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**NDIA**

# 27<sup>TH</sup> ANNUAL **SYSTEMS & MISSION ENGINEERING CONFERENCE**

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**Enabling Digital Transformation Across the Lifecycle for Mission Success**

October 28 – 31, 2024 | Norfolk, VA | [NDIA.org/SME](https://www.ndia.org/SME)

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## Schedule at a Glance

### Tuesday, October 29

**Opening Remarks**  
8:00 AM

**Networking Reception**  
5:30 PM

### Wednesday, October 30

**Digital Material Management (DMM) Panel: AFMC Prospective to Enable DMM**  
11:00 AM

**Breakout Sessions**  
1:00 PM

### Thursday, October 31

**AI Across the Lifecycle for Mission Success Panel**  
8:40 AM

**Breakout Sessions**  
3:00 PM

## Event Information

### Location

Hilton Norfolk The Main  
100 East Main Street  
Norfolk, VA 23510

### WiFi

Network: SME Conference  
Password: NDIA2024

### Real-Time Crowd-Sourced Q&A



**Ask your question in the general session by going to [Slido.com](https://Slido.com)**

Slido is an audience engagement platform that allows users to crowd-source top questions to drive meaningful conversations and increase crowd participation. Participants can up-vote the questions they would most like to hear discussed. Simply tap the thumbs-up button to up-vote a question. Top questions are displayed for the moderator and speaker to answer.

**Event code: #SME2024**

### Survey and Participant List

You will receive via email a survey and list of participants (name and organization) after the conference. Please complete the survey to make our event even more successful in the future.

### Event Contact

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**John Daly**  
Chair

**Suzette Johnson**  
Vice Chair

**Laura Hart**  
Vice Chair

### Division Leadership

### Harassment Statement

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# Agenda

## Monday, October 28

1:00 – 5:00 PM **Registration**

1:30 – 5:00 PM **Workshop: Digital Materiel Management (DMM) Workshop:  
Implementing a Digital Technical Review Process**

SALONS A & B

**LtCol Ryan Pospisal, USAF**

Director, Digital Acceleration Task Force, Headquarters Air Force Materiel Command

**Description:** Engage with industry and domain experts to identify challenges, approaches, and solutions for conducting digital-based, accelerated, and continuous design reviews (e.g. System Engineering Technical Reviews (SETRs)). We seek insights on current successes and challenges executing design reviews in industry and the necessary steps to foster a culture change toward leveraging digital materiel management, enhancing efficiency and effectiveness in this area.

**Desired Outcome:** Establish best practices for digital program reviews, standardize approaches across government organizations to boost industry efficiency, identify transitional risk, and identify capability gaps for tool vendors and Digital Materiel Management service providers to target in product development.

1:30 – 5:00 PM **Workshop: Applications of Generative AI with Large  
Language Models in Aviation and Aerospace**

SALON C

**Dr. Barclay Brown**

Associate Director of AI Research, Collins Aerospace

**Description:** Explore AI's Frontiers in Aviation and Aerospace. Join us as we discuss Large Language Model (LLM) Application Development, focused on AI applicability in the aviation and aerospace industries. This course is tailored for beginners, requiring no prior knowledge of computer programming or AI, and provides a comprehensive journey through the essentials of AI and LLMs, leading up to specialized applications in high-impact industries.

1:30 – 5:00 PM **Workshop: ICOTE Meeting (Invitation Only)**

SALON F

## Tuesday, October 29

7:00 AM –  
6:30 PM **Registration**  
MAIN BALLROOM FOYER

8:00 – 8:10 AM **Opening Remarks**  
SALONS D & E

**John Daly**

Chair, NDIA's Systems Engineering Division

8:10 – 8:40 AM **Digital Transformation of Systems Engineering**  
SALONS D & E

**Thomas Simms**

Principal Deputy Executive Director, Systems Engineering and Architecture,  
Office of the Under Secretary of Defense for Research and Engineering

8:40 – 9:10 AM **Test & Evaluation Keynote Speaker**  
SALONS D & E

**The Hon. Dr. Douglas Schmidt**

Director, Operational Test and Evaluation, Department of Defense

9:10 – 10:15 AM **The Current State of MOSA-ing**  
SALONS D & E

**Ed Moshinsky**

SE&A Consultant, NDIA Systems Engineering Division Architecture Committee Co-Chair  
*Moderator*

**Nadine Geier**

Director of Systems Engineering, Office of the Under Secretary of Defense for Research and Engineering

**Richard Gray**

Director, Intellectual Property Cadre, Office of the Under Secretary of Defense for Acquisition and Sustainment

**Matt Sipe**

Vice President of Strategy and Open Systems, Parry Labs  
Former Director of MOSA Transformation for PEO Aviation

**Laura Hart**

Technical Fellow, Lockheed Martin  
Vice-Chair, NDIA Systems Engineering Division  
OMG MBACq User Community Co-Chair

10:15 – 10:55 AM **Award Ceremony**  
SALONS D & E

**Lt Gen Thomas R. Ferguson, Jr. Excellence Awards •  
Bob Rassa Exceptional Service Awards • Hollis Award •  
T&E Tester of the Year Awards**

