



DASN (RDT&E)

Deputy Assistant Secretary of Navy, Research Development Test and Evaluation

National Defense Industrial Association 15th Annual Systems Engineering Conference, San Diego, CA

"Engineering Complex Systems"

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Naval Systems









SHIPS AND AIRCRAFTCARRIERS

SUBMARINES

AIRCRAFT







C4ISR SYSTEMS

WEAPON SYSTEMS

LAND COMBAT SYSTEMS

Department of the Navy - Acquisition Organization



Annual Systems Engineering Conference

CNO ASN(RD&A) **CMC**

NAVAIR

Air Systems

- Fixed wing
- Rotary
- Unmanned
- Air Weapons
- Sensor

PEOs

- Air ASW. Assault & **Special Mission**
- Tactical Air
- Unmanned Aviation & Strike Weapons

Joint

Joint Strike Fighter

SPAWAR

C4ISR Systems

- Space Sys.
- •C4ISR
- •IT

PEOs

- Enterprise Information Sys.
- •C4I
- Space Sys.

NAVSEA

Sea Systems

- Carrier
- Surface
- Submarine
- Auxiliary
- •Weapons
- Combat Sys/ Sensors

PEOs

- Littoral & Mine Warfare
- Ships
- •Integrated Warfare Sys.
- Submarines
- Aircraft Carriers

DRPM

•Strategic Systems Program

MARCOR

Exp Systems

- Vehicles
- Armaments
- •Guns
- Small Arms

PEO

•Land Sys.

NAVFAC

Chief of

Naval

Research

Research

•S&T

•R&D

Facilities

- Buildings
- Runways
- Piers

NAVSUP

Supply Support

- Spares
- Warehousing

- ASN (RD&A) Priorities
 - Getting the requirements right
 - Making every dollar count
 - Performing to plan
 - Minding the health of the industrial base
 - Strengthening the acquisition workforce
- Key Focus Areas for Systems Engineering
 - Systems engineering at the mission level
 - Growing a competent technical workforce

DON Systems Engineering Hierarchy



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Mission

Force Focus

SoS
Platform / Net Centric

Capability Focus

System

Functional Focus

Component

End Item Focus

Translates
Operational Concepts → Mission
Capabilities

Translates Mission Capabilities → System Requirements

Translates
System Requirements → Component
Functions

Translates
Component Functions → End Items

Anti-Submarine Warfare Anti-Air Warfare

Electrical Warfare Mine Warfare

Ballistic Missile Defense



Growing a Competent Technical Workforce

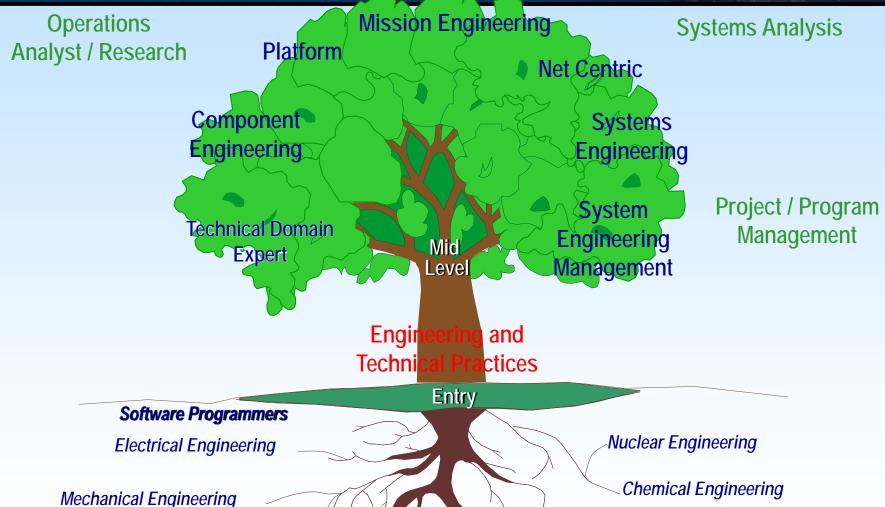
Chemistry

Physics

Math



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Civil Engineering **Naval Architecture**

Aeronautical / Aerospace Engineering Debuty Assistant Secretary of Navy, Research Development Test and Evaluation





Discussion



Additional Slides

Implementing Mission Engineering

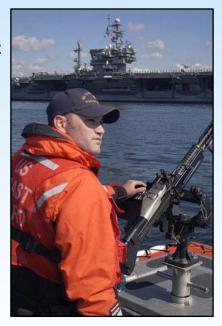


- DOTMLPF Experimentation
- Authoritative mission-level architectures & mission threads
- Alternative trades recommendations developed by mission engineers in collaboration with requirements and program offices
- Trades reviewed by Fleet HQ Providers Leadership
- Mission-based Testing to answer "Does the System support Mission Critical Operational Issues?"
- Fleet Introduction of New Capabilities

Impact of Mission Engineering includes support for:

- CONOPS
- Capability Needs
- Operator IPLs
- JCIDS
- P3I to existing PoRs
- PPBE

