



ODASD(SE) Workforce Efforts

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Office of the Deputy Assistant Secretary of Defense for Systems
Engineering (ODASD(SE))**

**NDIA Systems Engineering Division Meeting
April 9, 2014**



DASD, Systems Engineering Mission



Systems Engineering focuses on engineering excellence – the creative application of scientific principles:

- To design, develop, construct and operate complex systems
- To forecast their behavior under specific operating conditions
- To deliver their intended function while addressing economic efficiency, environmental stewardship and safety of life and property

DASD(SE) Mission: Develop and grow the Systems Engineering capability of the Department of Defense – through engineering policy, continuous engagement with component Systems Engineering organizations and through substantive technical engagement throughout the acquisition life cycle with major and selected acquisition programs.

A Robust Systems Engineering Capability Across the Department Requires Attention to Policy, People and Practice

- ***US Department of Defense is the World's Largest Engineering Organization***
- ***Over 99,000 Uniformed and Civilian Engineers***
- ***Over 39,000 in the Engineering (ENG) Acquisition Workforce***



DASD, Systems Engineering



DASD, Systems Engineering
Stephen Welby
Principal Deputy Kristen Baldwin



Systems Analysis
Kristen Baldwin (Acting)

Addressing Emerging Challenges on the Frontiers of Systems Engineering

Analysis of Complex Systems/Systems of Systems

Program Protection/Acquisition Cyber Security

University, FFRDC and Industry Engineering and Research

Modeling and Simulation



Major Program Support
James Thompson

Supporting USD(AT&L) Decisions with Independent Engineering Expertise

Engineering Assessment / Mentoring of Major Defense Programs

Program Support Reviews

OIPT / DAB / ITAB Support

Systems Engineering Plans

Systemic Root Cause Analysis

Mission Assurance
Vacant

Leading Systems Engineering Practice in DoD and Industry

Systems Engineering Policy & Guidance

Development Planning/Early SE

Specialty Engineering (System Safety, Reliability and Maintainability Engineering, Quality, Manufacturing, Producibility, Human Systems Integration)

Counterfeit Prevention

Technical Workforce Development

Standardization

Providing technical support and systems engineering leadership and oversight to USD(AT&L) in support of planned and ongoing acquisition programs



Top Level FY14 DASD(SE) Goals

Shaping Roles: Workforce, Policy, R&E



Advocate for and ensure adequate DoD Engineering Workforce capacity and capability

- Shaping Role; DASD(SE) lacks authorities to drive significant changes in recruitment, retention, service organizational structure or pay and incentives
- Continue support for larger national engineering and STEM initiatives

Provide technical depth to acquisition Policy and Processes

- Shaping Role; Focus on support to execution vs new products
- Implement changes in response to revised 5000.02
- Includes role in Standardization (Engineering focus, supporting WH policy)
- Publish revised draft DoD Risk Guide

Support R&E on critical engineering research and prototyping investments

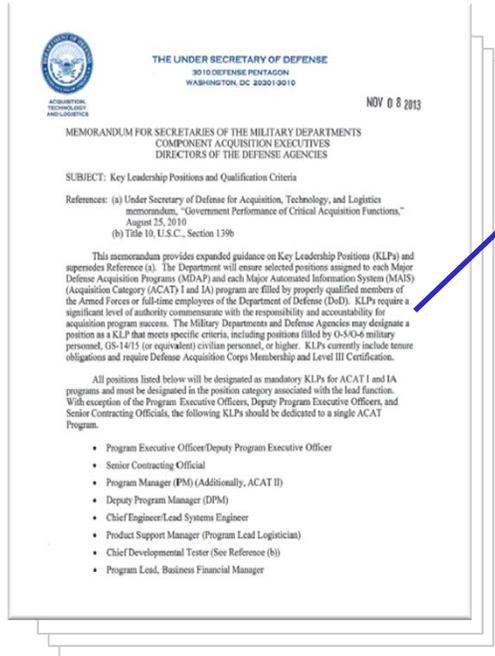
- Shaping Role; Need to help R&E engage the larger acquisition community



USD (AT&L) Key Leadership Positions (KLP) Expectations



Sec 1706 of Title 10 requires “properly qualified” members in cited positions on MDAPs/MAIS



