



INCOSE



*Members*  
**NEWSLETTER**

Q2 / JUNE 2025

The International Council on Systems Engineering

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## A MESSAGE FROM THE INCOSE PRESIDENT

The second quarter of this year has been marked by numerous significant events across our global organization. In this newsletter, you'll



find insightful reports from our chapters, working groups, and initiatives. These reports provide an impressive overview, though naturally, they represent only a portion of our extensive activities. A particular highlight was our 10th Annual Systems Engineering in Healthcare Conference, celebrating a decade of impactful contributions to the healthcare industry through systems engineering.

We have recently published our [Annual Report for 2024](#), available publicly on our website. I strongly encourage you to review this comprehensive summary, as it serves as an invaluable resource for both members and external stakeholders to better understand

INCOSE's mission, activities, and achievements.

Additionally, I'd like to highlight the May 2025 issue of INSIGHT, our dedicated magazine for systems engineering practitioners. This special edition addresses "The State of the Systems Engineering Discipline: A Longitudinal Analysis of INCOSE International Symposium Contributions (2012–2025)." The insights presented align directly with our INCOSE Strategic Plan and the Future of Systems Engineering (FuSE) initiative, helping us realize the Systems Engineering Vision 2035.

Further noteworthy achievements include the publication of the Systems Engineering Competency Framework - 2nd Edition, ongoing successes of our Technical Leadership Institute (TLI), and the continued growth of our SE Lab, which actively supports working groups in developing models integral to their projects.

Our Board of Directors remains deeply committed to implementing our strategic plan and advancing our organizational evolution. To enhance this process, we conducted our second-quarter board meeting in person, fostering more intensive and productive discussions. We eagerly anticipate your valuable feedback through the upcoming All-Member Survey.

Lastly, I warmly encourage you to begin preparations for our milestone 35th Annual International Symposium, taking place this July in Ottawa. Additionally, our Western States Regional Conference (WSRC) will convene in Seattle in September, followed by the Asia-Oceania Systems Engineering Conference (AOSEC) in Singapore at the end of October.

Thank you all for your active participation and continued dedication to our vibrant community. Your contributions truly set INCOSE apart, making our organization uniquely successful and impactful.

Ralf Hartmann  
INCOSE President



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## A MESSAGE FROM THE EXECUTIVE DIRECTOR

INCOSE is a magnificent organization. With over 28,000 members and associates across 70 countries, the wealth of knowledge and diversity of people and experience in INCOSE is amazing. Our size and reach are growing strengths for INCOSE. Our membership grew 15% in 2024, and we are retaining our members better than organizations similar to INCOSE.



We are always striving to both lead the systems engineering community and, more importantly, provide you with more member value. We believe both go hand in hand. We are actively pursuing new collaborations and partnerships to help you advance your skills, competencies, and career. We recently signed an agreement with OMG that provides every INCOSE member a discount on OMG certification testing. This is a direct value-added benefit for INCOSE members, especially those pursuing SysML certification. We also have an agreement with NAFEMS (Modeling and Simulation Community) where you can take any of the NAFEMS-based training at a deep discount because you are an INCOSE member.

Offering discounts on associated items is one way to add value to your

membership. However, you have told us in the past that much of the value of your INCOSE membership is driven by our internal operations. Every member has access to the SE Handbook and SEBoK, along with numerous INCOSE publications. Thousands of you participate in some form in our working groups, both to add perspective to the products we create and to garner insights for yourself through those discussions. Thousands of you have attended an INCOSE event. We have the International Symposium (coming to Ottawa, Canada, in July) and the International Workshop each year, but we recognize that many members, for various reasons, may never be able to attend those events. We are developing a more comprehensive schedule of events to better serve the geographic needs of our members and offer specialized discussions on specific topics and industries. The INCOSE SEP Certification remains one of the primary draws for INCOSE membership, and we recognize that we can do more to support our members' future training needs through partnerships, organic training, and micro-credential programs. We have a lot to offer, and more is coming soon.

To that end, we have recently asked you to complete a member survey, and you still have a couple of weeks to do so if you have not already. Your input and feedback are important to us as we explore new events, services, products, publications, and collaborations that will

add value to our global community. All of our data suggest we are doing pretty well, but we are always looking for areas for continuous improvement. Please do take a few minutes and help provide guidance on the next steps INCOSE will take to support you and our members.

Steve Records

INCOSE Executive Director

***“We are always striving to both lead the systems engineering community and, more importantly, provide you with more member value. We believe both go hand in hand”.***

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## EDITOR-IN-CHIEF'S LETTER

Dear INCOSE Members,

It is with immense pleasure that I introduce the latest issue of your INCOSE Members Newsletter! As I compiled and reviewed the submissions for this edition, a truly inspiring sentiment washed over me: the sheer vibrancy and incredible diversity of our global systems engineering community. This newsletter is a testament to the dynamic spirit thriving within INCOSE, showcasing the remarkable efforts and achievements across all corners of our organization.



few months to remind yourself why you joined this community. It's a fantastic way to stay connected, discover new opportunities, and celebrate the collective strength of our INCOSE family.

Sincerely,

Kelly Henseler

INCOSE Marketing Manager

And let me tell you, this issue is packed! To give you a small taste of what awaits, you'll find everything from multiple Calls for Submissions – offering exciting opportunities to present your knowledge and contribute to upcoming INCOSE events – to the rebirth story of a previously dormant chapter, a true testament to the dedication of our members. Plus, don't miss out on details about exclusive member discounts with other organizations, a tangible benefit of your INCOSE membership.

If you read about something that intrigues you, I highly recommend you click the article links to get involved. Remember that each of these submissions came from authors who were once brand-new members of INCOSE. They got curious, got involved, and now are leaders in the industry!

I encourage you to bookmark the issue to return to and peruse over the next



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## YOUR VOICE MATTERS: THE INCOSE ALL-MEMBER SURVEY IS HERE!

Get ready to share your valuable insights! INCOSE recently launched an important all-member survey in June, and we want to ensure your voice is heard.

This survey, organized by our partner Mercer, will provide us with critical feedback on a range of topics relevant to our membership experience. Your honest and thoughtful responses will help INCOSE understand what we're doing well, identify areas for improvement, and ultimately better serve your needs and the systems engineering community.

Check your inbox for a message from

Mercer containing a unique link to the survey. The survey is completely confidential, and your individual responses will be aggregated to provide a comprehensive picture of our membership. This is your opportunity to directly influence the future direction of INCOSE and help us enhance the benefits and value we provide.

We strongly encourage all members to participate. Your feedback is essential to making INCOSE the best it can be. Look out for that email from Mercer – we appreciate you taking the time to share your thoughts!



## INCOSE FOUNDATION UPDATES

### New Board Member Welcome

The INCOSE Foundation is honored to welcome four exceptional individuals to the INCOSE Foundation Board!

Please join us in extending a warm welcome to:

**Michael Vinarcik, P.E., FESD**, Treasurer. Michael is an INCOSE ESEP, Director of Digital Architecture and Rqmts Eng. at SAIC, and an Adjunct Professor at the University of Detroit Mercy.

**Steve Biemer**, PhD, Director. Steve is an INCOSE CSEP, a Systems Engineer at Johns Hopkins University APL, and the Past President of the Chesapeake Chapter.

**Cihan Dagli**, Director. Professor Dagli is an esteemed INCOSE Fellow and the Founder/Director of the Systems Engineering Graduate Program at Missouri Univ. of S&T.

**Heidi Hahn**, PhD, Director. Heidi is an INCOSE ESEP, a consultant, teacher, and writer, and an Adjunct Faculty member at the New Mexico Institute, with a distinguished career at Los Alamos National Labs (ret.).

We are excited to have their expertise and passion on board as they work hard to give back to underserved communities. Welcome to the team!

### Call to Action

The Foundation needs board members

and local chapters to work with schools and universities! Here's how you can make an impact:

#### 1. Fund Local STEM Outreach

Donate scholarships/grants to local schools and community centers for middle/high school STEM programs. Help empower under-resourced youth to become the engineering leaders of tomorrow.

*Why It Matters:* Removing financial barriers opens the door to a more diverse and inclusive pipeline of future systems engineers.

#### 2. Partner with Universities to Expand SE Education

Collaborate with international universities to support undergraduate programs in systems engineering.

*Why It Matters:* SE education equips future engineers with the holistic, multidisciplinary thinking needed to solve today's complex global challenges.

#### 3. Sponsor Engineering Competitions & Challenges

Support/organize student competitions that solve real-world problems through engineering principles.

*Why It Matters:* Competitions foster innovation, hands-on experience, and engagement.

Ready to get involved? Contact [foundation@incose.net](mailto:foundation@incose.net)

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The INCOSE Foundation Board of Directors -- April 2025

<p><b>Managing Director</b></p> 	<p><b>Dorothy Benveniste</b> Project Engineering Mgr., 7-Series, Boeing Commercial Airplanes, ret; Exec Director, STEM Careers Foundation.</p>	<p><b>Secretary</b></p> 	<p><b>Larry Strawser</b> Adjunct Professor and ABET Coordinator, Johns Hopkins University, Whiting School of Engineering.</p>
<p><b>Treasurer</b></p> 	<p><b>Michael Vinarcik</b> INCOSE ESEP; Director, Digital Architecture and Rqmts Eng., SAIC; Adjunct Prof., Univ. of Detroit Mercy.</p>	<p><b>Directors:</b></p> 	<p><b>Steve Biemer, PhD</b> INCOSE CSEP; Systems Engineer, Johns Hopkins University APL; Chesapeake Chapter Past Pres.</p>
	<p><b>Stephen Cook, PhD</b> INCOSE Fellow; Director, Shoal Group Pty Ltd; Professor of Defence Systems, Univ. of Adelaide.</p>		<p><b>Prof. Cihan Dagli</b> INCOSE Fellow; Founder/Director, Systems Engineering Graduate Program, Missouri Univ. of S&amp;T.</p>
	<p><b>Regina Griego PhD</b> INCOSE Fellow,; Author, Speaker, Coach, Independent Consultant; Sandia Labs, ret.</p>		<p><b>Heidi Hahn, PhD</b> INCOSE ESEP; Consultant, teacher, writer; Adjunct Fac., New Mexico Institute; Los Alamos National Labs, ret.</p>
	<p><b>Suja Joseph-Malherbe</b> INCOSE CSEP; SA Chapter Past president; Letter 27; solo consultant.</p>		<p><b>Robert Stow</b> BAE Systems, Inc., Chief Technology Officer &amp; Sr. VP Engineering, ret.</p>
	<p><b>John Wade, PhD</b> INCOSE Fellow; Jacobs School of Eng, Univ. of Calif. San Diego; Director Convergent Systems</p>		<p><b>Marilee Wheaton</b> Sys. Eng. Fellow, Aerospace Corp; Fellow @ INCOSE, AIAA, SWE; Past INCOSE President.</p>



# Need to Scale Active Learning in the Enterprise?

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Empower your team with the essential digital engineering and machine learning skills to excel in today's competitive landscape. With a strong foundation in SE/MBSE taught by industry-leading experts, your team will be well-equipped to elevate performance and enable data-driven organizational transformation. Custom client programs and public courses available. Explore your options today.

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# CALL FOR SUBMISSIONS FOR INCOSE'S AOSEC 2025

Mark your calendars! INCOSE's Asia-Oceania Systems Engineering Conference (AOSEC) is returning to Singapore from 27 – 29 October 2025, and you're invited to be a part of it. This well-established international conference is the premier forum for academics, researchers, and industry professionals in the Asia-Oceania region to connect, exchange groundbreaking ideas, and share the latest research and practical experiences in the dynamic field of systems engineering.

AOSEC 2025 is calling for your innovative contributions! The organizing committee is eager to receive proposals for papers, engaging presentations, insightful panel discussions, and skill-enhancing tutorials that spotlight the cutting-edge advancements, critical challenges, and exciting opportunities that lie ahead in systems engineering.

We're building a vibrant and diverse program by bringing together experts from academia, industry, and government. Your unique perspectives and real-world experiences are invaluable in shaping the future of our field. We are particularly interested in showcasing new and novel applications of systems engineering and exploring the latest developments and transformative approaches that are redefining how we think about and implement systems.

## A Wide Range of Topics Awaits

AOSEC 2025 will reflect a

comprehensive range of timely and relevant topics, including:

- Aerospace
- Agile SE
- Artificial Intelligence for SE (AI4SE)
- Automotive
- Defence
- Digital Engineering
- Environmental Sustainability
- Industrial Symbiosis
- Marine & Offshore
- Model-based SE (MBSE)
- Medical
- Natural Systems
- Nuclear & Renewable Energy
- Rising Sea Level
- Smart Cities & Sustainability
- SE for Brownfield Development
- Space
- Systems Security
- Systems of Systems Engineering (SoS)
- Transportation

## Share Your Expertise Through Various Avenues

- **Contribute a Full Paper:** Detail your research or application breakthroughs and advance the state-of-the-art in systems engineering. We encourage submissions grounded in empirical investigations and insightful case studies. Papers should be no more than 12 pages.
- **Deliver a Presentation:** Share your practical work, novel approaches, or interesting problem-solving experiences without the need for a formal paper. These 40-minute sessions (30 minutes presentation, 10 minutes Q&A) are a fantastic way to connect with practitioners. Submit

a detailed abstract (max 500 words) outlining your topic, relevant industries, key takeaways for the audience, and your qualifications.

- **Lead a Tutorial:** Enhance the skills and knowledge of your peers by leading a Professional Development Tutorial, introducing emerging Advanced Technologies, or guiding participants in Best Practices Implementation. If your tutorial is accepted, you'll receive a discounted registration rate!

## Important Dates to Remember

- Submissions Due: August 15th, 2025
- Notification of Acceptance (and paper comments returned): September 25th, 2025
- Final paper/presentation/tutorial manuscript due: October 15th, 2025

## Ready to Submit?

Submit your abstracts through the

EasyChair platform at: <https://easychair.org/my/conference?conf=aosec25>

## Have Questions?

View the official Call for Submissions on the [AOSEC 2025 Website](#).

For any inquiries or further information, please don't hesitate to contact the Technical Program Committee Chair, Yew Seng, at [yewseng.yip@incose.net](mailto:yewseng.yip@incose.net).

Don't miss this opportunity to contribute to and engage with the leading minds in systems engineering in the Asia-Oceania region.

We look forward to welcoming you to Singapore in October 2025!



**AOSEC2025**

**CALL FOR SUBMISSIONS**

The AOSEC organizing committee invites you to submit proposals for papers, presentations, and tutorials that focus on the latest advancements, challenges, and opportunities in systems engineering.

The conference will be held in **Singapore** from **27 to 29 October 2025**.

**Submissions due: 15 August 2025**



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# JCOSE UPDATES

By Midori Daida

## JCOSE Systems Conference 2025 (JS 2025)

The JCOSE Systems Conference 2025 (JS 2025), held on March 5, 2025, in Yokohama, Japan, provided a platform for professionals across industries—including automotive and aerospace—to exchange insights on the evolving landscape of systems engineering.

The conference opened with a keynote address by Dr. Quoc Do, INCOSE Asia-Oceania Sector Director. In his presentation titled “Navigating Complexity: A Systems Engineering Governance Framework (SEGA),” Dr. Do introduced SEGA, a framework that enables the execution of Model-Based Systems Engineering (MBSE) and addresses intricate sociotechnical issues in infrastructure projects across organizational and national boundaries.

Following the keynote, attendees engaged in technical sessions covering practical applications of systems engineering. Highlights included Yuta Nakajima on integrating the OpenCAESAR methodology for efficient conceptual design, Tommy Heyser on securing MBSE data across teams, and Seiji Honda on his initiatives to advance the adoption of SE and MBSE. The day wrapped up with a panel discussion by the JCOSE Automotive Working Group, addressing real-world challenges in automotive SE.

The event ended with a networking reception, fostering new connections and collaborations.



## JCOSE Automotive Working Group Meeting

The JCOSE Automotive Working Group, established in July 2024, held a working meeting in Nagoya on March 11, 2025, to share updates and collaborate on future activities. The WG is currently organized into four subgroups: Competency for Automotive SE, Good Practices in Automotive SE, ISO Harmony in Automotive SE, and Value of Automotive SE.

Each subgroup presented their findings and outlined upcoming initiatives, reinforcing the group's collective commitment to enhancing systems engineering practices within the automotive sector. The meeting also served as a valuable opportunity for members to gather in person and exchange insights, strengthening collaboration across roles and organizations.

## 4th JCOSE Online Seminar

The 4th JCOSE Online Seminar took place on May 10, 2025, and featured two expert-led sessions that presented two newly published books.

### Session 1: Fundamentals of Model-Based Systems Engineering for Practical Application

The first session featured three concise talks: Professor Hidekazu Nishimura introduced key MBSE principles, Fumiaki Kono emphasized the significance of configuration management, and Yuki Kamatani discussed real-world model application examples.

### Session 2: Model-Based Product Line Engineering (MBPLE): The Feature-Based Path to Product Lines Success

In this second session, Marco Forlingieri and Tim Weilkiens, two of the co-authors of the book on MBPLE, highlighted the need for feature-driven approaches to product line development. Their presentation sparked lively discussion, with numerous questions from participants.

Through conferences, working groups, and online seminars, JCOSE continues to promote the advancement of systems engineering practices in Japan. These events reflect growing collaboration and knowledge-sharing across disciplines, paving the way for a more robust SE community.

# JOIN A LOCAL CHAPTER

Local chapters play an essential role in the achievement of INCOSE's goals and objectives!

[incose.org/chapters](https://www.incose.org/chapters)

# INCOSE NEW ENGLAND UPDATE: CAS 2025 CONFERENCE HIGHLIGHTS

By William Luk

The **2025 MIT Systems Adaptability Conference**, officially known as the **Complex Adaptive Systems (CAS) 2025 Conference**, was held from **March 5–7, 2025**, at **MIT in Cambridge, MA**. Hosted by **MIT System Design and Management (SDM)**, the event was supported by the **New England chapter of INCOSE** and the **IEEE Smart Cities community**. Over 150 participants with significant international participation attended.

