SHOWDAILY

MONDAY
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Army Looks to Key Milestones

The US Army is excited about I/ITSEC 2023 and the opportunities that it provides to highlight growing partnerships and establishing the foundations to provide new capabilities for warfighter training.

"2024 is a big year for us," enthused Ms. Karen D.H. Saunders, SES, US Army Program Executive Officer for Simulation, Training and Instrumentation (PEO STRI). "As just one example, we've been developing the Synthetic Training Environment (STE) Increment 1, which is the virtual capability, for the last couple of years. And we will start fielding that in the fourth quarter of FY'24. We have already made all the hardware decisions and the procurement buys and we will have everything on the floor at I/ITSEC for people to see. In fact, even before the fourth quarter fielding, we have a software operational demonstration coming up in February. So this next year is huge."

In addition to examples like the pending fielding of STE Increment 1, Saunders emphasized how all of the PEO STRI priorities in FY'24 are nested with others that have been identified by the Secretary of the Army, the Assistant Secretary of the Army for Acquisition, Logistics and Training (ASA(ALT)) and the Army Chief of Staff.

That nesting of PEO STRI priorities is reflected in four vital areas: strengthening collaboration; transforming and modernizing; streamlining acquisition; and investing in people.

"Each of my priorities will enable us to deliver capability" she explained. "So you'll notice that we're not really talking about building STE, or building the cyber training or the intel training. Instead, it's all about the infrastructure that helps my organization be 'fit to fight' and to build capability for the warfighters."

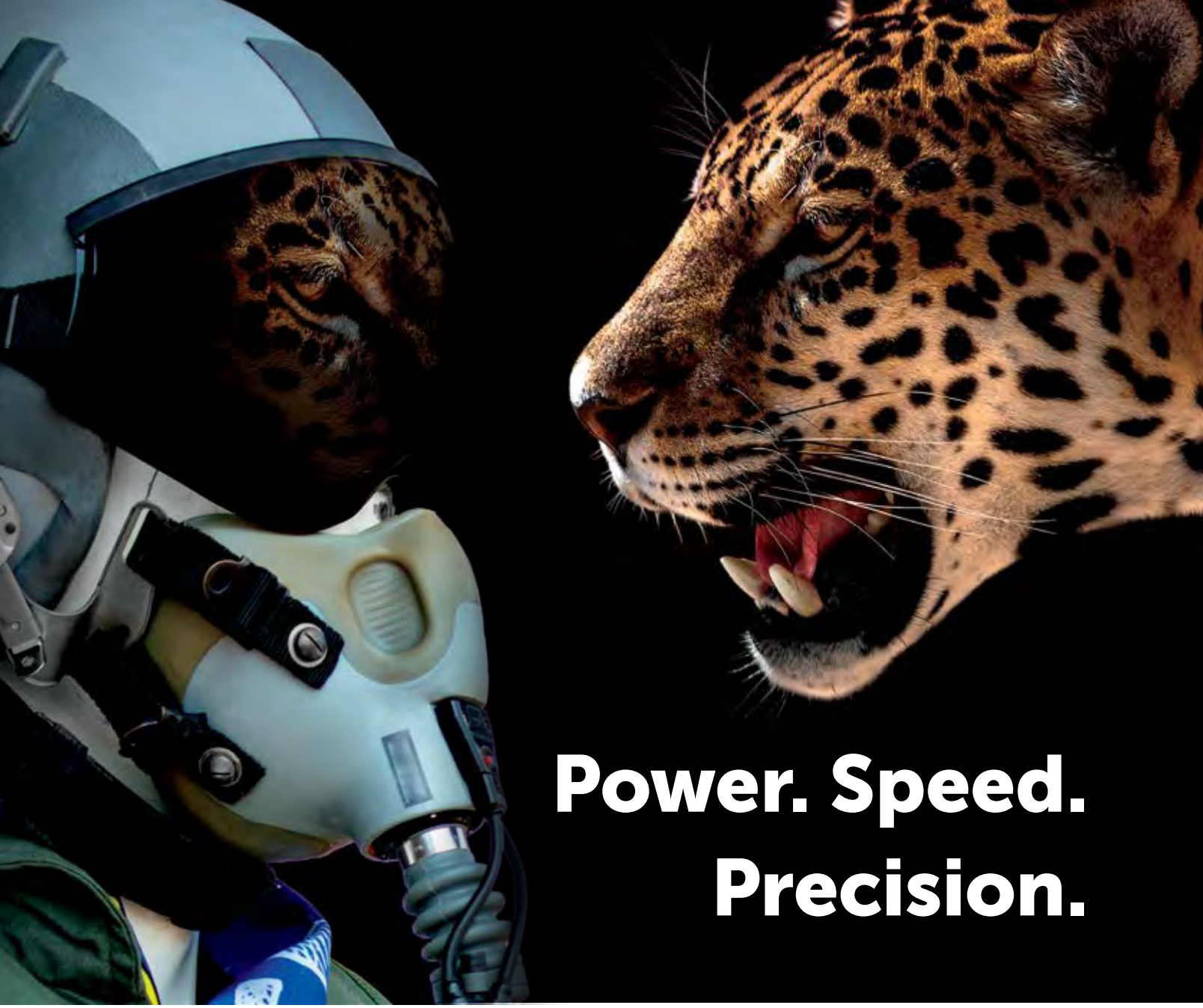
To illustrate the point, Saunders pointed to the priority of strengthening collaboration, where she identified "an extremely broad portfolio" that ranges from the tools and infrastructure for both Army and Office of the Secretary of Defense testing to individual and collective training capabilities in synthetic and live environments, from squad up through Army service support commands.

