

NDIA SYSTEMS ENGINEERING DIVISION (SED)

Cross Committee Collaboration and Road mapping

01/28/2025

Agenda

Time	Topic	Who
8:15 – 8:30	Opening and Objectives	Dr. Suzette Johnson Laura Hart and Cory Ocker
8:30 – 10:00	Stakeholder Digital Transformation Priorities Around the room. Share a few words or slides and their top 3 – 5 priorities	Government Partners /Stakeholders
10:05 – 10:20	Break	
10:20 – 10:40	Introduction to the Stakeholder Traceability Approach	Laura Hart
10:40 – 12:00	Committees share their quad chart summary and traceability matrix/roadmap Use committee input to build a NDIA SED integrated Digital/SE roadmap	Architecture, DEE, ADAPT, SSE
12:15 – 1:15	Lunch	
1: – 2:35	Continue: Committees share their quad chart summary and traceability matrix/roadmap Use committee input to build a NDIA SED integrated Digital/SE roadmap	M&S, SoS ME, ATC, T&E Division
2:35 – 3:00	Discussion: Strengths, Gaps and Opportunities	
3:00 - 3:15	Break	
3:15 – 4:15	Feedback from our Stakeholders	Government Partners /Stakeholders
4:15 – 4:30	Retrospective	Cory Ocker
4:30 – 5:00	Review actions, Wrap-up/Closing	Suzette Johnson

2025



Dr. Suzette Johnson
Fellow
Lean Agile Digital at
Northrop Grumman



Laura Hart
Fellow
Lockheed Martin for
Corporate Engineering



Cory Ocker
Fellow
Product Cybersecurity
at RTX

NDIA SE Division and Committee Leads



NDIA SED, Chair
Dr. Suzette Johnson
Fellow
Northrop Grumman

Modeling & Simulation

David Allsop, Boeing
Bronwyn Jackson, Boeing

ME/Sys of Sys Engineering

Judith Dahmann, MITRE
John Daly, BAH

Architecture

John Stough, Exocubic
Ed Moshinsky, OSD R&E

ADAPT/Agile

Robin Yeman, SEI
Suzette Johnson, NGC

NDIA SED, Vice Chair
Laura Hart
Fellow
Lockheed Martin

Digital Engineering Environment

Patrick Bains, BAH
David Green, Ansys
John Daly, BAH

Systems Security Engineering

Cory Ocker, RTX
Bradley Lanford, OSD R&E

Automatic Test Committee

Pat Griffin, Astronics

Government Liaisons

NDIA SED, Vice Chair
Cory Ocker
Fellow
RTX

Safety and Environmental Engineering

Human Systems Integration

Education Training

Purpose



For the NDIA SED committees to share their committee plans and build an integrated NDIA SED roadmap with traceability to stakeholders.

For stakeholders to share their primary needs and provide feedback



Meet and Greet

Share:

- Your name
- Company, Role
- Favorite sports team, movie or hobby

SED 2025 Objectives



***Advance** the adoption of a streamlined digital systems engineering process in the Defense Department acquisition processes to achieve affordable, supportable, and interoperable weapon systems that meet the needs of warfighters and provide the United States a technological advantage.*

Objective	As measured by
Improve visibility of the NDIA SED initiatives and work with other NDIA Divisions in support of DoD objectives	<ul style="list-style-type: none"> Cross-division sessions to capture how we are supporting the DMM and other DoD DE/SE objectives
Partner with government Services and Agencies in system engineering	<ul style="list-style-type: none"> DoD briefings on their DT initiatives to the SED/community Increase 20% Government briefings at division meetings
Drive/Facilitate NDIA SED collaboration capabilities	<ul style="list-style-type: none"> Monthly Division Leadership meetings conducted Monthly Division member meetings conducted Shared repository set up and in use by the SE Division
Increase engagement with early career professionals	<ul style="list-style-type: none"> Capture the number of early career professionals participating in the S&ME conference (through registration)
Build strong relationships with other SE related professional organizations/societies	<ul style="list-style-type: none"> Demonstrate collaboration in at least 6 other organizations (INCOSE, MOSA, OMG, etc)
Elevate the profile of the yearly NDIA Systems & Mission Engineering Conference	<ul style="list-style-type: none"> Increase attendance in the S&ME conference (from 496 to 550 (12%))

