

# ***NDIA 11<sup>th</sup> Annual Systems Engineering Conference Chief Engineer Panel***

21 October 2008

Mr. Carl R. Siel, Jr.  
ASN(RDA) Chief Systems Engineer  
[carl.siel@navy.mil](mailto:carl.siel@navy.mil)





# NAVAL SYSTEMS

**RDA**  
**CHIEF**  
**SYSTEMS**  
**ENGINEER**



**SHIPS AND AIRCRAFTCARRIERS**



**SUBMARINES**



**AIRCRAFT**



**C4ISR SYSTEMS**



**WEAPON SYSTEMS**



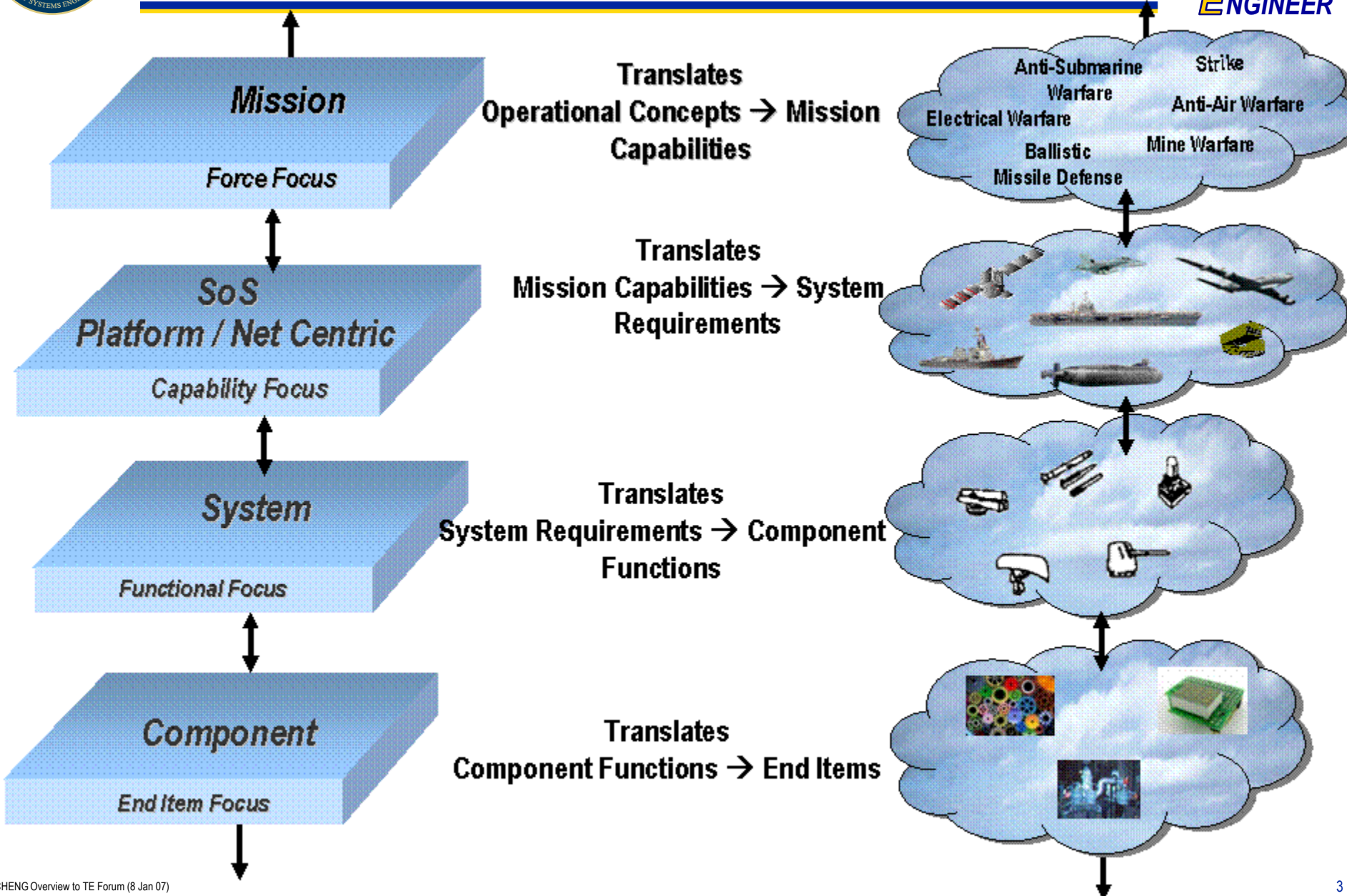
**LAND VEHICLES**





# Naval Engineering of Systems

RDA  
CHIEF  
SYSTEMS  
ENGINEER





# Discussion Topics

---

**RDA**  
**CHIEF**  
**SYSTEMS**  
**ENGINEER**

- ◆ **Requiring and Acquiring Alignment**
  - Program Health
