NTSA | NATIONAL TRAINING & SIMULATION ASSOCIATION

Congressional M&S Leadership Summit 2025

Proceedings

18 February 2025 | DoubleTree by Hilton Hotel Jacksonville Riverfront
Jacksonsville, FL | NTSA.org/MSSummit

Acknowledgments

The fifteenth annual Modeling and Simulation Congressional Caucus Leadership Summit, sponsored by the National Training and Simulation Association (NTSA), was held in Jacksonville, Florida on Tuesday, 18 February 2025. NTSA and its members provide support to the Modeling and Simulation Congressional Caucus, co-chaired by Congressmen Bobby Scott, John Rutherford, Jack Bergman, and Darren Soto.

Congressional Modeling and Simulation Caucus Members

January 2025

Congressman Bobby Scott Co-Chair – Virginia	**Congressman Gus Bilirakis** Florida	**Congresswoman Virginia Foxx** North Carolina
Congressman John Rutherford Co-Chair – Florida	**Congressman Vern Buchanan** Florida	**Congressman Brett Guthrie** Kentucky
Congressman Jack Bergman Co-Chair – Michigan	**Congressman Ken Calvert** California	**Congressman Eric Sorensen** Illinois
Congressman Darren Soto Co-Chair - Florida	**Congressman Jake Ellzey** Texas	**Congressman Michael Turner** Ohio
Congressman Robert Aderholt Alabama	**Congressman Scott Franklin** Florida	**Congressman Joe Wilson** South Carolina
Congressman Don Bacon Nebraska	**Congressman Maxwell Frost** Florida	**Congressman Robert Wittman** Virginia

From doctors performing hands-on simulated surgeries, to homeland security models that account for details such as wind direction and construction sites, to transportation models that show projected traffic patterns in your hometown decades into the future, modeling and simulation (M&S) – originally founded in the defense industry, is now a part of the everyday lives of Americans. The Modeling and Simulation Caucus showcases today's M&S initiatives, promotes the M&S industry, and serves as a forum to understand the policy challenges facing this growing and versatile technology. This meeting was focused on the state of Artificial Intelligence in our nation and its importance in ensuring our national security.

Leadership Summit Proceedings Summary

Background

The National Training and Simulation Association (NTSA) conducted the fifteenth Annual Modeling and Simulation (M&S) Leadership Summit on February 18, 2025 in Jacksonville, Florida. VADM Sean Buck (Ret.), President of NTSA, provided opening comments and greeted the meeting participants and attendees. The spirit of the 2025 M&S Leadership Summit included lively discussion throughout the day resulting from the distinguished keynote and panel presentations focused on establishing an actionable agenda for Capitol Hill on the theme, "Artificial Intelligence and Modeling, Simulation and Training: the Issues and Impacts on our Nation's Security and resilience."

We are indebted to Congressman John Rutherford, FL, 5th District for lending support for this event hosted in his district. Congressman Rutherford, along with the virtual commentary from Congressman Jack Bergman, MI, 1st District, provided opening remarks to challenge the participants to create M&S solutions that are game changers for our future. Congressman Rutherford continued to participate throughout the day, providing small group commentary and remarks and a challenge to the industry going forward.

Overall, the event aims to facilitate discussions on AI, gather insights from experts, and provide recommendations for the future use of AI in different sectors, including national security and efficiency improvements. The emphasis is on the importance of dialogue, collaboration, and the role of intelligent individuals in shaping the ethical and beneficial applications of AI in society. The following provides a report of the day's events, with recommendations for next steps relative to Artificial Intelligence (AI), modeling, simulation and training (MS&T) and potential legislative initiatives.

Keynote Address

The discussion delved into the multifaceted landscape of Artificial Intelligence (AI) adoption in various sectors, with a specific focus on its role within the Department of Defense. Dr. Jane Pinellas, a Chief AI Engineer at Johns Hopkins Applied Physics Laboratory, emphasized key aspects of AI such as operational effectiveness, security concerns, ethical risks, explainability, and trustworthiness. She highlighted the importance of AI assurance, updating testing frameworks to accommodate evolving technologies like generative AI, and the bipartisan nature of AI discussions.

The conversation addressed challenges in evaluating AI effectiveness, security vulnerabilities, ethical biases, transparency, and accountability. Dr. Pinellas emphasized the role of modeling and simulation (M&S) in testing AI systems for safety and reliability in national security contexts, stressing the need for investment in digital twin and M&S infrastructure. Collaboration between government agencies, industry partners, and research institutions is crucial to enhancing AI assurance and accelerating the development of trustworthy AI-enabled systems.