11:00 – 11:30 AM **Networking Break with Tabletop Exhibitors**

	Artificial Intelligence TRACK 1A1 • SALON A	Mission Engineering TRACK 1A2 • SALON B	Education & Training TRACK 1A3 • SALON C	Digital Engineering Environment TRACK 1A4 • SALON F	Model-Based Systems Engineering TRACK 1A5 • SALON G	Test & Evaluation TRACK 1A6 • SALON H
11:30 AM – 12:00 PM	1819847 <b>NDIA Artificial Intelligence/Machine Learning Working Group: Charter, Community, Objectives, and Roadmap</b> Yash Parmar BAE Systems	Joint with SSE Track – 1861549 <b>Secret Cyber SoS</b> Eric Conyers Raytheon	Joint with SEE Track – 1820156 <b>Empowering Defense Engineering: Workforce Development on Artificial Intelligence and System Safety Engineering</b> Chris DeLuca OSD(R&E)	1821923 <b>Recommendations for Maximizing Digital Thread Return on Investment</b> Natalie Nakamura Northrop Grumman	Joint with ADAPT Track – 1820785 <b>Embracing Agile Excellence: A Comparative Analysis of Model-Based Systems Engineering (MBSE) in Agile versus Waterfall Methodologies in Aerospace and Defense Industries</b> Maryam Gracias BAE Systems	Joint with IPM Track – 1840625 <b>Improving program outcomes through test-driven reverse planning</b> James Sabino RTX
12:00 – 12:30 PM	1831593 <b>Unlocking Insights: Harnessing the Power of Generative AI for Document Interrogation</b> Terry Cox Data Science Applications	Joint with Architecture/MOSA Track – 1857064 <b>Leveraging Architecture to Inform the Design of Simulation Experiments for Mission Engineering Studies</b> Michael Pennock The MITRE Corporation	1862963 <b>From University to Industry: Training the Digital Engineers</b> David Ewing SAIC	Joint with SSE Track – 1865180 <b>Are “Security, Data &amp; Interoperability” the new “Cost, Schedule &amp; Performance”?</b> Dr. Christopher Benson Istari Digital, Inc.	1851935 <b>Update on the Modeling &amp; Simulation Strategy for Engineering in the Department of Defense</b> Darryl Howell PCG	Joint with IPM Track – 1819786 <b>dTEMP: Generating Stakeholder Dashboards and Custom Views of the Digital Test and Evaluation Master Plan</b> Joe Gregory University of Arizona
12:30 – 1:00 PM	Joint with SSE Track – 1819734 <b>An Architectural Perspective on Securing AI/ML-Enabled Systems</b> David McClurg BAE Systems, Inc.	1831144 <b>One Framework to Enable Them All: Building Mission Critical Capabilities and Performance Improvement</b> Ronald Lear ISACA	1822454 <b>Advancing Digital Materiel Management: AFIT’s DMM Academy</b> Richard Sugarman & Major Jeffrey King Air Force Institute of Technology	Joint with IPM Track – 1824737 <b>Embracing Mission Success - Utilizing Digital Tools in Cultivating the Customer and Supplier Mutual Awareness of Efficacy</b> Leo Childs United States Space Force	1811463 <b>Understanding the Digital Signature of Model-Based Systems Engineering Models</b> Risa Gorospe The Johns Hopkins University Applied Physics Laboratory	Joint with Specialty Engineering Track – 1815126 <b>Quantitative Assessment of Machine Learning Reliability and Resilience</b> Lance Fiondella University of Massachusetts Dartmouth/ United States Army Corps of Engineers
<b>1:00 – 2:00 PM • Networking Lunch Break</b>						
	Education & Training TRACK 1B1 • SALON A	Physics-Based Modeling and Simulation TRACK 1B2 • SALON B	Integrated Program Management TRACK 1B3 • SALON C	Digital Engineering Environment TRACK 1B4 • SALON F	Model-Based Systems Engineering TRACK 1B5 • SALON G	ADAPT TRACK 1B6 • SALON H
2:00 – 2:30PM	Joint with SSE Track – 1814995 <b>Workforce Development through Hybrid Cyber Training</b> Randall Brooks Raytheon		1818134 <b>Preventing Communication Breakdown: The #1 Killer of Transformation Initiatives</b> Andrew Inkeles and Scott Chappie ManTech International and USSF	1821917 <b>The Current State of the USSF Digital Engineering Ecosystem</b> Lt Col Karl Schwenn United States Space Force	1856639 <b>Model-Based Trade Studies to Inform Decision-Making</b> Devon Clark Deloitte Consulting, LLP	1821257 <b>Systems Engineering Agility – A Guide Book for Systems Engineers</b> Rick Dove Working Group Chair, INCOSE
2:30 – 3:00 PM	Joint with SSE Track – 1818221 <b>Training the DoD Acquisition Workforce in Secure Cyber Resilient Engineering: Using a Storyboard and Model Based Systems Engineering Approach in the Defense Acquisition University Credential Program</b> Paul McMahon OSD(R&E)	1861678 <b>Modeling Dynamic Wireless Channels in Interactive Terrestrial Environment</b> Peter Douglass Ansys Government Initiatives	1820489 <b>DoD Manufacturing and Quality Initiatives: Evolving Role in Systems Engineering</b> Chris DeLuca OSD(R&E)	1821720 <b>Digital Engineering is More Than Just Tools - A Tool Vendor's Perspective</b> Andy Ko Ansys	1823295 <b>Bringing Digital Engineering to the JADC2 System of Networks</b> Charles Burdick ITA International, LLC	1860577 <b>Accelerating Change: Collaborative Strategies to Tackle the Adoption Enigma in DE</b> Aniruddha Mukhopadhyay Ansys
3:00 – 3:30 PM	Joint with SSE Track – 1863495 <b>Building Better System Security Engineers</b> Jason Puckett and Benjamin Winter Raytheon	1821947 <b>Digital Engineering Support to Space Enterprise Modeling and Simulation</b> Dr. James Hant The Aerospace Corporation	1831113 <b>Written in Blood: Case Studies of Systems Engineering Failure and Effectiveness</b> Benjamin Schwartz Monterey Technologies, Inc.	1869879 <b>Digital Engineering Meets Data Science – Taming Project Cost, Risk, and Schedule Delays</b> Manas Bajaj, PhD Intercax	1818144 <b>Extending SysML Model Federation to Support Systems of Systems Multilevel Security Development</b> Gavin Barnes SAIC	Joint with Architecture/MOSA Track – 1861179 <b>Transforming Defense Engineering Through Open, Agile and Digital (OAD)</b> Kelli Houston Lockheed Martin

3:00 – 4:00 PM • Networking Break with Tabletop Exhibitors

	Artificial Intelligence TRACK 1C1 • SALON A	Safety & Environmental Engineering TRACK 1C2 • SALON B	Architecture/MOSA TRACK 1C3 • SALON C	Test & Evaluation TRACK 1C5 • SALON F	Model-Based Systems Engineering TRACK 1C5 • SALON G	ADAPT TRACK 1C6 • SALON H
4:00 – 4:30 PM	1843299 <b>AI-assisted Requirements Decomposition</b> Joseph Hemenway Arcfield	Joint with Architecture/MOSA Track – 1874382 <b>Avoiding Holes Verse Creating Plugs - Refocusing Security Engineering Efforts</b> Luke Thomas Rolls-Royce	1860638 <b>Growing Architecture Skills for Evolving Mission Systems in the Digital Age</b> Larri Ann Rosser Raytheon	1823972 <b>Digital Test Strategy – Experiences Developing Models for the Right Side of the Vee</b> Virginia Aguilar RTX	Joint with IPM Track – 1855377 <b>Benefits &amp; Challenges of Connecting MBSE to Operations &amp; Sustainment via Hybrid Digital Twins</b> Vitor Lopes Pereira Ansys	1825513 <b>Systems Engineering Technical Review (SETR) Modernization Across DOD</b> Kelly Alexander OUSD(R&E)
4:30 – 5:00 PM	1822298 <b>Artificial Intelligence-Enhanced Chart Mining – Fulfillment of the Department of the Air Force Digital Thread</b> Duane Conley RJ Lee Group	1866662 <b>DLA Chemical Information Program</b> Kevin Fenton Defense Logistics Agency	1822630 <b>Application Programming Interfaces Enabling Data Interoperability in the Department of Defense</b> Allan Dianic OUSD(R&E)	Joint with SSE Track 1818140 <b>Concepts for Assurance of Adequately Secure and Resilient Systems</b> Mark Winstead MITRE	1849705 <b>SysML v2 in Orbit - Building a Spacecraft Digital Thread</b> Manas Bajaj, PhD Intercax	1861775 <b>Evolving Legacy Architectures for Agile/DevOps (ELAAD)</b> Sylvia Traxler RTX
5:00 – 5:30 PM	1818976 <b>Requirements Engineering Co-Pilot GPT</b> Amir Abrari SPEC Innovations	1831392 <b>DAF High Risk Acceptance And Airworthiness Process Improvements</b> Kaitlin Harris Department of the Air Force	1818046 <b>Cameo Enterprise Architecture Synchronized with Software Integration</b> Theodore Hoke Tangram Flex	1832947 <b>Streamlining Test Management: An In-depth Evaluation of Test Manager Tools in Modern Engineering Practice</b> Matthew Thomann RTX	1818152 <b>Applying MBSE in Space-Based Systems Development</b> Gavin Barnes SAIC	Joint with SSE Track – 1821787 <b>Static Analysis-Targeted Automated Repair to Secure Code and Reduce Effort</b> Lori Flynn Carnegie Mellon University Software Engineering Institute

