforts of the industrial base**



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Analysis for Acquisition Decisions (cont'd)

- **Acquisition analysis performed**
 - **AoAs**
 - Both surface ship platform and combat system decisions
 - Combines mission effectiveness, cost, integration, and technology risk
 - **Combat system mission analysis**
 - Examines detailed performance parameters of systems in multiple threat scenarios
 - NSWCCD expertise in Anti-Air Warfare, Surface Warfare, Ballistic Missile Defense, Electronic Warfare, and Hark-Kill/Soft-Kill (HK/SK) integration
 - **Cost analysis**
 - Leveraged for affordability comparisons and performance-based trade studies
 - Independent cost assessment for ship- and submarine-based systems
 - **Force structure analysis**
 - Sets near-term Fiscal Year Defense Plan–acquisitions and long-range force structure levels and mixes
- **Work closely with all industrial base partners**
 - **Ensure up-to-date systems data and performance characteristics**
 - **Ensure systems are characterized correctly and support the whole program**
 - **Understand technical and programmatic attributes supporting cost estimates**
 - **Shipbuilding strategy informs industry to respond to the Navy's vision**



NSWCDD Success Examples

- **NSWCDD technical analyses that directly support requirements development and acquisition plans**
 - **AoAs and trade studies**
 - Maritime Air and Missile Defense of Joint Forces AoA and USS SAN ANTONIO (LPD 17) Cost and Operational Effectiveness Analysis (COEA)
 - Ship Self-Defense COEA and Theater Ballistic Missile Defense COEA
 - Littoral Combat Ship Surface Warfare mission package trade study
 - Navy Non-Lethal Effects Family of Systems AoA
 - **Combat System Mission Analysis**
 - Surface Ship Theater, Air, and Missile Defense Analysis
- **Focused example**
 - **Force Structure Analysis: Long-Range Shipbuilding Plan**
 - **Direct support to OPNAV N8F1SCN**
 - Developing balanced shipbuilding plans
 - Conducting force structure analysis
 - **NSWCDD**
 - Maintain ship databases and coordinate and update with the Internet Ship Management Information System and Naval Vessel Register
 - In-house force structure model: Force Acquisition and Inventory Model (FAIM)

Shipbuilding Plan Analysis Process

Legacy Fleet
Identifies Ship Class by Hull and Expected SL

Class	Hull	2010	2011	2012	2013	2014	2015	...
A	1	3	4	5	6	7	8	10
A	2	2	3	4	5	6	7	9
A	3		1	2	3	4	5	7
A	5			1	2	3	4	6

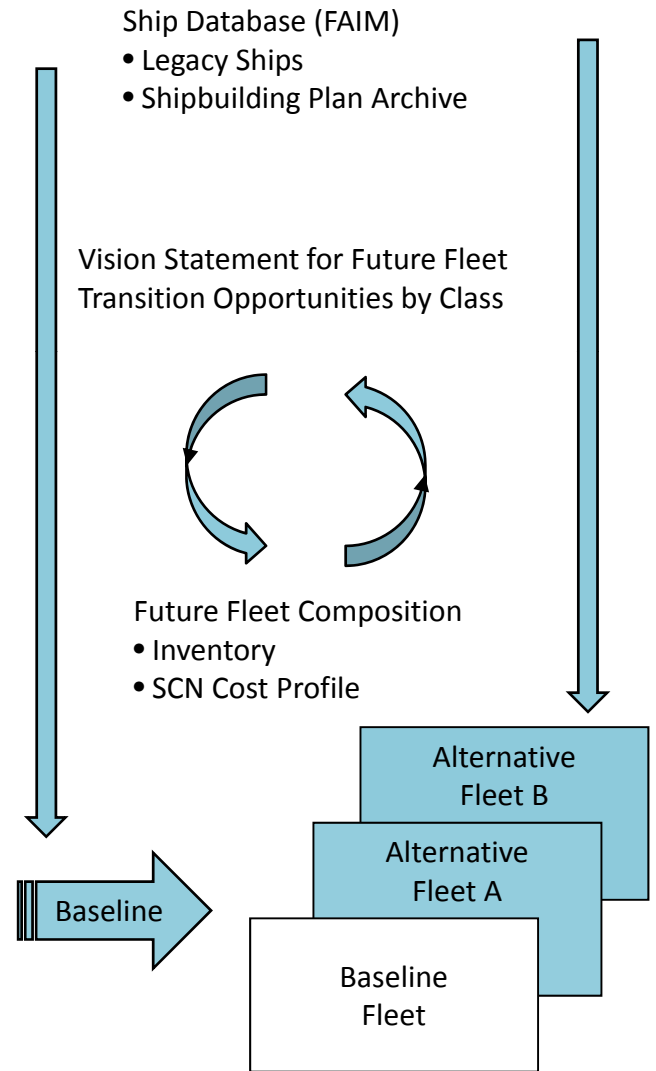
Acquisition Plan
Identifies ship procurements by Ship Class and Delivery Shift