In the second part of the discussion, key points included the utilization of AI in operations, the impact of AI adoption on mission success, challenges in AI adoption such as funding constraints and talent management, the importance of centralized AI management, the role of partnerships between industry and government, and the future outlook for AI technologies in military contexts.

The continued discussion focused on collaboration with government bodies to address operational impacts of AI and electronic warfare, highlighting the need for responsible oversight and education. Regulatory challenges in integrating AI, cultural shifts required for effective adoption, and the balance between technological advancements and fundamental education were also discussed. The importance of strategic planning, talent management, and collaboration with industry partners is underscored in navigating the complexities of AI adoption within government settings, particularly in enhancing military readiness and effectiveness.

The discussion further touched upon intricacies of training AI models, resource constraints in deploying AI solutions, and risks associated with AI systems, emphasizing the need for accountability and consequences for AI behaviors. Overall, the conversation stressed the importance of careful planning, stakeholder collaboration, and responsible use of AI systems in government organizations to ensure successful deployment and address challenges in implementing AI technologies effectively.

Panel Discussion: AI and Legislation – What Should Be Regulated?

Moderator:

Bob Armstrong, Executive Director, Sentara Center for Healthcare Simulation and Immersive Learning, Old Dominion University

Speakers:

Bharat Patel, Project Lead, Project Linchpin, PEO IEW&S

Mark "Ernie" Gombo, Strategic Account Director, Microsoft Federal

This panel addressed recommendations for legislation and authorization regarding artificial intelligence (AI) integration, modeling, and simulation. Key points included the need for AI to be an enabling factor, emphasizing outcomes and success measurement over direct legislation due to AI's broad nature. The importance of interoperability, scalability, and human-AI teaming was highlighted, alongside examples like AI-enhanced simulations and human performance modeling challenges. There was a call for a comprehensive framework for enabling AI across sectors, stressing the significance of policy, guidance, and standards in AI development.

The discussion continued exploring AI's utility in various industries, emphasizing its value in modeling and simulation applications. The need for a clearer understanding of AI's benefits, challenges, and governance issues in managing models and simulations was discussed. The conversation also touched on validation and verification processes for AI technologies and the complexities of establishing a common infrastructure within the Department of Defense (DoD) to support AI initiatives and M&S platforms.

Furthermore, the dialogue proposed the concept of an AI proving ground to enhance testing and evaluating AI technologies. Practical solutions like quick-start implementations and user-friendly contract vehicles to foster industry engagement and innovation in AI and M&S applications were highlighted. Overall, the participants shared a sense of urgency in addressing existing challenges and gaps to facilitate the effective integration and utilization of AI technologies across industries and government sectors.

Panel Discussion: Best Practices in AI Within MS&T – Examples for Consideration

Moderator:

Scott Doss, CIO/AI Lead, Air Force Research Laboratory, Munitions Director

Speakers:

Dr. Jaimie Weber, Associate Chief Medical Informatics Officer, Tampa General Hospital, Faculty, USF Health

Dr. Bob Sottilare, Vice President, Soar Technologies, LLC

Dr. Shawn Weil, Principal Cognitive Scientist and Chief Growth Officer, Aptima, Inc.

Dr. Kevin Yee, Special Assistant to the Provost for Artificial Intelligence, University of Central Florida

The panel discussion among these experts delved into best practices and examples in AI, particularly in healthcare and military applications. Key recommendations for effective AI implementation included stakeholder collaboration, balanced regulatory frameworks, agile policy mechanisms, and robust data governance. The importance of having a human-in-the-loop approach for clinical decisions, robust assurance processes for ethical AI use, and understanding and mitigating risks associated with AI adoption were highlighted.

Considerations for implementing AI in healthcare environments, such as patient safety, risk assessments, and end-user education, were emphasized. The role of policy frameworks, stakeholder collaboration, and risk management in leveraging AI technology effectively was underlined. Governance, monitoring, ongoing evaluation, and understanding the impact of AI tools on users were discussed in various contexts. The concept of "human in the loop" and the challenges of integrating AI tools into existing systems with strong governance frameworks, collaboration, and considering use cases, risks, and policy implications were addressed. The conversation also addressed the complexities of AI systems, the evolving definition of AI, the role of data in AI applications, and the challenges in formulating AI policies in educational settings. The importance of faculty involvement, balanced AI integration in teaching, AI coordinators for organizational adoption, and promoting effective use of AI across sectors were highlighted.