- ◆ **Net-Centric Integration and Interoperability**
- ◆ **System Engineering Processes**
- ◆ **SE Human Resources**
- ◆ **Software Process Improvement**



# DoN Acquisition Governance

**RDA**  
**CHIEF**  
**SYSTEMS**  
**ENGINEER**

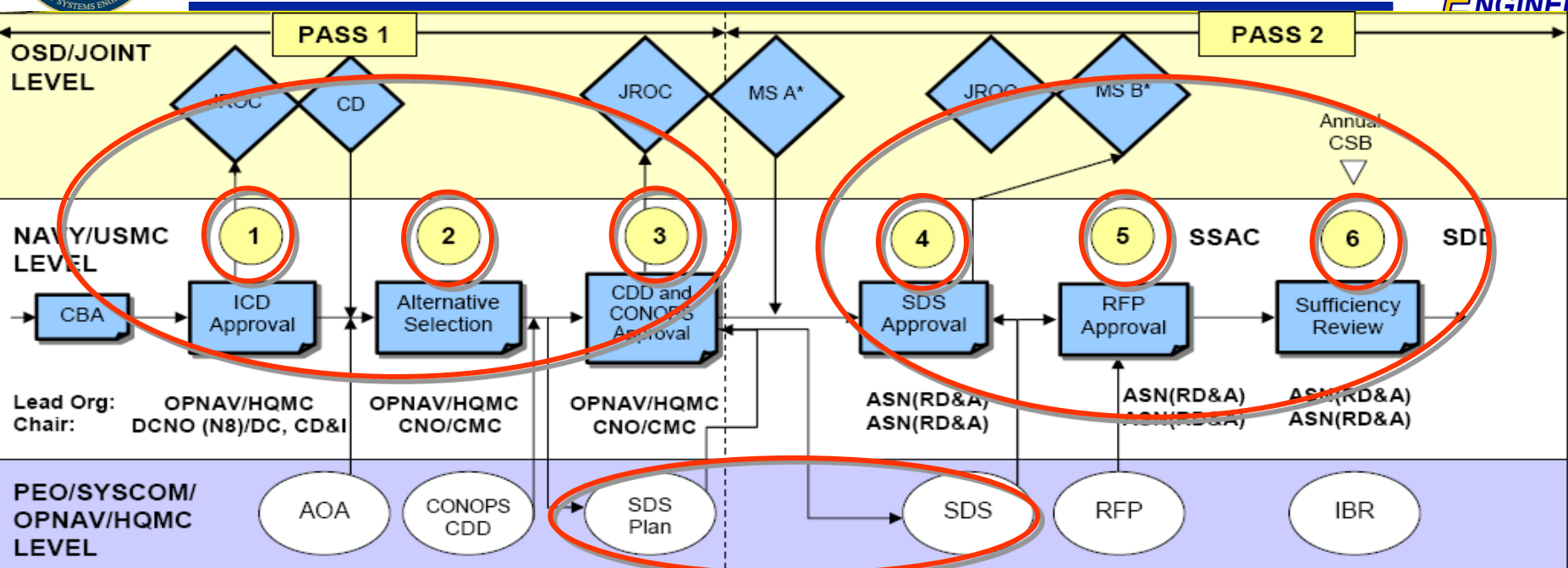
- ◆ **The Secretary of the Navy**
  - Comprehensive review of the Acquisition process
  - Challenges in Program Planning and Execution.
- ◆ **Enhance the Acquisition Governance process**
  - Inject Early Senior Leadership
  - Continuous Engagement and Transparency
- ◆ **Increase discipline during each phase of Program Maturity**
- ◆ **Codified by SECNAVNOTE on 26 February 2008**