Major Timeline: In-Person Events



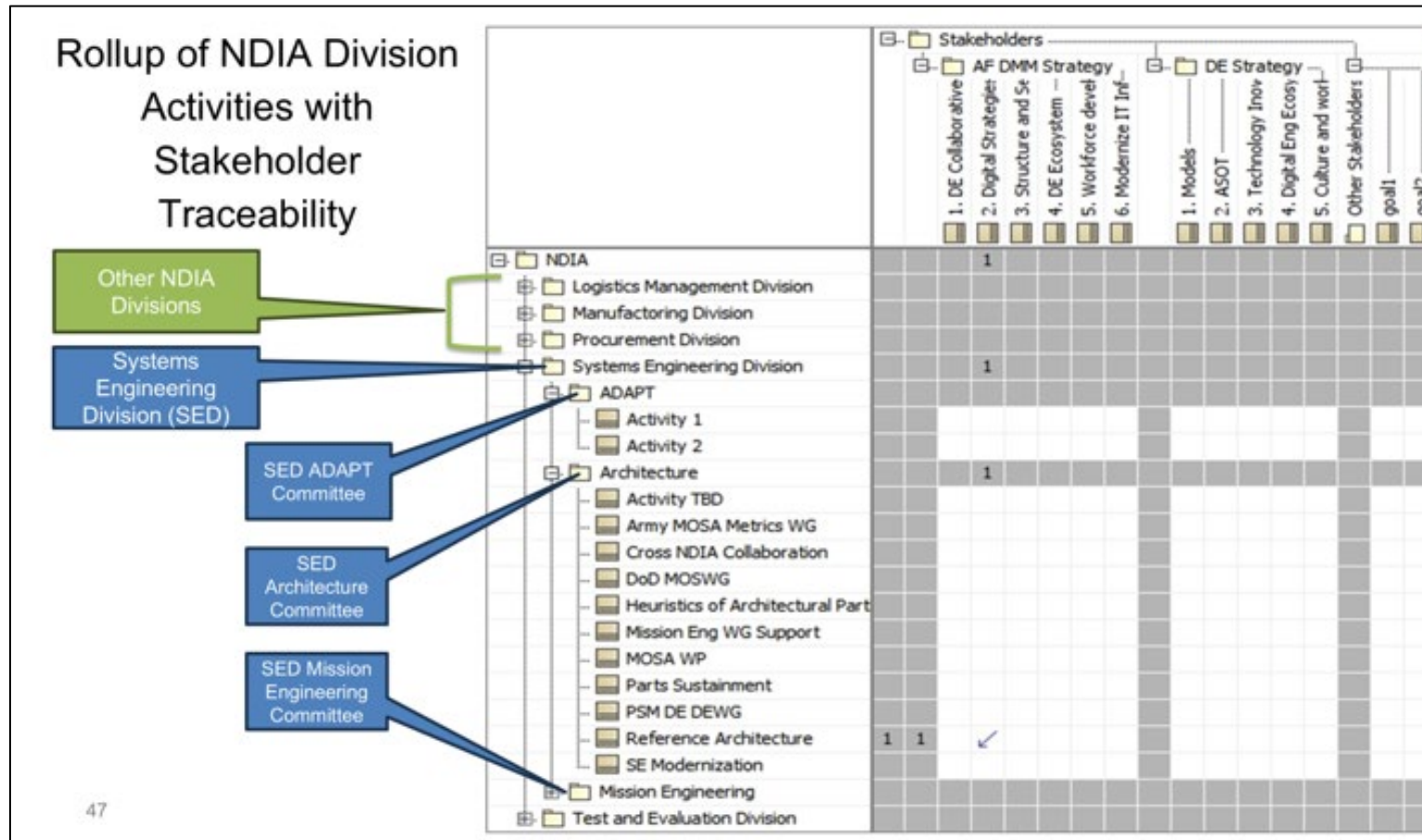
Stakeholders Share their Priorities

- What are your top priorities or objectives for 2025?
- What are your greatest concerns regarding digital transformation?
- What needs to be done to deliver capability to the warfighter faster?



Traceability Matrix Demo

- *How will we use the matrix as SED Committees share their 2025 plans?*
- *What is the process for keeping the models up-to-date?*



NDIA SED Architecture Committee 2025 Planning Overview Report

January 28, 2025

**John Stough
Ed Moshinsky**

SED Architecture Committee

Mission / Purpose

- Mission: Grow Relevance, Usefulness, and Awareness of System Architecting and Architectures in National Defense Systems and Applications
- Purpose: To Facilitate Acumen and Successful Outcomes from System Architecting and Architectures
- Leadership:
 - John Stough, Exocubic
 - Ed Moshinsky, OUSD(R&E)

Stakeholders / Sponsors / Collaborators

- Stakeholders: Defense Industrial Base Members, DoD, & Services
- Sponsor: Nadine Geier, OSD R&E
- Collaborators: INCOSE, AIA, DoD MOSWG; OMG (MB Acq Community); Open Group; SEI
- Membership: 160+ members from government/services, industry, and academia.
- Business Rhythm: Bi-weekly telecons; sub-committee/ working groups/focus teams as needed.

2024 Accomplishments

- On-Going Bi-Weekly Full Committee Meetings
- Bi-Weekly Sub-Committee Meetings and special meetings as needed
- Represent Industry for DoD MOSA Working Group (MOSWG)
- New subcommittees for 2024
 - Artificial Intelligence and System Architecture
 - Growing an Architect
 - Reference Architectures
 - MOSA Business Case
- MOSA Summit – two Panel Discussions
- INCOSE Int’l Symposium presentation on MOSA Challenges & Opportunities
- NDIA Systems & Mission Engineering Conference
 - Architecture & MOSA track organization & chair
 - Artificial Intelligence & System Architecture track org & chair
 - MOSA Panel Discussion (plenary event)
- Intra-Division Coordination
 - ADAPT Committee – MOSA & Agile Development
 - M&S Committee - MBSE/ UAF
 - SoS/ Mission Engineering Committee
- Revisit MOSA White Papers and Supporting Briefings (e.g. DAU training inputs)

2025 Plans / Events / Milestones

- Growing an Architect initiative. Larri Rosser lead; Kicked off ’24. Presentation at ’24 SME Conf. White paper draft by May 2025.
- Support “SE of AI/ ML Capabilities for Military Systems” initiative. Mark Vriesenga lead; Kicked off in ’24.
- Agile MOSA Implementations initiative (Joint w/ ADAPT); Suzette Johnson lead; Kicked off 4Q 24. Multiple Architecture Committee members supporting
- Reference Architectures guidance. John Stough lead. Sub-team kick off Feb 25.
- MOSA Panel @ MOSA Summit in August. Steve Davidson lead. Abstract submitted
- MOSA Business Case paper. Steve Henry lead. Team formed; white paper drafted
- Support NDIA Cross-Division DMM Integration & Facilitation WG (details TBD)
- [Address Recommendations of GAO MOSA Report \(January 2025\). Lead TBD. Publish white paper 2Q 2025](#)
- [Integrate MOSA resources & activities w/ new MOSA.net website. J. Stough lead](#)
- [Initial website live; team provides links to key MOSA materials & activities 1Q 25](#)
- [Lead Architecture / MOSA Track for 2025 NDIA SME Conf. Ed M./ John S. leads](#)

2025 NDIA SE Division Objectives



Drive digital systems engineering acceleration across the systems life cycle to accelerate delivery of capabilities to the war fighter.

