

NDIA SE Division Mission Engineering (ME) Task Initiative

- **Focus of SoS committee activity in 2018**

- Provide a forum for engagement with industry with advent of DoD Mission Integration Management and Mission Engineering
- Working with other NDIA SE committees

- **Why?**

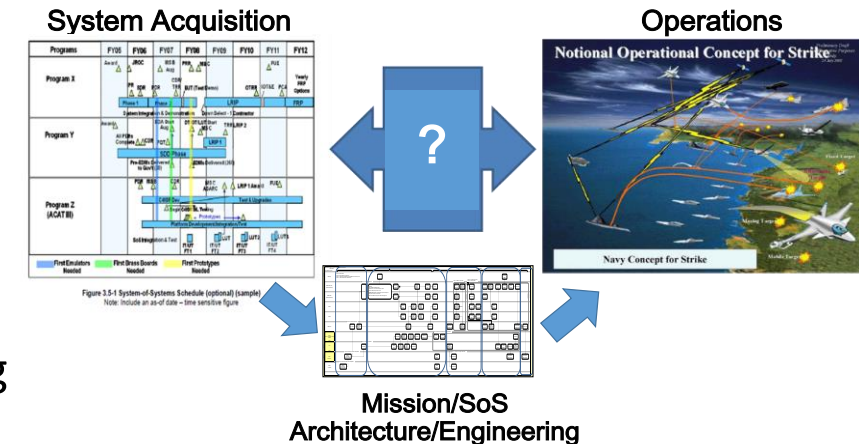
- Increasing attention to application of systems engineering to supporting operational mission capabilities
- Congressional direction to establish mission integration management (NDAA 855)
- Interest across the NDIA Systems Engineering Division in mission engineering (ME) and its implications for industry

- **Goals**

- Develop a shared understanding of mission engineering: current practices, challenges and opportunities
- Define the role of industry in ME

- **Interested to engage?**

- Contact Rick Poel (Poel@boeing.com) Jennie Horne; (jahorne@raytheon.com) or Judith Dahmann (jdahmann@mitre.org)



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

Progress and Plans

- **30 March - Kickoff Meeting**

- Rob Gold - Presentation on Current DoD MIM/ME Direction (same presentation as NDIA SE Division)
- Discussion of Goals and Proposed Activities

- **Core Team Formed to Guide the Initiative**

- Rick Poel, Jennie Horne, Bob Schuerer, Minal Mangra, Garry Roedler, John Daly, Bill Miller, Stephanie Cotter, Judith Dahmann,
- First steps – Provide level setting information as basis for initiative
- Requested half day session at October SE Conference

- **6 April Open Session**

- Presentation on 2016 NDIA Industry Task Force on ME (Garry Roedler, Bill Miller)

- **Next Open Session**

- Presentation on Digitally Aided Close Air Support Coordinated Implementation Approach by Marsha Mullins, example of current ME-related initiative

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