## Key Highlights

- **Theme:** *Transdisciplinary Systems & Solutions for Adaptability.*
- **Keynote Speakers:** Included **Professor John D. Sterman**, **Professor Ali Jadbabaie**, **Professor Siqi Zheng**, and **Dr. Michael Watson**.
- **Topics Covered:** Adaptability in complex systems, AI for systems engineering, resilient systems, and emerging technologies.
- **Workshops & Panels:** Focused on **engineering adaptability, autonomy, resilience, and AI-driven solutions.**
- **Domain Applications:** Explored adaptability across **healthcare, aerospace, urban planning, agriculture, energy, and telecommunications.**

The conference aimed to **expand research boundaries** and foster **collaboration among**

**practitioners and researchers worldwide.**



MIT Museum where INCOSE sponsored the reception



Conference Gala Dinner at MIT

The keynote speeches at the **2025 MIT Systems Adaptability Conference** covered a range of critical topics related to **complex adaptive systems** and **engineering resilience**. Here are some of the main discussions:

- **Climate Change & System Dynamics – Professor John D. Sterman** presented on the **EnROADS Climate Solutions Simulator**, demonstrating how human activities impact global temperatures and how behavioral

and policy changes can mitigate greenhouse gas emissions.

- **AI & Human Factors in Systems Engineering – Steven Smith**, Director of Flight Systems at **Blue Origin**, discussed **aircraft safety systems**, emphasizing how human



Mike Watson, INCOSE President-Elect, gives plenary address

factors often contribute to system failures despite well-designed technical solutions.

- **Future of Systems Engineering –** A panel moderated by **Professor Olivier de Weck** explored **INCOSE’s 2014 Vision 2025**, reflecting on the unpredictability of the future and how systems engineering must adapt to uncertainty.

INCOSE distinguished speakers were:

- **Michael Watson**, President-Elect INCOSE spoke on **Adaptability: A Characteristic of Complex Systems or a Confounding factor of Complexity?**
- **Amro Farid**, President-Elect INCOSE New England Chapter, also representing IEEE Smart Cities), was a plenary speaker, on the topic **“Adapting Convergent Systems-of-Systems with Hetero-functional Graph Theory.**
- The **INCOSE Complex Systems Working Group** led a forum on **Complex and adaptive systems.**



INCOSE Complex Systems Working Group leads a forum on Complex and adaptive systems

On Wednesday, March 5, the New England Chapter of INCOSE hosted a reception at the MIT Museum. After some delicious hors d'oeuvres and socializing, **Mark Vriesenga**, BAE Systems Global Tech Fellow spoke on **“An Architectural Perspective on Securing AIML-Enabled Systems “**

The Co-chairs of the conference were



Amro Farid, INCOSE New England Chapter President Elect leads a plenary session

**Bryan R. Moser**, Massachusetts Institute of Technology and **Haifeng Zhu**, BAE SYSTEMS and INCOSE Systems Adaptability Working Group.

The conference fostered **engaging discussions** on **adaptability, autonomy, resilience, and AI-driven solutions.**

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# AGENTIC AI IN SYSTEMS ENGINEERING: ARCHITECTING THE FUTURE WITH INCOSE NORTH TX

By Carla Sayan, Ph.D., CSEP

At the North Texas Chapter our members are helping guide the SE change as we recognize that engineering is undergoing a profound transformation, particularly within INCOSE, where systems engineers gather to advance the future of the discipline. While foundational principles—stakeholder alignment, traceability, and lifecycle thinking—remain central, a new force is redefining engineering workflows: agentic artificial intelligence (AI). In 2025, we are witnessing the emergence of what is being recognized as the “year of the agent”. An agent is a system that integrates a large language model (LLM), a knowledge base, and a suite of tools to deliver intelligent, context-aware outputs. These agents actively manage the selection and execution of tools to deliver intelligent, context-aware outputs. AI is now a real-time collaborator, particularly within the demanding domain of requirements engineering, where precision must coexist with constant change.

Consider a Chief Engineer, leading a team on a complex defense system. One year after the Preliminary Design Review (PDR), the team is contending with evolving stakeholder needs, new compliance directives, and a surge in System Change Requests (SCRs). Traditional methods—manual updates in Requirements Managements Tools and static traceability matrices—are no

longer sufficient. To address this, the Chief engineer integrates a Requirements Agent powered by Retrieval-Augmented Generation (RAG). In this AI-augmented workflow, the day begins with a system capable of ingesting structured design documents, CAD exports, and unstructured meeting notes. The Requirements Agent operates in two phases. First, a semantic retriever contextualizes the engineering problem by querying a curated knowledge base—drawing from historical requirements, SCRs, and regulatory documents. Then, a large language model, fine-tuned on authoritative sources like ISO/IEC/IEEE 29148:2018 and the INCOSE SE Handbook, generates candidate requirements aligned with both compliance and design intent. Unlike conventional NLP systems, RAG retrieves externally verified content before generating any output, ensuring requirements are evidence-based traceable verifiable, and defensible.

For example, envision a propulsion system redesign. The Requirements Agent pulls performance data from similar systems and drafts updated requirements. If discrepancies from established standards are detected, the agent notifies engineers—enabling early risk identification. Midway through the day, a change request modifies thermal subsystem parameters. Instantly, the



Requirements Agent launches an impact analysis, tracing dependencies, highlighting inconsistencies, and recommending updated linkages. Rather than requiring manual edits, the agent is envisioned to synchronize with the MBSE environment via APIs, updating SysML diagrams and verification plans —though this capability is not yet standard practice. It points to the direction future workflows are headed.

The autonomy of the Requirements Agent is contingent on the use case and user preferences. While capable of semi-autonomous operation—synthesizing data, ensuring traceability, and supporting decision-making—human oversight is necessary in mission-critical contexts. Engineers validate AI reasoning, ensure compliance, and maintain mission alignment. This is not full automation but targeted augmentation.

The INCOSE North Texas Chapter is actively engaging the community for feedback and inviting expert speakers to contribute to this ongoing dialogue. To

support your education in AI and ML we've identified the following key resources:

- Book: AI-assisted Model-Based Systems Engineering (MBSE) with SysML by Brian Moberley, Doug Rosenberg, and Tim Weilkens.
- Course: Applications of Generative AI with LLM in Aviation and Aerospace by Barclay Brown.
- Course: Generative AI Online Course MIT (MIT Professional Education)
- Course: IBM Generative AI Engineering Professional Certificate (Coursera)
- Course: Applied Generative AI Certificate Program (Johns Hopkins University)
- Speaker sessions featuring INCOSE members currently enrolled in Generative AI programs.

Join us in shaping the future of AI-assisted systems engineering by exploring these resources and contributing to this transformative conversation.

## Why Join the Corporate Advisory Board?

*Access Exclusive Resources: Your employees can gain access to INCOSE's state-of-the-art products and services.*

[incose.org/cab](https://www.incose.org/cab)

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# INCOSE-LOS ANGELES SOARS TO NEW HEIGHTS WITH WILDFIRE MONITORING UAV EVENT

The INCOSE Los Angeles Chapter held a recent event focused on "Monitoring Wildfires using Collaborative Unmanned Aerial Vehicles." The event was held at the prestigious Aerospace Corporation and featured speaker, Dr. Gustavo Vejarano from Loyola Marymount University (LMU). It explored the challenges and innovative solutions for utilizing networks of small drones for continuous and fault-tolerant wildfire monitoring.

While individual drones have proven useful for ground activity surveillance, their limited flight times and susceptibility to failure pose significant constraints. The concept explored offers a compelling alternative: a collaborative network of smaller, easily deployable drones that can share information and maintain uninterrupted operation. This approach cleverly addresses the limitations of single, robust drones, drawing inspiration from complex routing problems like the Multiple Traveling

Salesman Problem and the Vehicle Routing Problem with Time Windows, while innovating to incorporate periodic monitoring and fault tolerance.

Carolyn Smigelski, the Programs Director, was enthusiastic about the event's outcome. "We had close to 30 people in person, which is the most we've had in 2025," she shared. "Participants seemed very interested in the speaker topic and asked a variety of engaging questions. Many participants came from the university where our speaker is a professor."

The choice of wildfire monitoring as the demonstration application resonated deeply with the local membership. "The topic of wildfire monitoring was especially relevant and interesting to our LA members, many of whom were impacted by the Palisades and Alta Dena fires a few months ago," Smigelski explained. She further noted the strong technical background of their members



and their interest in educational initiatives, making this research project from the LMU College of Engineering a perfect fit.

While a direct collaboration with the US Forest Service is not yet underway, Smigelski outlined the future trajectory of the project: "For now, the next steps are to provide an opportunity for LMU students to participate and gain experience in the project's research & development. As the project matures, LMU will likely begin exploring collaborations with business partners, state, and federal organizations in an effort to maximize this project's potential as a critical tool in our nation's fire sensing and prevention capabilities."

Smigelski also offered valuable advice for other INCOSE chapters looking to organize similar community events: "Be mindful of the role INCOSE plays in your local area. Engage not only with the professional community and employers, but also with schools and nearby universities. Tailoring INCOSE chapter programs to include some form of student outreach is a key area where INCOSE can make a positive impact and help increase membership." She highlighted the mutual benefits of engaging with local academic institutions, noting, "It helps the

students, the schools, and INCOSE; everyone benefits from this collaboration."

Adding another layer of value to the event, the chapter invited the INCOSE Critical Infrastructure Protection and Recovery (CIPR) Working Group to provide an overview of their activities. Smigelski noted, "The Working Group Chair, Antonio Adebonojo shared with us a special research project led by Susan Ronning on the topic of Wildfires. This tied in very nicely to our main topic and was well received by the audience." By including a related INCOSE Working Group, the LA Chapter was able to help



members learn about ways to get involved and get more out of their INCOSE membership. Tying together local efforts with the global Working Group community is a perfect demonstration of the INCOSE mission to foster systems engineering knowledge exchange, application, education, and research.

Daniel Winton, INCOSE-LA Chapter President, underscored the importance of in-person gatherings for fostering connections within the systems engineering community. "My goal as

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President is to get people in person at the meetings because networking is a critical part of the success of a systems engineer," he stated. To encourage attendance, the chapter has implemented popular initiatives such as door prizes and allowing attendees to choose the type of food served at meetings through a survey. Winton enthusiastically concluded, "I think that the success of the meeting is a combination of food, door prizes, a great team, amazing speakers and being enthusiastic about Systems Engineering and INCOSE."

The INCOSE Los Angeles Chapter's recent event stands as a shining example of how to engage members with relevant, cutting-edge topics while fostering valuable connections within the community. Their focus on both professional development and outreach to the academic community provides a strong model for other chapters looking to make a significant impact.

## RISING AGAIN FROM THE WATERY COAST – IT LIVES!

No, it's not Cthulhu, the aquatic horror from Lovecraftian lore, nor is it Godzilla, coming from the sea again to stomp Tokyo into crumbles – it's the INCOSE Emerald Coast Chapter, resurrected from limbo to viability as a prospectively growing chapter. This chapter had been inactive for the past couple of decades before Dr. Terry Kuykendall, who had relocated to Northwest Florida, was contacted by INCOSE Central and challenged with conducting the chapter's rebirth. After spending the past 5+ years attempting to stimulate interest and raise awareness, Terry (while serving as the default chapter president) finally has experienced a breakthrough that has gotten the chapter operations in place and has established the basis for growth.

"This is the third time that INCOSE Central has handed me the football with regard to getting a chapter going," Terry said. The first time was when I moved to Huntsville, AL, in the late '90's. I contacted INCOSE Central to ask why an area with so much systems engineering going on didn't have an active chapter, and they gave me the job of contacting a member living in the area who had been trying to get a chapter restarted for years. Together with a core group we took up the challenge and got the chapter established. After I moved to the Atlanta area in the early 2000's I once again contacted INCOSE Central to ask why such a major metropolis didn't have a systems engineering chapter, and I was again told to quit complaining and make something happen. Together with some

motivated SEs in the area, and connecting with progressive academic institutions, we were able to start up a chapter from scratch that has since taken off and flourished," he said. "After it was discovered that I had relocated to Northwest Florida in the latter 2010's I received a communique from INCOSE Central to do something about the defunct chapter there, and that's where we are today. I think that in the future if I move to an area that doesn't have an active INCOSE chapter, I might not tell anyone in INCOSE Central where I am."

"Our Emerald Coast Chapter has tremendous potential due to our highly desirable location and our core industries," Terry says. "Our territory encompasses some impressive military installations that include the Naval Air Station near Pensacola, home of the Blue Angels; Eglin Air Force Base near Valparaiso and Fort Walton Beach, the world's largest US Air Force base; Hurlburt Field near Mary Ester/Fort Walton Beach, base for the Air Force Special Operations Command; and the Naval Support Activity in Panama City that houses a major division of the Surface Warfare Center and Naval diver training operations. We also have numerous military support contractors as well as a plethora of other tech, academic, medical, and nautical industries that involve systems engineering functions and applications. Plus, our location on the most beautiful sugar-white sand beaches in the country and our inclusion of prime vacation (and prospective INCOSE convention) locations such as Destin give us a really

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great opportunity for growth and success.”

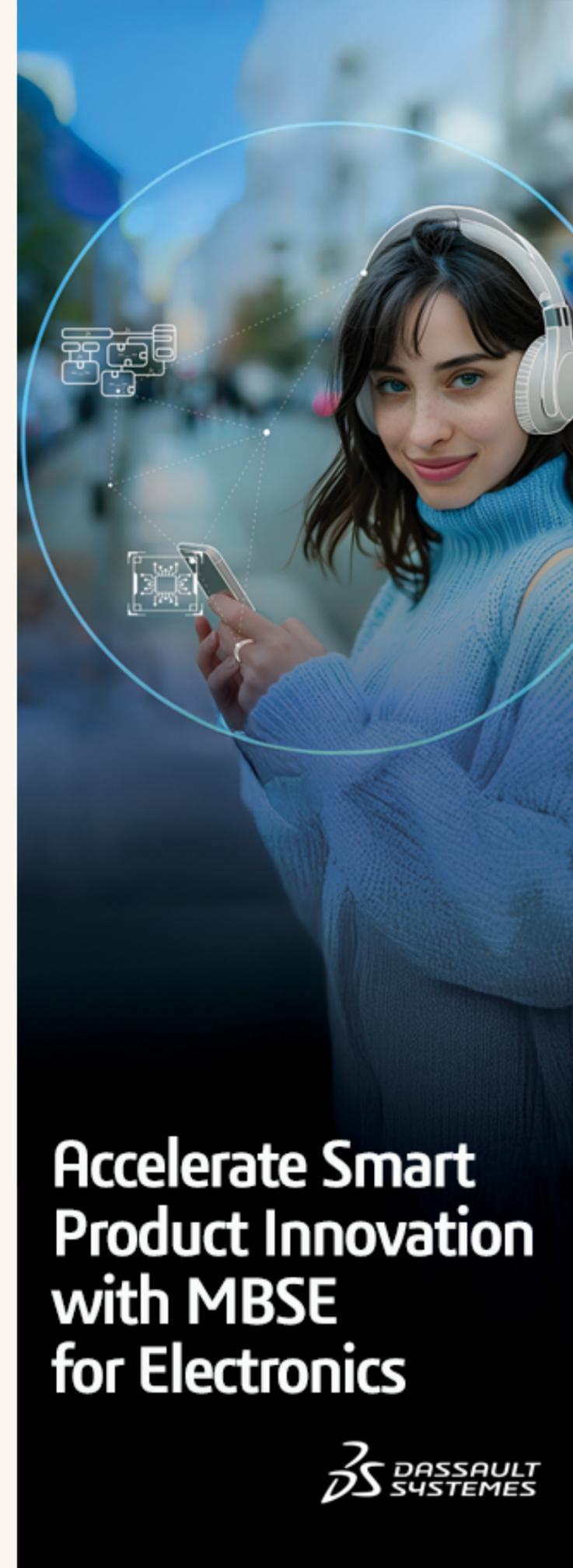
“The biggest hindrance to getting our chapter on track has been the fact that our chapter membership range is so far reaching and dispersed, without any real population center that clearly could be identified as the chapter base of operations.” Terry stated. “I understand that a number of other chapters have similar difficulties. Our region of responsibility begins in the West at the Alabama state line near Pensacola and reaches across the Florida Panhandle in the East to Tallahassee (and beyond), a span of over 200 miles. Our North-South range reaches from the coast up into Southern Alabama, and includes a lot of areas with smaller cities that would otherwise be disenfranchised. Our plan

going forward is to comb the entire region under our purview to promote systems engineering and to be sure that no one is left out.”

Terry says that a key to getting the chapter back on track was (1) requesting and receiving assistance from INCOSE Central personnel, coordinated by INCOSE Americas Sector Director Renee Steinwand, who helped with some key actions and essential permissions, and (2) the identification of local chapter members willing to participate as chapter leaders. Terry gives specific credit to Michael Huelsbeck, the chapter vice president/president elect, for stepping forward to support the chapter and mining his company, Booz-Allen-Hamilton, for others willing to participate. “With the

current requirements for reporting, communications, and participation associated with operating and maintaining a chapter, it is nearly impossible for an individual to start up a chapter unless they have a copious amount of free time to dedicate to the effort,” Terry says. “You really need to establish a team of chapter leadership members to divide up the tasks.”

Asked if there was any message to other struggling chapters, Terry replied “there was no magic to this restart. It just came down to keeping focused on the objectives and not giving up – while struggling to maintain perseverance. I remember a famous quote from Albert Einstein in which he said ‘It’s not that I’m so smart, it’s just that I stay with problems longer.’ I think this applies to our chapter and to anyone who is dealing with the many issues associated with a restart. Also, I think it was Winston Churchill who once said “If you are going through hell, keep going.”



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# SEATTLE METRO CHAPTER UPDATE

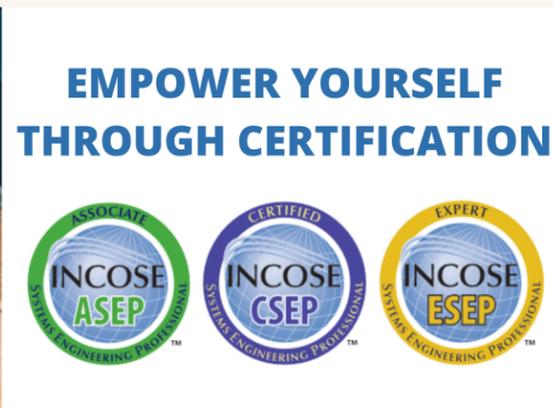
## SPOTLIGHT ON SYSTEMS EDUCATION & CERTIFICATION

At our April General Membership Meeting, we were pleased to host Dr. Yuliya Shirokova, Graduate Advisor and Program Manager for Professional Programs at the University of Washington's Industrial and Systems Engineering Department. She provided an insightful overview of the department's academic tracks and continuing education opportunities available through UW. In a previous monthly meeting, we also had the honor of welcoming Dr. Ron Carson, who truly needs no introduction. As a former Boeing Technical Fellow and current professor at UW, Dr. Carson shared valuable information on ASEP, CSEP, and ECEP certifications. He continues to offer engaging courses on requirements and systems engineering, which members are encouraged to sign up for.