Objective	As measured by
1. Improve visibility of the NDIA SED initiatives and work with other NDIA Divisions in support of DoD objectives	<ul style="list-style-type: none">• Cross-division session to capture how we are supporting the DMM and other DoD DE/SE objectives
2. Partner with government Services and Agencies in system engineering	<ul style="list-style-type: none">• DoD briefings on their initiatives to the SED/community• Increase 20% Government briefings at division meetings
3. Drive/Facilitate NDIA SED collaboration capabilities (sharepoint/shared repository, automated mailing lists, etc.)	<ul style="list-style-type: none">• Monthly Division Leadership meetings conducted• Monthly Division member meetings conducted• Shared repository set up and in use by the SE Division
4. Increase engagement with early career professionals	<ul style="list-style-type: none">• Capture the number of early career professionals participating in the S&ME conference (through registration)
5. Build strong relationships with other SE related professional organizations/societies	<ul style="list-style-type: none">• Demonstrate collaboration in at least 6 other organizations (INCOSE, MOSA, OMG, etc)
6. Elevate the profile of the yearly NDIA Systems & Mission Engineering Conference	<ul style="list-style-type: none">• Increase attendance in the S&ME conference (from 496 to 550 (12%))

2025 SED Architecture Committee Initiatives (1 of 2)

- **Growing an Architect initiative**
 - Larri Rosser lead
 - Kicked off in 2024
 - Presentation at the 2024 SME Conference
 - White paper draft by May 2025
- **Support “SE of AI/ ML Capabilities for Military Systems” initiative**
 - Mark Vriesenga lead
 - Kicked off in 2024
 - Presentation Track at the 2024 SME Conference
 - Internal publish white paper 1Q 25.
 - Next efforts: Survey and Best Practices compilation 2Q – 4Q 25.
- **Agile MOSA Implementations initiative (Joint w/ ADAPT)**
 - Suzette Johnson lead; multiple Architecture Committee members supporting
 - Internal publish white paper 2Q 25.
 - Targeting potential MOSA Summit presentation August 2025
- **Reference Architectures guidance**
 - John Stough lead
 - Subcommittee to be kicked off Jan 2025.
 - Draft white paper by 2Q 25. Includes Governance guidelines.
- **MOSA Panel @ MOSA Summit in August**
 - Steve Davidson lead
 - Abstract reviewed by Committee Dec 4 2024, submitted Dec 13 2024.

2025 SED Architecture Committee Initiatives (2 of 2)

- **MOSA Business Case initiative**
 - Steve Henry lead
 - Team has been formed and white paper outline is drafted.
 - Internal publish by 1Q 25
 - Targeting MOSA Summit presentation August 2025
 - NDIA SME Conference presentation
- **Support NDIA Cross-Division DMM Integration & Facilitation Working Group**
 - Details TBD
- **Address Recommendations of GAO MOSA Report (published January 2025)**
 - “Weapon Systems Acquisition; DoD Needs Better Planning to Attain Benefits of Modular Open Systems”
 - Lead is TBD
 - Publish white paper 2Q 2025
- **Integrate MOSA resources and activities with new MOSA.net website**
 - John Stough lead
 - Initial website is live; team will provide links to key MOSA materials and activities 1Q 2025
 - Ongoing updates to website throughout the year
- **Lead Architecture / MOSA Track for 2025 NDIA Systems & Mission Engineering Conference**
 - Ed Moshinsky/ John Stough leads
 - Track planning, abstract selection, track coordination
 - Planning 2Q – 3Q; Conference October 2025

NDIA SED Architecture Committee 2025 Roadmap



Objective	Q1 25	Q2 25	Q3 25	Q4 25
Advance the practice of System Architecting across the Defense acquisition ecosphere	<ul style="list-style-type: none"> Publish “SE of AI/ ML Capabilities for Military Systems” 	<ul style="list-style-type: none"> Draft “Growing an Architect” white paper Draft Reference Architectures guidance 		<ul style="list-style-type: none"> Survey & Best Practices compiled for SE of AI/ ML
Be recognized as thought leaders in Modular Open Systems Approach	<ul style="list-style-type: none"> Publish MOSA Business Case paper Integrate committee resources w/ MOSA.net 	<ul style="list-style-type: none"> Address recos of GAO MOSA Report 	<ul style="list-style-type: none"> Conduct panel @ MOSA Summit (proposed) in DC 	
Collaborate with other NDIA committees/ divisions, Gov’t, Industry & professional org’s to advance System Architecting practices		<ul style="list-style-type: none"> Publish MOSA/Agile paper (Joint w/ ADAPT) Support NDIA Cross-Division DMM Integration & Facilitation WG 	<ul style="list-style-type: none"> Present at INCOSE IS (proposed) in Ottawa 	<ul style="list-style-type: none"> Lead Architecture / MOSA Track for 2025 NDIA Systems & Mission Engineering Conference

