



IITSEC 2024



DoD Instruction 5000.97 - Digital Engineering: Assessing the Impact on the Department's M&S Enterprise



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Background

- **Breakup of USD AT&L- DODD 5134.01 into**
 - OUSD(R&E)- DODD 5137.02
 - OUSD(A&S)- DODD 5135.02
- **Initiates publication or review of**
 - Digital Engineering Strategy dated 2018
 - Modeling and Simulation Master Plan 1995
- **The newly published DoDI 5000.97, Digital Engineering incorporates and cancels**
 - DoDD 5000.59, DoD Modeling and Simulation (M&S) Management
- **Eliminates**
 - Policy requirement with no congressional budgetary line item
 - Management activities from DODD 5134.01 para 3.35
 - Modeling & Simulation Enterprise (MSE) Office
 - DoD M&S Steering Committee
 - Modeling and Simulation Catalog

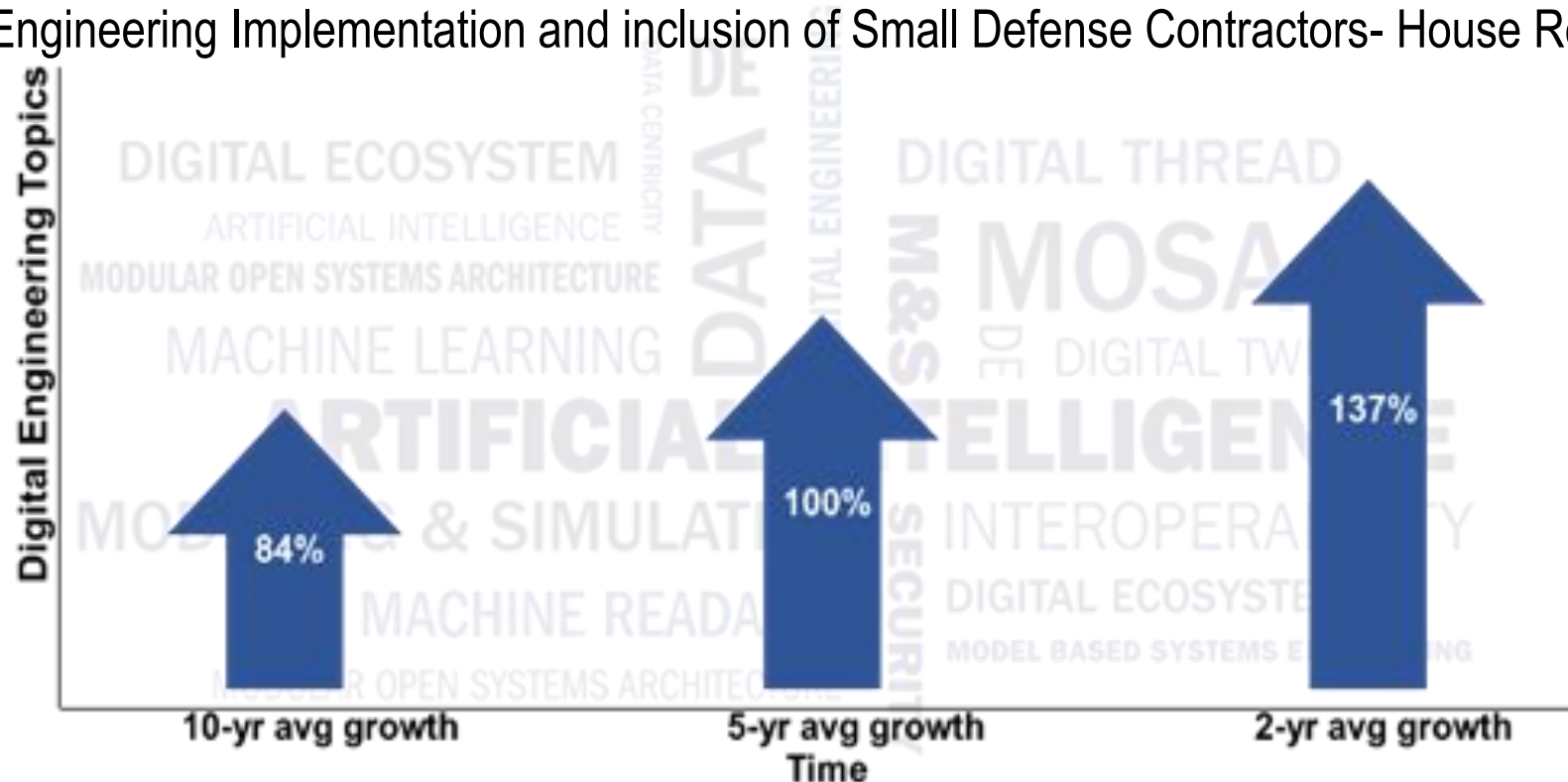
From DoDD 5134.01 Under Secretary for Defense for Acquisition, Technology, and Logistics (USD(AT&L)) – CANCELLED