"With that, my collaboration network is huge," she said, identifying representative collaboration across requirements partners, test and evaluation organizations, Cyber Command, Army Futures Command's Synthetic Training Environment Cross Functional Team (STE CFT), the US Army's Training and Doctrine Command's Combined Arms Center – Training (CAC-T), as well as team members involved with Intelligence and Electronic Warfare Tactical Proficiency Training.

"That's 'the requirements team,' if you will," she added. "I also collaborate on the resource side as well as with industry, the other services and academia."

Saunders turned to her FY'24 priority to transform and modernize, offering, "The Chief of Staff of the Army, General Randy A. George, and the Army Undersecretary, Honorable Gabe Camarillo, have said that FY'23 was the year of digital transformation. And the 'lead agents,' if you will, are Mr. Young J. Bang,

Continued on p26



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MONDAY, NOVEMBER 27

CONFERENCE HIGHLIGHTS

REGISTRATION HOURS

0700-1800 *(West Concourse)*

0730-1800 *(Satellite Registration - Hyatt Regency Main Lobby)*

EXHIBIT HALL HOURS

1400-1800

SIGNATURE EVENTS

1030-1200 **Congressional Modeling and Simulation Caucus** *(Room W304A-H)*

1600-1730 **I/ITSEC 2023 Fellow Presentation** *(Room W300 – Theatre)*

FOCUS EVENTS

1400-1530 **Certified Modeling and Simulation Professional 3.0** *(Room W307A)*

1415-1545 **Black Swan – Dawn of the Super Soldier** *(Room W304CDGH)*

COMMUNITY OF INTEREST

1230-1400 **Breaking Into GovCon From a DCAA Perspective** *(Room W307B)*

1400-1800 **Serious Games Showcase and Challenge** *(Exhibit Hall Booth 3181)*

1430-1600 **Human Readiness Levels** *(Room W305AB)*

TUTORIALS

(Download the I/ITSEC app for synopses)

0830-1000; 1030-1200; 1245-1415

Best Tutorial Nominees *(Room W300 – Theatre)*

TUT 1: **You Can Fight Authority – But Authority Always Wins** *(Room W307B)*

TUT 2: **LVC – Two Out of Three Ain't Bad** *(Room W305AB)*

TUT 3: **The Experience Matters** *(Room W306AB)*

TUT 4: **Distributed Simulation Protocols** *(Room W307C)*

TUT 5: **Managing Learning Data – xAPI Essentials and Strategies** *(Room W307D)*