## FUTURE EVENTS

WSRC 2025 – Coming to Washington! Call for Papers Now Open. YES YOU HEARD IT CORRECT! We're excited to

announce that the Western States Regional Conference (WSRC) 2025 will be held right here in Washington! Preparations are well underway, and we're looking forward to making this a standout event for the systems engineering community. The initial call for papers has already been sent out, and we're starting to receive submissions. The WSRC is a 3-day event showcasing presentations, keynotes, tutorials, and tours, all focusing on topics related to successful systems in engineering. The WSRC is not just for INCOSE members or systems engineers. It's an opportunity for project managers, educators, technology professionals, and others who have a 'systems thinking' mindset to share with one another about how to apply systems approaches to solve challenging problems. You can even take your INCOSE Systems Engineering Professional (SEP) Certification Exam during the event! Please join us! Please send inquiries to: [wsrc@incose.net](mailto:wsrc@incose.net). For more information, visit the WSRC website.



# INCOSE CHICAGOLAND CHAPTER UPDATE

By Liberato Garced-Torres Webmaster, INCOSE Chicagoland Chapter

On May 10th, 2025, the INCOSE chapter held its successful spring seminar, "**Cybersecurity and the Age of AI: A Systems Thinking Perspective.**" The event brought together leading voices from the industry to discuss the critical intersections of artificial intelligence (AI) and cybersecurity through a systems thinking lens.



The seminar featured insightful presentations from an impressive lineup of speakers, including:

- **Nick Espinosa**, Chief Security Fanatic at Security Fanatics, who discussed emerging AI vulnerabilities and proactive cybersecurity strategies.
- **John Velisaris**, Associate Partner at IBM Cybersecurity and Cyber Threat Management Services, who provided strategic insights on managing AI-related cyber risks.
- **Norman Dorsch**, Global Product

Manager at IBM, who shared real-world lessons in managing security for AI-integrated systems.

- **Sue Hallen**, AI Innovation and Intellectual Property Consultant, who addressed AI governance, ethical considerations, and intellectual property challenges in the AI era.
- **Srinivas Tummalapenta**, IBM Distinguished Engineer, Master Inventor, and CTO for IBM Security Services, offered expert insights on the future of AI, cybersecurity frameworks, and the critical role of systems engineering in mitigating AI risks.



The discussions covered a wide range of topics, from the security risks AI introduces to complex systems, to the best practices for mitigating these challenges. Attendees also explored the ethical considerations and governance required to ensure AI remains a trusted part of critical systems.

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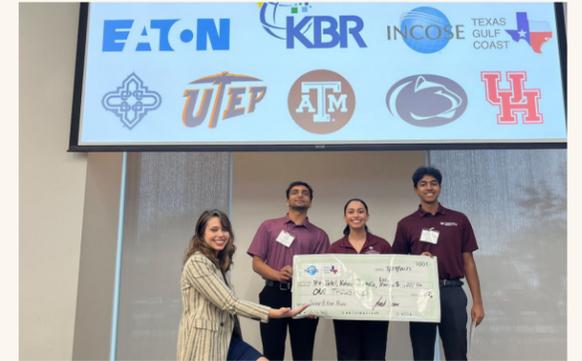


Looking ahead, we are excited to announce that our fall seminar is in the planning stages, with more information about presenters and topics coming soon. We thank all our INCOSE chapter members for their ongoing dedication, commitment to learning, and active participation in our events.

We would like to extend a special thanks to **Mike Gut**, our chapter secretary, **Dale Brown**, our chapter president, and **Sue Hallen** for their dedication in organizing this event. We also appreciate the support of **Actalent** for providing a fantastic venue, which contributed significantly to the event's success.

## SYSTEMS ENGINEERING CONFERENCE HOSTED BY TGCC AT TEXAS A&M

The **INCOSE** Texas Gulf Coast Chapter had the honor of hosting our **FIRST ANNUAL INCOSE Texas A&M University Student Conference and Presentation Competition** on 27 March 2025. This event brought together experts, students, and practitioners from diverse fields to present developments and challenges in systems engineering, covering topics such as model-based systems engineering, systems integration, and the intersection of project management and systems engineering. The students, both undergraduate and graduate, competed for scholarship funds that were awarded based on their presentations at the conference, which emphasized the importance of interdisciplinary approaches and the role of systems engineering in addressing global challenges.



*INCOSE TXGCC President Sarah Keene with TAMU seniors Rohan Perumaalla (Texas A&M INCOSE Student Division President), Vraj Patel, and Naha Ranjbar; winners of the Student Presentation Competition.*

The over one hundred participants included engineering faculty and students from the University of Texas at El Paso, Texas A&M University, the University of Houston, Pennsylvania State University, and St. Mary's University. Sponsorship was provided by local aerospace companies: Eaton, Aerospace Corporation, KBR, and NASA, contributing a wealth of knowledge and diverse perspectives to the state of systems engineering. Students enjoyed connecting and deepening relationships with other engineering students and established working professionals at our afternoon networking event. Participation included TAMU Students for the Exploration and Development of Space (SEDS) and our sponsors, sharing their interests and academic experiences, relating those to real-world engineering work.

The conference awarded two one-thousand-dollar prizes to presentation winners based on the topics of systems engineering, presentation design, and overall technical focus. Winning presentations included the Texas A&M team of Rohan Perumaalla (Texas A&M INCOSE Student Division President), Vraj Patel, and Naha Ranjbar for their



*INCOSE TXGCC President Sarah Keene with TAMU senior Mohit Lele and winner of the Student Presentation Competition.*

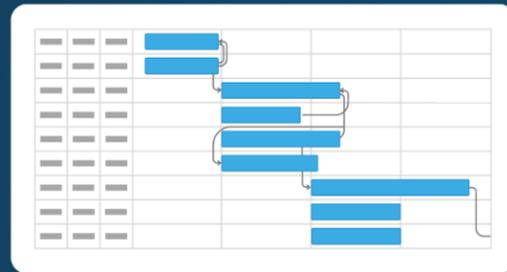
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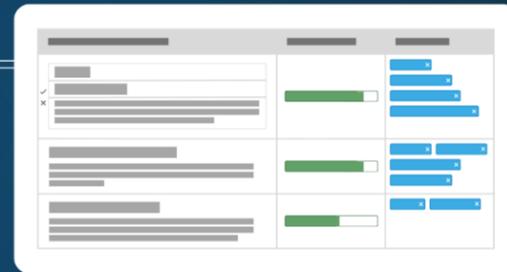


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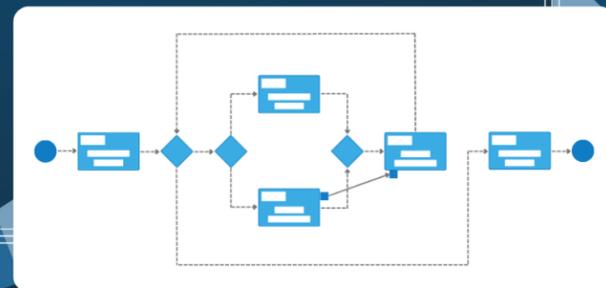
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**MODELING & SIMULATION**



**VERIFICATION & VALIDATION**





INCOSE TXGCC President Sarah Keene with TAMU senior Mohit Lele and winner of the Student Presentation Competition.

presentation on The Dangers of Excessive Field Specialization. The other award was presented to Mohit Lele, also from Texas A&M, for his presentation on Engineering Failures Due to Lack of Systems Engineering Integration.

The Texas Gulf Coast Chapter established the Student Division at Texas A&M University due to its proximity to NASA Johnson Space Center in 2022 to prepare students for future careers in systems engineering. The University of Texas at El Paso Student Division has recently partnered with TGCC to share their latest research and applications of systems engineering. Under the faculty leadership of Michael Do, Ph.D. (Texas A&M) and Eric Smith, Ph.D. (UTEP), both student divisions have attracted a growing and diverse set of engineers to



Past INCOSE TXGCC Chapter President Louis Huerta manning the INCOSE table at the student conference networking event.

INCOSE. Additional INCOSE Student Chapters are also in the works for the University of Houston under Dr. Nirathi Govindu and St. Mary's University under Dr. Ben Jurewicz.

The Texas Gulf Coast Chapter has developed and maintained a strong relationship with Texas A&M since 2022. Our INCOSE chapter Communication Director, Reynaldo Climacosa presented to the Students for the Exploration and Development of Space at Texas A&M. Mr. Climacosa shared his systems



NASA STEM Office of Education Representative Andrew Monaco speaking to students on NASA internship opportunities.

engineering journey from Texas A&M electrical engineering graduate to his current responsibilities with NASA on the Extravehicular Activity Human Surface Mobility Program (EHP). Shortly after that, TGCC president Sarah Keene was a judge for the Industrial and Systems Engineering student posters at the annual Texas A&M University Engineering Showcase. Likewise, the INCOSE Texas Gulf Coast Chapter has included members of UTEP student division as monthly speakers to better understand the current research and focus of tomorrow's systems engineers. We look forward to next year's student conference where we hope to attract and connect more students and professionals in the field of systems engineering.

## INCOSE CANADA CHAPTER UPDATE

### Transportation Infrastructure Workshop – July 2025

INCOSE Canada is excited to bring the inaugural Transportation Infrastructure Workshop! Agencies are facing unprecedented challenges with the current surge in infrastructure investment, including:

- Complicated integration issues between legacy systems and new technologies.
- Increasing technical complexity in contemporary transportation infrastructure solutions.
- Varying and ambiguous expectations and methodologies across projects and organizations.

This workshop aims to streamline project delivery and systems engineering. Participants will contribute to creating a unified vision, sharing best practices, and learning about the latest innovations. The collaborative effort will focus on developing the INCOSE-APTA Systems Lifecycle Engineering (SLE) Standard, setting a new benchmark for the industry.

Don't miss out on this opportunity to be part of a global effort to shape the future



of transportation infrastructure! Learn more here: <https://www.incose.org/communities/chapters/americas-sector/canada/2025-transportation-infrastructure-workshop>

### 19th Annual IEEE International Systems Conference

Past President, Ray Barton, attended the IEEE SYSCON 2025 Conference held from April 7th to 10th, 2025, in Montreal, Canada, in coordination with INCOSE Central. Ray attended multiple tracks as part of IEEE SYSCON's Technical Program, such as System-of-Systems and System Architecture, to name a few.



INCOSE's presence at the conference was highly impactful, with a dedicated booth that maximized the value of its sponsorship. INCOSE members benefited from the same registration fee as IEEE members and were prominently featured in the hardcopy Program Schedule handout, which included two full pages dedicated to INCOSE. Throughout the conference and sessions, INCOSE members engaged in

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meaningful conversations, many expressing their enthusiasm to reconnect at IS2025 in Ottawa, Canada.

**In-person Meet-up**

INCOSE Canada Chapter invites Systems Engineering professionals to an exciting meet-up in Toronto and Vancouver. This event offers a fantastic opportunity to connect with fellow experts, share insights, and build valuable relationships. Don't miss out on this chance to expand your network and engage with the community. Visit our website to register now!

INCOSE Canada will be organizing similar events across the country, so stay tuned for more opportunities to connect and collaborate!



**MEET-UP (TORONTO)**  
MAY 24<sup>TH</sup> (SATURDAY) | 1:30 TO 3:30 PM  
TORONTO PUBLIC LIBRARY - HILLCREST BRANCH  
(5801 LESLIE ST, TORONTO, ON M2H 1J8)

Featuring a presentation by Ivan Taylor, President of Policy Dynamics Inc., on 'AI Agents for MBSE: Connecting Processes Through Workflow Diagrams.'

Come for the refreshments, stay for the connections with fellow SE professionals!



**MEET-UP (VANCOUVER)**  
JUNE 19<sup>TH</sup> (THURSDAY) | 5:30 TO 7:00 PM  
BENTALL 5  
(550 BURRARD ST, VANCOUVER)

Come for the refreshments, stay for the connections with fellow SE professionals!

**INCOSE Handbook French Translation**

AFIS (the French chapter of INCOSE) is translating version 5 of the INCOSE Systems Engineering Handbook and needs help from the French-speaking community to review and refine the text.

Arnaud Royer is leading this initiative from the INCOSE Canada Chapter, with volunteers from diverse backgrounds contributing their expertise and insights to this collaborative project. To participate, please contact Arnaud Royer ([arnaud.royer@incose.net](mailto:arnaud.royer@incose.net)).

**INCOSE Canada Student Competition**

In preparation for the INCOSE Canada Chapter Student Competition, volunteers are needed as Sponsors and Selection Committee judges. Sponsorship levels range from Bronze (500 CAD) to Platinum (3000 CAD), offering enhanced brand visibility and community engagement. Selection Committee judges must be INCOSE Canada Chapter members with INCOSE certification (ASEP, CSEP, or ESEP). The time commitment includes 1-3 hours to review submissions and optional 9 hours for mentorship sessions. Benefits include Professional Development Units (PDUs) and opportunities to interact with students. For more information, please contact Qifang Wang ([qifang.wang@incose.net](mailto:qifang.wang@incose.net)).

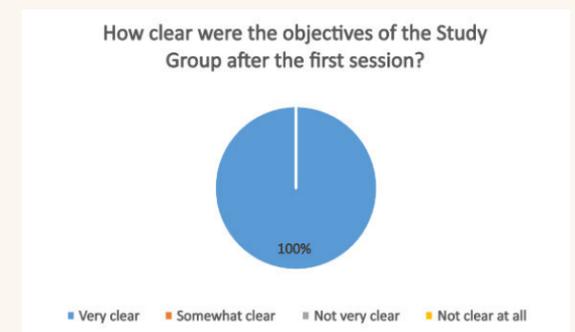
**SEP Study Group**

After successfully hosting Systems Engineering Professional (SEP) Certification study groups in 2024 in collaboration with the Michigan Chapter and Huntsville Chapter, and helping



systems engineers achieve their SEP certification, the INCOSE Canada Chapter is pleased to share that we have kicked off the 2025 SEP Certification study group in partnership with the Seattle Metro Chapter and San Francisco Bay Area Chapter. Systems engineers from all three chapters study the Systems Engineering Handbook v5 over 13 weeks with their peer systems engineers while sharing study materials, experiences, and presentations, along with quizzes provided by the instructors. The survey conducted after the first session of the 2025 SEP Certification study group provides promising feedback from attendees. Read more here: <https://www.incose.org/communities/chapters/americas-sector/canada/sep>

The chapter plans to organize another study group later this year if we receive enough requests from our chapter's members.



**Past Events Highlights**

All year long, the INCOSE Canada Chapter has continued to host engaging and insightful online webinars that brought together experts and enthusiasts from the systems engineering community:

- **Webinar - January 13th:** David Long, INCOSE Director for Strategic Integration, presented "Systems Engineering Vision 2035," outlining the future of systems engineering and INCOSE's strategic plan.
- **Webinar - January 20th:** Stéphane Lacrampe, co-founder of Obeo, introduced SysON, an open-source SysML v2 modeling tool, showcasing its potential for digital engineering transformation.
- **Webinar - February 10th:** Prof. Alex Ellery discussed lunar

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industrialization with self-replicating machines and in-situ resource utilization, highlighting new possibilities in space exploration.

- **Webinar - March 17th:** Shahram Pourazadi, Technology Entrepreneur and IP Specialist, discussed building IP portfolios and commercialization strategies. He highlighted the use of Model-Based Systems Engineering (MBSE) to enhance IP and technology management for high-tech companies.
- **Webinar - April 14th:** David Hetherington and Ivan Taylor's webinar focused on enhancing security in engineered systems using System-Theoretic Process Analysis (STPA) and System Dynamics (SD).

They discussed resilience, adaptive redundancy models, and failure response strategies to maintain operational integrity under threats.

- **Webinar – May 10th:** Blair MacDonald from the Department of National Defence shared his expertise on organizing model elements in Cameo Enterprise Architecture. Attendees learned about model sharing, reusing package elements, and generating custom data analytics pathways.

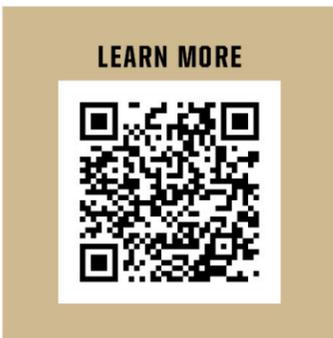
All of these video recordings can be watched on the INCOSE Canada Chapter website: <https://www.incose.org/communities/chapters/americas-sector/canada/events-detail>



## Your next giant leap is online Earn your Master's in Systems Engineering

Purdue University's online Master of Science in Systems Engineering offers a flexible, interdisciplinary curriculum for professionals looking to advance their expertise in complex system design, analysis and optimization. Developed with Purdue's Systems Collaboratory, this program emphasizes leadership, technical communication and cross-disciplinary problem-solving, allowing students to tailor their learning experience to career goals while gaining cutting-edge knowledge applicable to aerospace, manufacturing and defense industries.

- Control Systems
- Engineering Economic Analysis
- Game Theory
- Human Factors
- Machine Learning
- Multidisciplinary Design Optimization
- Practical Systems Thinking
- Project Management
- Reliability Based Design



## TDSE 2025 – NEW COUNTRY, NEW PROJECT, NEW EXPERIENCE

Germany's largest Systems Engineering conference, the TdSE, is just a few months away – and for the first time ever, it's taking place outside of Germany, in beautiful Salzburg, Austria.

We're excited to bring the conference closer to our members in other German-speaking regions and strengthen the ties across the entire GfSE community.

Introducing SE-NextGen Experience – A New Format for the Next Generation of Systems Engineers

This year's TdSE goes beyond its rich program of keynotes, papers, and panels: we're excited to announce SE-NextGen Experience – an all-new, interactive format designed specifically for high school students.

Developed in collaboration with the University of Applied Sciences Salzburg, SE-NextGen Experience offers young talents the opportunity to discover the world of Systems Engineering through a dedicated hands-on day. Participants will explore the fundamentals of systems



thinking by tackling practical challenges in a supportive team environment, guided by experienced facilitators from both academia and industry. The SE-NextGen Experience is supported by LieberLieber and Carrera, who are helping us to bring this unique project to life.

While the full program is still under development, the goal is clear: to inspire curiosity, foster creativity, and provide early access to the mindset and methods of Systems Engineering.

Stay tuned for more details soon – and follow us on LinkedIn to keep up with the latest updates!

