



*Department of Defense Field Activities as Enablers of the
Defense Industrial Base for the Acquisition of
Surface Navy Combat Systems*

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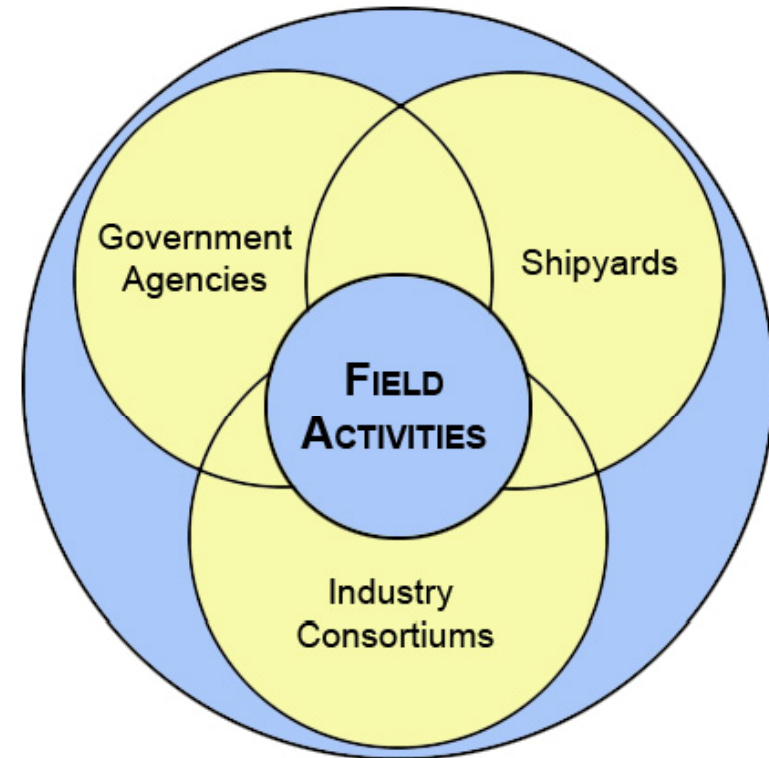
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Introduction

- **The Department of Defense (DoD) Industrial Base Includes Government Agencies, Shipyards, and Industry Consortiums**
- **DoD Field Activities Provide Unbiased, Technical Leadership in Key Acquisition Decisions**
- **Field Activities Conduct Combat Systems Engineering to Support Acquisition and Development**





Roles of Government Agencies

- **Office of the Chief of Naval Operations (OPNAV)**
 - Provide Warfighter Requirements
 - Capability Definition
 - Provide Resources to Program Executive Office (PEO)
- **PEO / NAVSEA**
 - Implements Warfighter Requirements
 - Government-Defined System Requirements and Architecture Applied Across Platforms
 - Manage and Certify Execution of Programs
- **Field Activities**
 - Lead Development of Combat System Architecture and Requirements
 - Provide Technical Oversight of Combat System Development and Integration
 - Execute Risk Identification and Assessment, System Safety, Test and Evaluation, System Certification