3.35 Establish and maintain the DoD management and administrative structure for M&S, in accordance with DoD Directive 5000.59, and sponsor the DoD Executive Council for Modeling and Simulation; develop policies, plans, and programs to coordinate, harmonize, and rationalize DoD M&S, including the DoD Modeling and Simulation Master Plan and Investment Plans; ensure that DoD M&S investments support operational needs and the acquisition process; to include the development of common tools, methodologies, and databases; and the establishment of standards and protocols promoting interoperability, data exchange, open system architecture, and software reusability.

Increased Congressional Interest

➤ Increase interest from Congressional in Digital Engineering and Modeling & Simulation

- Digital Engineering COE- House Report 117-125
- Digital Transformation for Multilevel Security Programs- House Report 118-125
- Assessment of modeling and simulation capabilities for tradeoff analysis- Senate Report 118-58
- Digital Engineering Implementation and inclusion of Small Defense Contractors- House Report 118-245



*Source included all Congressional records represented for a 10-year period through the 117th Congress

Highlights of M&S Strategies and Policies in the Department

- In April 2023 DEM&S along with Navy conducted an analysis and identified over 700 policies related to M&S
 - OSD is responsible for 72
 - 24 – Directives, 41 – Instructions, 7 – Manuals
- **Current or under review for publication**
 - Digital Engineering Strategy 2018
 - Modeling and Simulation Strategy for Engineering estimated 2025
 - DODI.5000.61 Verification, Validation, and Accreditation (VV&A) 2024
 - DODI 5000.70 Management of DoD M&S Activities estimated 2025
- **Policy stretches across multiple functional areas to specifically govern them**
 - DODD 1322.18 Military Training
 - DODD 5000.01 The Defense Acquisition System
 - DODI 1322.32 Pre-deployment Training and Theater Entry Requirements
 - DODI 5000.84 Analysis of Alternatives
 - DODI 5000.88
 - DODI 5000.89 Test and Evaluation

Policies Referencing M&S

as of April 2023

DoD	72
Joint	28
Army	82
Navy	52
Marine Corps	27
Air Force	415
Space Force	33

Total 709

Do we need 710 pieces of policy to fix everything

Modeling & Simulation & Digital Engineering Pain Point Analysis

M&S

Insufficient collaborative body for M&S resource decision making and problem solving

Lack of a centralized organization that can make decisions/develop interoperability solutions

Lack of a current DoD strategy for simulation interoperability

Insufficient authoritative data sources

Lack of guidance and tools to better integrate all M&S with Digital Engineering Infrastructure

Insufficient agile/responsive RMF process to quickly stand up LVC simulation events

Lack of a DoD-wide repository for models and simulations

Lack of adequate standards program

Lack of Cyber / EMS models / Space models

Insufficient Multi-Level Security guidance

Insufficiently trained M&S Workforce

DE

DoD lacks authoritative data sources that are accessible, understandable and trustworthy

Models are not consistently planned, developed or used across Services, engineering disciplines, domains, lifecycle phases, or programs

The DoD lacks a decision and visualization framework to communicate across decision makers and stakeholders.