Are you ready to shape the future of Systems Engineering? Our Call for Papers, Tutorials, and Panels is now open. Whether you want to contribute actively or simply be inspired – we invite you to submit your idea or secure your ticket now.

Join us this October in Salzburg – for new connections, ideas, and a fresh perspective on Systems Engineering.



# INCOSE UK UPDATE

## Institute for Systems Engineering (IfSE)

This Summer, INCOSE UK will transition to The Institute for Systems Engineering (IfSE).

This transition reflects a significant evolution for the organisation and the Systems Engineering profession in the UK. This transition was set in motion following a vote by the

membership to transition to become The Institute for Systems Engineering after INCOSE UK became a Professional Engineering Institute (PEI).

This transition not only reflects the growth and professionalisation of the field but also brings expanded membership options, updated branding, and continued collaboration with INCOSE. IfSE's relationship with INCOSE will remain unchanged, with IfSE continuing to act as the UK Chapter of INCOSE.

Whether you're interested in Systems Engineering, a student, a seasoned practitioner, or somewhere in between, the new structure offers a clear and flexible path for your professional journey.

In the lead up to the IfSE transition in Summer 2025, we are sharing regular updates on the INCOSE UK LinkedIn page. Help us spread the message by liking and sharing our posts.

#IfSEisComing



Follow us on LinkedIn to stay up to date: <https://www.linkedin.com/company/ukincose/>

## ASEC 2025

The Annual Systems Engineering Conference (ASEC) is taking place at the Ashford International Hotel, Kent, UK.

The papers are in and are being reviewed and tutorials are being selected. In the meantime, we are calling on exhibitors and sponsors to support this industry leading event. There are two different Exhibitor packages available and many Sponsor opportunities.

All the information you need to find out more can be found on the ASEC 2025 website: [www.asec2025.org.uk](http://www.asec2025.org.uk). Alternatively, contact us at [events@incoseuk.org](mailto:events@incoseuk.org)



## Don't Panic! SysML v2 now in German

We are pleased to announce the release of the German translation of the eBook 'Don't Panic! The Absolute Beginner's Guide to SysML v2' by Tim Weilkiens and Christian Muggeo.



This eBook translation is now available in the INCOSE UK Online Store, providing German speakers with an essential resource for understanding the significant updates in SysML v2.

Visit the Online store here: [https://incoseuk.org/Program\\_Files/Store/Default](https://incoseuk.org/Program_Files/Store/Default)

Additionally, you can watch the Meet the Author session with Tim and Christian to find out more about their writing styles and the contents on the INCOSE UK YouTube channel here: <https://www.youtube.com/watch?v=YUQ3nlzDpis>

## Coming soon

### IfSE Journal

We are excited to launch a substantial journal with longer papers unlike the limited 6-page papers we see in the Annual Systems Engineering Conference (ASEC). The first issue of the Practical Systems Engineering Journal is due for publishing in Summer 2025, and the theme is 'Agile in Systems Engineering'.

With the inaugural issue publishing soon, we are excited to be able to announce the theme of the second issue, 'Model-based Systems Engineering'. If you would like to share your thoughts and insights on the world of MBSE, why not consider writing a paper for the IfSE journal?

Reach out to [publications@incoseuk.org](mailto:publications@incoseuk.org) for more information.

### Professional Registration License Renewal

We are very pleased to be able to announce that the Engineering Council has awarded INCOSE UK a 5-year extension of our Professional Registration Licence.

### SEP Certification

INCOSE UK now has over 300 INCOSE SEP certified members!

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## AFIS: THINGS ARE HAPPENING IN FRENCH REGIONS!

AFIS, even though France is not such a large country, has for many years had several "regional chapters", which are not real INCOSE chapters, but which support "in person" events, so important for conviviality and networking.

For this second edition of the "Itinerant Thematic Day", AFIS and its 6 regional chapters have chosen the theme of **the interaction between Artificial Intelligence and Systems Engineering**.

This new theme corresponding to current **Systems Engineering challenges** is reshaping how we design, build, and manage complex systems. To explore this theme, AFIS will go through six key locations across France: Nancy, Lyon, Bourges, Paris (Saclay), Toulouse and in a south city of France.

Each stage will provide an opportunity for each chapter to share its vision of the theme through testimonies and demonstrations from its local industrial and academic members, on selected themes such as "AI for the Industry of the Future" or "Systems Modelling and Simulation integrating AI", making the link with last year Itinerant Thematic Day, which focused on the articulation between requirements and models.

These days will also feature an interactive roundtable discussion fueled by a questionnaire on the intentions and use cases of AI for SE.

AFIS warmly thanks Régis CASTERAN, one of our AFIS CAB representative for



*Past INCOSE TXGCC Chapter President Louis Huerta manning the INCOSE table at the student conference networking event.*

KAIZEN-SOLUTIONS company and leaders of the "AI&SE" and of the "System Life Cycle Processes" Thematic Committees (which hosts Requirement Engineering projects) that support this event, the Regional Chapters teams, and Anne SIGOGNE, AFIS Associate Director for Events, for their investment and their efficiency in coordinating this series of events.

**Jean-Claude Roussel & Alain Dauron, Associate Directors for AFIS international cooperations and INCOSE relations**

*For further information, please contact: [incoserelation@afis.fr](mailto:incoserelation@afis.fr)*

## INCOSE SPAIN: A NEW DIRECTION WITH PURPOSE

In early May, the Spanish chapter of INCOSE held elections that resulted in a newly appointed Board of Directors—an energized team that received unanimous support from its voting members. This vote of confidence marks the beginning of a new and purposeful chapter for INCOSE Spain.

Our vision is clear: to build a vibrant, connected, and forward-looking community that aligns with INCOSE's global mission and reflects the unique context of our national landscape. The newly elected team brings together a diverse group of professionals—talented, committed, and eager to position Systems Engineering (SE) as a key enabler for addressing complex challenges and shaping sustainable, innovative solutions.

At the heart of our strategy is a belief in the transformative potential of Systems Engineering across sectors. We envision a future where SE is widely recognized in Spanish industry, academia, and public institutions as an essential discipline. Our mission is to elevate excellence in the practice and development of SE by connecting professionals, mentoring emerging talent, promoting open knowledge sharing, and creating added value for our community.

Although the new board officially takes office in early June, we have already begun shaping our roadmap and outlining key priorities:

- **Growing our membership base**

- through targeted outreach campaigns and strategic partnerships with companies, institutions, and universities.
- **Fostering an engaged community** by organizing both in-person and virtual events focused on networking, collaboration, and knowledge sharing.
- **Bridging academia and industry** with initiatives that support students and early-career professionals—such as mentoring programs and joint university-industry projects.
- **Professionalizing the discipline** by highlighting the role of the Systems Engineer across sectors, and supporting access to certification, standards, and best practices.
- **Enhancing digital presence** through active engagement in social media and regular content that reflects the dynamism of our community.
- **Encouraging inclusive participation** by opening leadership spaces, encouraging initiative, and co-creating the chapter's future with its members.

We are entering this new phase with a strong sense of shared leadership, energy, and ambition. Our core values—interdisciplinary collaboration, commitment to excellence, inclusivity, innovation, and professionalism—will guide every step we take towards nurturing a future-ready SE community in Spain.

To all those passionate about Systems Engineering: we invite you to join us on this journey. Whether through your time, ideas, experience, or enthusiasm, your contribution will help us grow, shape, and strengthen the impact of SE in Spain and beyond. Together, we will enjoy the collective reward of expanding a meaningful network, achieving personal and professional growth, and building something lasting.

Elena Gallego Palacios, the newly elected president of INCOSE Spain, shares her vision for the upcoming term:

"I'm truly excited about the opportunity to work with such a talented and dedicated team. I'm convinced that our diversity of experience and strong motivation will drive the advancement of Systems

Engineering in Spain and help establish our chapter as a reference point within the global INCOSE community."

This is the moment to connect, contribute, and lead with purpose. INCOSE Spain is ready. Let's build the future—together.

**INCOSE Spain: A new team with purpose**  
*Board of Directors 2025-2027*

 President Elena Gallego Palacios, THALES	 Technical Director Demetrio Zorita, SENER	 Communications Director Pablo de la Cruz, ANZEN	 General Secretary Raquel Salamanca, ISDEFE
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## INCOSE BRASIL 2025 ANNUAL GENERAL ASSEMBLY

On May 21, 2025, the INCOSE Brasil chapter held a highly significant event: the Annual General Assembly! This is the occasion when our chapter presents to the entire systems engineering community the activities carried out in the previous year and what is planned for the current year.

This year, we had the honor of welcoming Steve Records, Executive Director of INCOSE, who shared with our community the activities and vision of INCOSE International.

The event exceeded expectations and left a legacy of inspiration and learning. The presence of each participant was essential to the success of this edition.

### INCOSE Brazil Initiates Systems Engineering Community on WhatsApp

INCOSE Brazil Chapter proudly presents the Brazil Systems Engineering

Community. This dedicated WhatsApp space serves as the central hub to connect professionals, students, and enthusiasts of Systems Engineering nationwide.

It's designed to be fully open: whether you are an INCOSE Brazil member or not, your participation is highly valued. The straightforward purpose is to unify and enhance the Systems Engineering community in our area by encouraging the sharing of knowledge, experiences, and promoting collective growth.

Join the INCOSE Brazil WhatsApp community: [bit.ly/incosebrwtzp](https://bit.ly/incosebrwtzp)

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PREVIOUS SECTION:  
CHAPTER UPDATES



CONTINUE TO  
WORKING GROUPS &  
INITIATIVES UPDATES

# 10TH ANNUAL SYSTEMS ENGINEERING IN HEALTHCARE CONFERENCE

The INCOSE Healthcare Working Group recently concluded its landmark 10th Annual Systems Engineering in Healthcare Conference, and by all accounts, it was a resounding success! Held from April 29th to May 1st, in Bloomington, MN, USA, the conference brought together a vibrant community of professionals dedicated to "Advancing the Practice of Systems Engineering in the Healthcare Industry."

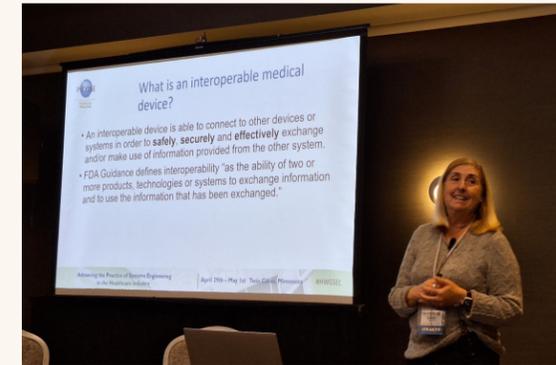
This year's event saw an impressive turnout, with 190 attendees representing 71 organizations. The diverse audience included systems engineers, product developers and testers, certifiers, and leaders from across the healthcare spectrum – from those developing intricate medical devices and large Healthcare IT systems to professionals within healthcare delivery organizations.

The conference kicked off on April 29th with insightful tutorials, providing attendees with opportunities for deep dives into specific areas of systems engineering. The following two days were packed with engaging presentations and collaborative sessions across a range of timely and critical tracks:



- **Requirements & Test Methods:** Exploring innovative approaches to defining and verifying complex healthcare systems.
- **Digital SE:** Showcasing the transformative power of digital tools and methodologies in healthcare.
- **AI/Machine Learning:** Addressing the unique challenges and opportunities of integrating AI and ML into healthcare products and services.
- **Cyber Security:** Highlighting the ever-increasing importance of protecting sensitive healthcare data and systems.
- **Beyond the System:** Delving into the broader context of healthcare systems, including human factors and organizational considerations.
- **System Safety:** Emphasizing critical strategies for ensuring the safety and reliability of healthcare technologies.
- **Fundamentals:** Providing foundational knowledge and practical insights for early-career systems engineers.

A highlight of the conference was the keynote address delivered by Jim Peichel of Medtronic, who shared his



valuable perspectives on the evolving landscape of systems engineering in the medical device industry. His insights resonated deeply with the audience and set a compelling tone for the discussions that followed.

Attendees actively participated in experience reports, case studies, interactive panel sessions, and instructional tutorials, creating a rich exchange of knowledge and best practices. The collaborative sessions, in particular, provided valuable opportunities to collectively address key challenges and advance the state of the community.

The overwhelming success of the 10th Annual conference underscores the vital role of systems engineering in driving innovation and ensuring excellence



within the healthcare industry. The energy and engagement witnessed throughout the event are a testament to the dedication and expertise of the INCOSE Healthcare Working Group and its members.

### Want to get involved?

Looking ahead, efforts are already underway to plan next year's conference, with exciting possibilities for expansion to other regions. If you are passionate about the intersection of systems engineering and healthcare and are interested in contributing to future events, please reach out to [healthcare@incose.net](mailto:healthcare@incose.net).

To learn more about the INCOSE Healthcare Working Group and its ongoing activities, we encourage you to visit our [webpage](#). We look forward to continuing this important dialogue and further advancing the practice of systems engineering in the healthcare industry!

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# CONFIGURATION MANAGEMENT WORKING GROUP – SOME THOUGHTS ABOUT THE PAST WEEKS

By Sandrine Gonthier, Working Group Chair

The activities of our Working Group are steadily progressing, building upon the momentum established during our workshop at IW2025 in Seville. Our primary objective is to make the principles of Configuration Management (CM) more accessible. To achieve this, we are planning to engage in various activities aimed at elucidating CM.

As a first step, we have prepared updates for the SEBoK section, with the Spring release incorporating the outcomes from our dedicated and dynamic team of authors and reviewers. We have revised the existing CM article and complemented it with two new articles that explore key concepts in greater depth, specifically focusing on CM baselines and CM implementation. Additionally, we intend to update the Information Management section in preparation for the November release.

We welcome feedback on the SEBoK CM articles, as we hope they will enhance awareness of essential concepts while maintaining a concise format that facilitates a quick overview for newcomers.

This quarter has also seen us continue our collaboration with the PLE working group in the review of the new ISO/IEC 26581 standard they are preparing. We are grateful for the opportunity to contribute to this, as it prompts many interesting discussions regarding various terms and concepts.

In the meantime, we are analyzing the ideas that emerged during our meeting in Seville in collaboration with the co-chairs, aiming to create a roadmap for new activities.

We plan to propose our first webinar in the near future, hoping to communicate on this topic soon. This webinar will provide an opportunity to meet an author who addresses a non-obvious question often raised in change management.

We are also brainstorming to identify and prioritize projects like Technical Products and collaboration with SAE G33 working group.

There has been both enthusiasm and activity surrounding the completion of a paper and poster for the upcoming International Symposium in Ottawa. This initiative stems from a workshop proposed by Adriana D'Souza during EMEA WSEC 2023 (Workshop #136). In light of the growing emphasis on environmental goals within our organizations, this year's paper addresses the intersection of Configuration Management and Sustainability. We hope that this topic will foster engaging discussions at the International Symposium in Ottawa.

Regarding 'thinking green', this gives me an opportunity to salute the dynamic start of the Sustainability working group, whose meetings are truly inspiring.

Despite some unexpected delays with a planned publication, we are encouraged to see our activities expanding, thanks to the contributions of our members. We are committed to enhancing the understanding of Configuration Management by broadening our initiatives and building connections with other working groups, trying to build bridges across the organization.

Feel free to take a look at our webpage to stay updated: [Configuration Management](#).



*Triana bridge in Seville*



*Pont Neuf in Toulouse*

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# EMPOWERING SYSTEMS ENGINEERS AND PROJECT MANAGERS: UNLOCKING THE POTENTIAL OF DESIGN STRUCTURE MATRICES

On March 19, 2025, a 90-minute webinar was held with over 400 attendees, including international members representing the professional INCOSE, PMI (the Project Management Institute), and DSM (Design Structure Matrices) Community disciplines needed to make significant improvements to complex product development programs. The agenda featured six presenters and a Q&A session:

- Empowering Systems Engineers and Project Managers (Tina Srivastava)
- An Integration Case Study: Integrating a Work Breakdown Structure. (John Metcalf)
- An Integrative Technique: Synthesizing and analyzing disparate inputs. (Tyson Browning)
- Managing Integration: 20 years experience managing AE&C customers projects. (Paul Waskett)
- An Integrative Technology: A tool to analyze sequences, clusters, gaps, and impacts. (Frank Waldman)
- Integration Pilot Project? Would you like to start one with us? (Matteo Pietrobelli)
- Q&A (Mike Stowe)

The webinar discussed tools and experiences that help enable effective collaboration between PMs and SEs, such as Product Breakdown Structures/

Work Breakdown Structures that help provide a common and consistent view all along the project life cycle from a Project Management point of view as well as from a System Engineering point of view. Special attention was discussed on the Design Structure Matrices (DSM) technology's application as an enabler to help empower more effective collaboration between systems engineers and project managers.

The webinar recording and slides are available for review at the INCOSE PDP location (Webinar 180: Empowering Systems Engineers and Project Managers: Unlocking the Potential of Design Structure Matrices).

Following this webinar, a discussion occurred during the INCOSE PM-SE Integration Working Group meeting on March 26. Next steps include continuing discussions, including on the 11 frequently asked questions from the attendees, to determine how to move the needle further on empowering PM and SE members.

1. 0 Why integrate Systems Engineering and Project Management?
2. 0 What are the current results of the PMI/INCOSE collaboration?
3. 0 What is a DSM?
4. 0 What tools are used for DSMs and are integrated with other tools?
5. 0 Where have DSMs been

implemented into core systems engineering/architecting tools and commercially available?

6. 0 How are DSMs kept up to date throughout the project lifecycle (considering the engineering changes that are inevitable)?

7. 0 What are some experiences and entry points for early adoption of this technology?

8. 0 Can DSMs be applied to product and/or process quality?

9. 0 Is there a lab environment where

professionals can learn how to use this technology?

10. 0 What size projects are the best use of this technology?

11. 0 What are some tactics to rapidly educate the decision-makers in an organization on what a DSM is, the benefits of the tool, and how to use it?