Nov 8 2013 USD (AT&L) Memo on KLP and Qualification Criteria

- “...will establish a Joint KLP Qualification Board, to be stood up in CY 2014, will prescreen Defense Acquisition Workforce personnel to qualify a pool of candidates to these important positions.”
- “They will simply identify individuals as prepared to fill mandatory KLPs based on their training, education, and experience.”
- “To aid in evaluating and selecting the best qualified KLP candidates, five factors have been identified as requirements essential for selection ...”
- “KLP candidates are expected to meet all five requirements prior to assignment.”
- “... prequalify people to fill mandatory KLPs in a consistent and standardized manner across the DoD.”
- KLP Q-board will: “Be comprised of the acquisition functional leads from all Services, appropriate Agencies,”



KLP Q-Board Approach



- **Develop a Standard Operating Procedure to be used by all Career Fields to conduct their KLP Qualification Boards (Q-Board)**
- **Develop a standardized application and instructions to include:**
 - – Section 1: Common Cross-Functional Requirements.
 - – Section 2: Functional Specific Requirements, documented in a standard format tailored to each Career Fields' unique requirements.
- **Coordination through other Career Fields, and through Legal and HR**
- **Implement Phase 1 of the KLP Q-Boards**

Phase 1 Q-Board Will Be Initiated by T&E with ENG to follow



Better Buying Power 2.0

A Guide to Help You Think



Achieve Affordable Programs

- Mandate affordability as a requirement
- Institute a system of investment planning to derive affordability caps
- Enforce affordability caps

Control Costs Throughout the Product Lifecycle

- Implement “should cost” based management
- Eliminate redundancy within warfighter portfolios
- Institute a system to measure the cost performance of programs and institutions and to assess the effectiveness of acquisition policies
- Build stronger partnerships with the requirements community to control costs
- Increase the incorporation of defense exportability features in initial designs

Incentivize Productivity & Innovation in Industry and Government

- Align profitability more tightly with Department goals
- Employ appropriate contract types
- Increase use of Fixed Price Incentive contracts in Low Rate Initial Production
- Better define value in “best value” competitions
- Only use LPTA when able to clearly define Technical Acceptability
- Institute a superior supplier incentive program
- Increase effective use of Performance-based Logistics
- Reduce backlog of DCAA Audits without compromising effectiveness
- Expand programs to leverage industry’s IR&D

Reduce Unproductive Processes and Bureaucracy

- Reduce frequency of higher headquarters level reviews
- Re-emphasize AE, PEO and PM responsibility, authority, and accountability
- Reduce cycle times while ensuring sound investment decisions

Promote Effective Competition

- Emphasize competition strategies and creating and maintaining competitive environments
- Enforce open system architectures and effectively manage technical data rights
- Increase small business roles and opportunities
- Use the Technology Development phase for true risk reduction

Improve Tradecraft in Acquisition of Services

- Assign senior managers for acquisition of services
- Adopt uniform services market segmentation
- Improve requirements definition/prevent requirements creep
- Increase small business participation, including through more effective use of market research
- Strengthen contract management outside the normal acquisition chain – installations, etc.
- Expand use of requirements review boards and tripwires

Improve the Professionalism of the Total Acquisition Workforce

- Establish higher standards for key leadership positions
- Establish stronger professional qualification requirements for all acquisition specialties
- Increase the recognition of excellence in acquisition management
- Continue to increase the cost consciousness of the acquisition workforce – change the culture

For additional information on Better Buying Power 2.0: <http://bbp.dau.mil/>



Growing Great Engineers



- **Depth**
 - Extensive expertise and experiences in one or more engineering disciplines and in one or more product domains
- **Breadth**
 - Awareness of and appreciation for other functional areas
 - Understanding of system lifecycle and processes
 - Knowledge of other engineering disciplines and how they integrate into a system solution
 - Knowledge of product domains
- **Leadership**
 - Ability to motivate and inspire individuals and teams
 - Comfort in dealing with complexity
 - Focus on underpinning decisions with data
 - Capability to make tough technical decisions