5:30 – 6:30 PM • Networking Reception with Tabletop Exhibitors

## Wednesday, October 30

- 7:00 AM – 6:00 PM **Registration**  
MAIN BALLROOM FOYER
- 7:00 – 8:00 AM **Networking Breakfast with Tabletop Exhibitors**  
MAIN BALLROOM FOYER
- 8:00 – 8:10 AM **Opening Remarks**  
SALONS D & E  
**Dr. Suzette Johnson**  
Vice-Chair, NDIA's Systems Engineering Division
- 8:10 – 8:40 AM **Integrating Joint Force Capabilities Through Mission Engineering**  
SALONS D & E  
**Elmer Roman**  
Director, Mission Integration for Mission Capabilities,  
Office of the Under Secretary of Defense for Research and Engineering
- 8:40 – 9:10 AM **Keynote Speaker**  
SALONS D & E  
**Kenneth Senechal**  
Senior Advisor, Developmental Test, Evaluation and Assessments (DTE&A)
- 9:10 – 10:00 AM **Digital Engineering Hackathon Results**  
SALONS D & E  
**Kenneth Senechal**  
Senior Advisor, Developmental Test, Evaluation and Assessments (DTE&A)
- 10:00 – 10:30 AM **Networking Break with Tabletop Exhibitors**
- 10:30 – 11:00 AM **Keynote Speaker**  
SALONS D & E  
**Kristen Baldwin**  
Deputy Assistant Secretary of the Air Force for Science, Technology, and Engineering,  
Office of the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics)

- 11:00 AM – 12:00 PM **Digital Materiel Management (DMM) Panel: AFMC Prospective to Enable DMM**  
SALONS D & E  
**John Matlik**  
Fellow, Digital Transformation Strategy, Northrop Grumman  
*Moderator*  
**Paul Garvey**  
Chief Engineer, Rapid Enterprise Solutions Division,  
Air Force Lifecycle Management Center  
**Will Jinkins**  
Lead AI Engineer, Digital Transformation Office,  
Air Force Materiel Command  
**Richard Sugarman**  
Department Head, Department of Systems and Software Engineering Management,  
Air Force Institute of Technology
- 12:00 – 1:00 PM **Networking Lunch**

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# EMERGING TECH HORIZONS

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	<b>System Security Engineering</b> TRACK 2A1 • SALON A	<b>Mission Engineering &amp; Specialty Engineering</b> TRACK 2A2 • SALON B	<b>Artificial Intelligence</b> TRACK 2A3 • SALON C	<b>Digital Engineering Environment</b> TRACK 2A4 • SALON F	<b>Model-Based Systems Engineering</b> TRACK 2A5 • SALON G	<b>Test &amp; Evaluation Integrated Program Management</b> TRACK 2A6 • SALON H
1:00 – 1:30 PM	1821593 <b>Using Modeling and Simulation to Measure Cyber Survivability</b> William Bryant MTSI	<b>Mission Engineering Senior Panel: Extending the Role of Mission Engineering in Defense</b> Judith Dahmann MITRE <i>Moderator</i> Elmer Roman <b>OUSD(R&amp;E)</b> Kristen Baldwin <b>OASAF(ATL)</b> Kenneth Senechal <b>DTE&amp;A</b>	1819687 <b>Applying Formal Methods and Artificial Intelligence to System Modeling Language (SysML) Models to Prove Correctness and Enable Hallucination-Free ChatBots</b> Jamie Smith Imandra	1820139 <b>Evolving Role of the Human for Digital Engineering Transformation</b> Chris DeLuca OSD(R&E)	Joint with DEE Track –1835319 <b>Implementing a Digital Thread with MBSE Integration</b> Anthony Davenport Ansys	1820367 <b>Force-Level Engineering: Reimagining Assessment Methods for the Modern Joint Environment</b> Natalie Wells and Christina Houfek VT-ARC
1:30 – 2:00 PM	1821364 <b>Building Mission Assurance with Trusted Suppliers Panel Discussion</b> David Chesebrough Defined Business Solutions <i>Moderator</i> John Monk Northrop Brad Ferguson IBM Federal		1840178 <b>Uniting Large Language Models and Model-Based Systems Engineering: Advancing Synergies in Engineering Practices</b> Tony Sukhwani Belcan	1839439 <b>An Approach to Introducing Digital and Mission Engineering Education for the Systems Engineering Workforce</b> James Coolahan Johns Hopkins University Engineering for Professionals	1832133 <b>Transforming Contract Deliverable Review and Acceptance Through Digital Engineering</b> Michael Gabalis Space Systems Command	1871197 <b>Enhancing Testing and Evaluation of AI-Enabled Systems in the DoD for Generative AI and Foundation Models</b> Carol Pomales MITRE
2:00 – 2:30 PM		1820478 <b>Empowering Defense Engineering: MIL-STD 882E - Joint System Safety Standard WG</b> Chris DeLuca OSD(R&E)	1860320 <b>Accelerating Mission Engineering Lifecycles with Artificial Intelligence</b> Katie Fisher STC, an Arcfield Company	1860257 <b>Overarching Plan to Enable the Adoption of Modern Engineering Tools</b> Allan Dianic OUSD(R&E)	1860177 <b>In or Out? Assessing the Impacts of Modeling the System Operator Within the System Boundary using MBSE.</b> Adam Skrzypczak Strategic Technology Consulting	1822068 <b>A Complete Guide to Why Some Digital Transformation Efforts Succeed and Others are Epic Failures</b> Sue Nowicki Bridgeport Partners LLC
2:30 – 3:00 PM	1821210 <b>Toward an Anti-Security Security Primer for Systems Engineers</b> Rick Dove INCOSE	1806317 <b>A Method to Customize Human Systems Integration Requirements for Advancement of Existing and Future Mission Platforms</b> Kenneth Corl Colorado State University	Joint with T&E Track – 1871186 <b>Enhancing Testing &amp; Evaluation of AI-Enabled DoD Systems using Model-Based Systems Engineering</b> Carol Pomales MITRE <i>Invited</i>	1899497 <b>Intellectual Property (IP) in Digital Engineering (DE) and Acquisition implementation in the Department of Defense (DoD)</b> Robert Popovitch Booz Allen Hamilton	Joint with SE Track – 1820237 <b>Model-Based Systems Engineering for Target Vulnerability Assessment</b> Christopher Green Naval Surface Warfare Center Dahlgren Division	1823315 <b>Strengthening the United States Space Launch Vehicle Industrial Base with the Phase 3 Lane 1 Acquisition Contract</b> Robert Van Praet Space Systems Command
3:00 – 3:30 PM	1872682/1872690 <b>Software Assurance Roadmap: Challenges and Opportunities</b> Bradley Lanford OUSD(R&E)	1820494 <b>Value Engineering: Reinvigorating the Practice in the Department of Defense</b> Chris DeLuca OSD(R&E)	1821649 <b>Data-Enabled Artificial Intelligence Enablement for Mission Engineering Challenges</b> Randy Bishop Exiger	1851920 <b>Overview of the Digital Engineering Tool Evaluation Criteria Template project (DETECT)</b> Kelly Burton OUSD(R&E)	1818999 <b>Strategic Standardization: Model-Based First Article Inspection</b> Albert Ismailov OUSD(R&E)	1861665 <b>Mastering Mission Success: Tracking Scope, Schedule, and Cost in an Open, Agile, Digital World</b> Kelli Houston Lockheed Martin, Missiles and Fire Control

