The Department of the Navy Systems Engineering Career Competency Model (SECCM)

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OUTLINE

- Background
- Working Group (WG)
- Development
- Cognitive and Affective Aspects + Analysis
- ENG Career Field Competency Model
- Verification of SECCM and Occupational Analysis – OPM
- Competency Model Implementation – SPAWAR Systems Center Atlantic
- Looking Ahead

http://www.zap2it.com

What Happens When You Try to Hire Systems Engineers Without Actual Competencies

http://talent.linkedin.com/blog/index.php/2014/04/job-descriptions-that-win-3-outstanding-examples

SECCM Problem Context

There is no systems engineering competency model verified IAW with the Uniform Guidelines on Employee Selection Procedures.

Only a **model** that is verified with the Uniform Guidelines can be **used** with confidence **for human resource functions**.

https://dougvass.wordpress.com/2012/04/04/communica

What is a Competency?

An observable, measurable pattern of of skills, knowledge, abilities, behaviors and other characteristics that an individual needs to perform work roles or occupational functions successfully (OPM).

Job Positions

SECCM Working Group

Existing Models Used as a Foundation

NASA SE Competency Model

INCOSE UK SE Competency Model

NAVAIR SE Competency Model

Boeing SE Competency Model

MITRE Competency Model

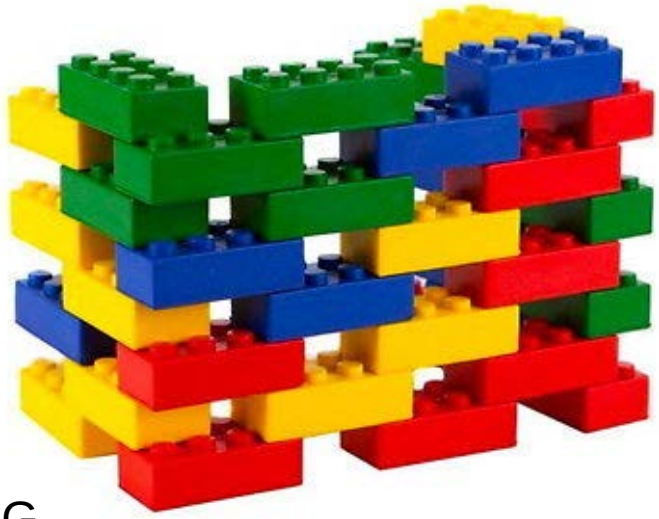
OSD ENG Competency Model

NUWC Newport SE Workforce Development Model

SPAWAR Competency Model

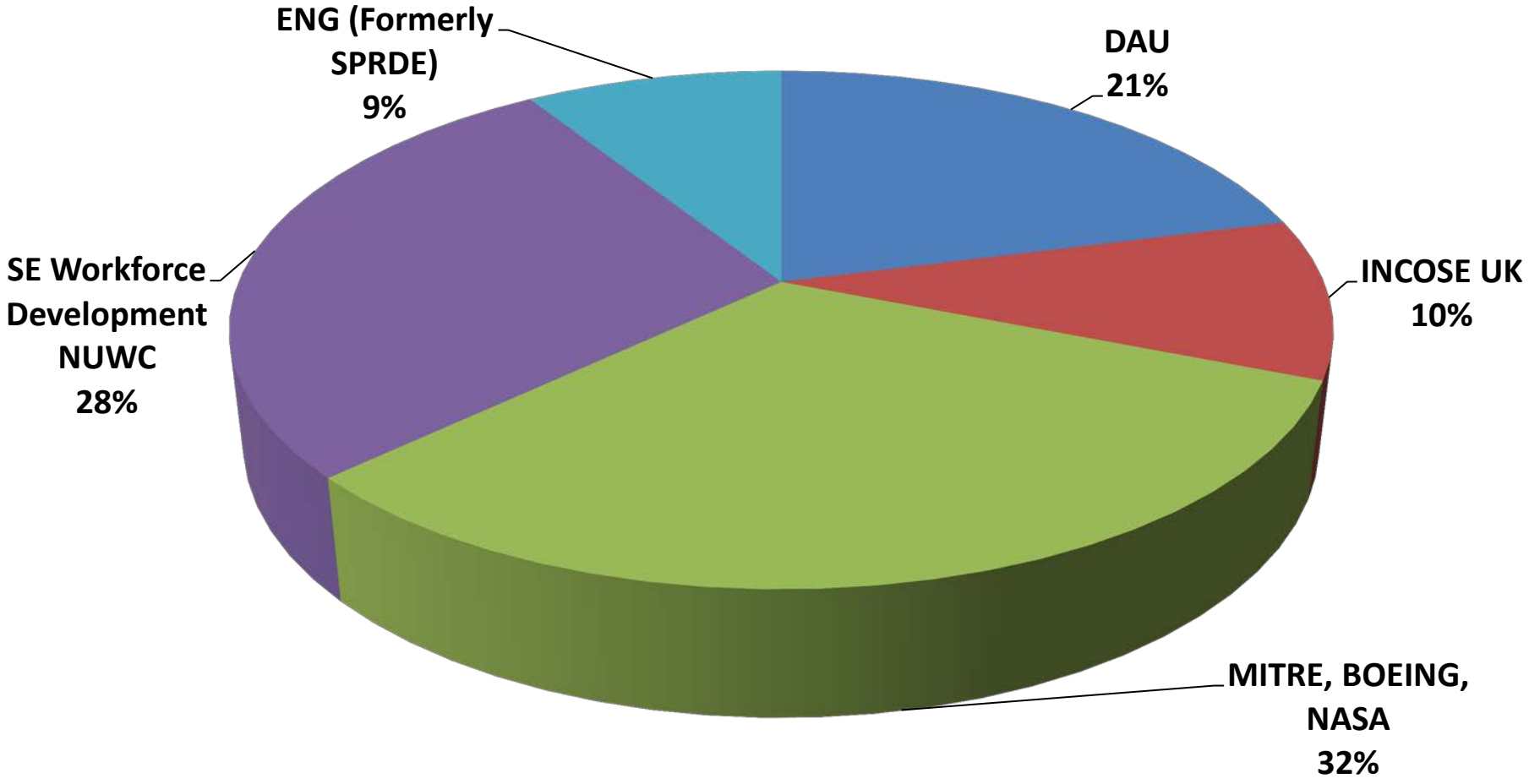
MASTER BUILDING

SECCM



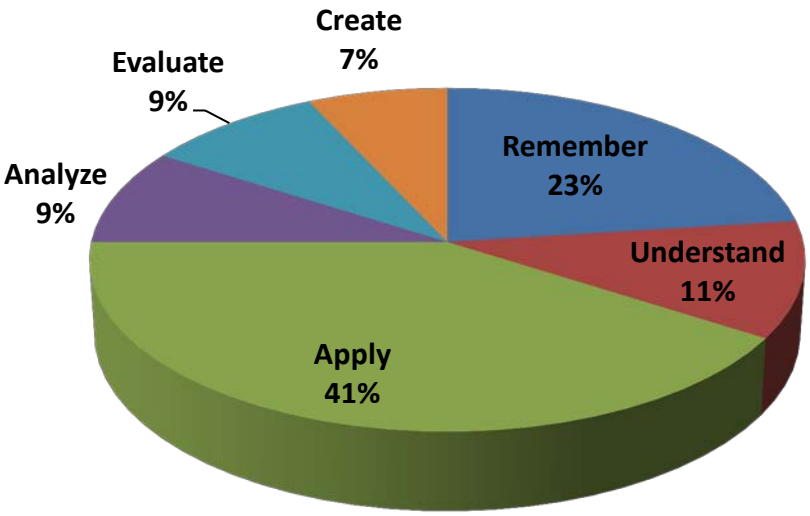
http://geb.ebay.in/g/ImportHubViewItem?itemid=351016255305&Soft-Blocks-36-Jumbo-Interlocking-Lego-Style-Building-Blocks-Squishy-Fun