Walk through our roadmap and traceability matrix

		1. DE Collaborative cult	2. Digital Strategies	3. Structure and Secur	4. DE Ecosystem	5. Workforce develop	6. Modernize IT Infr
DE Strategy		1	2	2	2	1	1
1. Models	1			✓			
2. ASOT	1			✓			
3. Technology Inovation	2		✓		✓		
4. Digital Eng Ecosystem	2				✓		✓
5. Culture and workforce	3	✓	✓			✓	

NDIA Systems Engineering Division (SED)

Digital Engineering Environments (DEE) Committee

Digital Engineering Environments (DEE) Committee 2025

Goals & Objectives

- ❖ Develop external stakeholder analysis and relationships as priority action in Q1 2025
- ❖ Organize DEE Industry stakeholder group as part of DEE Committee
- ❖ Work with NDIA SE Division Leadership to invite OSD Daniel Hettema (DEM&S) to present in an upcoming Division Meeting on DoD DEE status and plans. Issue invites to each Service to do the same
- ❖ Explore linkage of DEE practice with USAF/Army DMM IAC/NDIA digital transformation activities
- ❖ Engage in the DoD DEM&S Working Group, collaborate to help with CONOPS and overall conceptual architecture for a DoD DEE and offer industry input
- ❖ Engage with Industry on topics of interest in DEE including exemplars and best practices as a lead in to the 2025 SE/ME Conference DEE Roundtable
- ❖ Provide regular forum for Digital Engineering Solutions to support SE from both an industry and government perspective
- ❖ Team with FRFRDCs/UARCs, SERC, INCOSE, associated STDS organizations and Academia on DEE collaboration with the SED DEE Committee and government stakeholders

Digital Engineering Environments Committee

Mission / Purpose

- **Mission:** The Digital Engineering Environments Committee (DEE) provides a forum where government, industry, and academia can share lessons learned, promote best practices, address issues, and advocate for digital engineering solutions and environments to support digital transformation in systems engineering.
- **Leadership:**
 - Patrick Bains, Booz Allen Hamilton
 - David Green, Ansys
 - John Daly, Booz Allen Hamilton

Stakeholders / Sponsors / Collaborators

- **Stakeholders:** Practitioners of DEE in the DoD
- **Sponsors:** Proposed - Daniel Hettema, Allan Dianic, Chris Collins, DOT&E
- **Collaborators:** OMG/MOSA
- **Membership:** Under development. Currently 20 NDIA member companies interested. OSD DEM&S has offered collaboration.
- **Business Rhythm:** Monthly meetings, events as required.

2024 Accomplishments

- Highly successful DEE track at 2024 SED SE/ME Conference
- Initial organization among NDIA SED members

2025 Plans / Events / Milestones

- **SED Digital Engineering Environments Update:** Invite OSD Daniel Hettema (DEM&S) to present in an upcoming Division Meeting on DoD DEE status and plans. Issue invites to each Service to do the same– TBD
- **DoD DEM&S Working Group:** Engage in the DoD DEM&S WG, collaborating on CONOPS and architecture for a DoD DEE and offer industry input - Monthly
- **Digital Transformation:** Explore linkage of DEE practice with USAF/Army DMM IAC/NDIA digital transformation activities - TBD
- **Industry Engagement:** Engage with Industry on topics of interest in DEE including exemplars and best practices leading to the 2025 SE/ME Conf DEE Roundtable
- **DEE Industry/Gov Roundtable:** event at SE/ME Conf or separately
- **NDIA DEE Paper and Briefing;** Develop with results of collaboration and roundtable for use in planning 2026 and distribution.

Walk through our roadmap and traceability matrix

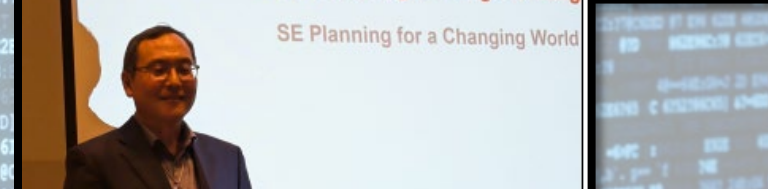
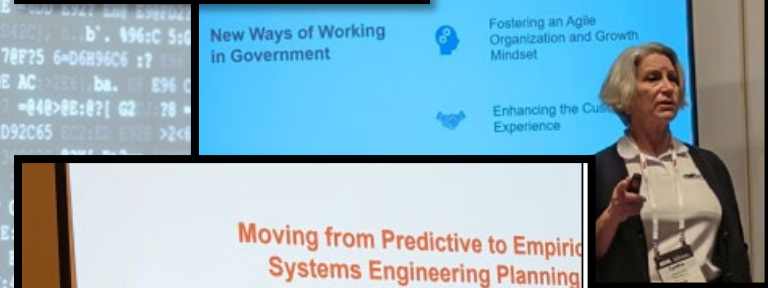
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2. ASOT	1			✓			
3. Technology Inovation	2		✓		✓		
4. Digital Eng Ecosystem	2				✓		✓
5. Culture and workforce	3	✓	✓			✓	



NDIA Systems Engineering Division (SED)

ADAPT Committee

Robin Yeman, SEI
Suzette Johnson, Northrop Grumman



ADAPT Agile Delivery for Agencies, Programs, and Teams since 2011

Agile and DevSecOps in Defense

2009

Department of Defense
Policies and Procedures for the
**Acquisition of Information
Technology**