Engineering Workforce Development

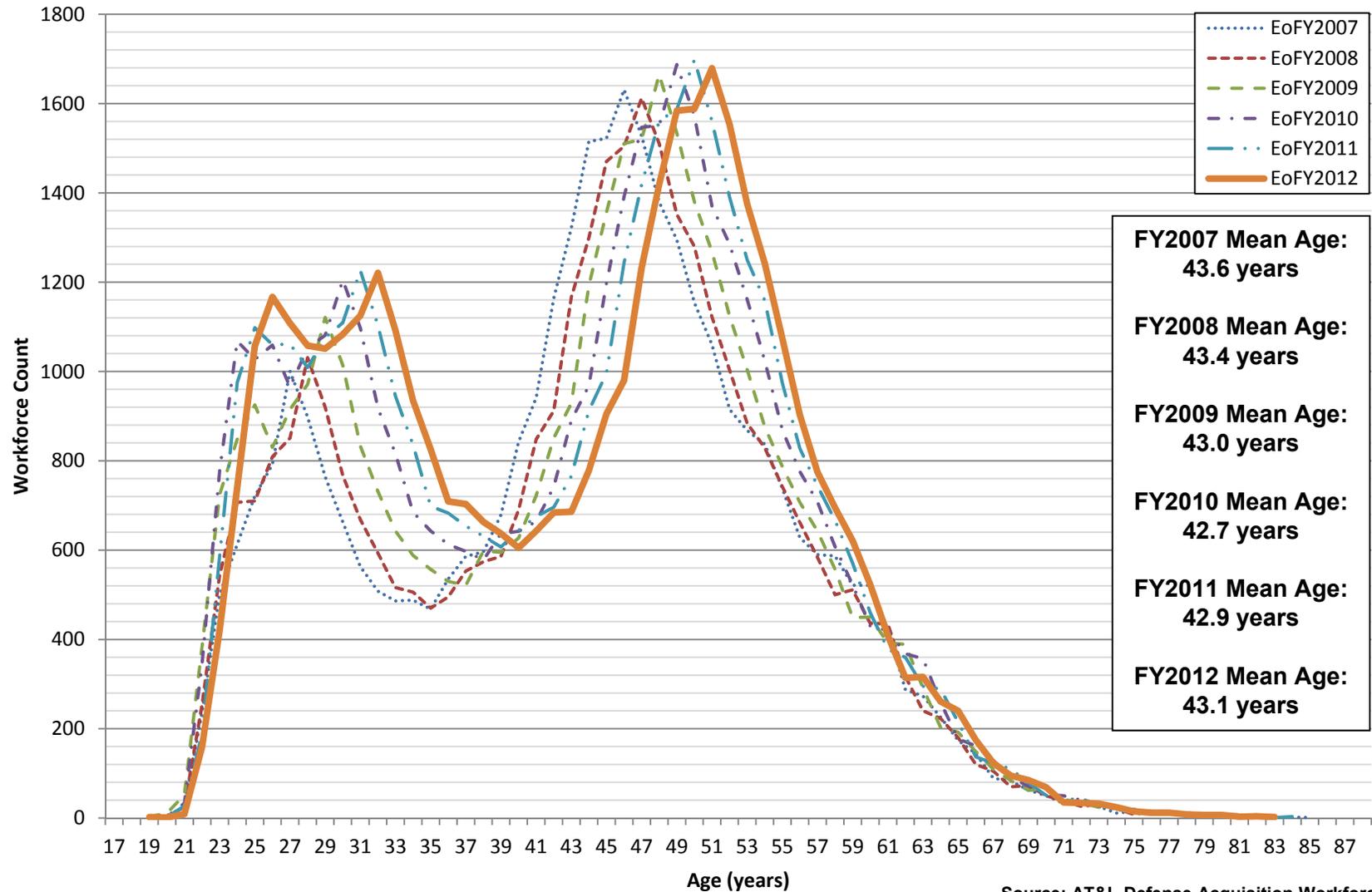


**Vision for 21st Century Engineering Workforce:
Develop capability, capacity and competence needed to address
current and future technical and programmatic challenges.**

- **All DASD(SE) Workforce Development initiatives align with OSD(AT&L) priorities**
- **Initiatives address growing challenges to the DoD and the Defense Industrial Base for attracting, developing and retaining the most qualified engineering leaders:**
 - Key Leadership Position and qualification criteria for Chief Engineer/Lead Systems Engineer and Program Lead, Production, Quality and Manufacturing
 - Systems Engineering Research Center Workforce Tasks:
 - Experience Accelerator and Technical Leadership Curriculum (with DAU)
 - SE Capstone Program (with STEM Development Office)
 - Project Helix (with Services and Defense Industrial Community)
 - Body of Knowledge and Curriculum to Advance Systems Engineering (BKCASE)
 - ASD(R&E) Science, Technology, Engineering, and Mathematics (STEM) Strategic and Implementation Plans and Executive Board