Overall, the dialogue provided insights into AI governance, human-AI collaboration, policy challenges, data management, and educational implications, showcasing the considerations and complexities involved in leveraging AI technologies effectively across different sectors.

Panel Discussion: State of AI in the MS&T Industry

Bob Kleinhample, CMSP, President, PioneerSim

Dr. Paul Graham, Director of Applied Innovations, DEVCOM SC UARC (ICT)

Dr. Brian Stensrud, Technical Fellow, Artificial Intelligence, CAE USA

Prior to the Leadership Summit, a survey was sent out to NTSA members and attendees of the Interservice/Industry Training Simulation and Education Conference (IITSEC). The intent of the survey was to establish a baseline of where the MS&T industry currently stands relative to the application of AI in this business sector. This panel provided the out-brief to the group regarding the results of this survey. The discussion among the panelists focused on the current applications of AI and the needs for AI going forward. The following examples and needs were highlighted during the discussion.

1. Current Generative AI Usage:
   - Emphasized the prevalence and applications of generative AI in modeling and simulation.
   - Addressed potential issues like hallucinations and biases, emphasizing assurance and testing.
2. Survey Findings:
   - The majority of respondents to the survey relative to generative AI usage stressed potential biases and highlighted the need for organizational policies.
3. Government Perspective:
   - Experts discussed innovative policy-making approach-es, government regulations, and AI's impact on national security.
4. Industry-Government Collaboration:
   - Emphasized the importance of industry-government collaboration for faster adoption of AI technologies.
   - Highlighted challenges like cybersecurity and acquisition processes.
5. Workforce Management and Frameworks:
   - Stressed the importance of diverse perspectives, expe-riential learning, and risk management frameworks in AI policy-making.
6. National Policies on AI:
   - Discussed international AI policies, data aggregation challenges, and implications for policy-making.
7. Mitigating Risks and Challenges:
   - Focused on data security, risk management, and solutions like data tagging to mitigate risks.
8. Forward-Looking Recommendations:
   - Recommendations stressed the critical need for respon-sible AI use, collaboration among stakeholders, and policy formulation that guides its use and manages the ethical issues that can arise.
9. Not all AI is the Same:
   - Any policy that is designed to affect AI should ensure that it doesn't have unintended consequences outside the "type of AI" being targeted.

Small Group Discussion Results

The plenary then broke into small group sessions to address the following three questions:

1. What are the key policy issues that drive the support for AI in M&S?
2. What best practices in AI can support legislative guidance?
3. Define objective(s) of proposed legislation that can regulate without losing innovation.

The small working group sessions addressed these questions, and then returned to the plenary session to share their results. The summary of the small group discussions follows.

Question 1 – Key policy issues that drive support for AI in M&S:

Several key policy issues were discussed that drive support for AI. These issues included the following:

1. The need for shared environments and common assets for testing and development.
2. The importance of policy and regulatory perspectives to facilitate shared resources.
3. The challenge of keeping up with rapidly evolving technology such as AI.
4. The significance of access to data in building accurate models.
5. The role of policy, legislation, and guidance from government bodies in supporting AI development.
6. The emphasis on breaking down barriers and promoting collaboration in implementing AI initiatives.
7. The necessity of addressing risk aversion and unfamiliarity with AI technologies in government processes.
8. The potential for partnerships and missions to enable progress in AI applications at different agency levels.

Overall, the conversation highlights the complexities and considerations surrounding the integration of AI into government operations, emphasizing the need for coordination, policy development, and support mechanisms to drive effective adoption and utilization of advanced technologies.

Question 2 – Best Practices in AI to Support Legislative Guidance:

The discussion on best practices revolved around Government programs, as well as those technical areas including healthcare and others. Key points included: the challenges of obtaining funding for AI tools, the importance of inclusive language in existing programs to facilitate AI adoption, and the potential role of Congress in breaking down barriers to AI adoption. The conversation also addressed the need for identifying tangible problems that AI can solve, proposing grand challenge problems for funding, and the role of various agencies in driving innovation through AI. The groups also discussed finding ways to use AI to improve M&S processes were discussed. For example, AI can provide enhancements to training. Likewise, AI can help to intelligently pick points in a given simulation to test.