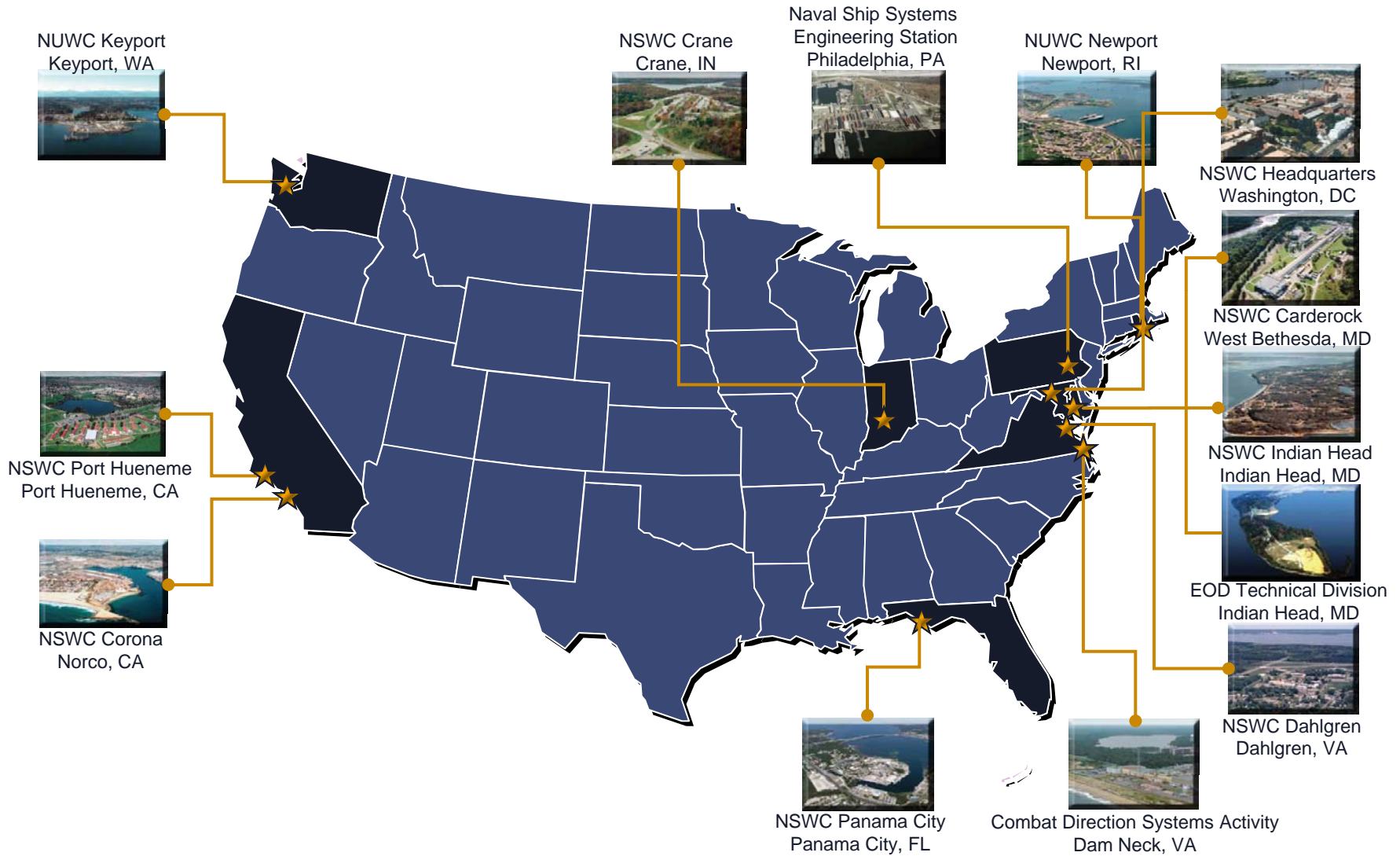
Roles of Industry Consortia and Shipyards

- **Industry**
 - Support System Requirements and Architecture Analysis
 - Design, Develop and Test Combat System Elements
 - Integrate Combat System Elements
 - Conduct Integration Testing
- **Shipyards**
 - Install, Field, and Maintain Combat Systems



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DoD Naval Field Activities





Enabling

- **Field Activities Enable Government**
 - Define Combat System Limitations and Capabilities
 - Perform Component Commonality Studies
 - Development and Analyze System Requirements
 - Oversee Combat System Architecture Analysis and Development
 - Provide Roadmap Development
 - Solicit Independent Cost Analysis and Estimation

- **Field Activities Enable Industry**
 - Define Bounded Technical Work Packages for Detailed Design
 - Provide Focus on Development and Integration of Capability Upgrades with Multiple Platforms Applicability

Combat System Roadmap

- **Captures Combat System Fielding Plans Across Surface Navy Platforms**
 - Analysis of Operational Effectiveness Reveals Capability Gaps
 - Multi-Platform Mission Thread Analysis Identifies Shared Operational Needs Across Platforms and Evaluates Common Solutions
 - Develop Time-Phased Plan to Introduce Additional Capabilities or Upgrades
 - Align Particular Capabilities to Targeted Host Combat System(s)
 - Align Science and Technology Efforts to Satisfy Capability Definition
 - Identify Dependencies Between Capabilities
 - Understand Cross-Platform Application and Implementation
 - Funding Profiles Related to the Additional Capabilities or Upgrades



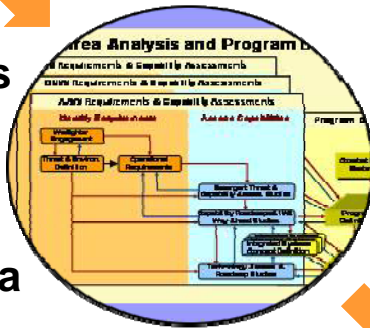
Roadmap is Plan that Enables Combat System Program Definition