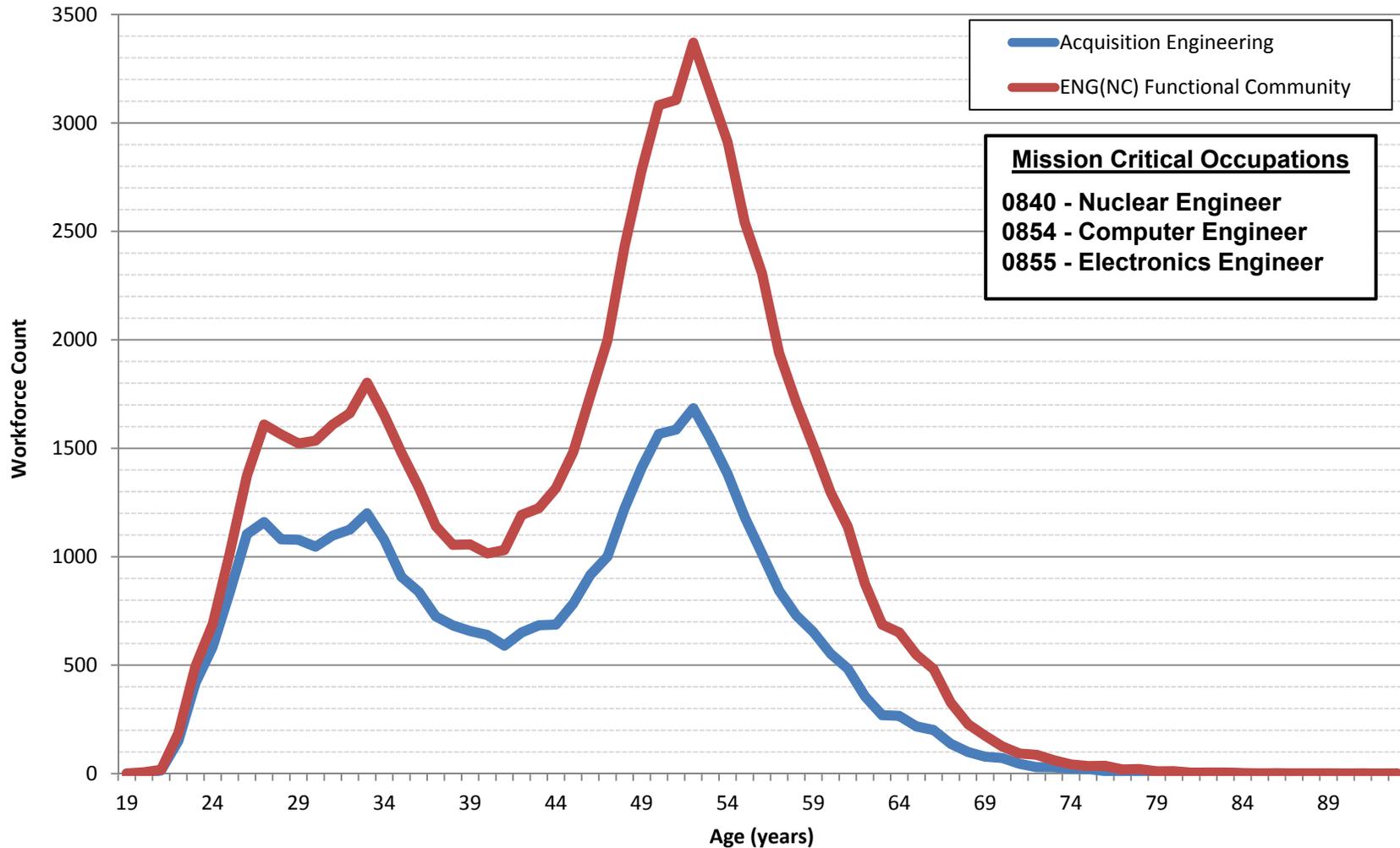
DoD ENG Workforce: Age Demographics



Source: AT&L Defense Acquisition Workforce Data Mart
SPRDE – Systems Planning, Research, Development and Engineering



Acquisition Engineering vs. Engineering (Non-Construction) Functional Community Age Demographics

