



# **Understanding the Increasingly Important Role of Modeling and Simulation (M&S) in Department of Defense Acquisition**

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# Director, Systems Engineering



**Director, Systems Engineering  
Stephen Welby**



**Systems Analysis  
Kristen Baldwin**



**Major Program Support  
James Thompson**



**Mission Assurance  
Nicholas Torelli**

**Addressing Emerging Challenges on the Frontiers of Systems Engineering**

- Analysis of Complex Systems/Systems of Systems
- Development Planning/Early SE
- Program Protection/Acquisition Cyber Security
- University and Industrial Engineering Research
- Modeling & Simulation Coordination

**Supporting USD(AT&L) Decisions with Independent Engineering Expertise**

- Engineering Assessment / Mentoring of Major Defense Programs
- Program Support Reviews
- OIPT / DAB / ITAB Support
- Systems Engineering Plans
- Systemic Root Cause Analysis

**Leading Systems Engineering Practice in DoD and Industry**

- Systems Engineering Policy & Guidance
- Specialty Engineering (System Safety, Reliability / Availability / Maintainability, Quality, Manufacturing, Producibility, Human Systems Integration (HSI))
- Technical Workforce Development
- Standardization

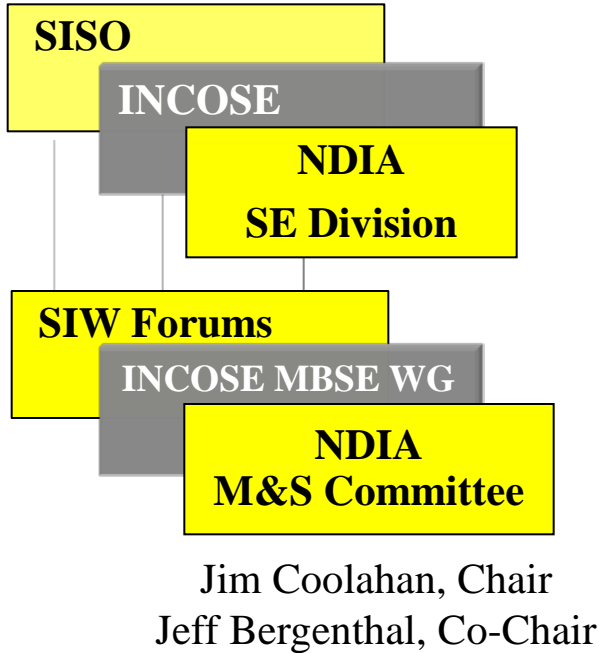
**Providing technical support and systems engineering leadership and oversight to USD(AT&L) in support of planned and ongoing acquisition programs**



# Acquisition M&S Organizational Relationships

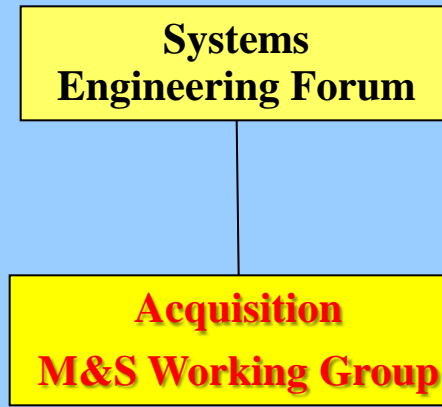


## Industry



## DoD Acquisition

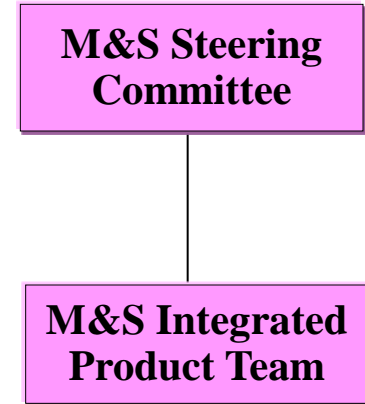
Chair: Mr. Stephen Welby  
OUSD(AT&L)/DDR&E/SE