TUT 6: **Extended Reality on the Move – Seeing is Believing** *(Room W308A)*

TUT 7: **Acorn to Oak: Strong Concept, Accredited Event** *(Room W308B)*

TUT 8: **Humans Need Not Apply** *(Room W308C)*

TUT 9: **Creating the Right Environment** *(Room W308D)*

TUT 10: **Intersection of Learning Engineering and Data** *(Room W307A)*

SHOWDAILY

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From Bags to Boxes

I/ITSEC 2023 continued the Sunday morning tradition of the "stuffing of the bags," a manifestation of community networking and the many volunteers behind the success of the annual conference.

In addition to the stuffing of conference attendee bags, Sunday also witnessed the volunteer community supporting Just Our Soldiers' Helpers (JOSH), by packing 140 "Care Packages" to be mailed to forward deployed troops.

NTSA Welcomes I/ITSEC 2023 Attendees

Greetings to our esteemed delegates, partners and first-time attendees of I/ITSEC 2023! The National Training and Simulation Association (NTSA) is proud to welcome you to Orlando. It's heartening to witness the I/ITSEC community coming together once again.

Reflecting on last year's I/ITSEC 2022 conference, which was the second in-person gathering after the pandemic, Rear Admiral James A. Robb, USN (Ret.), President of NTSA, observed that the spirit of I/ITSEC was unmistakably present, offering that such resolve is symbolic of our industry's commitment to continual progress, even in the face of adversity.

Widely recognized as a visionary within the modeling and simulation community, Robb noted, "Last year's I/ITSEC was a testament to our resilience and adaptability following the impact of global challenges. Being our second time back after the pandemic, it was encouraging to witness the community come together, sharing insights and advancing our field despite the hurdles. Our attendance was strong, including attendees from overseas, and the content was superb. I/ITSEC remains a solid platform for the advancement of modeling, simulation, training and education."

In a recent interview with the I/ITSEC *Show Daily*, Robb asserted, "The past year has been vibrant, marked by the NTSA's ongoing endeavors. Through our outreach programs, webinars and alliances, we've not only broadened horizons but also set the tone for this year's conference. Every activity of the NTSA is meticulously designed, ultimately leading to this very event, ensuring I/ITSEC stands tall as the pinnacle of innovation in modeling and simulation."

He continued, "As I've pointed out before, the convergence of AI with modeling and simulation continues to shape the landscape. This year, I anticipate I/ITSEC will include even greater emphasis on integrated training environments and the exploration of how augmented and virtual realities can revolutionize training methodologies. Additionally, I think that we are seeing a continuing trend toward digital engineering and the use of digital twins, both of which rely on the core technologies from modeling and simulation."

In addition to I/ITSEC, he observed how NTSA's commitment to collaboration and innovation had resulted in a year of increased engagement outreach programs, supported by webinars and other examples of greater partnership programs between government, industry and academia.

"We've had several comments on how the modeling and simulation community does this better than most," he said. "And we believe that NTSA is a key part of continuing to earn that reputation and reaping the positive results."

Robb praised the development effort behind this year's conference theme, *Sustaining a Global Force in a Digital World*, quickly emphasizing, "That's not just a theme. It is a call to action. In this ever-evolving digital age, it's imperative that our training methodologies, tools and platforms are not just current but also forward-thinking. The continuing transition toward a fully digital world has both opportunities and risks. We really want to facilitate our community being at the forefront of realizing those opportunities and mitigating the risks. The conversations at I/ITSEC, both the formally planned discussions and the ad-hoc interactions, are key to that leadership."

He emphasized the spectrum of activities and events that will take place over the next several days, adding that NTSA's goal is always to make each year's events more enlightening and impactful than the last.

"From AI-driven simulations to VR training modules, we're in the midst of a transformative era," he said. "These technologies are making it very affordable to give operators more 'hands on' time to practice without the expense and risk of using their real equipment. They are also allowing us to measure performance in a much higher level of fidelity, truly understanding proficiency rather than just measuring time spent in training. It's an exciting time, and the key is to harness these technologies in ways that are effective and impactful to human performance."