Combat System Requirements

- Decomposing Force Requirements to Combat System Level Requirements Through Mission Area Analysis
- Map Requirements to System Level Functions Identified with Architecture Analysis
- Identifying Common Functional Requirements Across Elements



Warfighter Requirements



Mission Area Analysis

New / Upgraded Capabilities



Full Integration of Multiple Elements



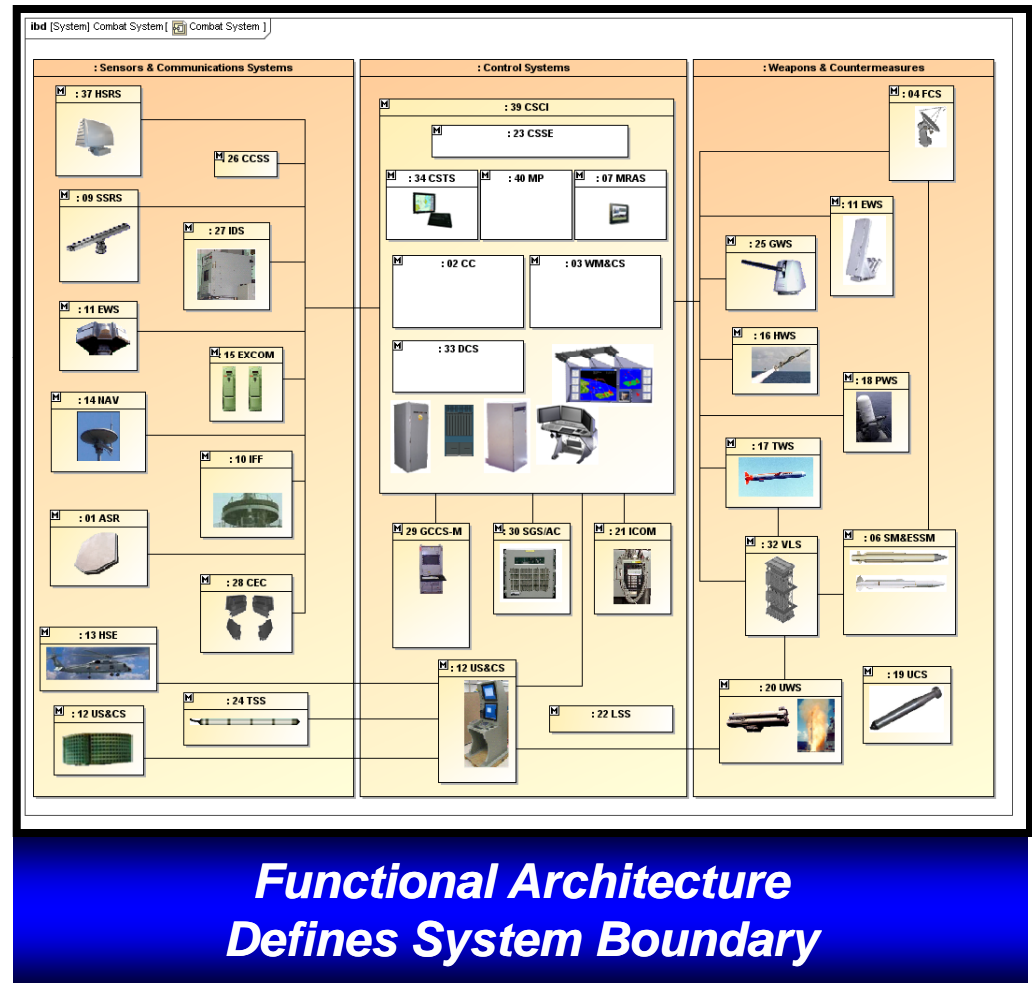
Identify Common Functionality

OPNAV & PEOs

Field Activities

Architecture

- **Field Activities Develop Combat System Architecture**
 - Common Framework for Development
 - Long Term Vision Reducing Uncertainty
 - At System Level, Provides Detailed Understanding of Functionality and Interfaces
 - Output is a Partitioned Set of Requirements, Allocated Appropriately Across the Platforms
 - Objective is to Move to Common Components Across Platforms