Chair: Ms. Phil Zimmerman  
OUSD(AT&L)/DDR&E/SE/SA

## DoD M&S

Ms. Kristen Baldwin  
Acquisition Member:  
OUSD(AT&L)/DDR&E/SE/SA



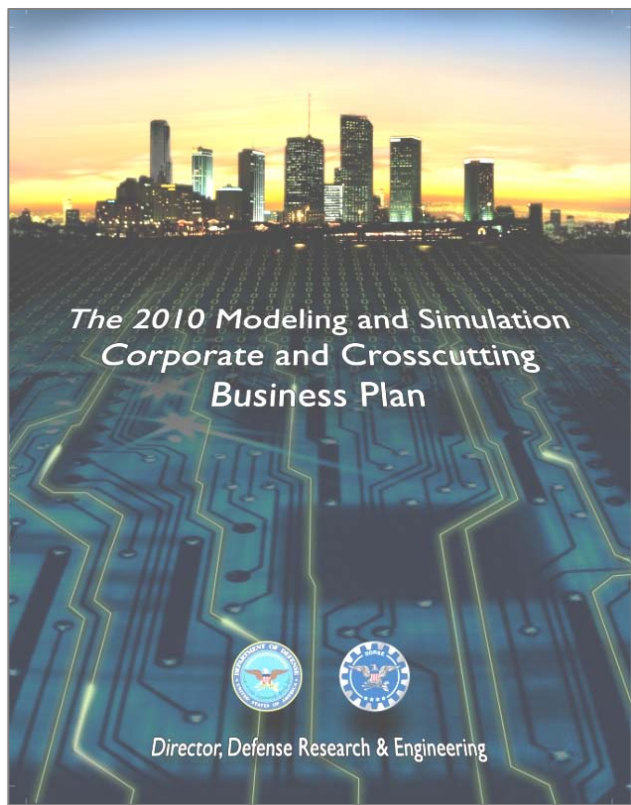
Ms. Phil Zimmerman  
Acquisition Member:  
OUSD(AT&L)/DDR&E/SE/SA

## AMSWG Charter (SE Forum, 2006)

- Assist PMs and acquisition professionals by improving the utility of M&S . . .
- Address common concerns, improve info flow, align technical initiatives, pursue cross-cutting issue resolution . . .
- Represent the acquisition community in DoD M&S deliberations . . .



# 2010 M&S Corporate and Crosscutting Business Plan



To be published Fall 2010

- **Improvements and Recommendations**
  - Collaborate with community leadership
  - Identify M&S gaps and areas for DoD-wide action, based on operational needs
  - Implementation and metrics to apply to M&S tools, data, and services investments for incorporation in separate Implementation Plan
  - Roadmap for management actions, technical strategies, and enterprise solutions
  - Corporate-level guidance
- **2010 Steering Committee Objectives**
  - M&S Interoperability
  - M&S Reuse

**2010 Plan focuses on operational needs & M&S capabilities**



# 2010 Summer Study to Shape Acquisition M&S Action Plan



## 2010 Summer Study Plan will respond to DDR&E Catalysts and DoD Systems Engineering Forum inputs:

- Immersive Virtual Environments for Concept Engineering
  - Leverage Rapid Tools Study; JTCOIC, Agile Fires, AF-ICE, Immersive Training Environment
  - Enhance warfighter needs and technology capabilities inputs to acquisition in collaboration with stakeholder communities
- M&S in support of System of Systems (SoS) Engineering
  - Use the SoS pilots as starting points
  - Support Integration of the Intelligence Community Threat M&S
- Model-based Systems Engineering
  - Leveraging ongoing Systems 2020, NDIA MBE efforts
- The Potential of Serious Games to the Acquisition Process



# Discussion, Comments, Suggestions



- **What significant areas may be missing?**
- **What activities in your areas can be leveraged, augmented, accelerated?**
- **Who are the right technical points of contact to continue the technical interchange?**





# Key Acquisition M&S Contacts



- **Acquisition Community Steering Committee Representative**

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