While asserting that the potential of these new technologies in training is vast, with the certainty to transform the very foundations of training, he cautioned, "One of our significant challenges is ensuring that as we embrace these new technologies, we maintain a user-centric approach. While technology can revolutionize, it's vital that the end-user, the trainee, remains at the heart of our efforts."

Robb summarized his technology messages. "We find ourselves in a rapidly changing landscape where the symbiotic relationship between AI and simulation takes center stage. As the world advances, so too must our strategies and tools. Our theme this year is more than a topic of discussion. It's a directive, urging us to embrace the digital future with gusto.

"The horizon gleams with promise," he added. "With AI-driven simulations, AR and VR training modules and other groundbreaking technologies, the future of training appears limitless – and they appear to have application well beyond education and training, to include everyday life. Yet, as we stand on this precipice of transformation, our challenge lies in grounding these tools in the needs of the end-users. No matter how sophisticated our tools become, they must remain effective, accessible and rooted in real-world applicability."

He concluded, "To our industry veterans, I urge you to continue your pioneering work. Let us collectively challenge, collaborate and elevate the domain of simulation and training. And to those for whom I/ITSEC is a new experience, dive deep into this ocean of knowledge. I/ITSEC is not just a conference – it's a convergence, a place where ideas meet, technologies blend and the future is crafted. As we navigate the sessions, showcases and panels of I/ITSEC 2023, let's remember that together, we're shaping the future of a digital, global force."

NTSA wishes you all an insightful and transformative I/ITSEC 2023!

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Program Chair Reflects on I/ITSEC 2023

Describing the development of the I/ITSEC 2023 program, Program Chair Anne Little, PhD, reflected on a process that spans more than a year of effort.

"We started well over a year prior with development of the theme," she began. "Each year it's important for the Program Chair and the Conference Chair to meet with the lead service to decide on a theme that will be relevant to the audience, but in line with the strategy and vision from the lead service. In this case, that was the Army, so we were extremely fortunate to work with the team at PEO STRI [Program Executive Office for Simulation, Training and Instrumentation] to develop this year's theme: Sustaining a Global Force in a Digital World."

Little said that she is "proud of the theme" that emerged, noting, "It has given us the opportunity to consider program elements from all perspectives; ranging from every definition of sustainability you can think of to what it means to be a human in a digital world and what it means to be a warfighter in a digital world. Our program investigates those tenets very deeply in different ways to give a full program for our audience, so I'm really proud of it."

> Admiral Robb was very proud of calling the I/ITSEC community a family. He said it all the time. And it's really true. This is a community that has so many roots.

As Program Chair, Little said that her focus over the past "year plus" has been on "the participant experience" and "making I/ITSEC 2023 a little less intimidating to our audience."

She acknowledged the scope of that task, pointing to hundreds of paper sessions, dozens of tutorials, nearly 50 special events and eight professional development workshops.

Because of the real possibilities of some attendees being overwhelmed by the scope, she described the investigation of all available content and the subsequent curation of possible experiences.

"When people go online and look at the program, they can look at some personas that maybe fit them based on where they work, what they do and what they're interested in," she said. "That way they can have a sense of what might be an appropriate thing for them to attend day by day throughout the five days of I/ITSEC. And that's available online now. We really want to help people who don't know where to start. So, rather than having to look through hundreds of pages of program, they could start with some of these curated personas to get an idea of the kinds of activities that might be useful and valuable for them throughout the week."

Observing that this is the first year that the curated personas have been available to attendees, she added, "We don't want people leaving the conference saying, 'Oh, I didn't know about something and I missed it.' It can take so long to go through the program, so anything we could do to make the experience more valuable for our audiences has been extremely important for us. And this reflects that emphasis."

Other new aspects of the I/ITSEC 2023 program range from the first-ever Senior Non-Commissioned Officer panel to the development of a "Top Under 40" recognition program.