Stay tuned for more information on this ongoing journey to improve the effectiveness of our complex programs. [incose.org/pmse](http://incose.org/pmse)

## PM-SE INTEGRATION WORKING GROUP

INTERNATIONAL COUNCIL ON SYSTEMS  
ENGINEERING



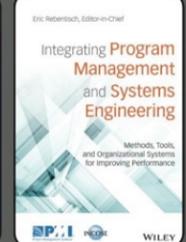
International Council on Systems Engineering

**Leadership**

- **Co-Chairs**
  - Tina Srivastava, John Lomax, Samuel Boutin, Steven H. Dam
- **INCOSE-PMI Alliance**
  - Mark Kaufman, Tammy Tober
- **IT Director**
  - Amir Abrari



Systems Engineering Handbook  
A Guide for System Life Cycle Processes and Activities



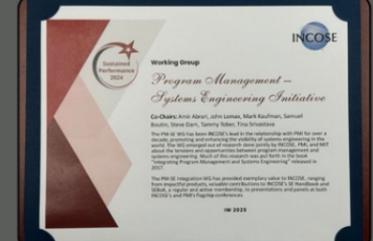
Integrating Program Management and Systems Engineering  
Methods, Tools, and Organizational Systems for Improving Performance

**Products & Activities**

- Integrating Program Management and Systems Engineering
- SEBoK Program Management Section Updates
- PM/SE Integration Best Practices Guidelines
- Monthly & Quarterly Meetings
- Active in IS & IW Conferences with Presentations

**Contact Us:**

pmse@incose.net  
pmse-leaders@incose.net  
amir.abrari@incose.net (IT Director)



Working Group  
Program Management - Systems Engineering Initiative  
Co-Chairs: Amir Abrari, John Lomax, Mark Kaufman, Samuel Boutin, Steven H. Dam, Tammy Tober, Tina Srivastava  
The PM-SE Integration Working Group was established in 2014 to provide a forum for the exchange of information, ideas, and best practices among PM and SE professionals. The group's primary focus is on the integration of PM and SE processes and activities. The group has been instrumental in the development of the Systems Engineering Handbook and the Integrating Program Management and Systems Engineering book. The group also provides a platform for the exchange of information and best practices among PM and SE professionals. The group's primary focus is on the integration of PM and SE processes and activities. The group has been instrumental in the development of the Systems Engineering Handbook and the Integrating Program Management and Systems Engineering book.



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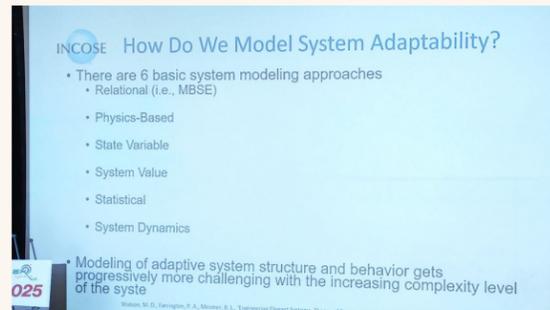
# COMPLEX ADAPTIVE SYSTEM CONFERENCE 2025: JOINT EVENT WITH INCOSE & MIT DESIGN (MARCH 5-7, 2025)

By Dr. Julia Taylor

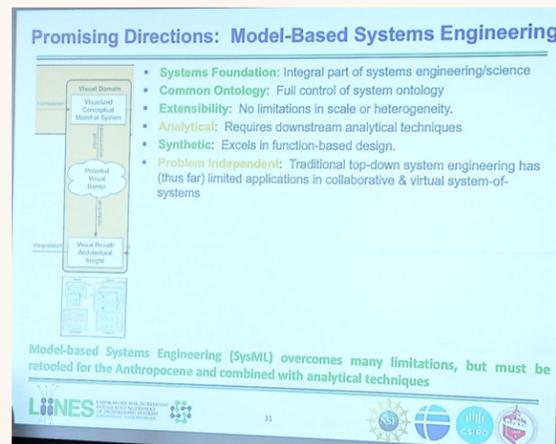
This conference was made possible by Dr. Haifeng Zhu and his INCOSE Working Group on Complex Adaptive Systems. I was honored to be among those selected to present a paper at the event, which was held on the campus of MIT in Boston, Massachusetts. My paper was about a novel team process that I came up with to help multidisciplinary teams adapt to changes quickly and produce solutions together. It takes advantage of Systems Thinking as well as a multitude of work that has been done by prior researchers on how to create effective teams.

What I liked about this conference that made it stand out from other conferences that I have attended, was that the papers presented were very high quality papers that drew from existing disciplines and had a certain degree of depth to them. I also really liked the wide range of types of topics that the papers covered. I believe that one big advantage of this is that different disciplines can learn from each other because they are exposed to different ways of thinking. This can create new insights and new perspectives, which can make a big difference going forward.

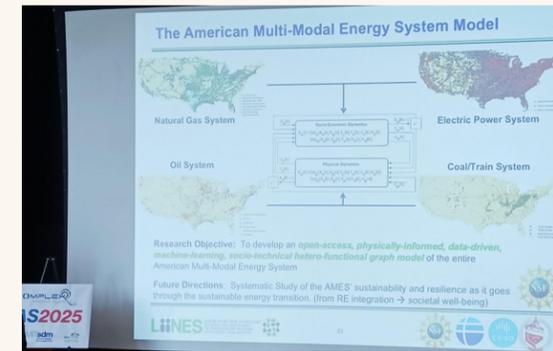
There were a lot of interesting concepts presented. Now I will attempt to touch on a few of these. You won't want to miss the next CAS Conference.



There was a presentation about modeling adaptability and various approaches one can take. As the next exhibit shows, MBSE is particularly promising for CAS because it overcomes many of the limitations of traditional approaches. This means that it can be used for much larger systems, or systems of systems.

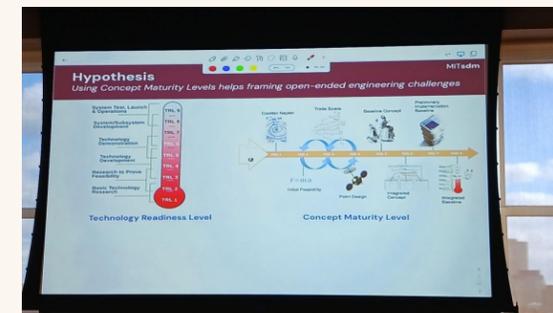


For example, the energy system which is shown in the next exhibit.



By taking a big picture view, we will be able to manage challenges like energy distribution, which will become more and more of an issue as the grid gets stretched by increasing demand from electric cars and AI data centers.

We will also need to be able to innovate a lot more quickly in the future. The next exhibit is from a presentation that shows that technology develops gradually, and emphasizes the importance of paying attention to the stage of development when making technology choices.



These four exhibits are from different presentations and hopefully they give you a glimpse into the range of great papers presented.

In addition to the great content that was provided by the conference, there also were networking opportunities which were quite remarkable. One night a reception was held at the MIT Museum



which was a very interesting setting. Then there was a brief lecture at the end of it, which was also great.

Another night, a special banquet was held in a very special room at MIT. Jack Stein told me that a scene from the movie, "Love Story" was filmed there. It was an amazing room with very beautiful art on the walls, and it had the feeling of a very distinguished hall where many scholars had gathered in the past. This created an atmosphere that was very inviting and supported us in getting acquainted.

The overall event was very well done and well orchestrated. I'm looking forward to the next conference. Hope to see you there.



# 2025 SYSTEAM MINI-CONFERENCE & UPDATES

By Caitlyn A. K. Singam, SySTEAM Program Director, [caitlyn.singam@incose.net](mailto:caitlyn.singam@incose.net)

This summer marks the return of SySTEAM’s biennial mini-conference, scheduled for August 14-15<sup>th</sup>, 2025. The last SySTEAM mini-conference, held in the summer of 2023, elicited great enthusiasm from our community and colleagues, drawing an audience of over 200 registrants from across six continents and over 30 different countries. Back by popular demand, this year’s event aims to once again spotlight the work that various educators, practitioners, and innovators are doing in the realm of systems competency education, while also helping foster international and interdisciplinary network of advocates for systems competency education.

One of the SySTEAM Initiative’s main long-term goals is to help build a community of support for systems competency awareness, both through expanding and strengthening the INCOSE SySTEAM community itself and by forging connections with individuals and stakeholders both inside and outside of INCOSE. Consequently, a key objective of this year’s mini-conference is to provide participants with the opportunity to explore the interdisciplinary relevance of systems competencies in a wide range of educational contexts, with an eye towards providing participants with opportunities to converse and exchange ideas throughout the mini-conference event. Both days of the event will therefore feature a mix of contributed

talks/posters (showcasing SySTEAM-relevant projects, efforts, and ideas), and workshop-style discussion activities, all centered around how systems thinking and systems engineering competencies are embedded and integrated into various aspects of education, training, certification, and professional development.

As with all SySTEAM community events, the SySTEAM mini-conference is free to attend and participate in, and is open both to INCOSE members and to members of the general public. Anyone interested in attending the mini-conference can sign-up via the registration form available via the QR code included on this page, or via the following link: <https://tinyurl.com/4nn3h9u6>. Registration is open now until August 12th (two days before the event).

Another one of SySTEAM’s newly-launched efforts towards community-building is its Volunteer Reviewer Program (VRP), which seeks to aims to help interested members of the SySTEAM community and the general public get involved with both SySTEAM and established volunteer efforts towards developing free, open-access educational/informational sources for the systems engineering community. The SySTEAM VRP works in a similar fashion to standard peer-review processes, and matches interested volunteers with free volunteer-

developed open-source & open-access content that either SySTEAM, or SySTEAM VRP collaborators - such the Guide to the Systems Engineering Body of Knowledge (SEBoK) - have developed and would like reviewed for readability, usability, and/or technical accuracy. Volunteers can sign-up to participate in the VRP through a short (<5 min on average) form, available here: <https://bit.ly/4ehPHBN>.

### Learn more

For more information about SySTEAM and its activities, please visit the SySTEAM webpage [incose.org/system](https://incose.org/system).

### Join INCOSE SySTEAM

We always remain on the lookout for new community members, and welcome any interested individuals to join us

online via our free Discord community hub (join link: <https://bit.ly/3oy1GmF>). Regardless of your professional background, location, or level of commitment, there’s likely something you can contribute to SySTEAM. If you would like to join SySTEAM, or are interested in learning more about the initiative, please contact the SySTEAM initiative lead and Program Director, Caitlyn Singam, at [caitlyn.singam@incose.net](mailto:caitlyn.singam@incose.net).



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**Register Today for the INCOSE International Symposium 2025**

**Ottawa, Canada**  **26 - 31 July 2025**

## INCOSE SUSTAINABILITY WORKING GROUP – QUARTERLY RECAP

We're excited to share the latest updates from our growing **Sustainability Working Group (WG)**!

At the **INCOSE International Workshop 2025**, on the very last day, we officially submitted the creation of the new **Sustainability WG**. This milestone marks the coming together of passionate members from the **French (AFIS)** and **German (GfSE)** chapters—both of which already have active sustainability initiatives—and other enthusiastic contributors from across the INCOSE community.

Our WG has hit the ground running with a number of initiatives already underway:

 **SustainableTogether Project**  
This hands-on initiative is focused on the transformation of a conventional

enterprise—including its **business model** and **products**—towards sustainable alternatives. It's a collaborative effort and proudly **open to external INCOSE members!** We've already established connections with key networks and organizations, including **Common Earth**, the **Cradle-to-Cradle NGO**, and **Platform Cooperatives**.

 **Internationalization of some AFIS Projects**

*ISDR* Thematic Committee presented its projects led in the French chapter, pioneering examples of sustainable systems engineering in practice. Discussion is ongoing about the possibility of widening some of them at the international level.



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### **Webinar Series on Sustainability Topics**

We will start a **webinar series** to foster knowledge exchange and highlight emerging trends and best practices in sustainable systems engineering. These sessions are open to **Non-INCOSE members too!**

### **Awareness Through Learning**

We want to develop a **learning platform** designed to raise awareness and build foundational knowledge around sustainability—stay tuned as this initiative evolves!

### **Workshop Series**

To bring our community closer and get hands-on with our projects, we will organize **regular workshops**. These

will provide opportunities to collaborate, learn from one another, and advance our shared goals in sustainability.

We're incredibly proud of the momentum we've built and are looking forward to expanding our reach and impact. If you're passionate about sustainability in systems engineering, we invite you to join us!

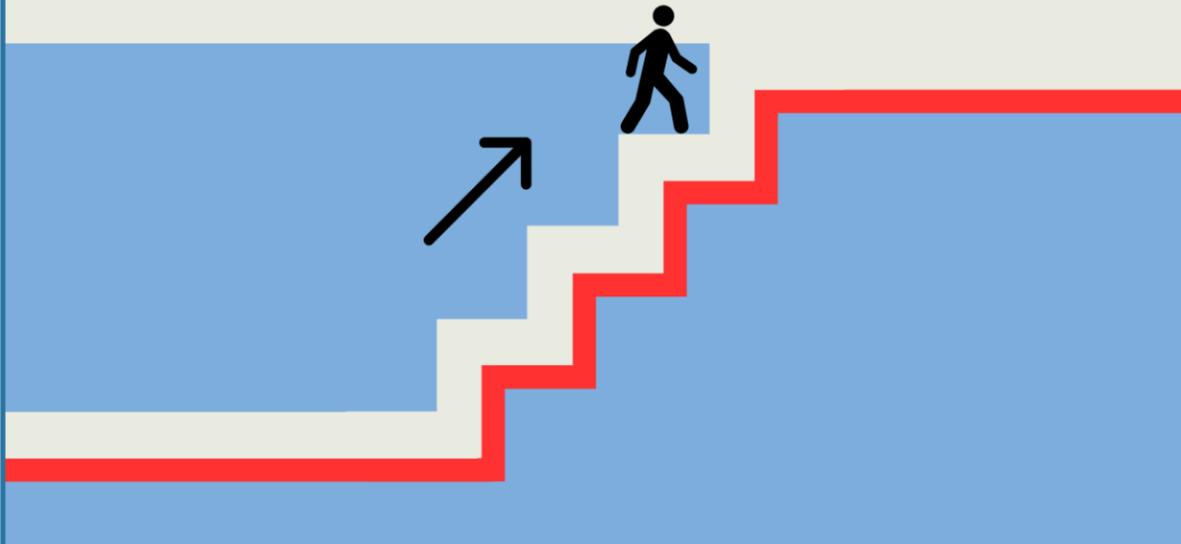
One thing we all agreed on: the key to sustainability lies in **togetherness**. Addressing sustainability challenges requires collaboration—not just within INCOSE, but with external networks and communities as well.

Let's build a more sustainable future—**together.** 

**CHECK OUT THE INCOSE**

# CAREER COMPASS

**AND TAKE THE NEXT STEP IN YOUR CAREER!**



# DECISION ANALYSIS WORKING GROUP UPDATE

We are thrilled to announce the release of the Decision Analysis Data Model (DADM) version 1.0 in the INCOSE SE Lab’s Teamwork Cloud (TWC) environment. After much collaboration between the INCOSE Decision Analysis Working Group (DAWG), Tech Ops, and the SE Lab team, DADM v1.0 beta is now live and ready for testing in support your next critical decision. This milestone brings a structured, data-centric framework based on the INCOSE SE Handbook’s Decision Management Process directly into the hands of systems engineers and decision analysts everywhere.

Since its inception, DADM has aimed to codify the essential elements of decision analysis into a reusable, digital data model. With this release, users can explore conceptual and logical data models and detailed decision analysis processes like never before through this SysML-based reference model, fully accessible from the SE Lab’s collaborative platform. Whether you’re drafting a decision frame, defining objectives, or analyzing a list of alternatives, DADM v1.0 provides the baseline structures to ensure consistency, traceability, and rigor.

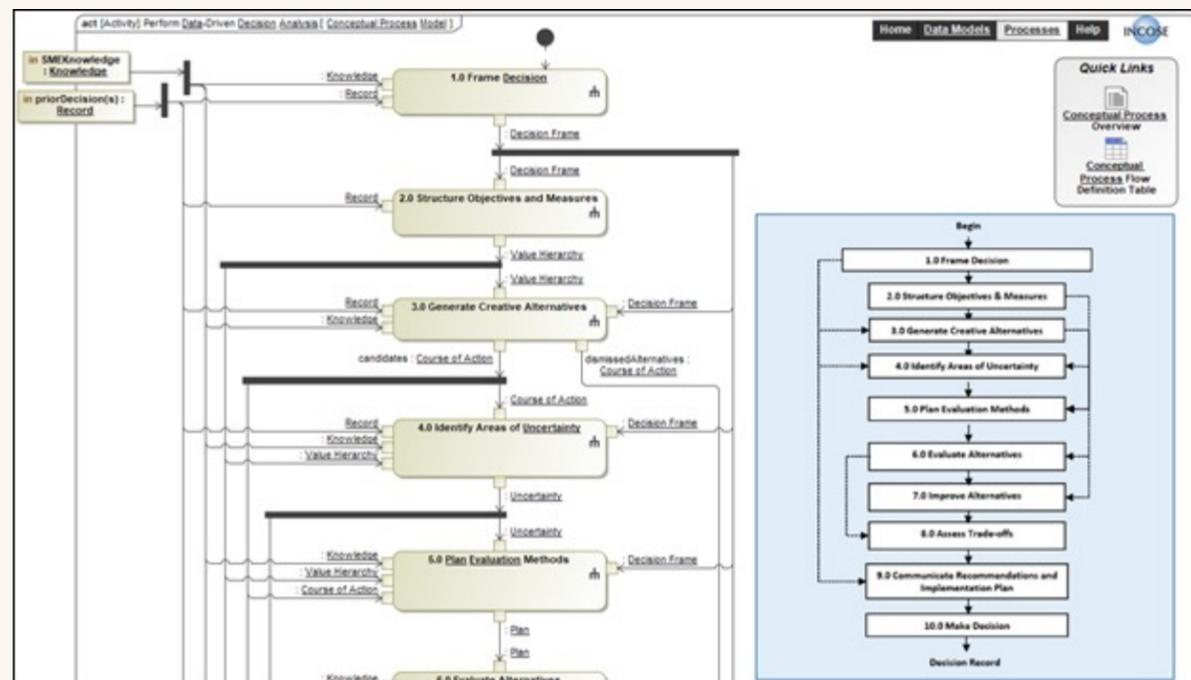


Figure 1: Screenshot of DADM v1.0 loaded in the SE Lab TWC environment

Looking ahead to the INCOSE International Symposium in Ottawa, the DAWG team will showcase DADM in two dedicated sessions. First, “Enhancing the Future of Decision-Making – INCOSE DADM v1.0 Implementation” will trace the April release’s development journey, introduce the latest developments, and demonstrate methods for attendees to get involved with developing and testing this model. Then, “Transforming Decision-Making with AI and the DADM Framework” will present our agent-based AI prototype that layers large language models, vector stores, and an agentic workflow onto DADM’s schema to streamline key elements of the decision analysis process—while previewing next-gen features such as automated reporting and real-time context integration.