DoD lacks methodologies to use model-based approaches to perform lifecycle activities

DoD lacks a concept of operations, reference models/architectures to guide Digital Engineering implementation

The DoD lacks mechanisms for the accurate and timely data

Modeling & Simulation & Digital Engineering Pain Point Analysis

M&S

Insufficient collaborative for resource decisions

Insufficient authoritative data sources

Lack of a centralized organization for solutions across the Services

Lack of a strategy for interoperability

Lack of a DoD-wide repository

Lack of guidance to integrate M&S with Digital Engineering Infrastructure

Lack of emerging domain models

Insufficient agile/responsive process

Insufficient Multi-Level Security guidance

Lack of adequate standards program

Insufficiently trained Workforce

DE

Insufficient authoritative data sources

Lack of adequate standards program

Lacks a decision and visualization framework to communicate

Lack of guidance to integrate M&S with Digital Engineering Infrastructure

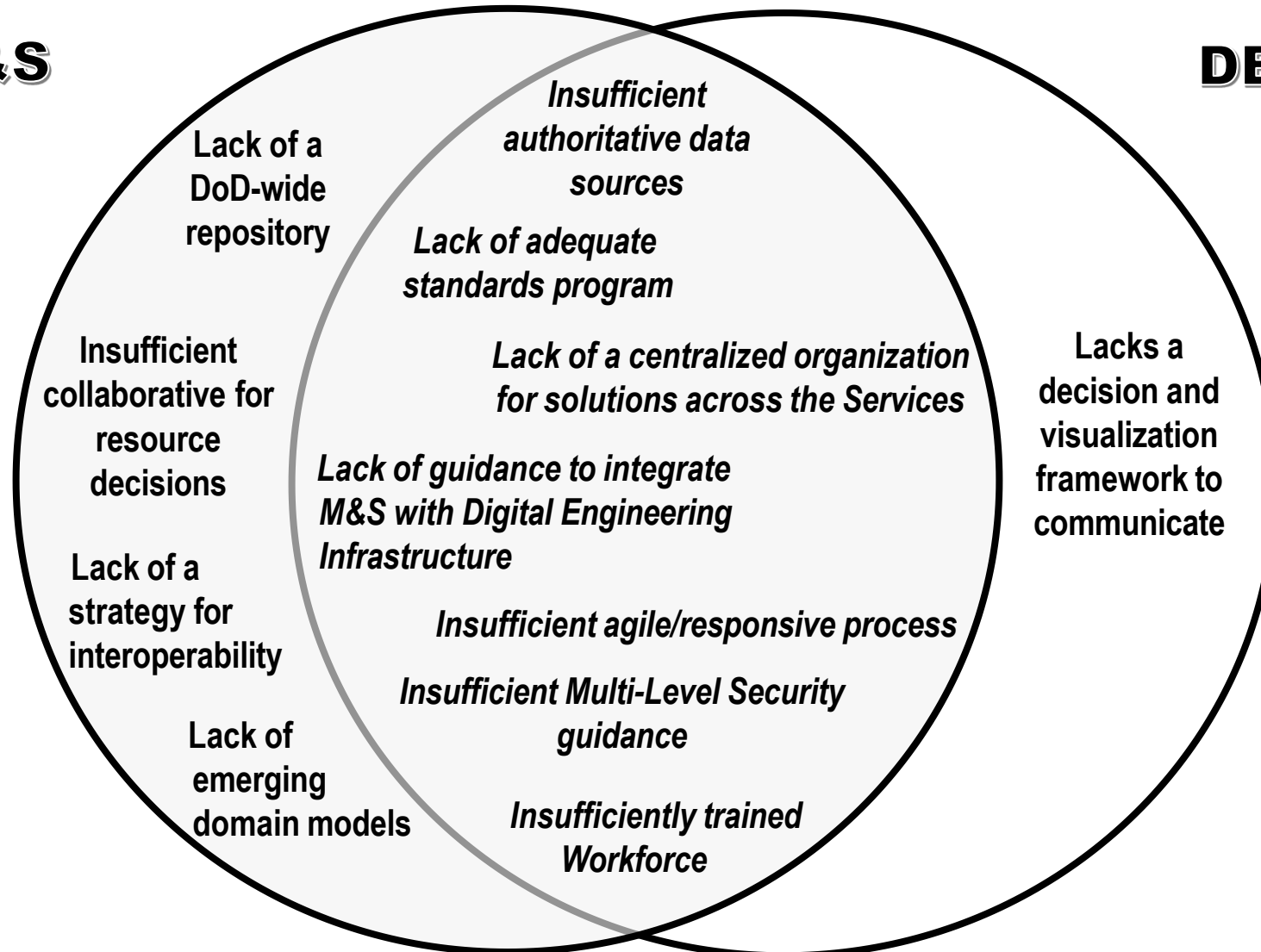