"As a community, we need to look toward the future, including the future of our workforce. And so the National Training and Simulation Association asked us to develop a Top Under 40 program, to recognize the younger members of our workforce, not just to acknowledge them, but to also create opportunities for them to use events like I/ITSEC to network and continue to grow. So that's going to be a recognition that will occur this year. We want to bring more people into this important discipline. Rather than looking at it from the 'most experienced' perspective, we'll look at some of our younger members of the workforce to get input from them, to see how we bring others into this critically important arena," she said.

In terms of her suggestions for first time I/ITSEC attendees, she urged people to "pace themselves."

"I would recommend to somebody who is new to I/ITSEC to set aside time for yourself and to learn something you are passionate about. You can start by searching through the mobile app by topic. What are your passions? Where doyou want to expand your knowledge? And then dedicate some part of each day to learning something new, because there's bound to be a paper or a special event covering a topic of interest to you. Then spend some time investigating some new technology on the show floor, even if it's just one thing. Finally, spend time networking. Try to meet someone new every day. Find at least one person or company every day that understands what you do and can help expand your networking opportunities. I would hope everybody would take that three-prong approach every day."

Little noted that the networking suggestions were reflective of the close-knit modeling and simulation community and the volunteer base that creates I/ITSEC every year.

"Admiral Robb was very proud of calling the I/ITSEC community a family," she said. "He said it all the time. And it's really true. This is a community that has so many roots. There are nearly 300 volunteers, not just during the week of the conference but from the day after the previous conference ends, who dedicate their time and talents and feedback to authors who are crafting papers, special panelists and those who are organizing special events. And people do this out of their own time because they realize the value of bringing our community together for a week. And we are so grateful to the volunteers who have decided to do that. I don't know of any other organization where you would find something like that."

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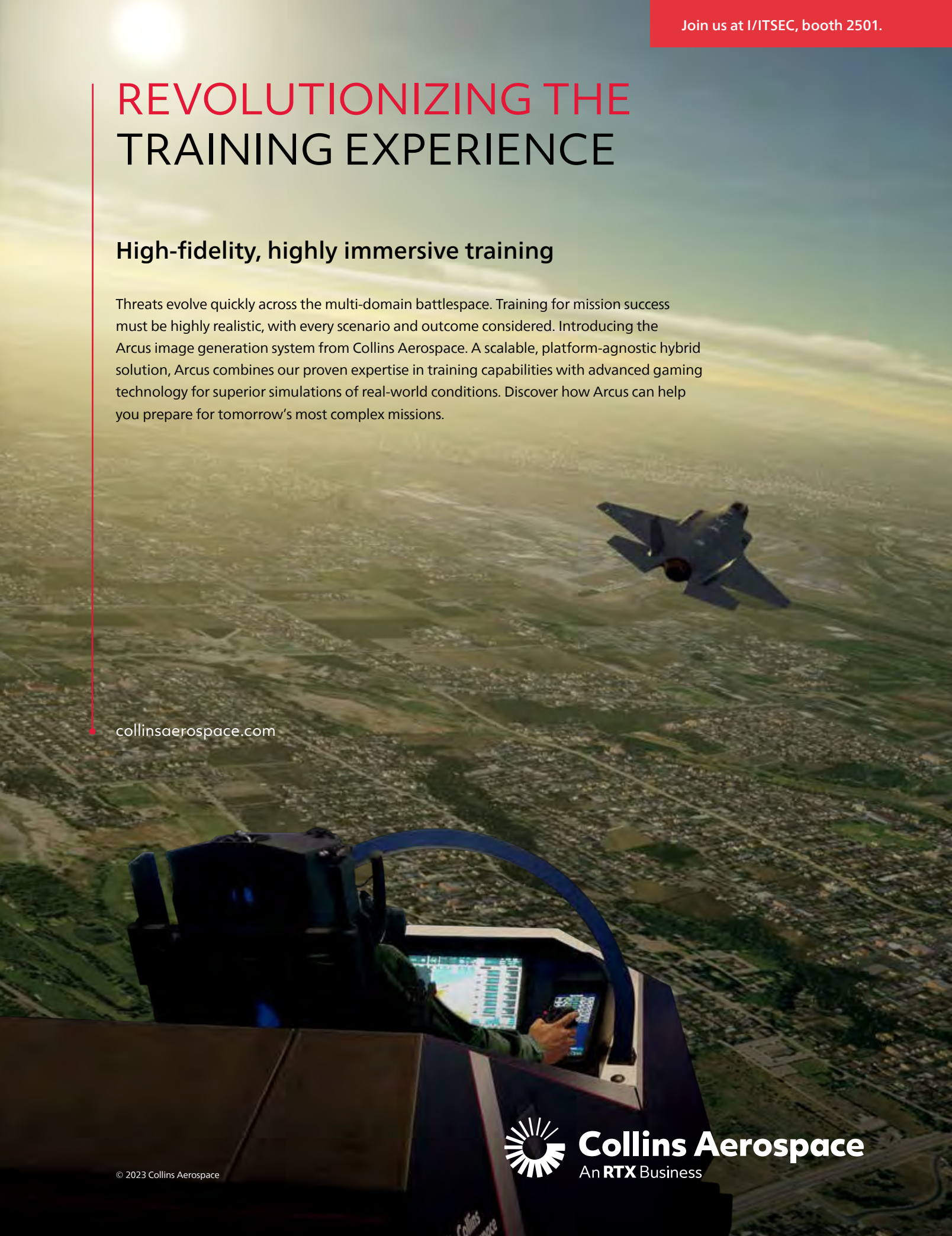