As we prepare for Ottawa, we also need your help to make DADM even stronger. We are issuing an open call for potential use cases—real or hypothetical scenarios that span acquisition decisions, technology trades, lifecycle planning, risk-opportunity balancing, and beyond. By contributing use cases, you’ll help us uncover gaps, refine relationships, and drive future enhancements (including the planned v2.0 example implementation). If you have a decision challenge you’d like to see modeled—and pressure-tested—please reach out to [decision-analysis@incose.net](mailto:decision-analysis@incose.net) with a brief description by 30 June.

DADM v1.0 in SE Lab TWC is more than a data model; it’s a living framework designed to evolve through community engagement, further advancing the discipline of decision management. We

encourage all INCOSE members to log in to the SE Lab, explore the DADM package, and start integrating it into your projects. Visit our iNET page to find out more about the DADM and our other working group activities - <https://www.incose.org/inet/working-groups/decision-analysis/>.

See you in Ottawa—let’s shape the future of model-based decision analysis together!

## SYSTEMS ENGINEERING LABORATORY

Where INCOSE members can use real, full versions of systems engineering tools for non-commercial INCOSE purposes, learning, and projects, at no cost!



[incose.org/selab](https://www.incose.org/selab)

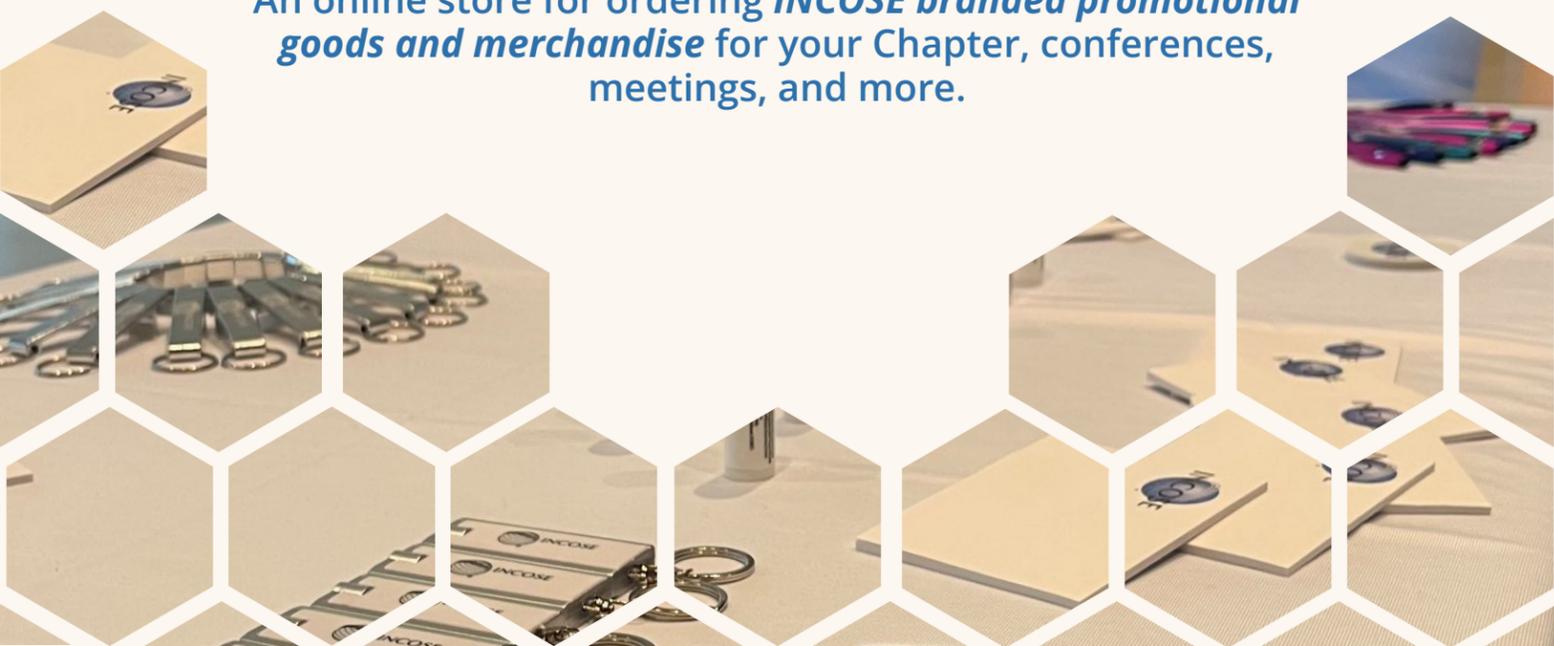


# INCOSE Promotion & Merchandise Products



Scan QR code to visit [www.incose.org/swag](http://www.incose.org/swag)

An online store for ordering *INCOSE branded promotional goods and merchandise* for your Chapter, conferences, meetings, and more.



## DIGITAL ENGINEERING INFORMATION EXCHANGE (DEIX) WORKING GROUP UPDATE

We're excited to share several key updates on our ongoing Digital Engineering efforts across our sub teams: DE Taxonomy, DVM, DE Primer, DE Guide . Thank you to everyone who continues to contribute to this critical work.

### DE Taxonomy/Ontology

- We're finalizing the **IS paper** for **INCOSE IS 2025** – a major milestone in formalizing our shared DE understanding.
- A **draft DE ontology** is now hosted on **INCOSE's GitHub**. Community contributors and reviewers are welcome – your input is essential.

### DE Guide

- **Author team working sessions** are launching soon. If you're interested in contributing, please contact DEIX WG leadership <[dexiwg-leaders@incose.net](mailto:dexiwg-leaders@incose.net)>.

### DE Primer

- We're in the final content development stage, awaiting updates to the DE definition from the finalized Taxonomy IS paper.
- **Publication is now anticipated in summer 2025**, potentially aligning with **INCOSE IS** or shortly after.
- Looking for help with:
  - **Comment adjudication**
  - **Illustrations for DE concepts**
  - **Editorial edits**

Please reach out <[dexiwg-leaders@incose.net](mailto:dexiwg-leaders@incose.net)> if you're interested

in helping shape this foundational document.

### Digital Viewpoint Modeling (DVM)

- **In work:** An **SysML v2 view/viewpoint implantation example** of the DVM focused on requirement traceability
- **Completed initial draft** on **digital information exchange data model** based on the DVM framework
- **Coming soon:** DVM product release

### INCOSE INSIGHT – October 2025 Edition

The DEIX WG is preparing several feature articles for the next issue of **INSIGHT**:

- **DEIX WG update**
- **DE Standards update**

### Upcoming Conferences

#### INCOSE IS 2026

- Presentation of the **Taxonomy IS Paper**
- In-person **DEIX WG meeting** (tentative – more details to come)
- **NDIA Systems Engineering Conference – October 28–31, 2025**
- Final presentation abstract **due by June 21, 2025**. Get those submissions in soon!

Let's keep the momentum going – your contributions continue to shape the future of Digital Engineering.



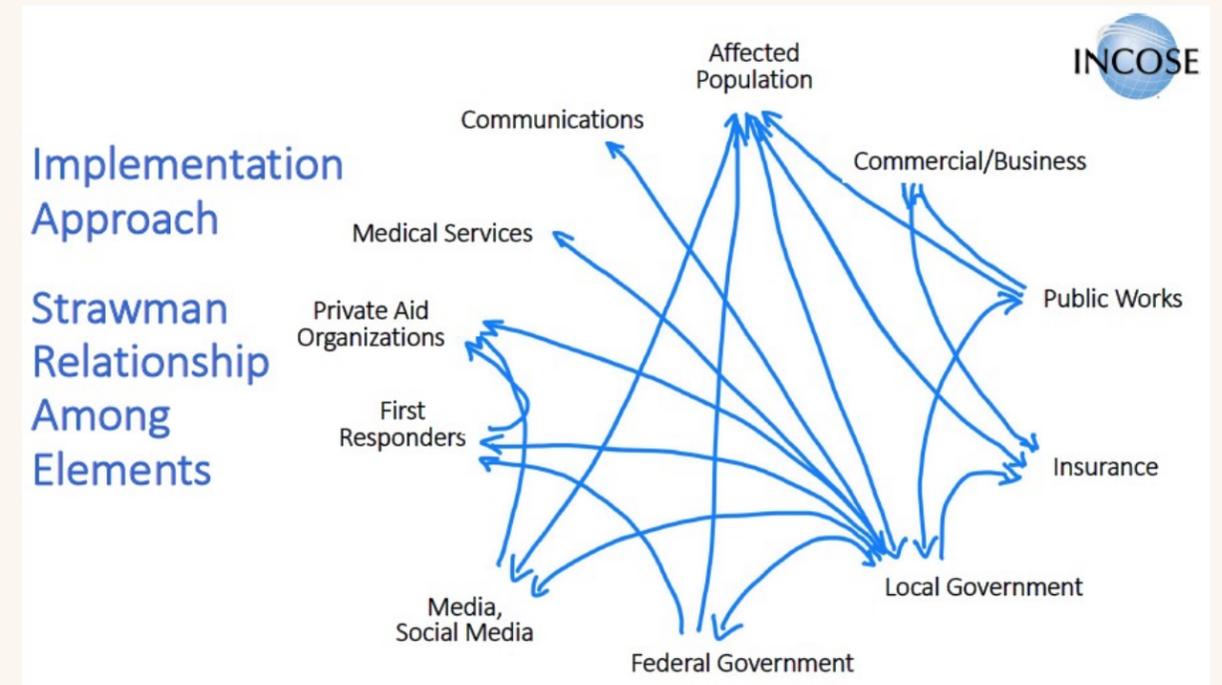
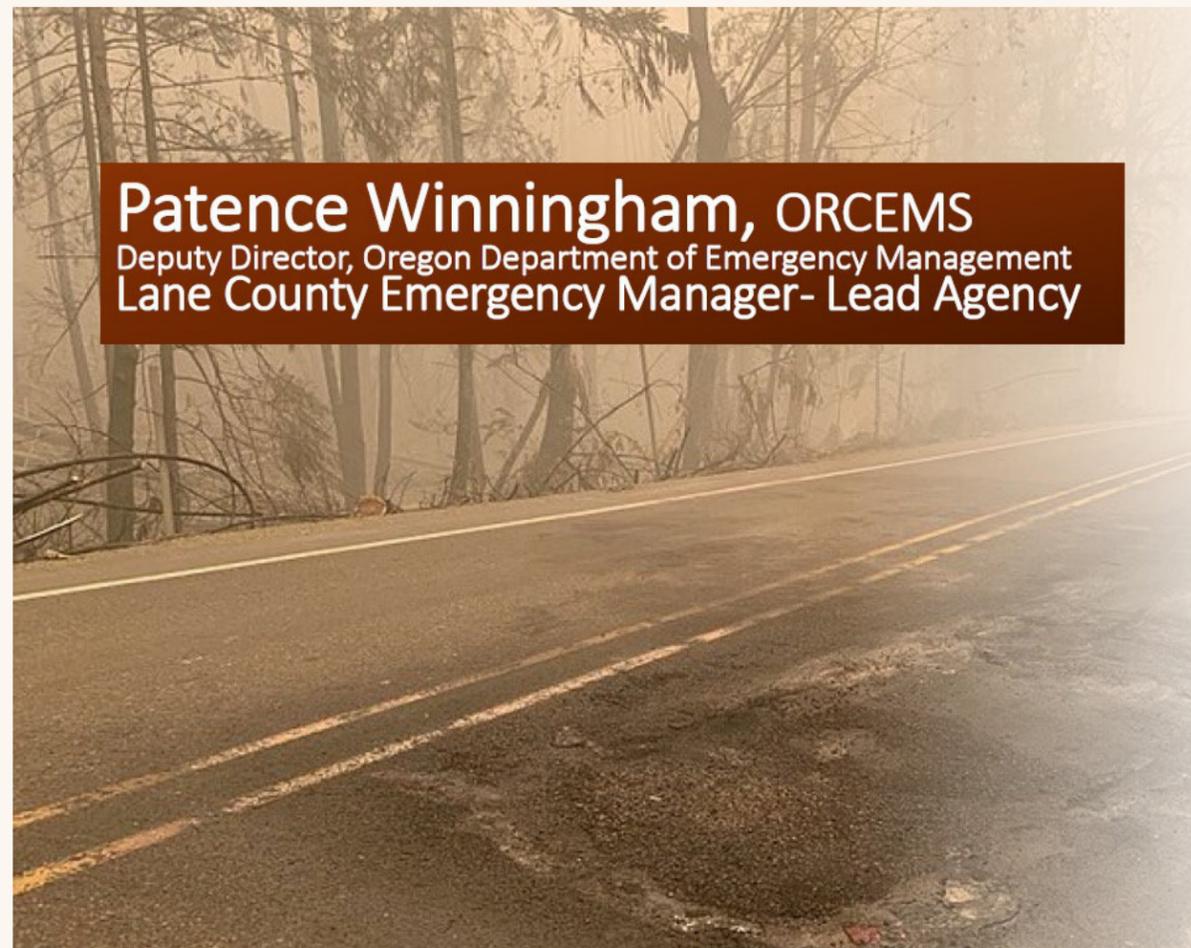
# PROJECT WILDFIRE

Project Wildfire kicked off at IW2025 in Seville, Spain. Its purpose is to foster cross-collaboration among INCOSE working groups by rallying around a unifying, compelling initiative in an effort to shift Working Group models from independent silos to an integrated, value-added systems approach employing the values, perspectives, and applications each working group brings.

Project Wildfire aims to:

- Identify a passionate, shared topic that could engage multiple working groups.

- Encourage each group (e.g., System of Systems, Ontology, Requirements, Resilience, ICT, among others) to explore how their focus contributes to that topic.
- Facilitate broader systems engineering collaboration that aligns with INCOSE’s overall mission and vision.
- Promote consistency in terminology and ontology across working groups.
- Create opportunities to integrate and expand the application of systems engineering across sectors.



The Project Wildfire initiative explores the application of systems of systems engineering (SoSE) to a community mission-driven capability— focused on emergency management, particularly wildfire preparation and response, drawing on INCOSE working group core competencies.

A pre-recorded interview with Ms. Patence Winningham, Lane County, Oregon Emergency Manager, was shared to set the stage as an example of a significant event, where Emergency Management and other personnel are able to provide direct information and data to INCOSE working group team members. Ms. Winningham shared her experiences as lead response agency during the 2020 Holiday Farm Fire, one of the largest fires in Oregon’s recent history. Patience joined remotely and answered questions from the workshop participants.

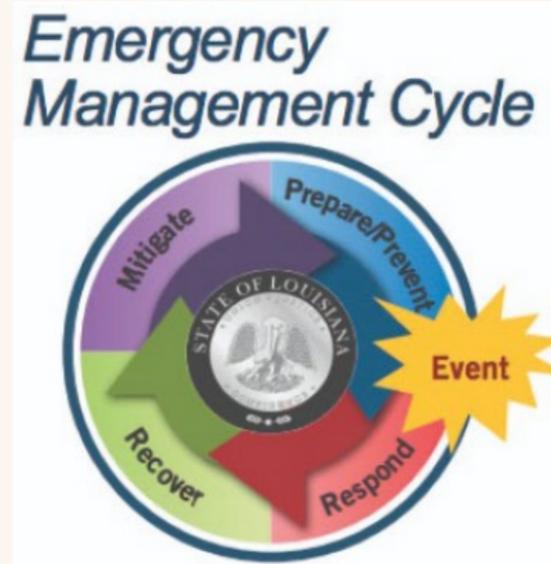
### Incident Overview

- The Holiday Farm Fire occurred during Labor Day and was one of seven major fires statewide in Oregon.
- It prompted the evacuation of over 5,000 people within five hours.
- Remarkably, despite the scale, only one fatality was reported, attributed to swift and decisive evacuation actions.

### Strategic Implications

- Current systems overly rely on county emergency managers, creating bottlenecks in large-scale emergencies.
- There is a pressing need for systems-level redesign of disaster preparedness, response, and recovery, particularly with recurring, overlapping disasters.
- Systems engineering approaches (e.g., system-of-systems modeling) are proposed to strengthen

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coordination and resilience.

IW2025's two-part workshop provided a venue for working groups and individual systems engineers to examine the opportunity to collaboratively engage in an initiative to apply a systems of systems engineering approach designed to achieve an effective mission driven capability outcome. The participants represented a wide range of perspectives from ten different working groups including about 20 participants on-site and 15 online.

The team introduced the initiative and the proposed SoSE approach to systems engineering of a community-mission driven capability. The approach is based on application of the US Defense mission engineering methodology (see Mission Engineering\_INCOSE-IS2024.pdf at [https://drive.google.com/file/d/1\\_pYWNI9ZyiDD-uSkqD5IBFaS4r62rolb/view?usp=drive-link](https://drive.google.com/file/d/1_pYWNI9ZyiDD-uSkqD5IBFaS4r62rolb/view?usp=drive-link))

Define Problem/Purpose: Define the intended capability and define the desired outcome(s). Strawman:

- Purpose/Objective of the Wildfire Prepare and Response Community Capability: Minimize loss of life and property
- Problem/Objective of the SoS engineering analysis: Provide data driven recommendations for investments to improve Wildfire capability outcomes
- Purpose/Objective of the INCOSE Initiative: Investigate multi-working group approach to SoS engineering analysis

Mission/SoS Characterization: Identify key elements of capability (including not only responders, but the affected population, enablers, etc.) and layout role and actions of each element, including actions of key elements and interactions between elements.

As we consider the next steps, the Project Wildfire team leads ask you and your Working Groups to participate with us! Contact us to show your interest in further participation for follow-on actions! -Susan Ronning [Susan.Ronning@incose.net](mailto:Susan.Ronning@incose.net), Judith Dahmann, [jdahmann@mitre.org](mailto:jdahmann@mitre.org), and Alan Harding [alandharding@gmail.com](mailto:alandharding@gmail.com)

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# CALL FOR APPLICATIONS: STEVENS DOCTORAL AWARD -- DEADLINE: 1 AUGUST 2025

The INCOSE Foundation, in partnership with the Stevens Institute of Technology, is now accepting applications for the **2025 Stevens Doctoral Award for Research in Systems Engineering and Integration**. This prestigious award offers a **\$5,000 grant** to support promising doctoral research that contributes to the advancement of systems engineering.

Since 2002, this award has recognized outstanding Ph.D. students conducting innovative research with the potential to significantly impact both theory and practice in the field.