**“Two Pass / Six Gate”**



# DoN Acquisition Governance

RDA  
CHIEF  
SYSTEMS  
ENGINEER

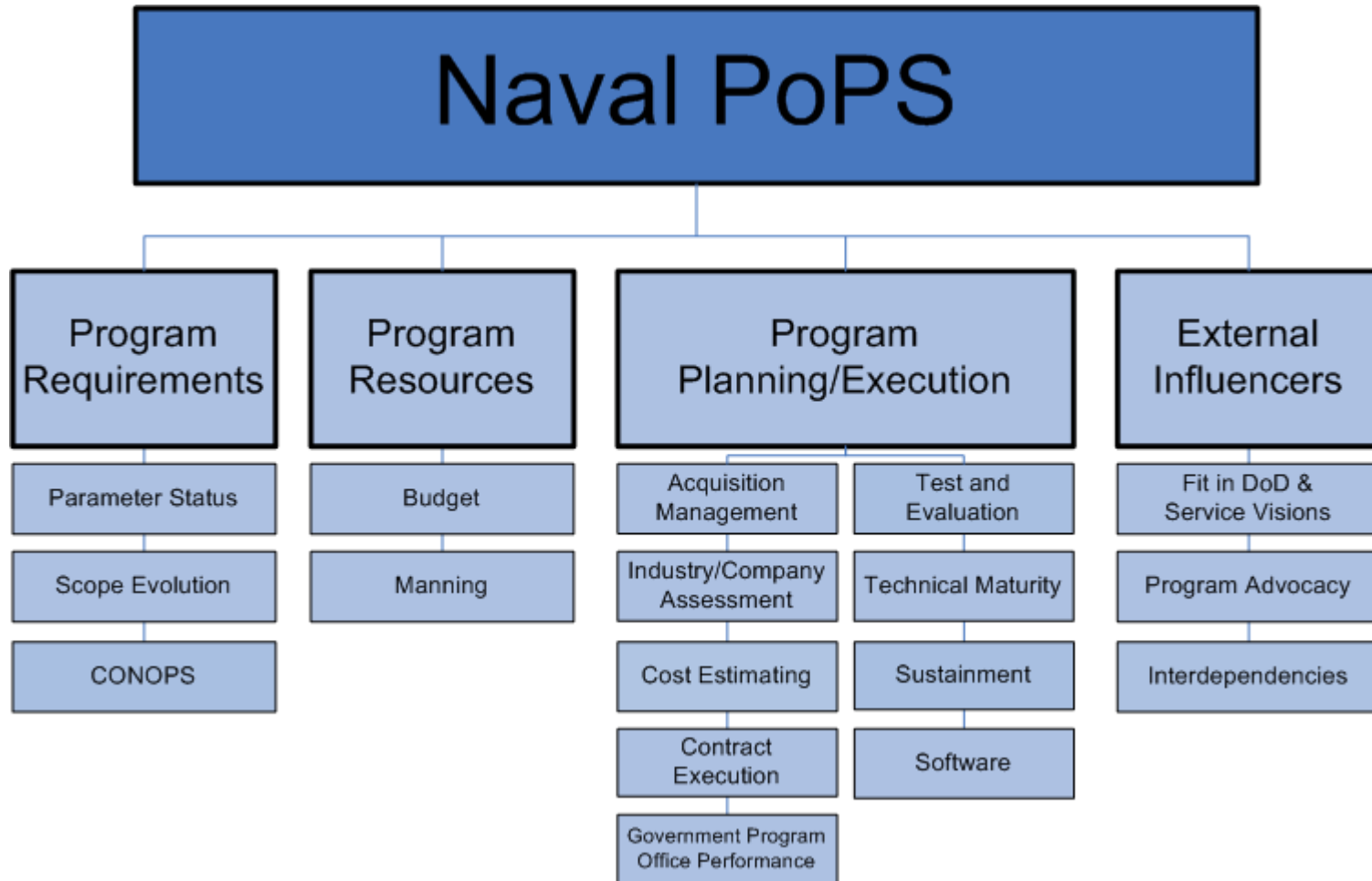


- ◆ First Pass - Requirements Establishment
- ◆ Second Pass - Acquisition Execution
- ◆ Gates - Reviews to Assess Readiness to Proceed
- ◆ System Design Specification - Capability and Performance Expectations



# Naval Probability of Program Success (PoPS)

RDA  
CHIEF  
SYSTEMS  
ENGINEER





# Net-Centric Integration and Interoperability Engineering Management

**RDA**  
**CHIEF**  
**SYSTEMS**  
**ENGINEER**

- ◆ **Transform DoDAF to support System Engineering**
  - ◆ **Standard Architecture Data Element Reference Guide**
    - ◆ **Jointly issued by ASNRDA and DON CIO**
  - ◆ **Naval Enterprise Architecture Hierarchy**
    - ◆ **Approved by DON CIO**
  - ◆ **Structured Content and Format to retain and use DODAF Products**
- ◆ **Manage the planning, development, testing, and fielding of Net-Centric capabilities**
  - ◆ **Use Information Support Plans to refine System and Mission evolutions.**
  - ◆ **Net Ready Key Performance Parameter in terms that can be Tested**
  - ◆ **Large Scale Capability Evaluations to assess System and Mission performance**





# System Engineering Processes

**RDA**  
**CHIEF**  
**SYSTEMS**  
**ENGINEER**

- ◆ **“Lead Systems Integrator”**
  - Determine the Governments role at the Mission, Net-Centric, Platform, System, and Component Levels
  
- ◆ **Naval SOS Eng Guidebook**
  - Issued in 2006
  - To be updated to better support Mission Chief Engineer efforts
  
- ◆ **System Engineering Technical Review (SETR) Process**
  - ASNRDA Policy - Execute a common SETR Process
  - Ensure Breadth of Technical Functions Infused
  