3:30 – 4:00 PM • Networking Break with Tabletop Exhibitors

	<b>System Security Engineering</b> TRACK 2B1 • SALON A	<b>Mission Engineering</b> TRACK 2B2 • SALON B	<b>Artificial Intelligence Architecture/MOSA</b> TRACK 2B3 • SALON C	<b>Digital Engineering Environment</b> TRACK 2B4 • SALON F	<b>Model-Based Systems Engineering</b> TRACK 2B5 • SALON G	<b>ADAPT</b> TRACK 2B6 • SALON H
4:00 – 4:30PM	1844588 <b>Systems Security Engineering for Space Networks</b> Michael Worden Raytheon	Joint with Architecture/MOSA Track – 1829768 <b>Hand-to-Hand Mission Engineering: A Systems Thinking Analysis of Systems Engineering, System of Systems Engineering, Enterprise Architecture, Mission Engineering, and Capability Development through the Lens of Combatives</b> Michael Enloe Booz Allen Hamilton	1856457 <b>Revolutionizing Technical Manual Authoring: Integrating Artificial Intelligence/ Machine Learning with Product Lifecycle Management for Dynamic Documentation</b> Charles Lee SAIC	1857045 <b>Level Up Your Digital Engineering Storytelling</b> Mimi Davidson OUSD(R&E)	1856246 <b>Insights at the Speed of Relevance: RF Modeling at Multiple Levels of Fidelity</b> Steve Ajemian MathWorks	1855134 <b>Increasing the Agility of Agile throughout the Program Lifecycle</b> Kurt Mohr Raytheon
4:30 – 5:00PM	1822293 <b>Practical Application of a Zero Trust Architecture</b> Jarilyn Hernandez BAE Systems	1820092 <b>Defense Mission Engineering Architecture Style Guide</b> Dina Kandil MTSI	1861444 <b>Digital Mission Architecture: The Foundation for Mission Engineering and Integration across the Defense Enterprise</b> Jaime Bestard OUSD(R&E)	Joint with E&T Track 1819797 <b>Deploying the Digital Engineering Factory in a Systems Engineering Classroom</b> Joe Gregory University of Arizona	Joint with T&E Track 1861836 <b>MBT&amp;E–Instructed Composable Modeling Supporting T&amp;E Execution Phase Planning &amp; Analysis</b> Joe Murphy Ansys	1818729 <b>Merging Systems Engineering Methodologies with the Agile Scrum Framework for Department of Defense Software Projects</b> Dallas Rosson Naval Undersea Warfare Center Division Keyport
5:00 – 5:30PM	1808707 <b>SCRE from an Assurance-Informed Engineering Perspective</b> Mark Winstead MITRE	1853487 <b>Enabling MBSE with Simulation to perform Mission Analysis for SOLARIS</b> Michelle Allard MathWorks	1821535 <b>Convergence of MOSA and Digital Engineering - System-of-Systems Component Specification Model Definitions to Move Beyond Antiquated Earned-Value and Work Breakdown Structure Driven Functional Decomposition</b> John Stough Exocubic	1865469 <b>Digital Engineering Capability Maturity Assessment Framework</b> Zac Connor GTRI	Joint with T&E Track 1861127 <b>The Fusion of Model-Based Systems Engineering (MBSE) and Model-Based Testing (MBT) Fortifies the Digital Thread</b> Tyler Jenkins Lockheed Martin <i>Invited</i>	1810106 <b>Using the Overton Window for Agile Adoption at Lockheed Martin</b> Jordan Stoner Lockheed Martin
5:30 – 6:00PM	1814074 <b>Challenges for Engineering Security into Increasing Complex Software- Enable Systems of the Future</b> Kenneth Nidiffer George Mason University	1819952 <b>Executing Conceptual Design within a Digital Ecosystem Following a Mission Engineering Approach</b> John Graham Raytheon	1820112 <b>Driving the Maturity and Evolution of MOSA-Enabling Standards Across the Department of Defense</b> Hema Manivannan Defense Standardization Program Office	1823221 <b>Establishing an Effective Enterprise Digital Ecosystem</b> Michael Gabalis Space Systems Command	1856441 <b>A Decade of Digital Engineering Research: Insights, Past and Future, from the Systems Engineering Research Center</b> Thomas McDermott Stevens Institute of Technology	1862946 <b>Enabling Agile Digital Engineering</b> David Ewing SAIC



Thursday, October 31

- 7:00 AM – 5:00 PM **Registration**  
MAIN BALLROOM FOYER
- 7:00 – 8:00 AM **Networking Breakfast with Tabletop Exhibitors**  
MAIN BALLROOM FOYER
- 8:00 – 8:10 AM **Opening Remarks**  
SALONS D & E  
**Laura Hart**  
Vice-Chair, NDIA's Systems Engineering Division
- 8:10 – 8:40 AM **Living in a Generative World**  
SALONS D & E  
**Dr. Barclay Brown**  
Associate Director of Research, AI Collins Aerospace
- 8:40 – 9:30 AM **Panel: AI Across the Lifecycle for Mission Success**  
SALONS D & E  
**Laura Hart**  
Vice-Chair, NDIA's Systems Engineering Division  
*Moderator*  
**Dr. Tom McDermott**  
SERC Deputy Director and Chief Technology Officer, Stevens Institute of Technology  
**Ebenezer Dadson**  
Chief AI Architect/Strategist, Corporate Strategy and Technology, Northrop Grumman  
**Dr. Stephan Gerali**  
Chief Architect Senior Fellow, CDAO, Lockheed Martin
- 9:30 – 10:00 AM **Integrating Quality into the Digital Workspace**  
SALONS D & E  
**Keith Horbatuck**  
Strategic Quality Director, Lockheed Martin Space
- 10:00 – 10:15 AM **Networking Break with Tabletop Exhibitors**

The graphic features a central figure in a blue, futuristic suit with a visor, set against a dark blue background with glowing network lines and icons. A large orange circle on the right contains statistics. A logo in the top left shows arrows pointing to 'NAVY USMC', 'AIR FORCE USSF', 'ARMY', and 'INDUSTRY' around the number '24'.

# INTERSERVICE/INDUSTRY TRAINING, SIMULATION & EDUCATION CONFERENCE

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AR/VR	Gaming	Small Arms Training
Big Data	Homeland Security Simulation & Training	Small Business
Classroom Training Products & Services	Instructional Systems Design	Staffing/Logistics Support
Cloud Computing	LVC (Live, Virtual, Constructive)	STEM
Computer Hardware	Manufacturing	Tactics Trainers
Construction / Mining	Medical Simulation & Training	Trade Publication / Media
Consultancy/Project Management	Mission Planning/Mission Rehearsal	Training Products
Cyber	Modeling Services	Training Services
DIS IEEE 1278.1x or HLA 1516 Capable	Oil, Gas, Energy	Transportation
Disaster Relief/Planning Simulations	Operational & Maintenance Services	Vehicle Trainers
Distance Learning	Operator/Driver Trainers	Verification & Validation
Distributed Simulation and Learning	Physical Training Equipment	Visual Computing
Educational Products & Services	Pre-Brief/After Action Review	Visual Display Products
Electronic Components	Research & Development	Weapon Systems Trainers & Equipment