Sept 2019

Naval Air Systems
Command (NAVAIR)
Software Transformation
Strategy

Sept 10, 2020

DoD Enterprise
DevSecOps
Fundamentals

November 18, 2020

DoDI 5000.88,
"Engineering of
Defense Systems,"

June 2021

DoD Enterprise
DevSecOps
Strategy Guide

Dec 2022

USAF Digital
Building Code

Nov 23, 2023

GAO Agile
Assessment
Guide

March 2024

Army Directive 2024-02
"Enabling Modern
Software Development
and Acquisition Practices"

2018

Air Force Directive on
Digital Engineering,
Agile Software
Development, and
DevOps (2018)

Jan 2020

DoD 5000.02 DOD
Instruction 5000.02
Operation Of The
Adaptive Acquisition
Framework

Oct 2020

DoD Instruction
5000.87 - Operation of
the Software
Acquisition Pathway

November 19, 2020

DoDI 5000.89, "Test
and Evaluation,"

April 22, 2022

Department Of The
Navy: SECNAV
Instruction

October 2023

OUSD Systems
Engineering
Modernization

Dec 21, 2023

DOD Instruction
5000.97 Digital
Engineering

ADAPT Summary



Mission	Stakeholders/Sponsors/Collaborators
<p>Facilitate Industry-Government interaction across policy, acquisition/contractual, product engineering, solutioning, and delivery by continuously improving the implementation of Agile practices to meet business and mission outcomes.</p>	<p>Stakeholders: Defense Industrial Base Team members, DoD, DoD R&E, Services Members: 55+ members representing many industry companies Partner with: AIAA, INCOSE, Other NDIA divisions, OMG, SEI, OUSD R&E</p>
2024 Accomplishments	2025 Plans/Events/Milestones
<ul style="list-style-type: none"> ● Agile Myth Buster Recording: “It was better with waterfall” (17min) ● Agile Myth Buster Recording 2: Story point are useless (15 min) ● Intersection of Agile and MOSA (DAU webinar) presentation ● Moving from predictive planning to empirical planning for systems engineering ● (Link to IT Revolution) Accelerating value delivery in highly complex domains ● OUSD R&E Presentation ● DoD CIO DevOps COP presentation ● INCOSE IS2024 ● USAF DMM IAC efforts ● NDIA ETI conference panel ● NDIA S&ME Track 	<ul style="list-style-type: none"> • Publish Myth Busters: Agile/EVM and Agile Planning • Publish Agile and 15288 Paper • Publish Example Cyber-Physical Agile Implementation Paper • Publish MOSA/Agile Paper (collaborate with SED Architecture) • Publish initial thought paper on Continuous SETRs • (Proposed) Publish example RFP language for Agile/DevOps (collaborate with DoD/Agile Acquisition) • Participate in the DMM/IAC events • Collaboration with MBAcq activity • Present panel at the MOSA Conference (proposed) • Present panel SAFe for Government Summit (proposed) • Workshop on Agile and EVM challenges and success patterns • Perform Stakeholder and partner Outreach during NDIA SED 2025 Conference

NDIA SED ADAPT Committee 2025 Roadmap



Specific focus areas activities drive key results

Objective	Q1	Q2	Q3	Q4
Advance agile systems engineering practices across defense acquisition and engineering functions.	<ul style="list-style-type: none"> Publish Myth Buster: Agile/EVM Publish Agile and 15288 Paper Publish Example Cyber-Physical Agile Implementation Paper 	<ul style="list-style-type: none"> Publish Myth Buster: Agile Planning Collaboration with MBAcq activity 	<ul style="list-style-type: none"> (Proposed) Publish example RFP language for Agile/DevOps 	<ul style="list-style-type: none"> Publish initial thought paper on Continuous SETRs (collaborate with DMM) Workshop on Agile and EVM challenges and success patterns
Drive broader participation by our member companies and government, industry, and professional organization partners.		<ul style="list-style-type: none"> Clarify the theme of the ADAPT Track and what topics we are looking for Promote NDIA S&ME conference submission to the ADAPT community & partners 	<ul style="list-style-type: none"> Conduct NDIA/SED Conference abstract reviews 	<ul style="list-style-type: none"> Host Lean Coffee at the NDIA SED 2025 Conference Perform Stakeholder and partner Outreach during NDIA SED 2025 Conference
Collaborate with other NDIA committees and divisions, and government, industry, and professional organization partners to advance the Agile practice	<ul style="list-style-type: none"> Participate in the DMM/IAC - AIAA Event Speak at AIAA/Scitech conference Engage with AIAA - Modernizing SETRs 	<ul style="list-style-type: none"> Publish MOSA/Agile Paper (collaborate with SED Architecture) Present panel at the MOSA Conference (proposed) Present panel SAFe for Government Summit (proposed) Participate in the DMM/IAC Event (TBD) 	<ul style="list-style-type: none"> Present at INCOSE Conference (proposed) 	<ul style="list-style-type: none"> Participate in the NDIA SED led - Digital Material Management IAC

Asks



- How can ADAPT help with Agile and DevSecOps adoption to deliver mission value faster (and increase minutes on mission)?
- Who can we engage with in the Army on the Agile/DevOps directive?
- Is there an opportunity to engage with R&E SW/DevOps?
- Is there interest from Space Force in engaging with us?
- Is there another group we should consider engaging with?

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3. Technology Inovation	2		✓		✓		
4. Digital Eng Ecosystem	2				✓		✓
5. Culture and workforce	3	✓	✓			✓	

NDIA Systems Engineering Division (SED)

Modeling and Simulation Committee

David Allsop
The Boeing Co.