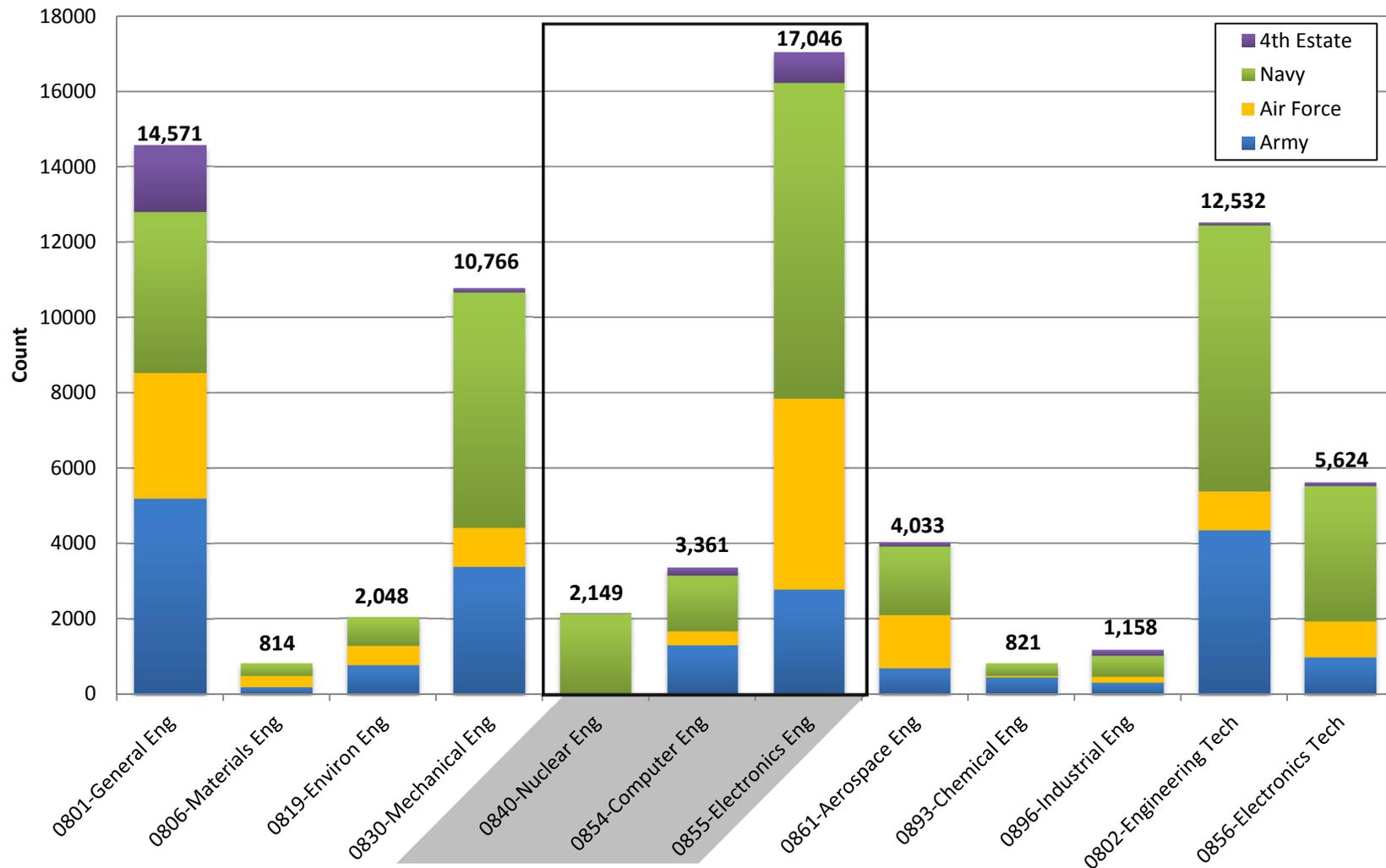


Acq. ENG Source: AT&L Defense Acquisition Workforce Data Mart, 30 Sep 13
ENG(NC) Source: Defense Civilian Personnel Data System (DCPDS), 30 Sep 13



Engineering (Non-Construction) Functional Community by Occupational Series & Component

Total = 74,923



Notes:

1. 0840, 0854, 0855 designated "Mission Critical Occupations (MCOs)"
2. Does not include 0801A Acquisition Program Management Function