	<b>Integrated Program Management</b> TRACK 3A1 • SALON A	<b>Mission Engineering</b> TRACK 3A2 • SALON B	<b>Physics-Based Modeling and Simulation Architecture/MOSA</b> TRACK 3A3 • SALON C	<b>Digital Engineering Environment</b> TRACK 3A4 • SALON F	<b>Model-Based Systems Engineering</b> TRACK 3A5 • SALON G	<b>Safety and Environmental Engineering</b> TRACK 3A6 • SALON H
10:15 – 10:45 AM	1807114 <b>Shu Ha Ri for SE (For the Journey to Expertise in SE, Enhance the Path with Shu Ha Ri)</b> Fred Robinson The MITRE Corporation	<b>Mission Engineering Industry Roundtable</b>	1862201 <b>Predicting the Thermal Blooming Effects of Directed Energy Systems</b> Steven LaCava Ansys Government Initiatives	1862068 <b>A Foundational Solution for Building a Digital Thread</b> Justin Blevins SAIC	1834645 <b>Integrating Analytical Solutions with SysMLv2 for Requirement Verification</b> Anthony Davenport Ansys	1822779 <b>Artificial Intelligence HazMat Search Project Summary</b> Mark Fraser Air Force Nuclear Weapons Center
10:45 – 11:15 AM	1860112 <b>Benefits of the Government-Industry Data Exchange Program (GIDEP) to Your Program and Supply Chain</b> Michael Olness OUSD(R&E)		1857090 <b>Synthetic Radar Data Generation using RF Channel Modeler (RFCM) - RADAR</b> John Ploschnitznig Ansys Government Initiatives	1862974 <b>Developing a Digital Engineering Environment to meet DODi5000.97</b> David Ewing SAIC	1843014 <b>Configuration Management within the Digital Engineering Environment (DEE)</b> John Schatz Spec Innovation	1819944 <b>National Aerospace Standard 411-2 Introduction and Overview</b> Samantha Clay Raytheon Technologies
11:15 – 11:45 AM	1861140 <b>A New Framework for Characterizing Uncertainty in Defense Megaprojects</b> Thomas McDermott Stevens Institute of Technology	1860552 <b>Mission Engineering - Through Life Perspectives</b> Judith Dahmann MITRE	1837770 <b>Co-Maturation of DAF Capabilities In The Digital Domain</b> Clifford Loudon SAF/AQRE	1840546 <b>Digital Engineering: Systems Model Exchange Framework including SysMLv2</b> Jeff Pilato Sodius Corp	1851303 <b>Optimizing Semiconductor Manufacturing Yield with MBSE</b> Steven Dam, PhD SPEC Innovations	
<b>11:45 AM – 1:00 PM • Lunch on Your Own</b>						
	<b>ADAPT</b> TRACK 3B1 • SALON A	<b>Mission Engineering</b> TRACK 3B2 • SALON B	<b>Architecture/MOSA</b> TRACK 3B3 • SALON C	<b>Digital Engineering Environment</b> TRACK 3B4 • SALON F	<b>Model-Based Systems Engineering</b> TRACK 3B5 • SALON G	<b>Education &amp; Training</b> TRACK 3B6 • SALON H
1:00 – 1:30 PM	1856937 <b>From Chaos to Collaboration: Exploring the Synergy of Agile and Structured Systems for Unprecedented Results</b> Derek Perkins The Aerospace Corporation	1854000 <b>Refining the Shared Framework for Model Element Reuse</b> Paul Trevidic MITRE	Joint with IPM and SSE Tracks – 1853924 <b>Implementing Cost Capability Analysis in the Army's Autonomous Ground Vehicle Reference Architecture (AGVRA)</b> David Hetherington SSI	1821375 <b>Digital Transformation Blueprint: A Guide to Implementing Digital Engineering in U.S. Government Organizations</b> Erin Ryan The Aerospace Corporation	1822478 <b>Using Large Language Models to Accelerate Development of Complex Systems</b> Scott Lucero Virginia Tech National Security Institute	1823065 <b>DAU Training on Digital Acquisition and Digital Engineering</b> James Roche DAU <i>Invited</i>

	ADAPT TRACK 3B1 • SALON A	Mission Engineering TRACK 3B2 • SALON B	Architecture/MOSA TRACK 3B3 • SALON C	Digital Engineering Environment TRACK 3B4 • SALON F	Model-Based Systems Engineering TRACK 3B5 • SALON G	Education & Training TRACK 3B6 • SALON H
1:30 – 2:00 PM	1851370 <b>Integrating Agile and Systems Engineering: Strategies for Success</b> Jordan Stoner Lockheed Martin, Missiles and Fire Control		Joint with IPM Track 1817287 <b>Systems Engineering Technical Review Template Modeling</b> Christine Dominguez Belcan	1821741 <b>Enabling Digital Engineering through Model Management and Large-Scale Automation</b> Andy Ko Ansys	1815769 <b>Realizing the potential of SysML V2 with SysON: the Fundamental Role of Open-Source for Enabling the Digital Engineering Transformation.</b> Stephane Lacrampe Obeo	1852649 <b>Aiding Workforce Acceptance of Digital Engineering</b> John Schatz SPEC Innovations
2:00 – 2:30 PM	1811847 <b>On the Design, Development, Testing, &amp; Security of Modern Application Programming Interfaces</b> Alexander Vesey Carnegie Mellon University Software Engineering Institute	1815622 <b>A Case for Integrated Mission Engineering, Digital Engineering, and Digital Acquisition</b> Geoffrey Kerr Virginia Tech National Security Institute	1866766 <b>Review of the INCOSE Decision Analysis Data Model (DADM)</b> Frank Salvatore SAIC	1832350 <b>Enterprise Modeling of a Digital Engineering Ecosystem GRA Using UAF (v2)</b> James Martin The Aerospace Corporation	1822637 <b>Solving the Selfish Octopus Problem with the Reusable Asset Specification (RAS) 3.0</b> Matthew Hause SSI	1839866 <b>Modernizing Department of Defense Engineering Talent Management</b> Robert Larino OUSD(R&E)



# 2025 TACTICAL WHEELED VEHICLES CONFERENCE

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Don't just take it from us. "NDIA's POST Conference provides a critical venue for collaboration and innovation... to address the unique challenges of the Indo-Pacific theater" – The Hon. Heidi Shyu, Under Secretary of Defense for Research and Engineering of the United States.