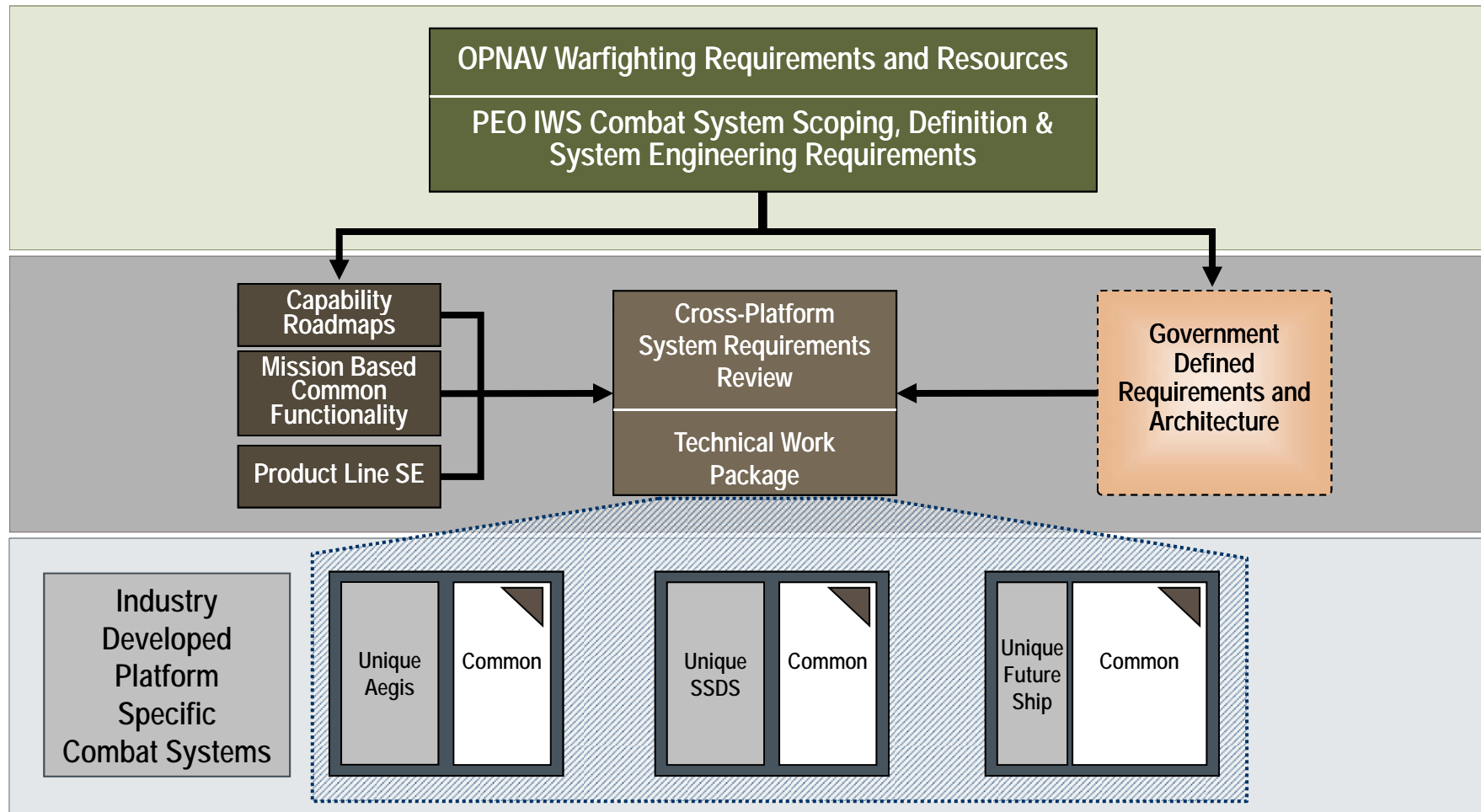




Combat System Execution

- **Execution Represents the Combat System Design, Development and Fielding Phase in the New Acquisition Approach**
- **Industry is Responsible for the Detailed Design, Development, Integration and Delivery of a Fully Functional Combat System**
 - Requirements are Satisfied from System Requirements Review
- **Government Oversees Development and Conducts Certification**
 - Field Activities are the Life-Cycle Systems Engineering Agent and In-Service Engineering Agent for the Government
 - Lead System Requirements Review
 - Support Element Definition for the Combat System Design
 - Ensure Combat System Configuration Management, System Safety, Information Assurance
 - Conduct Testing and Installation of Combat System Computer Programs
 - Certify Fully Functional Combat System
 - Maintain In-Service Support of Combat System for Operational Use