KSAs Used From Other Sources to Build SECCM

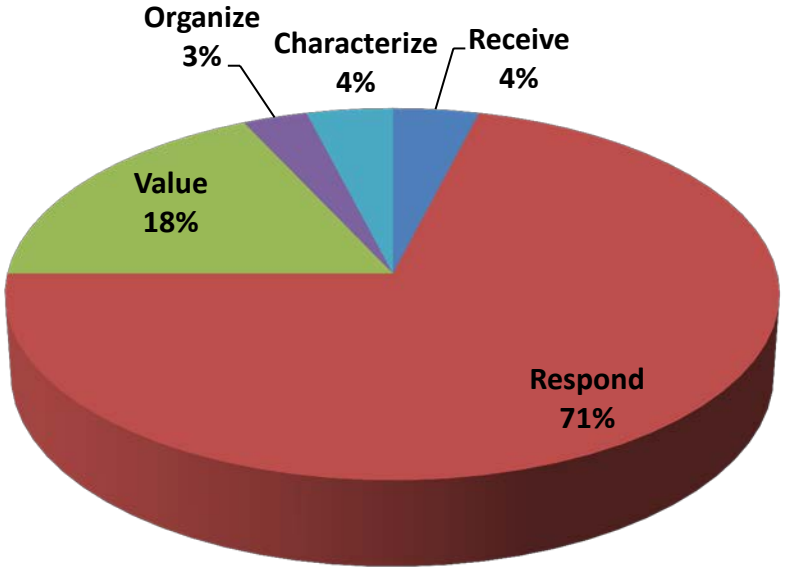


Cognitive and Affective Domains as Captured in SECCM

Cognitive Domain
Total KSAs: 1,732



Affective Domain
Total KSAs: 869



ENG Career Field Competency Model

41 ENG Competencies				
1.0 Mission Level Assessment	10.0 Design Considerations	18.0 Data Management	26.0 Communication	34.0 Cost, Pricing, and Rates
2.0 Stakeholder Requirements Definition	11.0 Tools and Techniques	19.0 Interface Management	27.0 Coaching and Mentoring	35.0 Cost Estimating
3.0 Requirements Analysis	12.0 Decision Analysis	20.0 Software Engineering Management	28.0 Managing Stakeholders	36.0 Financial Reporting and Metrics
4.0 Architecture Design	13.0 Technical Planning	21.0 Acquisition	29.0 Mission and Results Focus	37.0 Business Strategy
5.0 Implementation	14.0 Technical Assessment	22.0 Problem Solving	30.0 Personal Effectiveness/Peer Interaction	38.0 Capture Planning and Proposal Process
6.0 Integration	15.0 Configuration Management	23.0 Strategic Thinking	31.0 Sound Judgment	39.0 Supplier Management
7.0 Verification	16.0 Requirements Management	24.0 Professional Ethics	32.0 Industry Landscape	40.0 Industry Motivation, Incentives, Rewards
8.0 Validation	17.0 Risk Management	25.0 Leading High-Performance Teams	33.0 Organization	41.0 Negotiations
9.0 Transition				