- Gate Reviews
- R&D Investments
- Training
- Manpower
- Facilities
- Policy

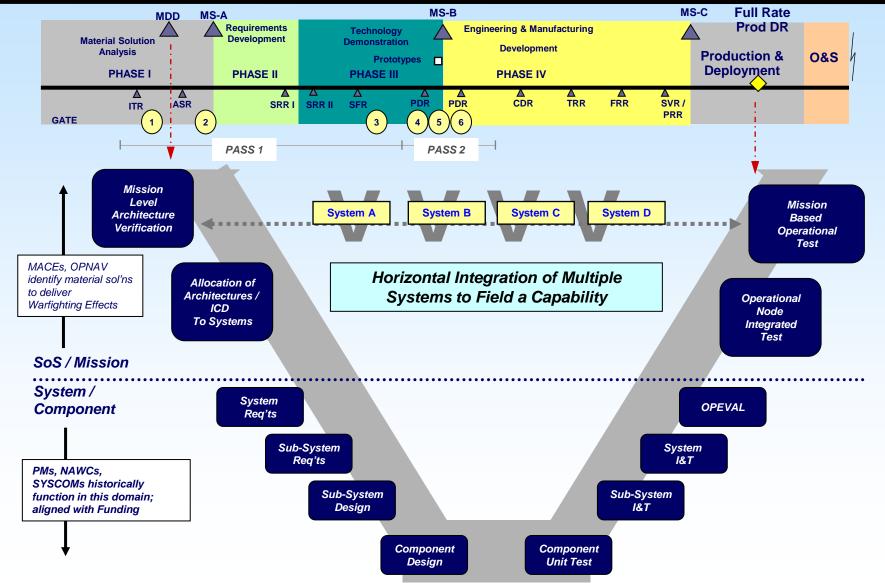


Mission Engineering supports DoN in... "regaining ownership of the technical / requirements / cost trade space." *Jim Thomsen, PCD ASN RDA, 18 Oct 2010*

Capability Acquisition Management Engineering Mission Capability



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Interoperability

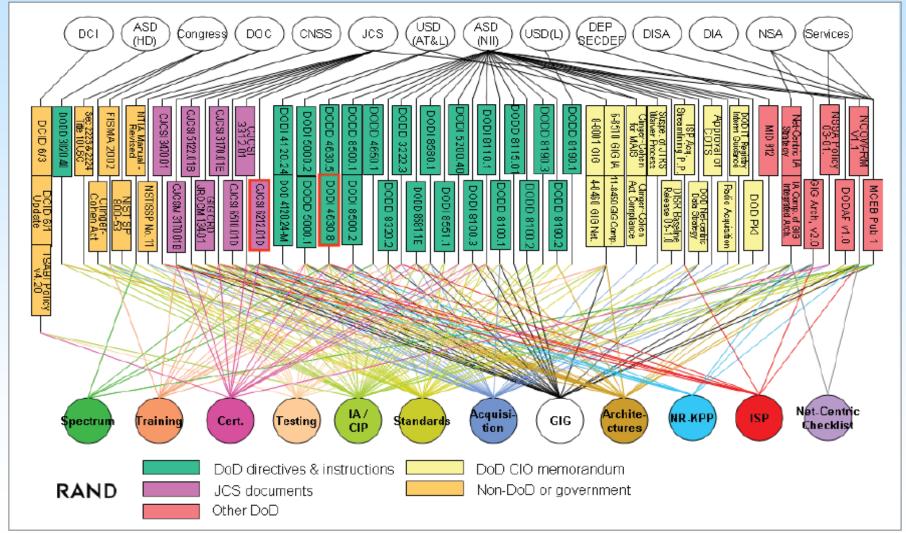
Today's Law and Primary Joint and DoD Policy



Law	Title 40 United States Code – from Clinger Cohen Act Title 10 United States Code – Armed Forces
CJCS 3170 Series	 CJCSI 3170.01H (10 Jan 2012), "Joint Capabilities Integration and Development System." CJCSI 3170.01M (1 May 2007) "Operation of the Joint Capabilities Integration and Development System."
DoD 4630 Series	 DoDD 4630.5, (May 5, 2004), "Interoperability, and Supportability of Information Technology (IT) and National Security Systems (NSS)." DoDI 4630.8, (30 June 2004), "Procedures for Interoperability, and Supportability of Information Technology (IT) and National Security Systems (NSS)."
DoD 5000 Series	• DoD Instruction (DoDI) 5000.02E (1 Sep 2011), "Operation of the Defense Acquisition System."
DoD Net- Centric	 DoD Net-Centric Services Strategy (4 May 2007) DoD Net-Centric Data Strategy (9 May 2003)
CJCSI 6212.01F Certs	CJCSI 6212.01 Series, "Net Ready Key Performance Parameter (NR-KPP)."
IA and others	 DoDI 8500.2 (6 February 2003), Information Assurance Implementation DoD 8000.01 (10 February 2009), Management of the Department of Defense Information Enterprise

Interoperability Related Policy Multiple Policy Owners Responsible for Interoperability





20 May 2008