- ◆ **Large Scale Capability Evaluations**

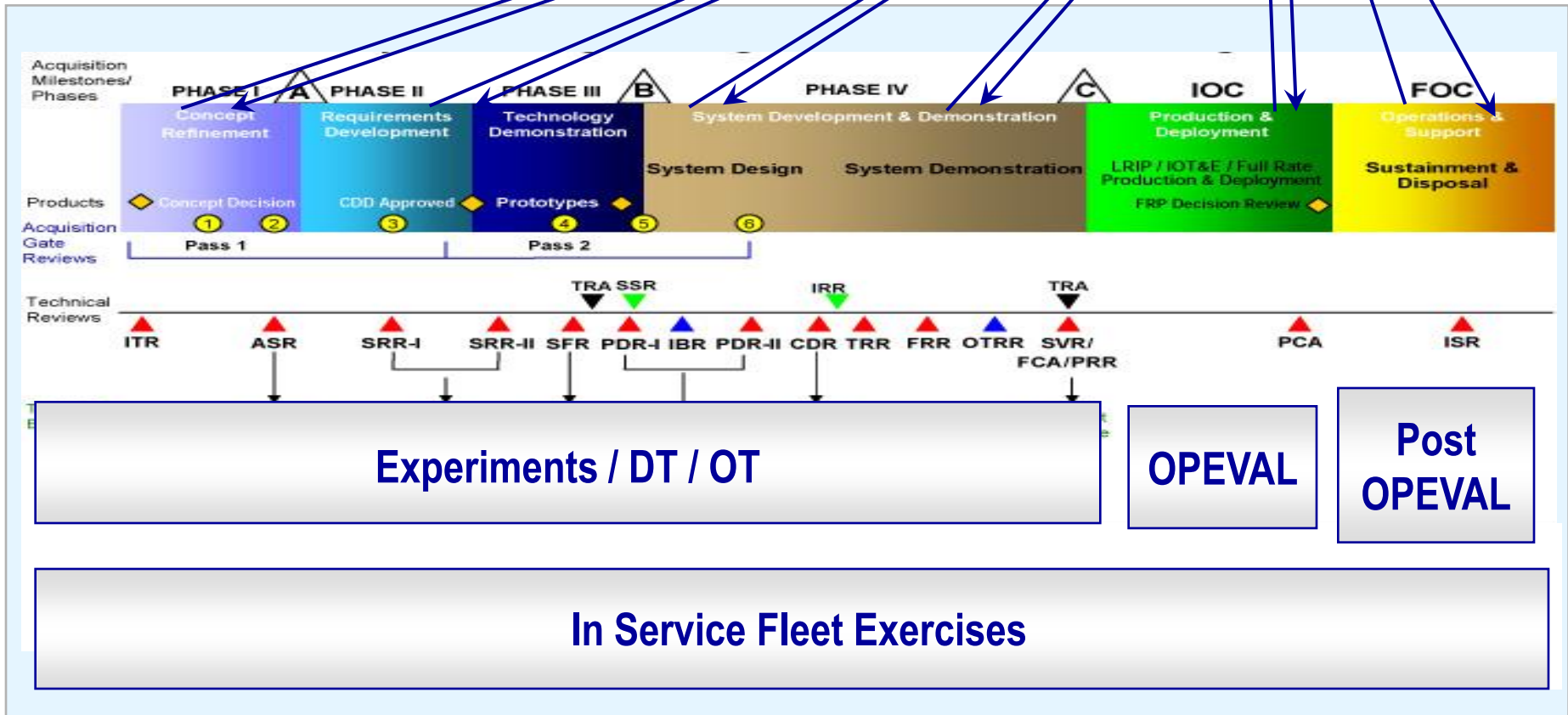


# Large Scale Capability Evaluations Mission – SoS - System

RDA  
CHIEF  
SYSTEMS  
ENGINEER



*Near / Mid / Far Term  
Capability Assessments*





# SE Human Competency Management

**R**DA  
**C**HIEF  
**S**YSTEMS  
**E**NGINEER

- ◆ **Care for those we have**
  - **Principal DASN for Acquisition Workforce**
  - **On Site MS in System Engineering via NPS Embedded Faculty**
    - **NAVAIR Pax River**
    - **NAVSEA Dahlgren, Port Hueneme, Newport, and Carderock**
  - **Refine KSA's, Education, Training, and Job Experiences**
- ◆ **“Fill the Tub”**
  - **Undergraduate Candidates through Co-Opting, Internships, Scholarships**
- ◆ **“Prime the Pump”**
  - **K-12 use of STEM**



# Software Process Improvement

**RDA**  
**CHIEF**  
**SYSTEMS**  
**ENGINEER**

- ◆ **ASNRDA Issued Software Process Improvement Policy and Guidebook**
  - Software Acquisition Management (SAM)
  - Software Systems Engineering (SSE)
  - Software Development Techniques (SWDT)
  - Business Implications (BI)
  - Human Resources (HR)
- ◆ **Software Acquisition Training and Education Working Group with DAU, OSD, and Services**
  - Program Management and SPRDE initial focus
- ◆ **Quality, Objective Evidence for Assuring SW**
  - Vulnerabilities, Malicious Code, Security





# NAVAL SYSTEMS

**RDA**  
**CHIEF**  
**SYSTEMS**  
**ENGINEER**



**SHIPS AND AIRCRAFTCARRIERS**



**SUBMARINES**



**AIRCRAFT**



**C4ISR SYSTEMS**



**WEAPON SYSTEMS**



**LAND VEHICLES**