**LEARN MORE!** March 3 – 7, 2025 | Honolulu, HI | [NDIA.org/Events](https://ndia.org/Events)

2:30 – 3:00 PM • Networking Break

	<b>ADAPT</b> TRACK 3C1 • SALON A	<b>Mission Engineering</b> TRACK 3C2 • SALON B	<b>Architecture/MOSA</b> TRACK 3C3 • SALON C	<b>Digital Engineering Environment</b> TRACK 3C4 • SALON F	<b>Model-Based Systems Engineering</b> TRACK 3C5 • SALON G	<b>Model-Based Systems Engineering</b> TRACK 3C6 • SALON H
3:00 – 3:30 PM	1806804 <b>Moving from Predictive to Empirical Systems Engineering Planning</b> Ken Kubo Northrop Grumman Space Systems	1850862 <b>Integrating Mission Analysis with SysMLv2 and Requirements Assessment</b> Cameron Krivitsky Ansys	1829365 <b>MOSA Verification and Standards Conformance in DoD Systems</b> Nathaniel Barley OUSD(R&E)	1821773 <b>A Knowledge Graph Approach to Transforming to Digital Materiel Management</b> Ed Kraft EdmKraft Inc	1851971 <b>Toward an Ontology of Digital Engineering Terminology to Support Digital Information Exchange</b> Clarence Moreland Modern Technology Solutions, Inc.	1814782 <b>Key Modeling Principles to Moderate the Growth of Model Technical Debt in MBSE</b> Ryan Noguchi The Aerospace Corporation
3:30 – 4:00 PM		1854833 <b>Automating MBSE Model Documentation with Velocity Template Language Scripts</b> Rock Mendenhall & Aaron Kim MTSI and OUSD(R&E)	1865174 <b>Leveraging the RFLP MBSE Methodology for Assessing Model Compliance</b> Taylor Fields Georgia Tech Research Institute	1861360 <b>Leveraging Digital Engineering Ecosystems for Digital Acquisition</b> Cal Van Doren Ansys	1860198 <b>A Digital Engineering Methodology for Interoperability Using Ontologies</b> Thomas McDermott Stevens Institute of Technology TBC	1822746 <b>How Did General Veers Get His AT-AT? Product Line Engineering (PLE), Of Course!</b> Matthew Gagliardi Purdue University
4:00 – 4:30 PM			1855298 <b>Satellite Co-Orbital Engagement Engineering with System Composer</b> Oleg Yakimenko & Mike Anthony MathWorks	1825647 <b>MOM: Architecting a Digital Enterprise</b> David Fields Enola	1819327 <b>MBEasy: Making MBSE Easy Again</b> Dr. Mark Vriesenga BAE Systems	1822734 <b>Modeling System Life Cycle Concepts</b> Flavius Galiber Northrop Grumman
4:30 – 5:00 PM			1815618 <b>Enterprise Transformation Using Systems Principles and Concepts</b> James Martin The Aerospace Corporation	1870986 <b>A Graph Based Approach to Digital Engineering Model Verification</b> Thomas McDermott Stevens Institute of Technology TBC	1824367 <b>Five Challenges and an Approach for Synergistic Model-Based Systems Engineering and Digital Engineering</b> Jerome Hugues Carnegie Mellon University Software Engineering Institute	

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# On-Demand Presentations

## A Framework for Specifying, Acquiring, Measuring, and Validating MBSE, DE, and the Digital Twin

Ryan Noguchi

Principal Engineer, The Aerospace Corporation

*This presentation describes a framework for developing needs and requirements for MBSE, DE, and digital twin capabilities that evolve over the system's life cycle. An example will illustrate how these capabilities' value can be assessed and how they can be specified as contractual requirements.*

## A Life-Cycle Modeling Language Approach to Zero Trust Architecture

Andy Tapia

Systems Engineer, SPEC Innovations

*The Lifecycle Modeling Language can help enhance the deployment of Zero Trust architecture through its structured yet accessible approach to the systems lifecycle, risk, and compliance. By facilitating collaboration throughout, organizations can ensure their cybersecurity resilience.*

## Accelerating Insertion of Warfighting Capability using GenAI based Identification of Military Vehicles

Bjorn Andersson, PhD

Principal Researcher, Software Engineering Institute at Carnegie Mellon University

Dionisio deNiz, PhD

Principal Researcher, Technical Director, Software Engineering Institute at Carnegie Mellon University

*Superiority in defense systems rely on technology insertions and innovations that today involve expensive and time-consuming efforts. Generative Artificial Intelligence brings a potential to explore disruptive innovations quickly and cheaply. We present the use of GenAI to identify an adversary military vehicle and propose plan to destroy it.*

## AI and Cybersecurity: Monitoring Side-channels for Supply Chain Resiliency and Bill of Materials for Provenance

Ben Amaba PhD PE, PhD PE CPIM LEED AP

Development Executive, Sonatype;

Domenic Forte, PhD

Professor and Steven A. Yatauro Faculty Fellow, University of Florida

*AI and cybersecurity have become woven into some of the most safety critical systems. Semiconductors and software have to be orchestrated together in a systems engineering approach. Side-channels hold keys for nonfunctional characteristics of a program which with software analysis can detect a change in the program or hardware more effectively.*

## Applying formal methods to accelerate embedded software verification in safety-critical systems

John Macauley

Application Engineering Manager, Ansys

*Structural coverage analysis is one of the most time-consuming activities for embedded software verification. This presentation explores how formal methods can auto-generate requirements-based tests in a way that conforms to DO-178C. The result is an accelerated agile lifecycle that delivers meaningful, valuable data for the MBSE process.*

## Blueprints to Victory—Crafting Requirements with Confidence Across the Digital Thread

Mark Payton

Digital Engineer Senior Principal, SAIC

Derek Hughes

Digital Engineer Principal, SAIC

*Modern systems are exponentially increasing in complexity. System requirements must keep pace. This presentation shows an effective use of an engineering tool chain to manage requirements across the digital thread. This approach frontloads requirements development to mitigate cost and schedule growth downstream.*

## Capability Readiness Levels of Model Based Enterprise Ecosystem

Xiaomei Yu

MBE Architect, Lockheed Martin

*Model Based Enterprise Ecosystem is an ecosystem that enables model based development and supports DoD Digital Engineering Vision. Capability Readiness Levels is introduced to align collaborations cross function teams, business organizations, and stakeholders by guiding the development and gauging the progress through entire lifecycle.*

## Collaborative Digital Engineering Environment - Establish a collaborative engineering and acquisition process within a Digital Engineering Environment that can be integrated with existing processes and digital threads.

William Benjamin

Model Based Systems Engineer, Gatech Research Institute

Viviana Lopez

Model Based Systems Engineer, GTRI

*Collaborative Digital Engineering Environment: Establish a collaborative engineering and acquisition process within a Digital Engineering Environment that integrates with existing processes and digital threads. This pilot DEE will explore integration with other programs' DEEs.*

## Configuration Management within the Digital Engineering Environment (DEE)

John E. Schatz, III

Vice President, SPEC Innovations

*Data-Driven Systems Engineering (DDSE) presents unique challenges from a Configuration Management (CM) perspective. This presentation will address defining what constitutes a DEE configuration baseline, the process of managing changes to the DEE configuration baseline, and methods of controlling DEE configurations.*

## Digital Engineering applied to an electric vertical take-off and landing system

Prem Andrade

Distinguished Engineer, Ansys

Aniruddha Mukhopadhyay, PhD

Fellow, Ansys

Himangshu Bora

Senior Engineer, Ansys

*The aerospace industry is adopting digital engineering at an aggressive pace. One segment that is developing rapidly and can benefit from this is electric Vertical Take-off and Landing (eVTOL) vehicles which will bring a revolutionary change in urban mobility. This paper explores how digital engineering can be leveraged for the eVTOL industry.*

## Driving Efficiency: Developing and deploying a Test Manager Tool to Support Testing Complex Defense Products

Matthew Thomann

Engineering Fellow, RTX Corporation

*Test Manager Tools are being adopted across the industry to streamline testing. They aid in planning, execution, and data analytics. To better support a wide array of complex testing, Raytheon developed a customized tool to provide automation, analysis, and visualization capabilities for enhanced efficiency.*

## Electric Ship Drivetrain – Virtual Design for Mission Success

Craig E. Miller

Principal Engineer, Ansys Government Initiatives

*Electric propulsion systems are new and data are required to learn optimal selection of drivetrain components in coordination with system planning strategies. Digital engineering is a cost effective approach to understand the influence of individual and the confluence of the myriad of design variables on mission metrics.*

## Empowering Defense Engineering: Civilian Harm Mitigation and Response

Chris DeLuca

Director, Specialty Engineering, OSD(RE)

Wil Vega

System Safety Lead, Specialty Engineering, OSD(RE)