Bronwyn Jackson
The Boeing Co.

Modeling and Simulation Committee

- **The mission of the NDIA SE M&S Committee is to advance the understanding and use of modeling and simulation in the practice of systems engineering**
- **Proposing 2025 effort within the committee on integrating Digital Engineering (SE Application area) and Modeling and Simulation (provider area)**
 - Normalize the vocabulary between the two communities
 - Make visible the capabilities of the Mod/Sim community
 - Make visible the needs of the DEng community (through Dthreads) as they support other application areas.
 - Unify the capabilities and the needs; adjust as necessary
 - Speak with one vocabulary, one set of objectives to support the users.

Focus Areas



- **Strengthening modeling and simulation as support to digital thread development**
- **Continue DoD engagement with MSCO and DE**
 - UPCOMING: Next DEM&S COP: Wed, Feb 19. TOPIC: Model Trust (which fits right into the proposal). Contact Darryl Howell (Darryl.I.Howell.ctr@mail.mil)
 - UPCOMING: DEM&S FED DEF: Mar 11-13 – registration: <https://fed-def.org/registration>
- **Continue Digital Engineering focus area by using Digital Thread development as an aim point to bring together traditional mod/sim and DEng.**



NDIA Systems Engineering Division (SED)

SoS ME Committee

SoS ME Committee 2025 Goals & Objectives



- ❖ Continue SoS Enterprise Collaborative Information Exchange (SoSECIE) Webinars with continued emphasis on Mission Engineering. (sosecie@mitre.org)
 - More widespread awareness would be helpful from the SED and member companies.
- ❖ Work with NDIA SE Division Leadership to invite Elmer Roman or Marc Goldenberg to present in an upcoming Division Meeting on DoD ME status and plans. Issue invites to each Service to do the same
- ❖ Explore linkage of Mission Engineering practice with USAF/Army DMM IAC/NDIA digital transformation activities
- ❖ Engage in the DoD Mission Engineering Working Group (MEWG) and share high points with SE Division
- ❖ Engage with Industry on topics of interest in mission engineering including exemplars and best practices as a follow-up to the FY24 Industry ME Roundtable
- ❖ Team with SE Research Center and OUSD MC/MI to host a workshop to develop an ME Research Agenda for the larger ME community

Mission Engineering/Systems of Systems Committee

Mission / Purpose	Stakeholders / Sponsors / Collaborators
<ul style="list-style-type: none">• Mission: The Mission Engineering (ME)/Systems of Systems (SoS) Committee provides a forum where government, industry, and academia can share lessons learned, promote best practices, address issues, and advocate systems engineering for Systems of Systems (SoS).• Leadership:<ul style="list-style-type: none">• Judith Dahmann, MITRE• John Daly, Booz Allen Hamilton	<ul style="list-style-type: none">• Sponsor: OUSD Research and Engineering Mission Integration• Stakeholders: Practitioners of SoS and Mission Engineering• Membership: 100+ Invitees to SoSECIE Series, plus selected participants in Committee initiatives• Business Rhythm: Bi-weekly webinars; Monthly SED Updates
2024 Accomplishments	2025 Plans / Events / Milestones
<ul style="list-style-type: none">• SoS Engineering Collaborator Information Exchange: Webinar series on SoSE and ME• Industry Mission Engineering Roundtable: Conducted Roundtable and produced a set of recommendations which were presentation at the NDIA SE and ME Conference• NDIA Systems and Mission Engineering Conference: Hosted ME/SoS track, a senior Mission Engineering panel and a Mission Engineering Industry Roundtable session	<ul style="list-style-type: none">• SoS Enterprise Collaborative Information Exchange (SoSECIE) – Continue webinars (sosecie@mitre.org) - Bi-Weekly• SED Mission Engineering Update: Work with NDIA SE Division Leadership to invite Elmer Roman or Marc Goldenberg to present in an upcoming Division Meeting on DoD ME status and plans. Issue invites to each Service to do the same – TBD• DoD Mission Engineering Working Group (MEWG): Engage in the DoD Mission Engineering Working Group (MEWG) and share high points with SE Division - Monthly• Digital Transformation: Explore linkage of Mission Engineering practice with USAF/Army DMM IAC/NDIA digital transformation activities• Industry Engagement: Engage with Industry on topics of interest in mission engineering including exemplars and best practices as a follow-up to the FY24 Industry ME Roundtable - TBD• Mission Engineering Research Agenda - Team with SE Research Center and OUSD MC/MI to host a workshop to develop an ME Research Agenda for the larger ME community – July/August Workshop, Draft Agenda October

Walk through our roadmap and traceability matrix

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1. Models	1			✓			
2. ASOT	1			✓			
3. Technology Inovation	2		✓		✓		
4. Digital Eng Ecosystem	2				✓		✓
5. Culture and workforce	3	✓	✓			✓	



NDIA Systems Engineering Division (SED)

Systems Security Engineering Committee

Systems Security Engineering (SSE) 2025

Goals & Objectives



- ❖ **Provide a forum for USG / Industry to collaborate on improving SSE outcomes in fielded systems**
- ❖ **Shape:**
 - ❖ DoD policies, procedures, and guidance related to SSE to improving delivered system security performance including survivability, resiliency, and affordability
 - ❖ Contractual guidance that occurs at the intersection of government and industry to ensure clear alignment and understanding of SSE requirements and activities
 - ❖ System security related regulations through the FAR/DFAR feedback cycle
- ❖ **Advance SSE technical and business practices within the aerospace and defense industry.**
- ❖ **Promote and emphasize excellence in systems security engineering throughout the program life cycle and across engineering and non-engineering disciplines required for a holistic approach to system security and program protection.**
- ❖ **Support security specialty projects and initiatives by providing a system security engineering perspective that directly effects and interfaces with system security engineering.**
- ❖ **Encourage and promote the advancement, education, and skill development of the role of system security engineering.**