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Congressional Perspectives This Morning

One of the many unique opportunities at I/ITSEC will take place this morning, when the conference and NTSA host the Congressional Modeling and Simulation Caucus Special Event [1030-1200, Room W304A-H].

According to Linda Brent, PhD, Director of Strategic Planning for NTSA, the caucus was originally formed in 2005 by Congressman Randy Forbes and Congressman Bobby Scott to bring attention to modeling, simulation and training. In addition to the special event each year at I/ITSEC, members of the caucus support a yearly leadership summit to identify issues that can be addressed through Congress to increase the use of modeling and simulation (M&S) for training and an expo held each July on Capitol Hill to provide staff and members with the opportunity to see demonstrations of the use of M&S across defense and other government agencies.

> It's a pretty open forum…

"Caucus members support legislation that encourages the use of modeling and simulation," Brent explained. "So their participation in the I/ITSEC conference is important. First, it educates them on the capabilities of the technology. And it also provides them with opportunities to hear from the community as to what things are important and ways that M&S can be used, so that they can take that back to integrate into legislation."

She added that the Congressional Caucus event is somewhat unique in that, for most of the hour and a half session, the audience will have an opportunity to ask questions.

"It becomes a more informal discussion with the Congressional members," she said. "The audience will have a chance to ask questions and to pose things for consideration to Congress. So it's a pretty open forum, unlike a lot of the events, which are more question and answer kinds of things. This is more of a dialogue."

This year's Congressional attendees will include: Congressman Bobby Scott (VA-03); Congressman Jack Bergman (MI-01); Congressman John Rutherford (FL-05); and Congressman Darren Soto (FL-09).

Following a lunch break after the presentation, Congressmen Scott, Bergman and Rutherford – three of the four M&S Congressional Caucus Co-chairs – are slated to tour the I/ITSEC exhibit hall. One new aspect this year is that each member will have a unique tour of companies on the show floor. In addition to visiting the service booths, the new approach will allow them to meet approximately 30 companies and organizations.

Brent concluded, "Much of the funding for modeling and simulation programs comes from federal budgets and a multitude of agencies, like Department of Transportation, Department of Defense, National Institutes of Health, Department of Homeland Security and others. So it's important that Congress be educated and it's important that they support those funding lines in the budget to be able to allocate to theis industry."

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International Programs Team Welcomes Attendees

The International Programs Team (IPT) is ready for I/ITSEC 2023!

The all-volunteer IPT welcomes attendees from around the globe and looks forward to hosting them in the International Pavilion (IP) [Room W205ABC] beginning Monday morning and continuing through Thursday. Members of the IPT will be available to answer international participants' questions about the conference and schedule meeting space within the IP.