*Civilian Harm Mitigation and Response Action Plan declaring “the protection of civilians is a strategic priority. OUSD(R&E) co-chairs the CHMR Capabilities Development Sub-Working Group with the Civilian Protection COE to support the Secretary of Defense direction to improve how the Department mitigates and responds to civilian harm.*

## Empowering Defense Engineering: The intersection of AI and R&M Practices

Chris DeLuca

Director, Specialty Engineering, OSD(RE)

*Latest developments in DoD Reliability & Maintainability engineering workforce development for AI & Reliability and Maintainability. The integration of AI into R&M is transforming maintenance strategies, moving towards data-driven model that dramatically increases failure prediction accuracy, and optimizes maintenance scheduling.*

## Enterprise Model of the Dynamic Targeting Process Using UAF

James N. Martin

Distinguished Engineer, Aerospace Corporation

Wally Lee

Senior Project Leader, Aerospace Corporation

*We will present an application of the Unified Architecture Framework (UAF) in creating a model of the Dynamic Targeting process defined in the Joint Publication 3-60 on Joint Targeting. This Dynamic Targeting enterprise model will enable a more standardized approach for modeling the “Kill Chain” within context of the Joint Targeting Cycle.*

## Gain New Heights in Launch Efficiency: Harness the Power of Data Analytics and Visualization

Lillian Shido

Systems Director, The Aerospace Corporation

Francis McDougall

System Safety Manager (SSM) Deputy Chief, Systems And Logistics Branch, SSC/AAE Assured Access to Space Engineering Division Space System Command

*The Aerospace Corporation's Spacelift Telemetry Acquisition and Reporting System (STARS), is used to acquire, analyze, and archive launch vehicle data. STARS 2.0's cloud architecture provides more efficient support using automated analysis comparison of live mission data to historical data.*

## Implementing a Configuration Management Plan for Model/ Tool Artifacts within a Digital Engineering Environment

Allison Khaw

Group Leader, The MITRE Corporation

*Model-Based Systems Engineering (MBSE) requires innovative ways of performing Configuration Management (CM). This presentation will provide a summary and an example project application of implementable CM processes for artifacts (models and tools) within a Digital Engineering (DE) environment.*

## Implementing Zero Trust and Distributed Ledger Technology

Charles Miller

Secure Systems Engineering, RTX

Santosh Dawesar

Secure Systems Engineering, RTX

*The new normal is forcing shifts for how secure operations need to occur, this talk is effort to discuss Cybersecurity and Zero Trust Architecture as suggested per NIST 800-207*

## Integrating AUVSI Events to Cloud-Based Tools and SE Principles

**Dominic Galarza**  
Systems Engineer, SPEC Innovations

*Systems engineering tool Innoslate has streamlined AUVSI's event management by digitalizing and centralizing data, improving communication, and efficiency. It offers secure and unified access to all event-related information which enhances operational workflow and minimizes frustrations and errors.*

## Intellectual Property Strategies for Additive Manufacturing in Defense Acquisitions

**Waterloo Tsutsui**  
Senior Research Associate, Purdue University

**Qian (Alex) Shi**  
Purdue University

**Dalia Bekdache**  
Purdue University

**Prajwal Balasubramani**  
Purdue University

**Daniel DeLaurentis**  
Vice President for Discovery Park District Institutes and the Bruce Reese Professor of Aeronautics, Purdue University

**Jitesh Panchal**  
Professor of Mechanical Engineering, Purdue University

**Stephan Biller**  
Harold T. Amrine Distinguished Professor of Industrial Engineering and Business School, Purdue University

*Intellectual property rights are crucial in defense acquisitions. The defense industrial base values intellectual property but conflicts with the government's access needs. Advances in additive manufacturing pose challenges in protecting intellectual property. This presentation introduces a framework for navigating these complexities.*

## Leveraging Digital Engineering for Social Network Analysis

**John E. Schatz, IV**  
Junior Mission Analyst, SPEC Innovations

*This presentation outlines how intelligence can use a digital engineering ontology to analyze hostile social networks. It demonstrates how to use standard diagrams to model social networks and hostile actor conduct, while highlighting ways to improve digital tools for social network analysis (SNA).*

## Leveraging project usages to enable modularity and configuration management for MBSE and MBAcq

**Alex Whittier**  
Principal Model-based Systems Engineer, STC - An Arcfield Company

*Well-implemented model federation is key for successful execution of large scale MBSE and MBAcq efforts. This presentation uses 3 distinct example projects to demonstrate why and how. It highlights improvements to configuration management, technical end products, and modeling tool performance.*

## Modernizing the Body of Knowledge through Cyber Resilience

**Angela M. Lungu**  
CRWS-BoK Project Lead/System Security Policy, Guidance, and Standards, Office of the Under Secretary of Defense for Research and Engineering, Science and Technology Program Protection Office

*The Cyber Resilient Weapon System Body of Knowledge (CRWS-BoK) is bridging the gap between the disparate authoritative, educational, and general reference materials available to the cyber resilience community. CRWS-BoK provides a single, user-friendly location with features to aid in quickly finding both trusted new and familiar sources.*

## Novel Progress Monitoring and Delivery Date Forecasting Tool (Nostradamus 2.0)

**Bruce Chehroudi, PhD & MS**  
Mechanical/aerospace engineering, MS in Finance/Management, senior AIAA Propellant/Combustion Committee member, and AIAA Associate Fellow

**Robert Van Praet**  
Assured Access to Space, Engineering (AAE), US Space Force: Space Systems Command, LAAFB CA

**Gus Benavides**  
Avionics PE, NEC SE&I, Axient; Jonathan Lam – Acquisition Program Manager, US Space Force

**Scott Morchower**  
NEC SE&I Structures Project Engineer, ManTech International

*Schedule forecasting tools model a supplier's accuracy in predicting completion dates of its own tasks and produce precise delivery forecasts. Additionally, the tools provide deep insight into how a supplier's schedule is progressing towards meeting the final product or service delivery dates.*

## The GitHub Revolution Is Coming to MBSE - Are You Ready?

**Chris C. Armstrong**  
OMG Certified Systems Modeling Professional Intermediate – President, Armstrong Process Group, Inc.

*More and more Systems Engineers around the world are joining the GitHub revolution. How? They apply lessons learned from Software Engineering to their Model-Based Systems Engineering capabilities!*

## The Israeli Air Force is going Digital! (?)

**Tzvika Kaminsky, Major, PMI-PMP, PMI-RMP**  
Chief System Engineer, Israeli Air Force

*How do you take a complex organization, including engineers, program managers and more, with varying levels of experience, and begin a transformation?*

## Incorporating Cyber Resilience into Design Thinking

**Ryan Brunton**  
Senior Professional Staff, Johns Hopkins University Applied Physics Laboratory

*The Johns Hopkins University Applied Physics Laboratory (JHU/APL) is conducting a two-year research project on incorporating cyber resilience into engineering design thinking. This presentation will highlight the lessons learned and recommendations for DoD in this area.*

## Using MBSE to Implement a Comprehensive Risk Assessment Methodology for Extended Product Lifecycles

**Jason Stroup**  
Senior Research Engineer, Georgia Tech Research Institute

**Alton Schultheis**  
Research Engineer I, Georgia Tech Research Institute

*This presentation will describe an approach to characterizing risk in a manner consistent with both acquisition and operational project management decision-making, and normalizing communications between the Operations and Acquisition communities within the US Department of Defense (DoD).*