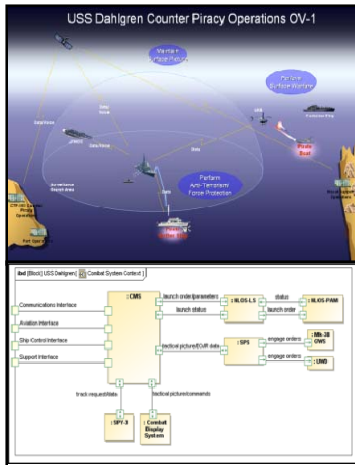
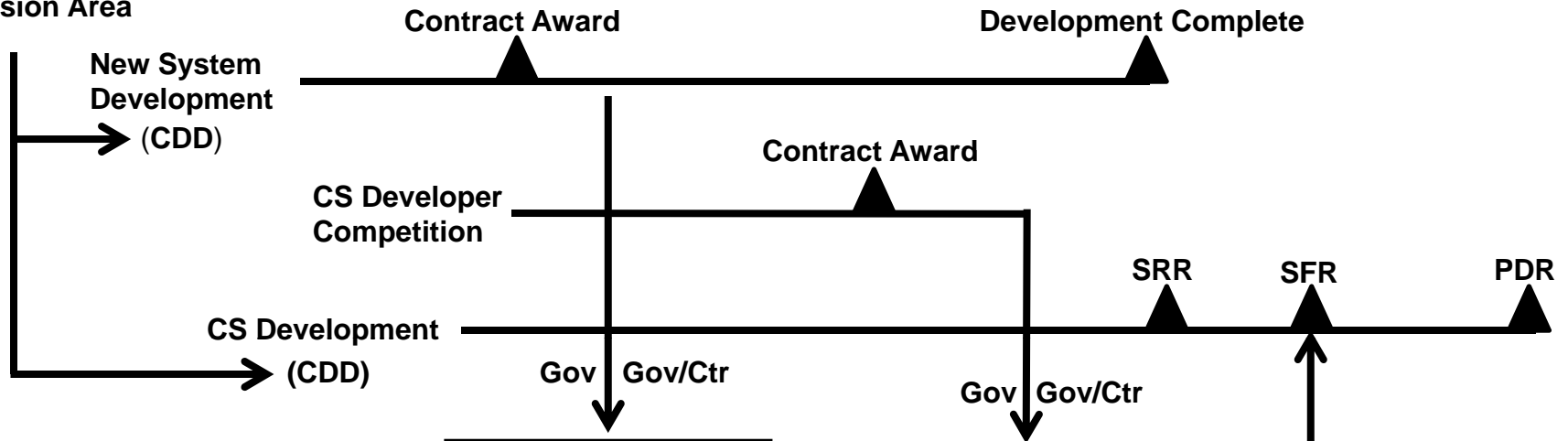
New Acquisition Approach



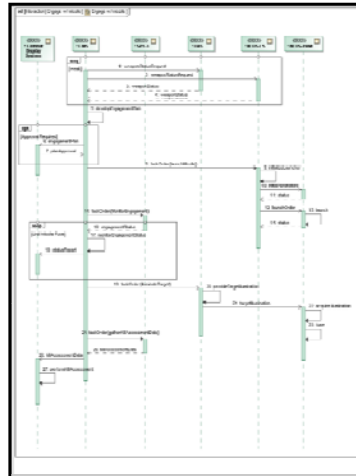
Work Package Coordinates and Defines Industry Development Efforts

Notional Enabling Example

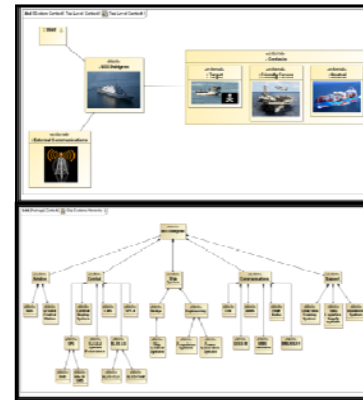
ICD Mission Area



OV and SV Analysis



- Mission Thread Analysis
- Performance Analysis
- Commonality Analysis



- System Requirements Synthesis - SRD
- System Architecture Definition - SSDD



- Bounded Work Package**
- CS Detailed Design
 - Ship Design Modifications

Conclusion

- **Primary Areas for Field Activities in the New Acquisition Approach to Focus the Efforts of the Industrial Base**
 - Roadmap and Combat System Definition
 - Requirements and Architecture for Work Package Definition
 - Combat System Execution
- **Field Activities Translate Operational Requirements From Government Activities to Design Requirements for Shipyards and Industry Consortia**
- **Drive Towards More Affordable Combat System Acquisition**

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