Analytical Technical Management Professional Business Acumen

Verification and Occupational Analysis - OPM

Verification of SE Competency Model with OPM

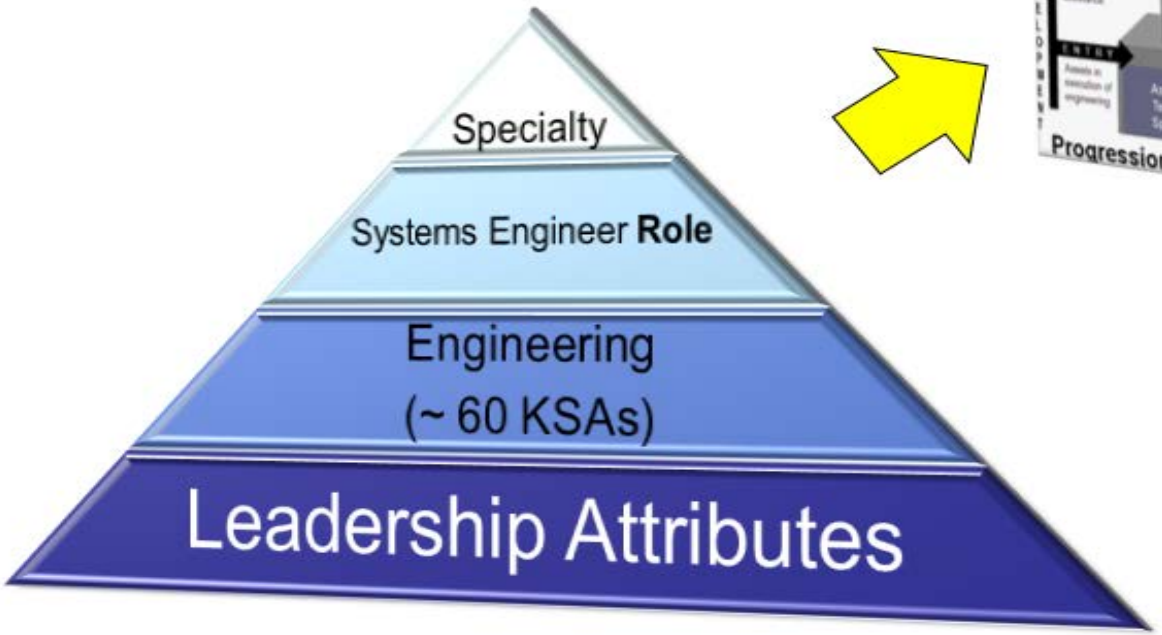
Step 1:
Conduct SME Panels

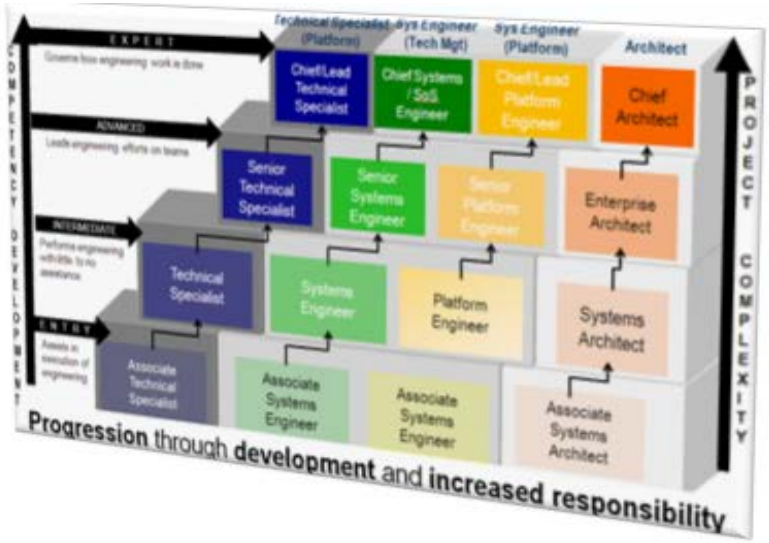
- Use existing information to develop competency descriptions and list of tasks
- Conduct SME panels to refine the task and competency lists

Step 2:
Administer Occupational Analysis Survey

- Assess competency importance along with frequency and importance of tasks
- Analyze results to identify critical tasks and competencies

SPAWAR Systems Center Atlantic Competency Alignment





SSC Atlantic SE Competency Framework KSA Pyramid

Use of SE Competencies for Workforce Development

Step 1: Go to the CDM wiki page for information on your Competency Roles & CDMs

Step 2: Identify your Role and/or Specialty Role(s). Draft your Short and Long Term Objectives.

Step 3: Complete & Submit your CDM Assessment Package

Step 4: Review feedback from CDM Assessment; Identify a few key training events or assignments

Step 5: Develop your IDP in TWMS and route to your supervisor.

Step 6: Complete recommended training or activities

Step 7: Update your IDP throughout the year!

- Knowledge of...
- Skilled in...
- Ability to...

Step 8: Submit for reassessment against CDM

SPAWAR Systems Center Atlantic

Looking Ahead

- Job Analysis for Model Verification
  - Survey of SE Population
    - Near end of FY15/early FY16
  - Analyze results
    - DON FY15
    - USA, USAF, and MDA FY16
- Create Career Development Plans
- Harmonize SECCM with Competency Framework for the International Council on Systems Engineering (INCOSE)

http://www.timesofmalta.com

Questions?

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