



# SYSTEMS ENGINEERING & ARCHITECTURE

ORGANIZATIONAL HIGHLIGHT:

AUGUST 2025

## OFFICE OF SYSTEMS ENGINEERING & ARCHITECTURE (SE&A)

SE&A

The Office of Systems Engineering and Architecture (SE&A) develops and promotes innovative engineering principles and techniques to advance DoD engineering practice. SE&A develops policy, guidance, standards, and best practice resources; manages DoD Standards; facilitates engineering-related communities of practice; and develops the defense engineering workforce by refining competency models and curricula. SE&A applies engineering and risk management expertise to inform decisions and improve system-of-systems architectures to reduce integration risk in mission-enabling systems.

### ❖ SE&A FOCUS AREAS

**Policy & Workforce (P&W):** Leads policy, guidance, and workforce development initiatives for the DoD engineering and technical workforce.

**Systems Engineering (SE):** Focuses on modernizing SE practice, including using modular open systems approaches to build systems that can be upgraded to incorporate new technology and respond to emerging threats.

**Digital Engineering Modeling and Simulation (DEM&S):** Focuses on digital engineering transformation and implementation, promoting the use of models and simulations across the DoD life cycle.

**Software Engineering (SWE):** Focuses on adopting modern Agile/DevSecOps software practices and improves cross-organizational collaboration to modernize DoD software processes, capability, and expertise.

**Specialty Engineering (SpE):** Focuses on improving delivery of advanced capability to warfighters by modernizing reliability and maintainability, manufacturing and quality, system safety, human systems integration, and value engineering practices.

**Defense Standardization Program Office (DSPO):** Identifies, develops, manages, and provides access to standardization processes and products for the defense community to promote interoperability, reduce cost, and sustain readiness.

**Joint Architecture for Capabilities and Systems (JACS):** Promotes systems of systems fielded with speed, fidelity, and adaptability to enable continual evolution of U.S. warfighting dominance.

### ❖ LINES OF EFFORT

SE&A organizes its objectives into six lines of effort, which apply to each focus area in varying degree.

SE&A LINES OF EFFORT

Advance the Engineering Practice

Connect & Strengthen the Technical Community

Develop the Workforce

Advance & Manage Standards

Provide Technical Expertise for Independent  
Engineering Assessments

Provide Systems of Systems Architectures  
Guidance

### ❖ COLLABORATION

SE&A collaborates across the Department, leading or participating in dozens of working groups with topics including digital manufacturing, modular open systems approaches, software modernization, and standardization management. SE&A works with the other OUSD(R&E) offices, the Services, DOT&E, CIO, CDAO, and OUSD(A&S) on policies, guidance, and best practices

Procurement Modeling Maintainability Contracting  
Autonomous Systems Business Artificial Intelligence  
Information Systems Engineering Simulation  
Cyber Logistics Risk Program Management  
Earned Value Management Agile Reliability  
Technical Management Software

SE&A promotes innovative engineering principles and techniques to advance DoD engineering practice

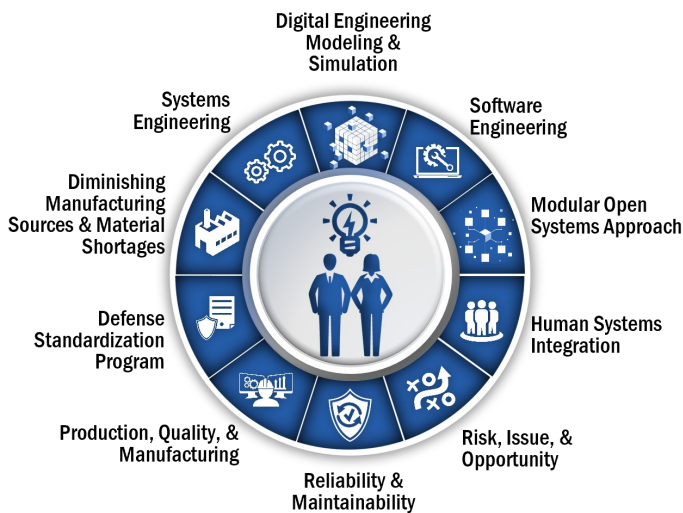


# SYSTEMS ENGINEERING & ARCHITECTURE

## ORGANIZATIONAL HIGHLIGHT: SE&A, cont'd

### ❖ COMMUNITY OF PRACTICE

SE&A collaborates with organizations across the Department through communities of practice (CoPs). CoPs allow valuable interaction among acquisition professionals to support capability development and knowledge sharing.



### ❖ WORKFORCE

SE&A partners with the Military Services and defense agencies to identify workforce challenges and champion initiatives to ensure DoD maintains its advantage in warfighter readiness in a rapidly evolving technological environment. Cross-cutting workforce initiatives focus on building technical capability and capacity to support current and future leadership priorities.

The Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) has initiated numerous technical workforce development efforts guided by Secretary of Defense priorities.

#### Secretary of Defense Priorities

Restoring the  
Warrior Ethos

Rebuilding Our  
Military

Reestablishing  
Deterrence

### ❖ RESOURCES

SE&A – <https://www.cto.mil/sea/>

ASSIST (Standards) – <http://assist.dla.mil>

MOSA CoP – <https://www.dau.edu/cop/mosa/>

DEBOK – <https://de-bok.org/>

Scan the QR code for more information



### ❖ POLICY & GUIDANCE

SE&A, under the authorities of the USD(R&E) charter (DoDD 5137.02), develops instructions, manuals, and guidance to govern specific engineering activities.

#### POLICY DOCUMENTS

DoDI 5000.88  
Engineering of  
Defense Systems

DoDI 5000.61  
DoD Modeling & Simulation Verification,  
Validation, & Accreditation

DoDI 5000.97  
Digital Engineering

DoDI 5000.70  
Management of  
Modeling & Simulation

DoDI 4120.24  
Defense Standardization  
Program

DoDI 5000.95  
Human Systems  
Integration

DoDI 4245.14  
DoD Value  
Engineering  
Program

DoDI 5000.69  
Joint Services  
Weapon and  
Laser System Safety  
Review Processes

... and  
More!

#### GUIDEBOOKS

Application  
Programming Interface  
(API) Guide

Risk, Issue, and  
Opportunity (RIO)  
Management Guide

Technology Readiness  
Assessment (TRA) Guide

Integrated Master Plan  
(IMP) and Integrated  
Master Schedule  
(IMS) Guide

Systems Engineering  
Plan Outline 4.1

Defense Technical Risk  
Assessment  
Methodology 6.4

Software Engineering  
Guide

Systems Engineering  
Guidebook

... and More!

#### BODIES OF KNOWLEDGE

Human Systems Integration

Reliability and Maintainability

Digital Engineering

Manufacturing and Quality

... and More!

### ❖ STANDARDS

The Defense Standardization Program Office (DSPO) champions standardization processes, products, and services to provide the warfighter with interoperable, reliable, technologically superior, and affordable equipment. DSPO develops DoD-wide standardization policies and procedures and serves as the DoD representative to Federal agencies, non-Government standards bodies, international organizations, treaty organizations, and industry. DSPO also serves as executive sponsor for Diminishing Manufacturing Sources and Material Shortages (DMSMS) and Government-Industry Data Exchange Program (GIDEP).

SE&A serves as the Lead Standardization Activity for:

- Systems Engineering Standards and Specifications
- Modular and Open Systems Standards and Specs
- Modeling and Simulation Standards and Methodologies

For more information, contact [osd-sea@mail.mil](mailto:osd-sea@mail.mil)