Class	2010	2011	2012	2013	2014	2015	2016	2017	...
B		1		1		1		1	
C				2		2		2	
D			1					1	

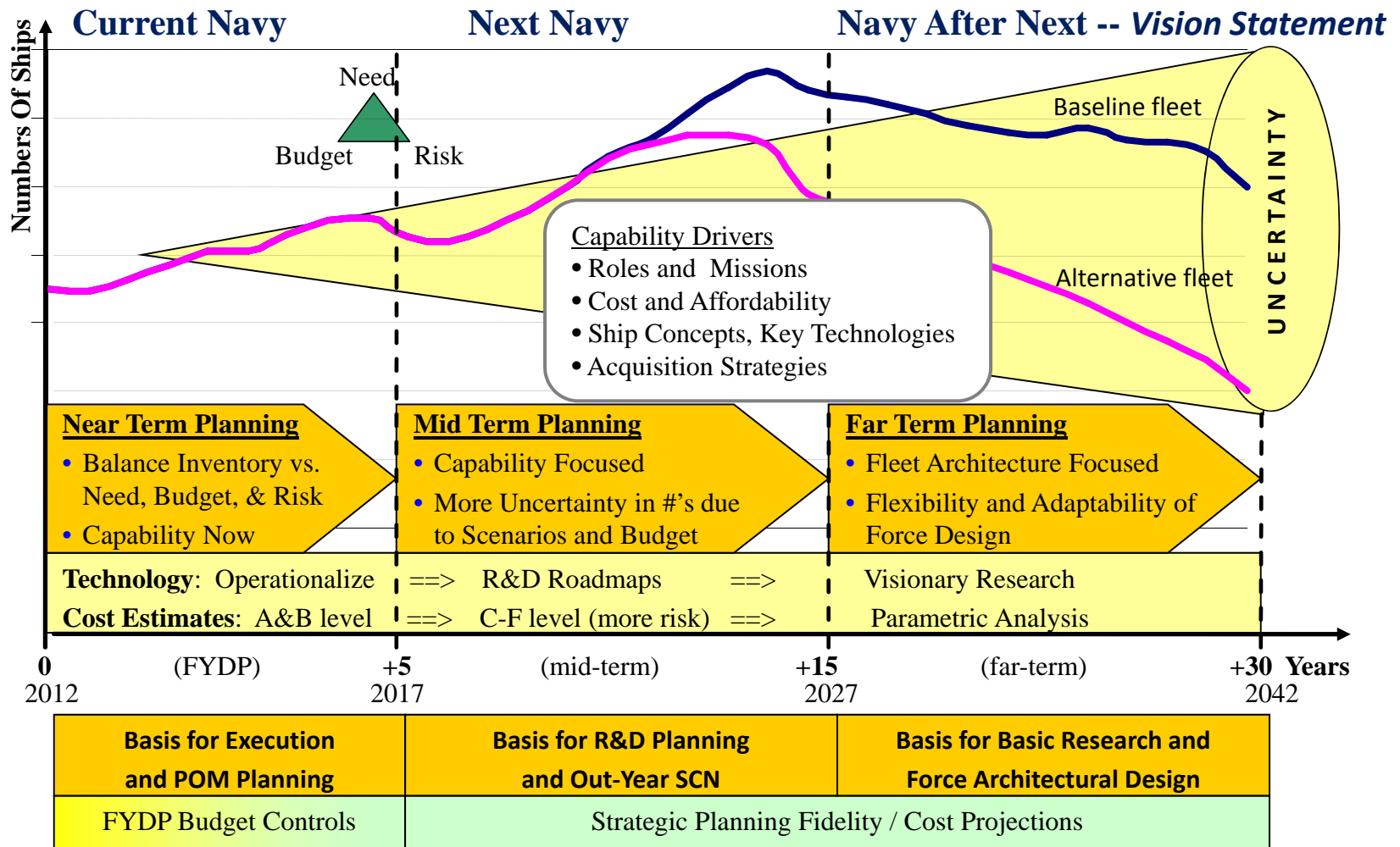
Battleforce Inventory
Resulting inventory by Ship Class for all ships

Class	2010	2011	2012	2013	2014	2015	2016	2017
A	2	3	4	4	4	4	4	4	...
B				1	1	1	1	2	...
C							2	2	...
D								1	...

Battleforce SCN
SCN (\$B) projected budget for 30 year shipbuilding plan by ship category



Strategic Planning Context





Takeaways

- **DoD Field Activities**
 - Provide technical analysis and study leadership
 - Work closely with industrial base partners to support the pre-Milestone B Joint Capabilities Integration and Development System process by ensuring up-to-date systems data, performance characteristics, and accurate cost estimates
 - Have the keys to the understanding of technical system knowledge for the DoD operational and acquisition communities
- **Enable senior leadership to effectively focus the efforts of the industrial base**
 - Produce technical analysis and requirements documents that focus the industrial base
 - Inform and guide industrial base partners to build the combat systems and platforms needed by the warfighter
 - Working together, government, industry, and academia can produce a capable and affordable future for our military