Additional topics covered in the discussion included the potential benefits of AI for soldiers and sailors, challenges in applying AI solutions in existing programs, the importance of promoting competition and problem-solving initiatives, and the evolving nature of AI technologies and regulatory frameworks. The conversation touched on the involvement of different DoD agencies, such as AFRL, ARL, and DARPA, in funding AI projects, and the use of mechanisms like broad agency announcements and Small Business Innovation Research (SBIR) programs for driving innovation; and the importance of staying adaptable to technological advancements.

Moreover, the discussion emphasized the role of Congress in appropriating funds for AI initiatives, the need for collaborative efforts between industry and government agencies, and the significance of designing legislative proposals to break down barriers rather than reinforce them. The conversation also highlighted the evolving landscape of technology choices and the importance of being flexible in adapting to new technological advancements.

The small groups also discussed various aspects of utilizing AI in different contexts. Participants talked about recording discussions with AI tools like Sound Recorder, Otter AI, and Gemini, stressing the importance of note-taking and analysis. The conversation transitioned to AskSage's usage in government agencies like the Army, Navy, and Air Force, highlighting its accreditation and limitations. The Services have a focus on educating individuals about appropriate AI usage to prevent issues like misinformation and legal concerns, targeting audiences from children to professionals. Regulations, standards, and policies for AI usage were discussed in the context of best practice, with an emphasis on data tagging, verification, validation, and intellectual property rights. Importance should be placed on creating secure environments for AI development, especially in government settings. The need for transparency, accountability, and adherence to standards when integrating AI into sectors like healthcare, industry, and defense is emphasized. Model programs for AI systems were discussed, drawing inspiration from healthcare and logistics management practices. Metrics, biases, training data, and user expectations play a crucial role in AI development and benchmarked programs. Ensuring compliance with regulations, standardizing processes, and implementing safeguards to prevent misuse or security breaches in AI applications are key points. The significance of working with databases, training AI models, data governance, and policies within the US government is highlighted. Understanding relevant databases, data sets for model training, chain of custody for data, and differences between pre-training and fine-tuning models were discussed. The conversation also touched upon potential biases in pre-trained models and transparency in data sources. Participants delved into intellectual property considerations, chain of custody for AI system data submitted to the US government, and the need for clear legislation objectives balancing regulation and innovation.

Question 3 – Define Objectives of Proposed Legislation:

Legislation and funding can support the controllable expansion of AI, machine learning, model training, data standards, regulations, and innovation. The following points include some areas in which federal legislation and policy can support the furtherance of AI. Other recommendations discussed in the small groups can be supported and implemented by the industry or groups outside of the federal government. Together the issues, guard rails, and encouragement for innovation can further its application in appropriate and meaningful ways. The following points were discussed in the small group discussions:

1. Maintaining Accuracy in Models: It is important to regenerate models regularly to avoid accuracy decline due to drift caused by unused data.

2. AI Usage Examples: Anecdotes about using AI like GPTs for various purposes, such as generating papers and identifying recipes from images.

3. Regulating AI: Discussion on the need for legislation to regulate AI while also promoting innovation, including considerations on reverse regulation within legal frameworks. The groups discussed the need for cyber boundaries and classification boundaries.

4. AI Standards: Addresses the importance of standards in AI, like IEEE standards, for data interchange and transferability to ensure compatibility and portability across systems.

5. Data Accessibility: Language that addresses the challenge of data accessibility and transferability. Through legislation we can create central data repositories and common data sets to enhance project efficiency.

6. AI Integration: Policy that combines different AI models to create new synergistic systems; identify the challenges and potential benefits of such integration.

7. Assurance in AI: Identify ways to establish assurance in operational AI systems, including assessing system performance, range of expected outputs, and impacts of deviations in AI behavior. The groups also discussed ways to trace where the data is coming from, and ways to ensure that data is legitimate, accurate, and controlled.

8. Ethics and Expectations in AI: Policies to compare AI behavior to that of humans, discussing the need for accountability and understanding AI's range of behaviors to ensure ethical and reliable outcomes.

9. Interoperability in AI: Policy to address challenges in interoperability and the need for standardization to ensure seamless integration and operation of AI systems across different platforms. With the lock down of systems, interoperability is difficult.

10. Documentation and Reporting: Opportunities to exchange information regarding documenting AI workflows, training, and reporting outcomes for review and sharing among stakeholders.

11. Future Collaborations: Plans to compile reports from discussions and sessions for further collaborations and knowledge sharing among participants. The overall discussion covers a wide range of aspects related to AI, regulations, standards,
and engaging diverse stakeholders for collaborative efforts in the field.