### Doctoral Award Includes:

- \$5,000 cash grant (awarded directly to the doctoral candidate)
- Formal recognition in February 2026 at the [Annual INCOSE International Workshop, Torrance, CA.](#)
- Commemorative plaque

### Eligibility:

- Enrolled in a Ph.D. program with an approved research proposal
- Applicants may only receive this award once

### Evaluation Criteria:

- Advancement of the state-of-knowledge in systems engineering and integration
- Potential to influence systems engineering practice within 5–10 years

### Application Requirements:

- Completed Application Form
- Two Faculty Recommendation Letters
- All materials must be submitted by

1 August 2025

### 🔗 Application Form & Recommendation Template:

- [Stevens Doctoral Award Application](#)
- [Stevens Doctoral Award Recommendation](#)

### Recent Recipients:

- **Stephanie Charo Chiesi** (2024):
  - Doctoral candidate at Stevens Institute of Technology.
  - Recognized for research in digital engineering to bridge the gap between research and implementation in systems engineering
- **Hossein Basereh Taramsari** (2024):
  - Doctoral candidate at Stevens Institute of Technology.
  - Honored for innovative doctoral research in systems engineering and integration

📧 **Questions?** Contact: [foundation@incose.org](mailto:foundation@incose.org)

If you are eligible—or know a doctoral student who is—we encourage you to apply or share this opportunity.

Good luck to all applicants!

# CONFRONTING BIAS IN GENERATIVE AI

By Dr. Tracee Gilbert

INCOSE DEI sponsored a 2025 Conference on Systems Engineering Research (CSER) panel “*Data and Algorithm Bias in Generative AI*” that explored the impacts of biases in generative AI and what leaders in systems engineering can do to address them. Dr. Tracee Gilbert moderated the session, which opened with Dr. Bryan Mesmer reviewing the shift in systems engineering from traditional approaches, to MBSE, and now today’s AI wave. Generative AI has emerged as a powerful tool to boost efficiency and accelerate innovative problem-solving in engineering. However, its reliance on data and historical patterns often reflects human error and social inequities. This can lead to flawed outputs and reinforce existing systemic biases that reinforce stereotypes and narrow perspectives.



Exhibit 1: AI Generated Artwork

research that visually illustrated how generative AI mirrors and amplifies real-world biases in the interpretation of gender, race, and culture. The presentation walked through seven types of cognitive biases below. One example challenged the audience: *Can you tell why this image is AI-generated* (see inattentional bias below for the answer)?

### Case Studies

Dr. Gerardo presented her case study

1. <b>Confirmation Bias</b>	AI labeled identical faces differently based on gender. “Calm,” “Confident” for male, “confused,” and “frightened” for female. <sup>1</sup>
2. <b>Belief Persistence Bias</b>	Resumes with identical content but different race/gender names showed clear bias in callbacks. <sup>2</sup>
3. <b>Self-Serving Bias</b>	A deepfake of Zelensky spread misinformation, showing how AI can be weaponized.
4. <b>Anchoring Bias</b>	AI still struggles to render hands correctly. This is an anchoring bias that reflects its reliance on flawed prior patterns and often leads to hallucinations.
5. <b>Availability Bias</b>	A prompt for “human face” returned mostly young, white, blue-eyed women—reflecting biased training data.
6. <b>Framing Effect Bias</b>	AI responded to “Filipino women curling” with comically inaccurate images, revealing cultural gaps in datasets.
7. <b>Inattentional Blindness</b>	Focused attention can make us miss obvious signs of AI-generated artwork, like the portrait in Exhibit 1.

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The panel further discussed how these biases can negatively impact systems engineering. For instance, aircraft cockpits were originally sized for average male pilots, excluding many women until recent updates. In healthcare, growth charts based on white populations misrepresented the health of children. Similarly, AI trained on space system data generated irrelevant requirements when applied to automotive or defense projects, showing the dangers of misaligned training data.

### Trustworthy AI

To support Dr. Gerardo's research, Stephanie Chavez shared her own experience. When she asked AI to generate an image of her (i.e., a Mexican American female engineer) it returned white male faces. She also described her Ph.D. research, which explores AI transparency and trust. Her work includes experiments with tools like Copilot and ChatGPT, as well as developing a framework to guide decision-making in AI use.

Celeste Manughian-Peter wrapped up the panel presentations by presenting a broader framework for implementing trustworthy AI, viewing bias as one element within a larger ecosystem of ethical risks. Her "Trusted Generative AI" framework includes dimensions such as: explainability; privacy and copyright; cybersecurity; and misinformation safeguards.

### Audience Insights and Key Takeaways:

- **Generative AI's Promise and Pitfalls:** While AI enhances productivity in systems engineering, it also introduces risks, particularly when trained on biased or limited datasets.
- **Bias Is Systemic:** Real-world case



studies revealed how generative AI mirrors societal inequities.

- **Human Oversight Is Crucial:** AI hallucinations and training gaps mean human experts must validate outputs. "Human-in-the-loop" workflows are essential for safe, effective integration in engineering processes.
- **Trustworthy AI Requires Systemic Change:** Bias is systemic and shaped as much by institutional norms as by the data itself. Effective mitigation requires diverse teams, representative datasets, and ethical frameworks (e.g., NIST's Trustworthy AI, custom AI BOMs, and provenance tracking).

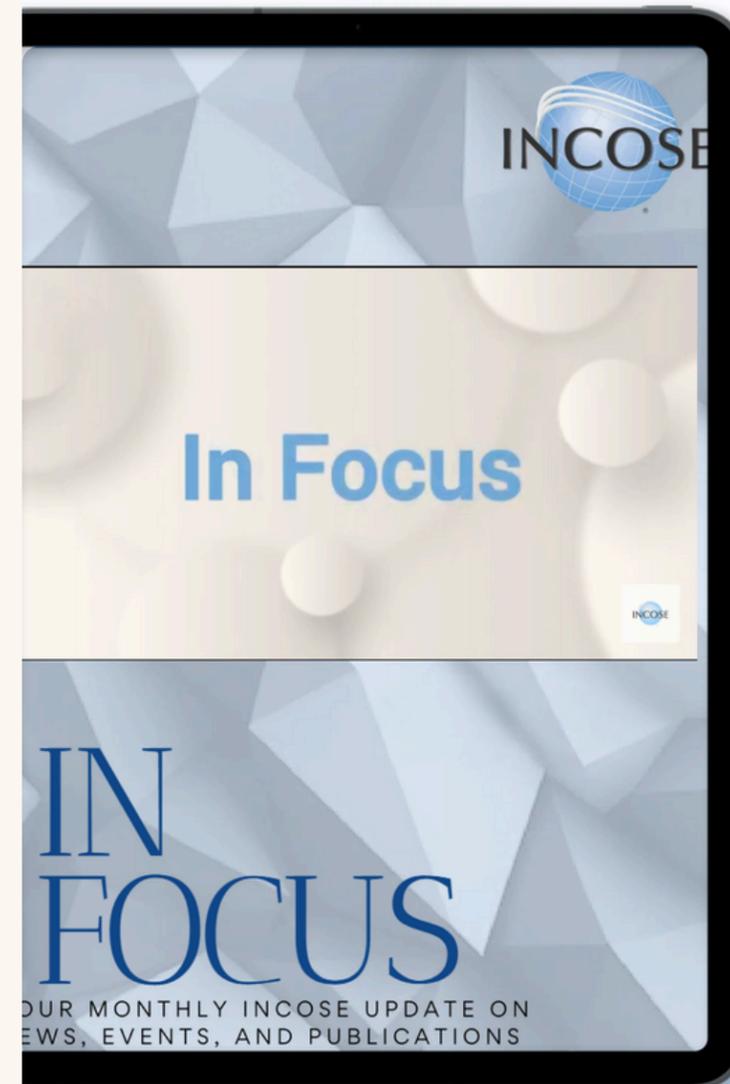
### Leadership A Call to Action

To lead responsibly in this evolving landscape, engineers must transcend technical expertise to actively address biases embedded in the systems they develop. By fostering diverse perspectives, ensuring transparency, and embedding ethical considerations throughout the development process, leaders can create technologies that serve all communities equitably.

Women in systems engineering hold a pivotal role in this transformation. Through leadership, education, and advocacy, they can drive the creation of more inclusive and effective technologies. It's imperative that the systems we design reflect the full diversity of the populations they aim to serve.

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*UPCOMING INCOSE EVENTS, MEMBERS SPOTLIGHTS, NEW AND UPDATED TECHNICAL PRODUCTS, CALLS FOR PAPERS, LEADERSHIP MESSAGES & MORE!*



PREVIOUS SECTION:  
COMMUNITY UPDATES  
& INTERESTS



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SERVICES, PRODUCTS  
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# UTILIZE INCOSE MEMBER BENEFITS

By Heidi Davidz, INCOSE Services Director

The Services Committee continues to enhance INCOSE member value through a range of offerings. The Systems Engineering Laboratory (SE Lab) continues to grow in use by individual members and working groups. New vendors and tools are being added, and the popular Demo Days provide information about the available tools. See the SE Lab newsletter article for details on the progress. Model-based assets are available to share between working groups. Also, INCOSE IT is now managing an INCOSE GitHub area for collaboration. If you would like more information on accessing the SE Lab, go to <https://www.incose.org/selab>. If you are a vendor interested in SE Lab participation, contact

[incoseselaboperations@incose.net](mailto:incoseselaboperations@incose.net).

After a record number of applicants this cycle, the Technical Leadership Institute (TLI) has selected Cohort 11. Two new coaches are joining the team. See the TLI newsletter article for details. General information on TLI can be found on the webpage <https://www.incose.org/tli>.

A new team has been created for The Forum to enhance strategic positioning and integration of web-based events. Upcoming webinars can be found on the events page at <https://www.incose.org/events>. The cafés offer an informal virtual gathering place for INCOSE members and the broader public to explore a chosen topic, test ideas, and engage in rich discussions. If you'd like to host a café, complete the request form at <https://www.incose.org/cafes>.



[www.incose.org/events/systems-exchange-cafes](https://www.incose.org/events/systems-exchange-cafes).

Within Education and Training (E&T), there are several active efforts. The Board of Directors commissioned a task force to determine INCOSE's future role in the education and training ecosystem, and recommendations are due for the Q3 board meeting. The E&T team is creating a development roadmap for individuals. A third team is enhancing the Professional Development Portal (PDP) with improved curation and user interfacing. A fourth team has examined automated tagging of PDP assets utilizing a systems engineering ontology. The PDP can be accessed at <https://www.incose.org/learn/incose-pdp>.

The mentoring program has had a cumulative total of 121 mentees. There are currently 28 mentors accepting new mentees. If you are interested in participating as a mentor or a mentee, please see the instructions at: <https://www.incose.org/mentoring>.

The Systems Engineering Tools Database (SETDB) helps members find appropriate software tools and cloud services to support engineering activities. Planning is in work for the next round of feature enhancements. SETDB can be

accessed at <https://www.systemsengineeringtools.com>.

The Certification team continues to process applications for the three tiers of ASEP, CSEP, and ESEP, while also adding academic equivalency universities. Micro credential discussions are in work. More information on certification can be found at <https://www.incose.org/certification>.

We encourage you to fully utilize the benefits included in INCOSE membership. More information on the Services Committee can be found at <https://www.incose.org/communities/services-committee>. We are eager to continue enhancing the value and impact these services provide to you in 2025!



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# THE INCOSE SE LAB: RAPID GROWTH IN LAB USERS WITH MORE PARTICIPATING TOOL VENDORS AND TOOLS

By Craig Leger

The INCOSE Systems Engineering Laboratory (SE Lab) is one of the fastest-growing services in INCOSE, with over 570 INCOSE members who have used the lab in the past two years. The lab provides INCOSE members with access to a rich collection of industry-leading systems engineering tools. Our vision remains clear: to create a computing environment where members can freely explore and use full versions of these tools for individual learning, for professional development, and for non-commercial, collaborative INCOSE projects. This initiative benefits both our members, who gain valuable hands-on experience, and our participating tool providers, who gain exposure to their products.

The INCOSE SE Lab works in partnership with 15 tool vendors to offer 32 tools. This diverse selection ensures



members can find the right tools to meet their specific needs.

The INCOSE SE Lab Demo Day Webinar Series is a great opportunity to learn about the tools in the lab. The lab usually hosts two webinars each month. There have been twelve (12) webinars between November 2024 and May 15, 2025, with average attendance around 100 participants, and as high as 325+ webinar participants.

- Future webinars are announced on the INCOSE Events page: <https://www.incose.org/events/>.
- Video recordings and presentation materials from each webinar are available in the INCOSE Professional Development Portal (PDP): <https://www.incose.org/learn/incose-pdp>

We extend a warm welcome to our newest vendors and tools:

New vendor **Change Vision** adds two new tools: **Astah SysML** and **Astah System Safety**.

- **Astah SysML** is a modeling tool for model-based systems engineering (MBSE), offering comprehensive support for SysML diagrams, model comparison, merging, and customization. It streamlines system design and enhances diagramming

efficiency for engineers and system architects.

- **Astah System Safety** is a modeling tool designed for safety-critical systems, enabling system architecture modeling, safety assessment, and analysis. It supports SysML, UAF (via plug-in), STAMP/STPA, GSN/D-Case, and ASAM SCDL, providing comprehensive tools for system safety and reliability engineering.

New vendor **Sensmetry** adds two new tools:

**Sensmetry - SysIDE Pro** and **SysIDE Editor** (Open Source)

**SysIDE Pro** is a comprehensive SysML v2 tool suite that enables advanced modelling functionality like visualization of SysML v2 models, programmatic model manipulation, embedding domain specific languages and more. The tool suite is built for enterprises and power users enabling use-cases like model analysis, simulation & validation, automatic asset generation, integration with other engineering tools and workflows.

- **SysIDE Editor** is an open-source SysML v2 textual editing and analysis system that provides a convenient and effective textual editing experience. SysIDE was developed to extend SysML v2 language support to VS Code. SysIDE Editor can also be used immediately as a standalone, providing SysML v2 textual syntax analysis capabilities, or it can be integrated into larger software projects. Together with VS Code, SysIDE Editor can be used as an Integrated Development Environment.

Sodius Willert has adds **Publisher for Sparx Enterprise Architect** to the four other Sodius Willert tools already available in the lab.

- **Publisher for SPARX EA** publishes SPARX Enterprise Architect models to Cameo Systems Modeler (MagicDraw) in the push of a button. The Cameo Systems Modeler Publisher for SPARX Enterprise Architect converts SPARX EA UML and SysML files into a compatible MagicDraw file format in record time.

# CHECK OUT THE SE LAB!

[incose.org/selab](https://incose.org/selab)



# HOW INCOSE TECHNICAL PRODUCTS ARE DEVELOPED

By Tami Katz, INCOSE Technical Director

INCOSE Technical Operations (TechOps) oversees the INCOSE technical product creation process, leveraging the work of the many volunteers within Working Groups and Project Teams. TechOps is one of many INCOSE operation departments, which are described in the INCOSE Operations Manual found on the policies and bylaws website: <https://www.incose.org/about-incose/policies-and-bylaws>.

For 2025, TechOps is working to improve the pace of technical products through the pipeline and implement a standard approach for technical review.

Improving the pace of technical product development means providing guidance, collaborative support, regular assessment of progress, and technical publication support as applicable. The Technical Product Development effort is overseen by the Assistant Director Dean Norfleet and Deputy Kevin Orr, supported by INCOSE staff member Christian Sprague. This team can be contacted through [technicalproducts@incose.net](mailto:technicalproducts@incose.net).

Currently, there are nineteen technical products in various stages of development, ranging from frameworks, guides, example application content, and system models. Our Technical Product Development team supports the product developers through regular office hours, which are provided on the INCOSE

Technical Product website <https://www.incose.org/publications/products>.

Last year, the team produced a Technical Product Management Guide, which outlines the various steps in the development and release process (see graphic), along with details on how each step is accomplished.



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The guide includes the process and template for our Technical Product Plan (TPP). TPPs are submitted to show intention for a product being developed and is the mechanism for tracking proposed technical products and ensuring appropriate support. The Technical Product Development Guide can be found on the Technical Operations iNet page, <https://www.incose.org/inet/technical-operations>, along with a link to the TPP form and our TPP project tracker – a list of approved project descriptions.

The TechOps leaders have also been generating a standard approach towards the technical review of the INCOSE technical products, leveraging the approach used in reviewing papers for the International Symposium. The Technical Review effort is overseen by the Assistant Director, Krystal Porter, and Deputy Anabel Fraga, supported by

INCOSE staff members Erika Palmer and Christian Sprague.

INCOSE works to maintain a large pool of independent technical reviewers with diverse expertise in various aspects of systems engineering. The product team coordinates the review process, working with relevant leadership to select appropriate reviewers from this pool based on the product's subject matter.

If you are interested in becoming an INCOSE technical reviewer, please fill out the following application form here: <https://forms.office.com/r/EKGmj7wQr4>.

If you are an INCOSE member interested in developing technical products for INCOSE, please consider joining one of our working groups within TechOps; you can learn more about our working groups on the INCOSE website <https://www.incose.org/communities/working-groups-initiatives>.

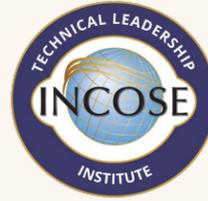
**SEBoK**  
GUIDE TO THE SYSTEMS ENGINEERING BODY OF KNOWLEDGE

*A dynamic guide for systems engineering, providing organized references and knowledge sources.*

[www.sebokwiki.org](http://www.sebokwiki.org)

# UPDATES FROM INCOSE'S TECHNICAL LEADERSHIP INSTITUTE

By Suja Joseph-Malherbe, TLI Coach, [suja.joseph-malherbe@incose.net](mailto:suja.joseph-malherbe@incose.net) and David Long, TLI Coach, [David.Long@incose.net](mailto:David.Long@incose.net)



We are excited to welcome the 22 members of Cohort 11. With their learning journey set to begin with a kick-off workshop in June 2025, the Institute's global reach and diversity of thought continue to expand. The TLI now has 183 members from 21 countries. We are looking forward to listening, thinking, and learning together with the members of the Cohort.