Occupational Series

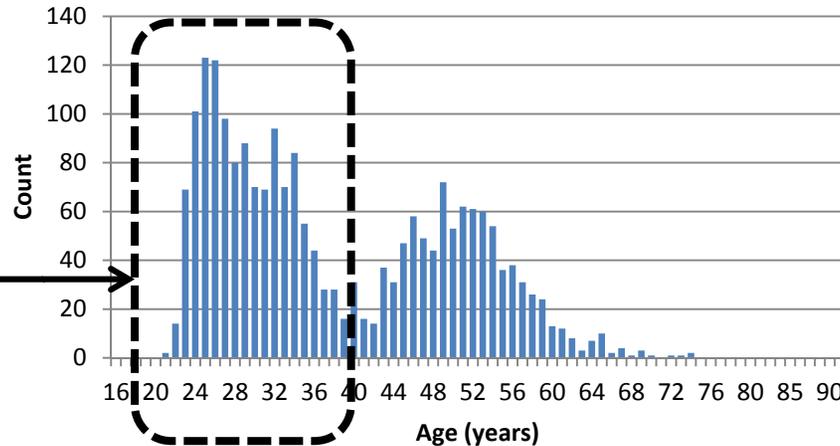
Source: DCPDS, June 30, 2012



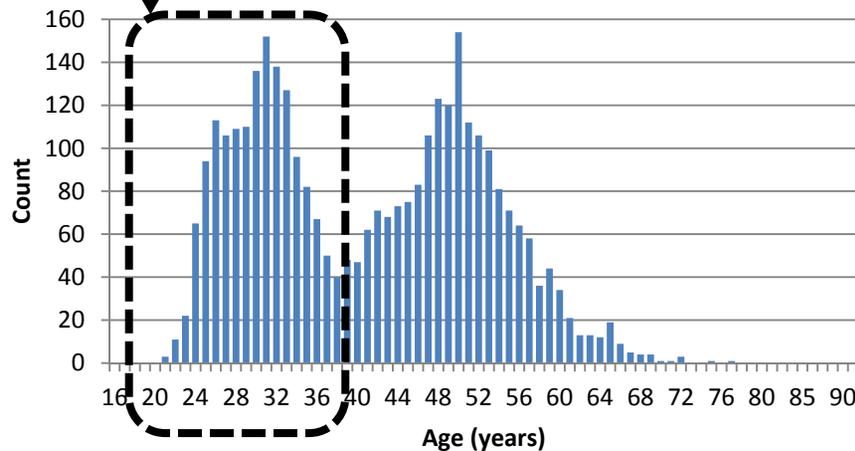
Mission Critical Occupations: Age by Occupational Series



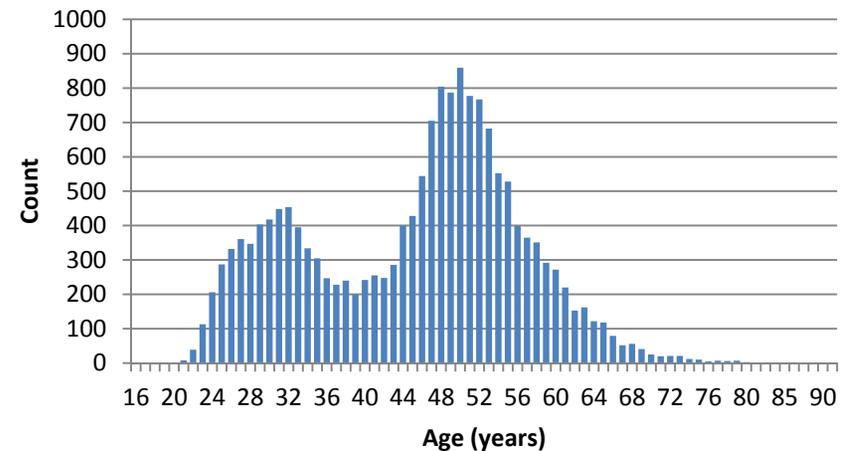
0840 - NUCLEAR ENGINEERING



0854 - COMPUTER ENGINEERING



0855 - ELECTRONICS ENGINEERING



Source: DCPDS via DRS, June 30, 2012



Questions for Industry



- **What are your workforce challenges and what mitigating techniques/strategies do you utilize?**
- **How do you ensure technical capability is maintained within your workforce?**
- **How do you identify and grow your technical leaders?**



Additional References



Current ACQ Workforce Initiatives



- **Development of guides, tools, and competency models to support Acquisition Workforce Members**
 - Engineering Career Field Competency Models: used to redesign the career field curriculum in FY14 (revising SYS 101, SYS 202, SYS 203, and SYS 302 courses)
 - Process Guides and Competency Models for Engineering Specialties: R&M, Manufacturing, and Program Protection Planning
- **Chief Engineer/Lead Systems Engineer Key Leadership Position Qualification Board Pilot**
- **Acquisition Engineering Workforce Strategic Planning**
- **'SPRDE-SE' Career Path revised to 'Engineering' Career Field in FY14; PSE Career Path phased out in FY13**