Systems Security Engineering Committee



Mission / Purpose	Stakeholders / Sponsors / Collaborators
<ul style="list-style-type: none">Mission: To promote System Security Engineering integration into the Systems Engineering and Mission Assurance processes in the Department of Defense (DoD) acquisition of weapon systems. To foster the development of System Security Engineering methods, tools, techniques, and processes required for the role of System Security Engineers. To provide a forum for the open exchange of ideas and concepts between government, industry, FFRDC and academia. To develop a new understanding of System Security Engineering and the critical role it plays to ensure system survivability in a cyber contested environment.Leadership:<ul style="list-style-type: none">Cory Ocker, RTX CorporationBradley Lanford, OSD(R&E), STPP	<ul style="list-style-type: none">Sponsor: OUSD R&E Science & Technology Program Protection, AF CROWSStakeholders: Systems Security EngineersCollaborators: NIST, CITAGMembership: 300+ members receiving information. Meetings typically include 40-60 participants depending on the speaker. Core of 10 that volunteer to lead / support projects.Business Rhythm: Bi-monthly meetings, events as required. Participation in various SSE related association activities throughout the year (e.g. Software & Supply Chain Assurance (SSCA) Forum, OSD System Security Engineering Forum (previously Cyber Resilient Weapon System (CRWS Workshop))
2024 Accomplishments	2025 Plans / Events / Milestones
<ul style="list-style-type: none">Met 6 times in 2024 with 6 different USG briefersFeedback provided on several proposed regulationsFeedback provided on SSE Work Role Definition9 joint sessions during SME Conference8 dedicated sessions during SME Conference	<ul style="list-style-type: none">OSD Systems Security Engineering Forum: Provide industry perspective on secure cyber resilient engineering initiatives and software assurance community of practice activitiesPublish CUI Sanitization Guidance: Aligns with deployment of CMMC and CUI FAR Clause implementation to limit industry impact, increase suppliers, and ensure resources are focused on correct data to protectDMEA Trusted Supplier Steering Group: Collaborate with TSSG to identify opportunities to apply lessons learned to microelectronics assurance policies and proceduresHardware Assurance RFP Strategy Definition Workshop: concept that sprung from SME conference to leverage RFI/RFP process to determine hardware protection needs and ensure consistency across biddersSSE Workforce Development: continue shaping NICE Framework and SSE Competency; ensure proper alignment of regulations to SSE acquisition workforce

Walk through our roadmap and traceability matrix

		1. DE Collaborative cult	2. Digital Strategies	3. Structure and Secur	4. DE Ecosystem	5. Workforce develop	6. Modernize IT Infr
DE Strategy		1	2	2	2	1	1
1. Models	1			✓			
2. ASOT	1			✓			
3. Technology Inovation	2		✓		✓		
4. Digital Eng Ecosystem	2				✓		✓
5. Culture and workforce	3	✓	✓			✓	



NDIA Systems Engineering Division (SED)

Automated Test Committee

Automated Test Committee

Mission / Purpose

- Mission: Industry formed a support group in 1980s to assist DoD develop, deploy, and sustain automated test systems focusing on reducing design complexity, costs and smaller systems addressing limited space.
- Purpose: Jointly address digital transformation initiatives in 2025.
- Leadership: Chair: Dr. Patricia Griffin Astronics Test systems , Vice Co-chairs: Mr. Howard Savage SCI and Mr. Tim Stanley CACI

Stakeholders / Sponsors / Collaborators

- Stakeholders: USA, USAF, USN, USMC, and Industry ATS community
- Sponsor: DoD Automated Test Systems (ATS) Management Board
- Collaborators: ATS Industry, IEEE SCC20 Standards
- Membership: 153 members from government, academia, and industry
- Business Rhythm: Bi-annual meetings and monthly project reviews, increased frequency for projects via telecons; working groups

2024 Accomplishments

- Two-year Digital Transformation project completed and briefed at IEEE conference August 2024, NDIA ATC meeting August 2024, and DoD government only AMB Spring meeting May 2024. All DoD military representatives and industry presented findings:
 - Project Identified two types of gaps in the digital acquisition process
 - Funding
 - To create models of existing & future Automatic Test Equipment (ATE)
 - To create ATE validation tools & enhance current modeling tools like SysML and ATML
 - Process consistency
 - Lack of unified tools & style guides across DoD
 - Digital representations cannot easily be transferred between tools such as SysML and ATML

2025 Plans / Events / Milestones

- Send survey to membership to choose next project related to Digital Transformation
- Attempt to bring alignment to all DoD stakeholders as they define their digital engineering processes
- Find an acquisition model that will add sustainment as an element in the overall model
- Define I/O related to sustainment needs within Acquisition Model
- Prepare for annual meeting adjacent to IEEE AUTOTESTCON in National Harbor, MD, September 15-19
- Create the next project team, goals and timeline based on survey sent in January
- Build on “USAF General Reference Architecture published in 2024