Insufficient agile/responsive process

Lack of a centralized organization for solutions across the Services

Modeling & Simulation & Digital Engineering Pain Point Analysis

M&S

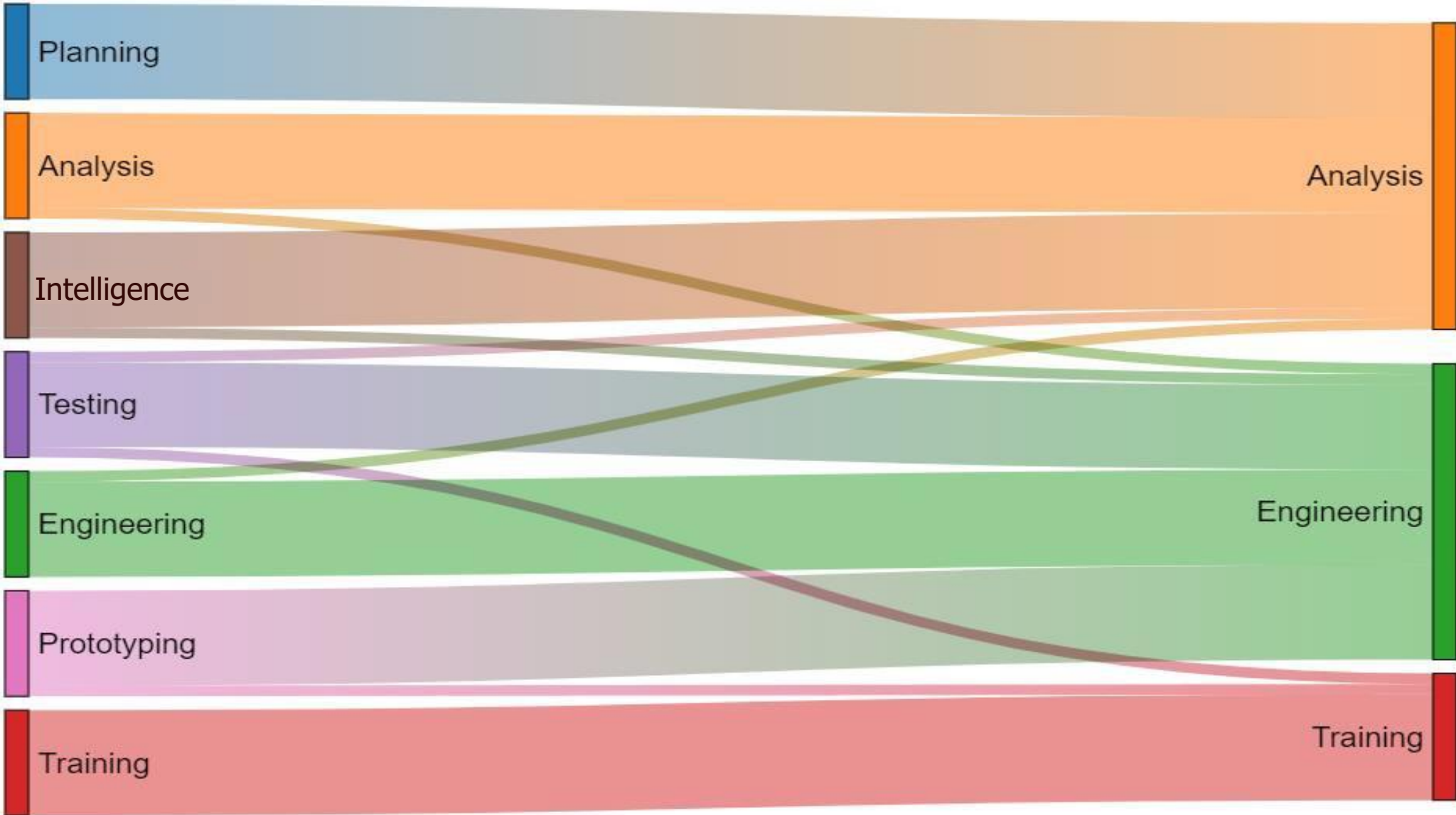
DE



Back to the Future: Simplified Alignment



Classic 7 M&S Areas

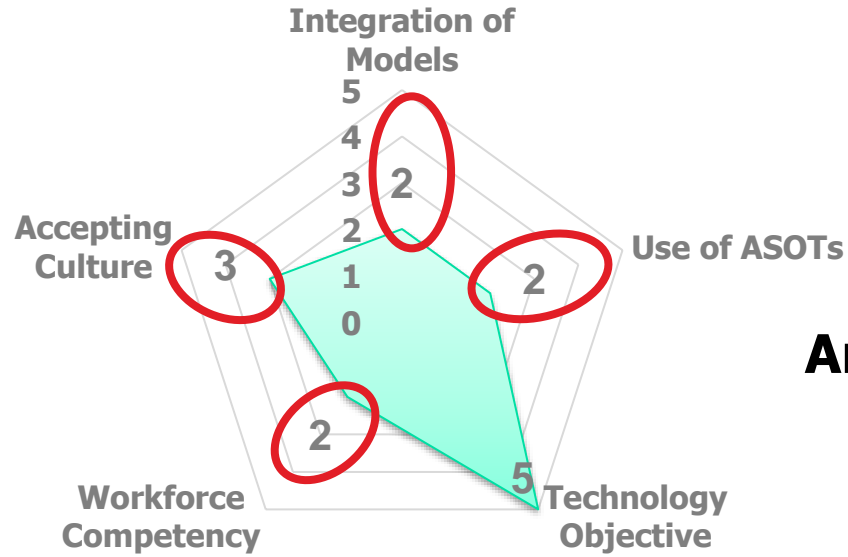


“New” Simplified Alignment

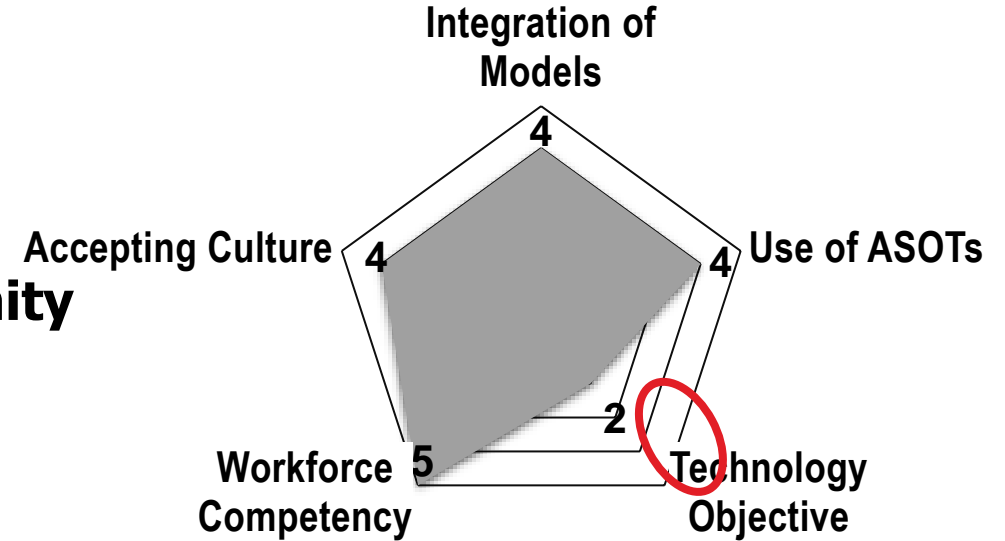


Initial Analysis of Maturity of Modeling & Simulation

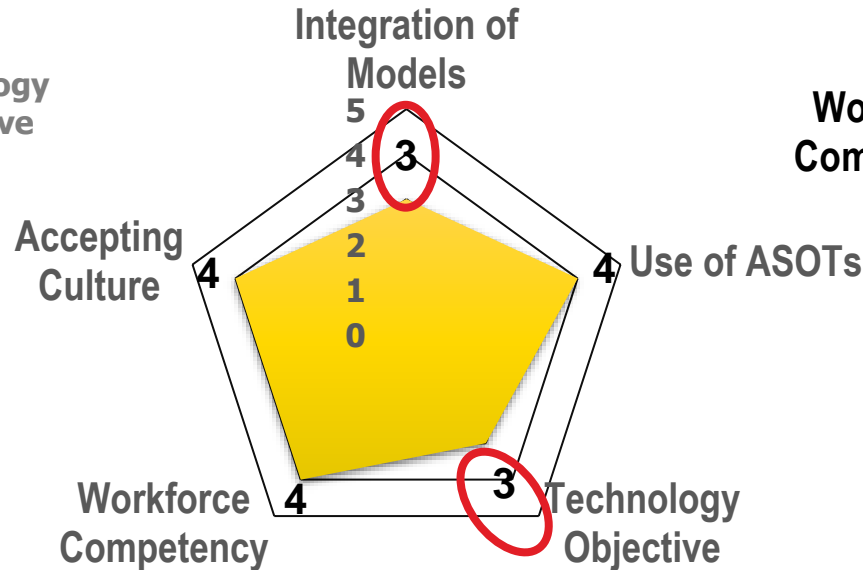
Engineering Community



Training Community



Analysis Community



Primary Focus for DEM&S



Power to the People

➤ Democratizing enterprise M&S management

- The Departments/Components have embraced digital transformation and the use of M&S to accelerate many of the complex challenges they face
- The Departments/Components are publishing and executing policy to initiate the breaking down of organizational barriers to meet transformative requirements.
- The Departments/Components have also begun to break down barriers required to meet the necessity of an integrated Joint battlespace for the peer-near peer fight