## Fundamentals of Cross Domain Solutions in the DoD

**Singithi De Silva**  
Cybersecurity engineer, OUSD (R&E)

*Cross Domain Solutions (CDS), an example of technological convergence where discrete security concepts/technologies are carefully combined within a comprehensive system architecture to protect sensitive, critical and classified networks. This brief will help the System Security Engineering workforce gain foundational understanding of CDS.*

## Taming Model-Based Acquisition Transformation Complexity – evaluating operational maturity incorporating defense policy and industry best practices

**Garrett Thurston**  
Enterprise MBSE Sr. Director, Dassault Systems

*Acquisition success of modern complex systems depends on exploiting digitally enabled model-based methods across the lifecycle. Benefits of effective adoption depend on the organizational operational maturity and compliance to DODD/I, Handbooks, and Guides. We use a UAF capability maturity and road mapping model to afford measured outcomes.*

## Building Better Solutions: MBSE Strategies for Seamless Software Integration

**Madeline Baldwin**  
Systems Engineer, Tangram Flex

**Marc Zinger**  
Senior Systems Engineer, Tangram Flex

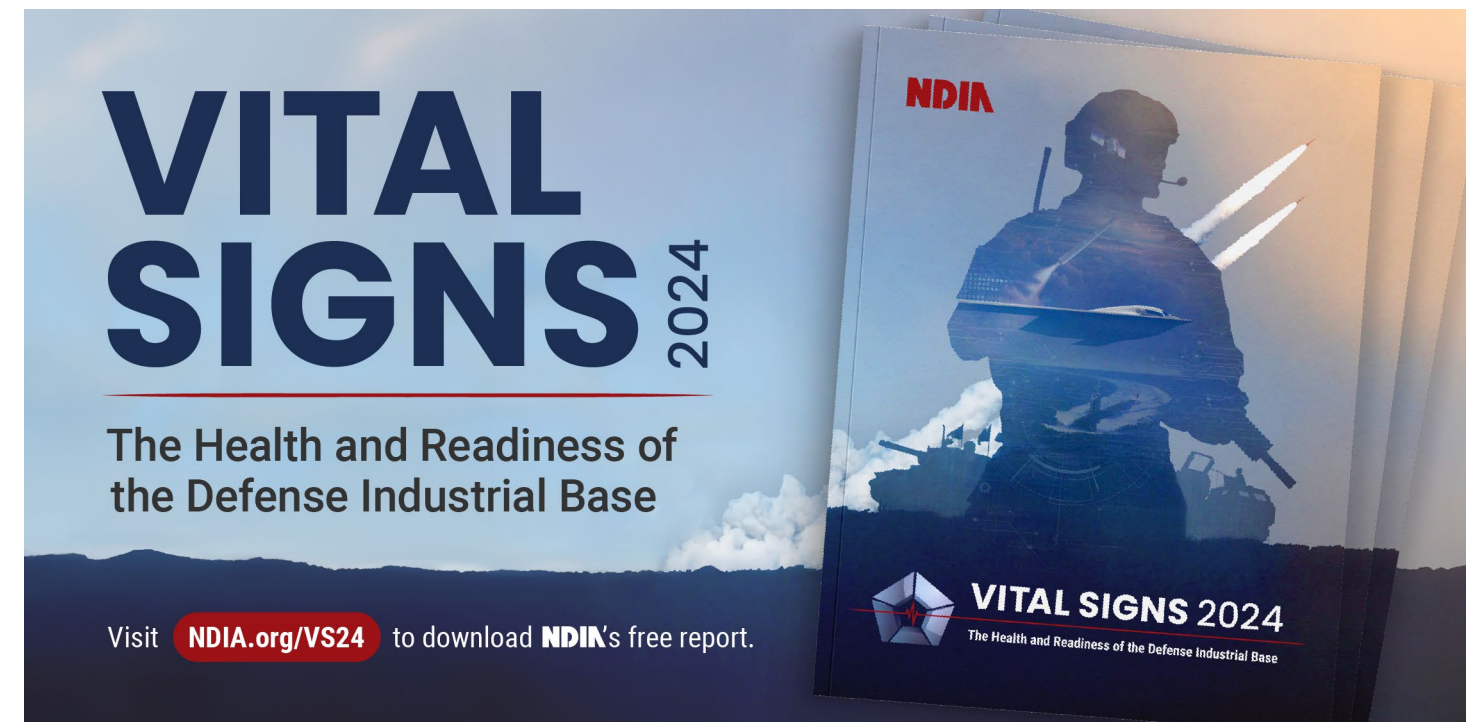
*Underutilized MBSE models contribute to systems and software requirement disconnect. A collaborative process closes this gap with systems models focused on common content that is leveraged by a software team throughout the product lifecycle allowing early problem detection and reducing verification issues during software integration.*

## A Secure and Low-SWaP Transistor-Level Programmable Fabric to Mitigate Hardware Assurance Threats

**Monir Zaman**  
Principal Electrical Engineer, Raytheon, An RTX Company

**Yiorgos Makris**  
Professor of Electrical and Computer Engineering, University of Texas at Dallas

*As a design obfuscation tool for evidence based assurance, TRAnsistor-level Programmable fabric (TRAP), developed by The University of Texas at Dallas (UTD) provides size, weight, and power advantages over other eFPGAs to redact sensitive design information from disclosure during the manufacturing of an integrated circuit.*





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## 2025 Undersea Warfare Spring Conference

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NAVY USMC ARMY AIR FORCE SPACE INDUSTRY  
24  
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# I/ITSEC 2024

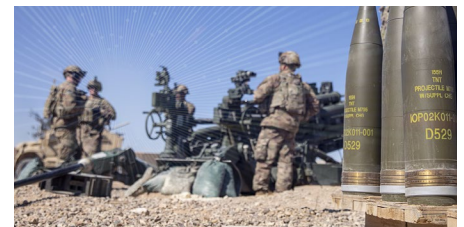
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December 2 – 6, 2024 | Orlando, FL



## 2025 Tactical Wheeled Vehicles Conference

February 24 – 26, 2025 | Reston, VA



## 2025 Munitions Executive Summit

March 18 – 19, 2025 | Parsippany, NJ



## 2025 Pacific Operational Science & Technology (POST) Conference

March 3 – 6, 2025\*\* | Honolulu, HI



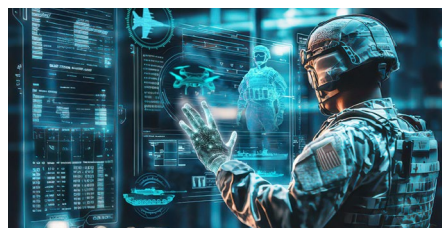
## DLA Supply Chain Alliance Conference & Exhibition

June 11 – 12, 2025 | Richmond, VA



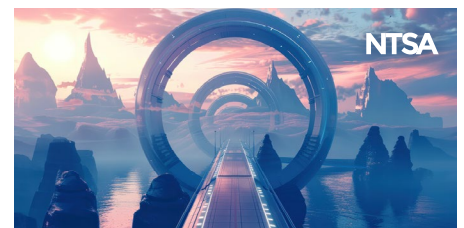
## 39th Annual National Logistics Forum

February 11 – 13, 2025 | Orlando, FL



## 2025 Human Systems Conference

March 11 – 12, 2025 | Arlington, VA



## MODSIM World 2025

August 18 – 20, 2025 | Norfolk, VA

\*All Classified | \*\*Partially Classified

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