"Our team is excited about all the events planned for this week," said Denise Threlfall, PhD, Director, International Programs.

Threlfall expressed the IPT's thanks to the pavilion sponsor, A. Harold+Associates (AHA), for their continued support of the venue.

Andy Harold, CEO of AHA said, "I am honored to sponsor the International Pavilion at this year's I/ITSEC. We sincerely recognize the importance of our US friends, partners and allies and want to be a part of the solution to their requirements. Sponsoring the International Pavilion is a concrete example of our dedication to providing multi-domain solutions to the international community."

Threlfall described the "genuine collaboration" that goes on in the pavilion, where international attendees meet with their industry or military colleagues. "It's very exciting when you see those ad hoc meetings that take place inside the pavilion, even at the roundtables and not even going into the meeting room," she said. "It's truly a collective forum for them."

As part of the numerous I/ITSEC offerings throughout the week, Threlfall emphasized that there are several internationally-authored tutorials in Monday's conference schedule, adding, "We know in years past there has been a lot of interest in these presentations, so be sure to check out these tutorial times and locations in the International Programs flier and on signage provided in the IP."

Beginning Tuesday, also outlined on the flier, there are more than 30 papers with international authors to be presented during the conference week.

Among four internationally-themed Special Events, Threlfall underscored the Best from Around the Globe session on Tuesday [1400-1530; Room W305AB]. "This event highlights the winning presentations from IT^{2}EC and MODSIM World, so come out and support these Best Paper award winners," she said.

"And don't forget to check out the Serious Games Showcase & Challenge on the exhibit floor [Booth 3181] to see the six international finalists' games and vote for your favorite," Threlfall added. "There is a great representation of international serious games this year and we look forward to cheering them on during the awards ceremony on Thursday afternoon."

The NATO booth [Booth 3040] serves as a showcase for the latest advancements in defense training technology, according to Cem Kumsal of NATO Allied Command Transformation and Deputy Director of I/ITSEC International Programs, adding that NATO's presence at I/ITSEC underscores the alliance's commitment to leveraging the latest technologies in training and simulation. "In an era where the nature of threats is constantly evolving, NATO's proactive approach in exploring state-of-the-art training methodologies is not just a matter of staying current, but a strategic imperative," he noted. "From virtual reality simulations that prepare troops for complex urban operations to augmented reality applications that offer real-time data overlay in training scenarios, NATO is at the forefront of integrating these technologies into its training programs."

On Wednesday, the NATO Industry Advisory Group (NIAG) will conduct focused outbriefs within the meeting space in the International Pavilion (by invitation only).

Threlfall noted that in recent years international participants at I/ITSEC, in addition to placing value on learning about new products and technology on the exhibit floor, continue to increasingly focus on professional development by attending tutorials, paper presentations and workshops.

"I would encourage attendees to take advantage of all of the learning opportunities," Threlfall summarized. "Get involved, enjoy the week and collaborate and share ideas and ask a lot of questions."

"As you can see, it will be an extremely busy and productive week for our international attendees," she added, "so welcome to I/ITSEC 2023, and we look forward to hosting you in the International Pavilion!"

INTERNATIONAL PAVILION HOURS

Monday 0800-1800 **Tuesday** 1200-1800 **Wednesday** 0800-1500 **Thursday** 0800-1500

INTERNATIONALLY-THEMED SPECIAL EVENTS

TUESDAY, NOVEMBER 28

FOCUS EVENT

1400-1530 Best from Around the Globe *(Room W305AB)*

FOCUS EVENT

1400-1530 Human-Centered Successes and Challenges in AR/VR Development and Implementation *(Room W306AB)*

WEDNESDAY, NOVEMBER 29

COMMUNITY OF INTEREST

0830-1000 Simulation Standards: Delivering Multi-National Interoperability *(Room W305AB)*