➤ OSD will continue to write policy to

- Reiterate knowledge sharing across organizational boundaries
- Development of the DE,M&S workforce
- Facilitate the development and adaptation of M&S standards to aid in interoperability.

The incorporation and cancellation of DODD 5000.59 has driven decision making and management of M&S activities down to the practitioner reducing the demand signal for DoD level management of M&S activities

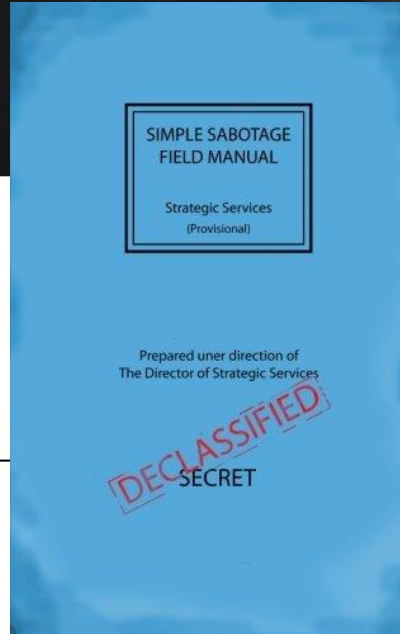
Call to Action

- Be a lifelong learner
- Knowledge share across organizations, Department, Services, Agencies
- Interface with DE communities to exchange best practices
- Create an environment of change in your organization
- Seek advocacy from leadership to initiate cultural change

Case Study: The Office of Strategic Services



The screenshot shows the CIA website's 'Exhibits' section. The main heading is 'The Office of Strategic Services: America's First Intelligence Agency'. Below it, there is a section titled 'About the OSS' with a paragraph of text: 'Before World War II, the US Government left the business of collecting and disseminating intelligence to American foreign-policy experts and elements of the armed services. America's entry into the war following the intelligence failure of Pearl Harbor led to the establishment of the Office of Strategic Services (OSS) on 13 June 1942.'



“(11) General Interference with Organizations and Production

(a) Organizations and Conferences

(1) Insist on doing everything through "channels."
Never permit short-cuts to expedite decisions.

...

(3) When possible, refer all matters to committees, for "further study and consideration." Attempt to make the committees as large as possible - never less than five.

...

(8) Be worried about the propriety of any decision – raise the question of whether such action as is contemplated lies within the jurisdiction of the group or whether it might conflict with the policy of some higher echelon.”



***Don't accept organizational sabotage in the use of models in a digital ecosystem.
Focus on driving value, moving forward, and celebrate the wins.***