**Top Row (left to right):** David Long, Coach (Blue Holon, USA); Michael Enloe (Booz Allen Hamilton, USA); Dr. Kishan Singh Chowhan (Ministry of Defence, India); Carina Carla Silva (Embraer, Brazil); Benjamin Canty (BAE Systems, Inc. SMS, USA); Michael Olszyn (Eaton, USA); Elizabeth Seufert (Bechtel, USA); Guillaume Belloncle (Dassault Systemes, France); Bas Leijser (Dutch Boosting

Group, Netherlands); Julián Muñoz Domínguez (Alstom, Spain); Jada Williams (CTC, USA); Shawn Na (SAIC, USA); Adail Retamal (Serpro, Brazil)  
**Bottom Row (left to right):** Kevin Mountford (Synoptix, UK); Ilyes Yousfi (The REUSE Company, Spain); Robert Schwenke, Coach (Sandia National Laboratories, USA); Joseph Tan (Saab Australia, Australia); Suja Joseph-Malherbe, Coach (Letter27, South Africa); Christophe Laverge (Infrasoft, Belgium); Prafull Kasture (Continental Automotive, Japan); Romain Alitti (Thales, Netherlands); Mohini Nagardeolekar (Philips India Ltd., India); Carla Sayan, Ph.D. (Pratt & Whitney, USA); Rhian Goolabsingh (BAE Systems, Inc., USA); Shadab Hossain (Eaton, India); Donna Long, Coach (Blue Holon, USA)



As Cohort 11 sets the foundation of their learning journey, members of Cohort 10 are focusing on topics that are specifically relevant to them. Based on the burning questions they identified, Cohort 10 will be pursuing three major projects over the coming months:

- Explore the role of AI to inform judgements and to make decisions – both micro and macro.
- Evolution of the shared model of technical leadership
- Appreciating the interests, insights, and concerns of another to help facilitate a shared understanding.

Cohort 9 completed three major projects as part of their journey. One will be presented at IS 2025 and the other two will be shared using other vehicles:

- *Enhancing Shared Understanding in Multidisciplinary Teams*
- *An Investigation into the Efficacy of Tailoring a Higher-Level Vision for Team Motivation*
- *Enhancing Systems Engineering Leadership: Addressing Self-Awareness*

## The Next Evolution of the TLI Coaching Team

We are excited to announce the newest members of the coaching team, Donna Long (Cohort 8) and Robert Schwenke (Cohort 8). The coaching team's experiential understanding of the two-year experience is vital to the teams' ability to create the environment for others on their learning journey. As such, majority of the coaching team is from the Institute's inducted members.

The team brings together a diverse and experienced group of systems engineering leaders committed to equipping systems engineers to appropriately engage leadership concerns that arise when addressing 21<sup>st</sup>-century socio-technical challenges.

### THE COACHING TEAM OF TOMORROW

INCOSE Technical Leadership Institute



**ROB SCHWENKE**

- ◊ Brings diverse perspectives with experience spanning multiple industries.
- ◊ Inventive problem solver with multiple patents.
- ◊ Committed to self-education.



**SUJA JOSEPH-MALHERBE**

- ◊ Bridges technical, educational, and leadership domains.
- ◊ Committed to the discipline's evolution.
- ◊ Focused on developing leadership to tackle socio-technical challenges.



**DONNA LONG**

- ◊ Passionate about systems thinking and systems engineering.
- ◊ Offers a global perspective driven by working with clients worldwide.
- ◊ Actively involved in the professional society.



**DAVID LONG**

- ◊ Prominent global leader in the systems engineering community.
- ◊ Dedicated to the growth and evolution of systems engineering.
- ◊ Committed to giving back to the community.

#### LEADERSHIP REIMAGINED

Celebrating its 10<sup>th</sup> anniversary, INCOSE's Technical Leadership Institute continues to thrive. We are pleased to announce the next evolution of the coaching team.

The team brings together a diverse and experienced group of systems engineering leaders united by a shared commitment to equipping systems engineers to appropriately engage leadership concerns that arise when addressing 21<sup>st</sup>-century socio-technical challenges.

Exhibiting technical depth, leadership, and forward thinking, the coaches continue to advance systems engineering through serving other leaders.



## SEBOK V. 2.12: UPDATES TO REFLECT INCOSE HANDBOOK AND ISO/IEC/IEEE 15288

By Christopher Hoffman, ESEP, SEBoK Managing Editor

The Systems Engineering Body of Knowledge (SEBoK) Editorial Board has incorporated multiple updates to reflect version 5 of the INCOSE Handbook and the 2023 version of ISO/IEC/IEEE 15288. In some instances, substantive rework was completed to reflect the current versions, and changes will continue into the next releases of the SEBoK.

For those unfamiliar with the SEBoK, it is a guide to the broad scope of SE-related knowledge. The core of this is tested and proven knowledge that has been developed through practice, documented, reviewed, and discussed

by the systems engineering community.

[SEBoK v. 2.12](#) Release Highlights:

- **New Knowledge Areas with new Articles:** Life Cycle Concepts, Development Approaches, Agile Systems Engineering, and Life Cycle Model Selection.
- **Major Updates:** Systems Science axioms added to SE Core Concepts, Configuration Management, Alignment and Comparison of SE Standards, Application of SE Standards, Systems of Systems, Capability and Mission Engineering, and System Resilience.
- **Several New Articles:** Configuration Baselines, Configuration Management Implementation, Why

Standards?, SE for Systems of Systems, and Systems of Systems Analytic Approaches.

Stay updated with the latest in systems engineering practices and standards, and Get Involved ([https://sebokwiki.org/wiki/Get\\_Involved](https://sebokwiki.org/wiki/Get_Involved)) with the next release!

### Editor-in-Chief Message

Innovation isn't just about growth, it's about survival. Nicole Hutchinson's SEBoK *Editor's Corner* message emphasizes that innovation means generating and executing new ideas, starting with creativity.

She describes how, for individuals, key skills include curiosity (questioning the status quo), creativity (generating unique ideas), problem-solving, critical thinking, and resilience and adaptability in the face of setbacks. However, true innovation often requires a team, making collaboration essential.

Organizations fostering innovation excel in two areas: psychological safety, where

individuals feel safe sharing ideas without fear of judgment, and cognitive diversity, embracing diverse perspectives and processing styles. Without both, groups can become "oppositional," "uniform," or "defensive," stifling new ideas.

Hutchinson urges systems engineers to self-assess their innovation skills and evaluate their teams' dynamics. By understanding where we stand individually and collectively, we can actively cultivate environments where innovation thrives, ensuring our field remains relevant and impactful.

Read her full message on the [SEBoK Editor's Corner](#).



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PARTNER UPDATES

## INCOSE AND OMG RENEW PARTNERSHIP, OFFERING EXCLUSIVE MEMBER DISCOUNT

INCOSE is happy to announce the renewal of the Memorandum of Understanding (MOU) between INCOSE and the Object Management Group (OMG). This continued collaboration underscores our joint dedication to advancing knowledge and capabilities within the dynamic field of systems engineering.

For those unfamiliar, OMG is a well-respected, not-for-profit consortium focused on the development and maintenance of crucial technology standards across a diverse spectrum of industries. Our ongoing partnership with OMG reflects a powerful synergy, uniting our respective strengths to better serve the systems engineering community.

### Unlock Your Exclusive Member Benefit: 10% Discount on OMG Certification Exams

As a valued INCOSE member, you now have access to a significant advantage through this renewed MOU. You receive an exclusive **10% discount on all OMG Certification Exams!**

This special benefit provides a fantastic opportunity to elevate your systems engineering expertise and gain industry-recognized credentials. By leveraging the comprehensive certification programs offered by OMG, you can validate your skills and enhance your professional standing.



Claiming your exclusive 10% discount is easy! Simply [log in to your INCOSE member profile](#) and navigate to the **Member Resources** area of the iNet. There, you'll find the necessary discount code to use when registering for your OMG Certification Exams.

We strongly encourage you to explore the valuable certification opportunities offered by OMG and take advantage of this exclusive benefit made possible through our continued partnership. This is a fantastic way to invest in your professional development and contribute to the advancement of the systems engineering field.

### A Shared Vision for a More Capable Community

This renewed partnership between INCOSE and OMG is driven by a shared vision: to foster a more knowledgeable and capable systems engineering community worldwide. By combining INCOSE's extensive network and resources with OMG's globally recognized standards and certifications, we aim to empower individuals and organizations to excel in this critical discipline.

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# Join The CAB!

- The INCOSE Corporate Advisory Board (CAB) is the **"Voice of the Customer"** to the INCOSE leadership.
- The CAB provides **strategic guidance** to INCOSE's technical leadership team; leading to the development of Systems Engineering products and standards to meet their needs.

***Need more information? Visit [incose.org/cab](http://incose.org/cab)***

# FORGING GLOBAL PARTNERSHIPS: ANNOUNCING INCOSE'S NEW CORPORATE ADVISORY BOARD MEMBERS

By Honor Lind, Head of Business Development

Partnerships lie at the heart of every thriving association, enabling organizations to co-create value, enhance experiences, and secure the long-term stability that comes from high retention. As ASAE reminds us: “Strong partnerships don’t happen by accident. They take intentional planning and need to be continually monitored and evaluated.”

And, as the American Society of Association Executive’s, (ASAE), membership experts point out: “Member retention brings long-term stability. It’s built on engagement, value, and connection, and it starts the day a member joins.”

Strategic alliances empower associations to amplify their visibility and credibility, broaden program offerings—from webinars and certification pathways to technical reports—and spark the cross-pollination of ideas that keeps member benefits fresh and relevant. By collaborating with respected industry leaders, academic institutions, and technology innovators, associations tap into new resources and expertise, ensuring that their offerings evolve alongside emerging trends and member needs.

Looking beyond our borders, the global

community underscores the power of partnerships to drive innovation and shared prosperity. The United Nations emphasizes the importance of collective action: “Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries.”

And, as Paul Vallee of the BestCities Global Alliance highlights: “We seek out partners to be able to do things we wouldn’t be able to on our own, to expand our skillsets, resources, and offerings. That’s how you create something of value.”

These insights remind us that partnerships, both local and global, are not optional extras but foundational to building a thriving, resilient association that continually delivers value to its members and advances its mission on every front.

We are therefore thrilled to announce the newest members of the INCOSE Corporate Advisory Board, whose strategic input will be instrumental in advancing our mission to foster the

rigorous, interdisciplinary practice of systems engineering worldwide and in shaping our new Strategic Plan. Please join us in welcoming:

**Huawei Technologies Co., Ltd.; Wayne State University; ASE – Advanced Systems Engineering, LLC; RealmOne; BTS Software Solutions; SAFRAN (SystemGie); University of South Australia (paid by SESA); Florida Institute of Technology; Studio SE, Ltd.; Auburn University; IQNOX; Albers Aerospace; and Ansys Inc.**

Together with these diverse organizations, we will co-create best-in-class resources—ranging from engaging webinars to comprehensive certification pathways—that align with INCOSE’s competency framework. We will expand cross-sector dialogue by leveraging insights from aerospace, software, higher education, and beyond to inform our global standards and outreach. And we will accelerate innovation by integrating emerging technologies in product and application lifecycle management, delivering measurable business value and operational excellence.

As one of our new CAB members put it: “IQNOX is honored to join the INCOSE Corporate Advisory Board, and I’m especially excited to represent IQNOX on the CAB. We’re eager to share the systems engineering insights we gain from our clients and, in turn, bring the best of INCOSE’s thought leadership back to them. We’re particularly excited about advancing the connection between systems engineering, product and application lifecycle management, and strategic business outcomes.”

Welcome aboard as we translate our shared vision into action—enriching professional development offerings, refining practice standards, and ensuring that INCOSE continues to lead the systems engineering community toward greater impact, resilience, and excellence.

## Sources

- Donovan, Kristi. “Challenges and Keys to Successful Association Partnerships.” ASAE, Feb. 13, 2025.
- Rominiecki, Joe. “Member Retention: Hard Work, but Somebody’s Gotta Do It.” ASAE, July/Aug. 2016.
- “Target 17.16: Enhance the Global Partnership for Sustainable Development...” indicators.report.
- Vallee, Paul. “The impact of partnerships in meetings.” ASAE’s Daily News, 2019.

## Why Join the Corporate Advisory Board?

*Access Exclusive Resources:  
Your employees can gain  
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# IS 2025 SNEAK PEEK: INNOVATION AWAITS!

Get a sneak peak at some of the innovative presentations coming to the International Symposium!

INCOSE's 35th Annual International Symposium in Ottawa, Canada, from July 26-31, 2025, is your premier opportunity to connect with global experts and explore the latest advancements shaping our field. Featuring six technical tracks across six days and more than 160 presentations, you're guaranteed to find sessions that resonate with your interests.

We're excited to give you a sneak peek at just a few of the compelling presentations awaiting you. Prepare to be inspired by the depth and breadth of knowledge shared by your peers:

## Navigating Sustainability and Technology

*Holistic Approach to Sustainability: A Comparative Life Cycle Assessment of Battery-Electric versus Biodiesel Transit Buses in Hawaii* **Fabio Silva, Nicole Chou, Nadia Fernandez Yarte, Huiqian Yang (University of Southern California)**

A fascinating comparative LCA of battery-electric and biodiesel buses in the unique context of Oahu, Hawaii. Discover surprising insights into energy consumption, water use, and greenhouse gas emissions, and understand the critical role of regional factors in sustainable transportation policy. This presentation will challenge your assumptions and highlight the

importance of a systems-level perspective.

 Thursday 31 July, 10:30-11:10 EDT

## Pioneering Digital Transformation

*Towards a Digital Engineering Ontology to Support Information Exchange* **Joe Gregory (University of Arizona) and James Wheaton (Colorado State University)**

The development of a unified ontology to standardize complex DE terminology, fostering consistency and interoperability across the system lifecycle. Learn how this crucial effort is paving the way for seamless data integration and model-based engineering.

 Monday 28 July, 11:30-12:10 EDT

## Strengthening Security and Resilience

*Helping Future Nuclear Power Facilities Navigate Predatory & Hostile Environments: Insights from Systems Security Engineering* **Adam Williams (Sandia National Laboratories)**

Critical insights into applying systems-theoretic approaches to enhance the security of advanced and small modular reactors (A/SMRs). Explore the shift towards "security-by-design" and discover how early and continuous integration of security can improve resilience and cost-effectiveness in challenging environments.

 Wednesday 30 July, 14:00-14:25 EDT

*Faulted Agent Resilience in Multi-Agent Systems: An Exploration of Two Ant Inspired Strategies* **James Hand and Bryan Watson (Embry-Riddle Aeronautical University)**

An innovative approach to enhancing resilience in multi-agent systems. Drawing inspiration from ant behavior, their research explores communication and spatial heterogeneity strategies to mitigate the impact of faulted agents in UAV swarms. Prepare to be amazed by the potential of biomimicry in solving complex engineering challenges.

 Wednesday 30 July, 16:30-16:55 EDT

## Empowering Professional Growth

*Developing Competence in Competency Assessment and Development – Experiences from applying the INCOSE Systems Engineering Competency Framework from two Large Organizations.* **Erik Herzog (SAAB AB), John Palmer (The Boeing Company), Jonas Hallqvist (SAAB), Johanna**

**Axehill (SAAB AB), Robert Malone (The Boeing Company), and Kelly Layland (The Boeing Company)**

An analysis of experiences in implementing the INCOSE Systems Engineering Competency Framework. Learn how this framework is being used to describe workforce skills, provide career guidance, and drive competency management within large aerospace organizations.

 Thursday 31 July, 09:00-09:40 EDT

Don't miss this unparalleled opportunity to invest in your professional development and connect with the forefront of systems engineering.

See you in Ottawa!

[View the full program!](#)



INCOSE International Symposium

**TECHNICAL PROGRAM**

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INCOSE_2025_paper_template_and_instructions_0424	DOCX	205.12 KB	10 Oct 2024	<a href="#">Download</a>

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# EVENT SCHEDULE

18

JUN, 2025

**WEBINAR 182: BEHIND THE SCENES OF THE ESSENTIAL GUIDE TO PART RE-IDENTIFICATION**

3:00 PM - 4:00 PM ET

19

JUN, 2025

**INCOSE LATAM: WEBINAR 18 - BEYOND TRADITIONAL ENGINEERING: THE HUMAN FACTOR AND LEADERSHIP AS KEY DRIVERS IN SYSTEMS ENGINEERING TRANSFORMATION**

12:00 PM - 3:00 PM ET

19

JUN, 2025

**INCOSE CHICAGOLAND: AN INTRODUCTION TO ARCHITECTURE(S)**

6:00 PM - 8:15 PM CT

23

JUN, 2025

**SE LAB DEMO DAY 015: ORCHIDEO | EASY SSP: THE WAY FOR COLLABORATION AND CREDIBILITY IN SYSTEM SIMULATION**

11:00 AM - 12:00 PM ET

25

JUN, 2025

**INCOSE NORTH STAR: SOFTWARE PATENTS**

6:00 PM - 8:00 PM CT | ROSEVILLE, USA

28

JUN, 2025

**INCOSE WASHINGTON METRO AREA (WMA): VISIT TO NATIONAL MUSEUM OF THE UNITED STATES ARMY**

11:00 AM - 4:00 PM ET | BELVOIR, USA

02

JUL, 2025

**INCOSE NORTH STAR: JULY LEADERSHIP MEETING**

11:00 AM - 2:00 PM ET

08

JUL, 2025

**INCOSE LOS ANGELES: KEY MODELING PRINCIPLES TO MODERATE THE GROWTH OF MODEL TECHNICAL DEBT IN MBSE**

5:30 PM - 7:30 PM PT | EL SEGUNDO, USA

09

JUL, 2025

**INCOSE ENCHANTMENT: A SYSTEMS PERSPECTIVE ON TRUSTED ARTIFICIAL INTELLIGENCE**

4:45 PM - 6:00 PM MT

25

JUL, 2025

**INCOSE CANADA: TRANSPORTATION INFRASTRUCTURE WORKSHOP**

8:30 AM - 5:00 PM ET

26-31

JUL, 2025

**INCOSE'S 35TH ANNUAL INTERNATIONAL SYMPOSIUM 2025**

JUL 26, 2025 - JUL 31, 2025 | OTTAWA, CANADA

# INCOSE Members Newsletter

## Publication of the International Council on Systems Engineering

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- Q1 2025 Newsletter: 15 February 2025
- Q2 2025 Newsletter: 15 May 2025
- Q3 2025 Newsletter: 15 August 2025
- Q4 2025 Newsletter: 15 November 2025

For further information on submissions and issue themes, visit the INCOSE MarCom website: [www.incose.org/marcom](http://www.incose.org/marcom)

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**Who are we?**

INCOSE is a 26,500+ member organization of systems engineers and others interested in systems engineering. Its mission is to share, promote, and advance the best of systems engineering from across the globe for the benefit of humanity and the planet. INCOSE charters chapters worldwide, includes a corporate advisory board, and is led by elected officers and directors. All views expressed in this Newsletter are the writers' own and do not reflect the views of INCOSE.

Graphic Designer: Anthony Abi Badra



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