

Systems of Systems (SoS) Committee

- **SoS Engineering Collaborators Information Exchange (SoSECIE)**

All webinars are held via Defense Collaboration Services (DCS) on Tuesdays from 11:00 a.m. to 12:00 p.m. Eastern Time.

To receive log-in information, send an e-mail to osd.atl.asd-re.se@mail.mil and ask to be added to the SoSECIE mailing list.

For more information and to view the webinar archive, visit:

<https://www.acq.osd.mil/se/outreach/sosecollab.html>

Contact us if you wish to suggest a topic or speaker for a future webinar

- **Mission Engineering** - Focus of committee activity in 2018

- Builds on SoSE experience with SE applied to mission based SoS
- Incorporated Mission Analysis into SoS Committee in 2015 – right set of members
- Hosted an industry task group on Mission Engineering in 2016
- Provide a forum for engagement with industry with advent of DoD Mission Integration Management and Mission Engineering

2018 SoSECIE Webinars

January 9, 2018

**Systems of Systems (SoS) Engineering Technical Approaches
As Applied to Mission Engineering**

Dr. Judith Dahmann, The MITRE Corporation

January 30, 2018

Developing Standards for Systems of Systems (SoS) Engineering

Mr. Garry Roedler, Lockheed Martin and Dr. Judith Dahmann, The MITRE Corporation

February 6, 2018

A Conceptual Model for Analyzing Information Quality in System-of-Systems

Dr. Mohamad Gharib, University of Florence - DiMaI

February 27, 2018

Conceptual Data Modeling for the Functional Decomposition of Mission Capabilities

Mr. Andrew Battigaglia, Ms. Erika Brimhall, and Mr. Terry Ogle
Georgia Tech Research Institute

March 6, 2018

**The Internet of Simulation: Enabling Agile Model Based Systems Engineering for
Cyber-Physical Systems**

Dr. Stephen J. Clement, University of Leeds, Leeds, UK

March 20, 2018

Practical Modeling Concepts for Engineering Emergence in Systems of Systems

Dr. Kristin Giammarco, Naval Postgraduate School

April 3, 2018

Using MBSE to Evaluate and Protect the Electrical Grid as a System of Systems

Mr. Matthew Hause, PTC

May 1, 2018

Data Dependency Network Analysis in Systems of Systems

Mr. Reggie Cole, Lockheed Martin Corporation

May 15, 2018

**Semantically-enabled Model-based Systems Engineering of
Safety-critical Network of Systems**

Dr. Léonard Petnga, University of Alabama in Huntsville

June 26, 2018

Emergence as Innovation in Systems of Systems – a Three Systems Model

Mr. Tom McDermott and Ms. Molly Nadolski, Georgia Tech Research Institute

July 31, 2018

Trends in Large Scale Systems-of-Systems for Multi-National Missile Defense

Dr. Tod M. Schuck and Dr. James C. Kilian, Lockheed Martin RMS

August 21, 2018

Identifying Decision Patterns Using Monterey Phoenix

Mr. John Quartuccio, Naval Postgraduate School

October 16, 2018

**System of Systems Architecture Feasibility Analysis
to Support Tradespace Exploration**

MAJ Stephen Gillespie, PhD, U.S. Military Academy

October 30, 2018

**Scaling Model-Based System Engineering Practices for
System of Systems Applications**

Dr. Aleksandra Markina-Khusid and Ms. Janna Kamenetsky, The MITRE Corporation

November 6, 2018

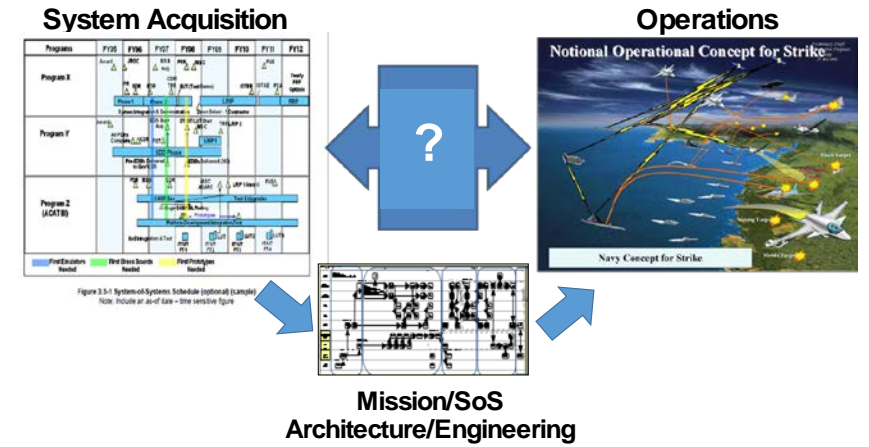
Model Based Systems of Systems Engineering

Mr. Francis McCafferty, Vitech Corporation

Mission Engineering (ME)

- Increasing attention to application of systems engineering to supporting operational mission capabilities
- Congressional direction to establish mission integration management (NDAA 855)
- Interest across the NDIA Systems Engineering Division in mission engineering (ME) and its implications
- SoS Committee will focus 2018 activities on ME, **welcomes engagement from other committees**

Kickoff session planned for March 2: 1:00-3:00 ET



Mission Engineering is the deliberate planning, analyzing, organizing, and integrating of current and emerging operational and system capabilities to achieve desired warfighting mission effects

Defense Acquisition Guide Ch 3

Proposed Way Ahead

- March 2 Kickoff – 1-3 PM ET DCS Online
 - Rob Gold presentation on Mission Integration Management and Mission Engineering
 - Open discussion of specific 2018 objectives and activities
- Proposed goals
 - Develop a shared understanding of mission engineering: current practices, challenges and opportunities
 - Define **the role** of industry in ME
- Potential Activities
 - Presentations from current organizations on practice of ME
 - Presentations on 2016 Industry Task Force on ME

All committees are welcome!

Mission Integration Management
NDAA 2017 Section 855

Mr. Robert Gold
Director, Engineering Enterprise
Office of the Deputy Assistant Secretary of Defense
for Systems Engineering

20th Annual NDIA Systems Engineering Conference
Springfield, VA | October 25, 2017

Mission Engineering
is Underway By Components

Snapshot of Roundtables

Results: Service activities are focused on unique approaches and mission perspectives.

- Assess current mission capabilities as basis for analysis of shortfalls, options and recommended programming and budgeting changes (Navy I&I)
- Address integration during development (Army NIE/AWE)
- Early development planning to derive mission gaps and capability solutions (AF)
- Comprehensive, ongoing engineering and integration towards improved mission performance (Missile Defense Agency)

Hosted Roundtables
April – May 2016

NDIA **INCOSE** Industry Support to Mission Analysis and Mission Engineering **MORS** **IEEE** **AIAA**

Industry Support to Mission Analysis and Mission Engineering

Preliminary Study Report – May 2016

NOTE: Not an official position from these organizations, but the study was coordinated through them.

Date: 18 May 2016 Unclassified | 1