2025 Joint Projects TE & SE Division

Dec 17, 2024

Proposed T&E Division / SE Division Joint 2025 Projects



- **Developmental Test & Evaluation as a Continuum (dTEaaC)**

- Gov Stakeholder: Mr Chris Collins : Executive Director (DTE&A), OUSD(R&E)
- Industry participation in furthering the dTEaaC initiative (includes Hackathon 3.0)
 - *“This new approach moves T&E from a serial set of activities conducted largely independently of Systems Engineering (SE) and ME activities to a new agile and integrative framework focused on a campaign of learning termed a developmental T&E as a Continuum (dTEaaC)”*
- Industry OEMs to provide feedback of the current dTEaaC Method, Framework & Tools
- Utilize SE Committees to collect feedback, aggregate and non-attribute the information
 - Mission Engineering, Architecture, M&S, SSE, SoS
- Program Management Division participation also desired

- **Model Validation Level (MVL)**

- Josh Tobar (Northrop Grumman) presented at Industrial Committee on T&E (ICOTE) as a topic
- This topic was of interest to OSD T&E Principals and Service T&E Leads in the room to explore further
 - *MVL is a standard for evaluating physics-based, performance models throughout the lifecycle of a program. MVL enables consistent and uniform discussions of system model representation. A model is submitted and assessed to a MVL by evaluating to the criteria making up the MVL standard. MVL is inspired by Technology Readiness Level (TRL) assessment but is not a one-for-one comparison. MVLs are based on a scale from 1 to 9 with 9 being the highest level calibrated on mission execution test data. This in no way is intended to circumvent or replace DoD DOD INSTRUCTION 5000.61 DOD MODELING AND SIMULATION VERIFICATION, VALIDATION, AND ACCREDITATION. It is intended to augment and provide a method for uniform discussion on the maturity of a computational model.*
 - *Fact Finding: Does anything like this currently exist? How does it compare to current accreditation instructions? (DoD, Navy, USAF, etc)*
 - *Potential Gov Stakeholders, D(DTE&A) SE OUSD(R&E), DOT&E, DTAs, OTAs*
 - *Key in System Verification Plan (verification method by Analysis/Sim), Test & Evaluation Strategy, TEMP*
- Potential SE Committees: Modeling & Simulation, TBD

NDIA Systems Engineering Division (SED)

Any other committee?

NDIA SED Division Meetings

- OSD, Daniel Hettena to present on DoD DEE status and plans
- Army Digital Transformation and SW Directive
- Engage with Space Force on Agile/DevOps
- Mr Elmer Roman or Marc Goldenberg to present on DoD ME Status and plans. Issue invites to each Service to do the same.
- Chris DeLuca, Specialty Engineering
- Ken Senechal
- Committee Updates

Strengths, Gaps, Opportunities

- Strengths
 - Tracing in the model to the stakeholder objectives
 - Alignment between stakeholders and committee objectives
 - Digital crosses everything
 - Refusal to perform the digital transformation drives unity;

Strengths, Gaps, Opportunities

- Gaps
 - Enterprise approach to modeling, tools, and data
 - Systems Engineering doesn't understand what the different disciplines or functions really need
 - Number of tasks vs the number of volunteers
 - Understanding new administration psyche to transform them into champions for SE
 - Thematically - Difficulty making data accessible, consumable, and actionable
 - DAU POC / E&T Committee Lead
 - OSD(A&S) POC
 - Incremental contracting: Capability based funding lines, capability based testing
 - SE sitting under 0801 general engineering in USG workforce taxonomy
 - Lack of congressional committee focused on engineering

Strengths, Gaps, Opportunities

- Opportunities
 - Translate our capabilities to usability in other application areas (pull vs push)
 - Tailor value to the audience/discipline
 - Create various use cases across the digital threads
 - Better identify and engage in collaboration to be a force multiplier
 - Model interfaces and transitions between different phases of development
 - Engage with other organizations to increase output
 - Rebirth systems engineering term
 - Communication/marketing opportunity to show business case; manageable objectives w/ feedback loop
 - Submit Papers to NDIA Magazine
 - [Restoring Freedom's Forge: American Innovation Unleashed](#) | CTO Palantir [Defense Reformation](#)
 - Engage with manufacturing division to identify areas where SE drives pain in manufacturing
 - Evaluate incremental contracting looking across the value stream
 - Individual companies to drive a common message on the benefits of systems engineering in delivering capabilities facilitated by NDIA
 - Where are accredited degrees coming from to help push institutionalization of SE in both USG and Industry

Feedback from our Stakeholders

- Based on the committee read-outs, what are you excited about?
- What would you like to see happen in 2025?
- What is one thing that would help us, as a defense community, improve the speed of capability delivery to the warfighter?

Retrospective

- **NDIA SE Division**
 - What has been working well for the SE Division?
 - What improvement would you like us to consider?
 - What topics would you like to see in our upcoming monthly meetings?
- **Collaboration Event Today**
 - What worked well?
 - What improvement should we consider for future events?
 - What was your favorite thing about today?



Upcoming Events



Cross NDIA Division Meeting (In progress)

- **Objective:** Provide an *open, collaborative initiative, extending across the NDIA divisions, to understand how we are advancing the objectives of the DoD and the USAF Digital Materiel Management (DMM)*
- **What:** Share objectives, Share Division integrated roadmap with traceability to Stakeholders
- **When:** April 15, 2025
- **Location:** Lockheed Martin, Crystal City
- **Who:**
 - NDIA Division leadership
 - Defense Leadership and Stakeholders

NDIA SE Division Monthly Meetings

- Next up: February 20, 2025, Thursday



Thank You!