12. Support for AI Policies: Participants addressed the importance of policy support for AI, including legislative guidance and proposed legislation objectives.

13. Regulation and Definition of AI: The conversation delved into defining and regulating AI, emphasizing the need for principles-based regulations for a balance between innovation and control in AI development.

14. Ethical Implications: The ethical implications of AI algorithms and the need for ethical standards, safety requirements, and guidelines governing AI applications were highlighted, especially in critical systems like autonomous vehicles and weapons.

15. Misuse of AI: Participants discussed the potential misuse of AI, emphasizing concerns about its impact on society, ethical boundaries, and highlighting examples that need careful regulation to prevent harm.

16. Legislation and Oversight: The discussion explored the challenges of regulating AI models, the need for accountability and licensure, and the complexities of oversight and surveillance in AI development.

17. Industry Involvement: The importance of industry involvement in establishing regulations, setting ethical standards for AI applications, and creating public-private partnerships to guide responsible AI development were underscored.

18. Data Protection and Interconnected Sectors: The importance of data protection in healthcare, interconnection between sectors like transportation and energy, the need for a framework to address various sectors efficiently, and collaboration among controlling bodies were emphasized.

19. Standardized Framework: A call for a standardized framework led by the federal government to streamline processes, prevent duplication of efforts, and ensure consistency across sectors was discussed.

20. Education of Populace: Identify best practices for support of AI and help to educate others: Speeds up repetitive human tasks, reduces human cognitive load, reduces reliance on scarce highly skilled individuals.

21. Testing: Use M&S environments to test the viability, accuracy and limitations of AI-enabled systems.

22. AI Sandbox: Create some sort of AI "sandbox" that is a collaborative and collective across agencies and in partnership with industry.

Practical considerations like building standards for AI tools, common APIs for interoperability, and the role of open-source projects in collaboration and tool integration were addressed. Funding allocation for AI projects, portfolio approaches to program development, and effectively transitioning AI research into operational programs was also discussed. Challenges of scalability, data training, and integration within existing systems were explored, stressing strategic planning, clear transition pathways, and collaboration between research and implementation efforts.

Summary and Next Steps

The day's discussion forum covered various topics related to AI, policy frameworks, legislative guidance, and practical applications such as incentivization, ethical considerations, standards enforcement, and storytelling. Several next steps were discussed at the close of the meeting. Some of these next steps will be on the industry to further, in collaboration with the M&S Congressional Caucus. These next steps include:

1. Working Group Formation: NTSA will establish a working group to delve deeper into AI topics to address complexities and facilitate legislation enactment. This group will work collaboratively with Members of the Caucus to enact appropriate legislation to encourage innovation, create guard rails when needed, and offer opportunities for new programs, government/industry collaboration, and the furtherance of research.

2. Legislative Guidance for AI Integration: Discussed the importance of including AI language in existing programs. The NTSA working group can establish a process to tackle AI issues, and showcase examples (e.g. DARPA's alpha dogfight).

3. Ensuring High Accuracy in AI Models: Emphasized the need for maintaining accuracy in AI models through regular regeneration, standards enforcement, and finding a balance between innovation and regulation. The working group will discuss areas in which legislative action and/or policy can support this initiative.

4. Incentivizing Ethical Behavior: Explored the challenges of incentivizing ethical behavior in AI applications, enforcing standards at the industry level, and the importance of public-private partnerships in establishing guidelines. Additional meetings surrounding this topic can support identifying these challenges and recommending ways to incentivize and support the challenges.

5. Encouraging Storytelling: Advocated for telling success stories to educate senior leaders, legislators, and the public about AI applications, emphasizing the need for a federal framework adaptable for specific industries. This can be accomplished with targeted meetings and events on the Hill and with Government leaders to support the ethical innovation. Additionally, the M&S Congressional Expo can also support this objective moving forward and will focus in July 2025 on AI applications.

The conversation covered diverse aspects of AI, ranging from practical implementations and legislative considerations to ethical concerns and community engagement. Participants sought to address challenges and opportunities in the AI field, aiming to create effective policies, facilitate innovation, and ensure responsibility in AI development and usage. The discussion concluded with gratitude, emphasizing the importance of the proposed strategies and the need to create intelligent narratives to support legislative processes and address ethical dilemmas in AI advancements. Overall, the conversations shed light on the complexity of regulating AI, the necessity of ethical considerations, industry participation, public-private partnerships, and the interconnectedness of sectors in adopting AI solutions responsibly while ensuring data protection and standardized frameworks