THURSDAY, NOVEMBER 30

COMMUNITY OF INTEREST

1030-1200 Cognitive Augmentation for Military Applications *(Room W306AB)*

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MONDAY 27 NOVEMBER

1400 GUARDIARIS D.O.O – Future Integrated Indoor Solider Training

1500 HTC VIVE – Deploying Secure Immersive Training Solutions with VR/XR

1540 VARJO TECHNOLOGIES – The Future of Simulation: Unveiling Next Generation XR Training Solutions

1620 BLACKSHARK.AI – Creating Real-Time 3D Synthetic Training Environments and Terrain Generation with AI Using Current Satellite Data

1700 BAE SYSTEMS – Advancing Mission Outcomes: Advanced Digital Analysis & Prototyping Testbed

TUESDAY 28 NOVEMBER

1230 ALLEN AND COMPANY – Reducing Modeling Time with Reality Capture: Understanding Scan to Mesh

1310 TREK10 – Train Anywhere

1350 BOHEMIA INTERACTIVE SIMULATIONS – Next Gen AI for the Virtual Battlespace

1430 METRIS GLOBAL – Why an Advanced, Agile Approach to Human Performance is Necessary to Keep Pace with Modernization Mandates

1510 INGALLS INFORMATION SECURITY – Visualizing Cybersecurity Data in Multiple Dimensions for Cyber Operations

1550 PITCH TECHNOLOGIES – Large Scale Exercises Using Standard-Based Distributed Simulation

1630 VRGINEERS, INC. – Optimal Virtual and Mixed Reality Resolution in Pilot Training

1710 CYBER RANGES CORP – Next-Generation Cyber-Physical Ranging to Build Cyber Warriors' Professional Development and to Validate Mission Preparedness Also at the Edge of Kinetics

1750 INTELLIBOARD – Turning Insight into Action- Using Data to Monitor the Learner Journey and Enhance Engagement

WEDNESDAY 29 NOVEMBER

0930 HTX LABS – EMPACT: XR Empowerment- Warfighter Created, Warfighter Owned Training

1010 QUANTUM3D/HAVELSAN – Quantum3D Mixed Reality Evtol Simulator

1050 HADEAN SUPERCOMPUTING LTD. – Training Tomorrow's Warriors: Towards Generative AI in LVC Military Simulations

1130 GEEKS AND NERDS CORPORATION – Modular Open-Air Sensor Capability Evaluation and Testing Infrastructure *(SCETI)*

1210 LONE STAR ANALYSIS – Modeling and Simulation or: How I Stopped Worrying and Learned to Love Generative AI, Clustering, and Risk Analysis

1300 RADIATION EMERGENCY SERVICES – Radiation Disaster Emergency Preparedness and Response Training and Simulation

1340 TALON SIMULATIONS – From Concept to Deployment: Fast Track Development of a Mixed Reality Amphibious Vehicle Simulator

1420 INGALLS INFORMATION SECURITY – Enabling Agile Authorization for Mixed Reality Training Applications & Devices

1500 QUANTUM3D/HAVELSAN – Quantum3D UAV/Drone Simulator

1540 SPLUNK – Optimizing RMF Compliance: A Splunk Approach

1620 ARA VIRTUAL HEROES DIVISION – Blending Unreal Engine MetaHuman with BioGears Human Physiology

THURSDAY 30 NOVEMBER

0930 HOLO-LIGHT USA INC. – Scaling XR in the Enterprise- How to Take Away the "But"

1010 FORGEFX SIMULATIONS – Transforming Training Simulations: The AI Revolution in Quality and Efficiency

1050 OBSIDIAN SOLUTIONS GROUP – Serious Games and Wearables for CBRNE

1130 UNREAL ENGINE/EPIC GAMES – An Update about Simulation Pipelines from Large Open World to Precise Behaviors

1210 AVALON HOLOGRAPHICS – The HoloFront: Enhancing Military Operations through Holographic Visualization

1300 SERIOUS GAMES SHOWCASE AND CHALLENGE AWARD CEREMONY

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Focus on STEM

Given the increasing applications of modeling and simulation in everyday life, it is hardly surprising that science, technology, engineering and mathematics (STEM) events and opportunities are a significant presence at I/ITSEC 2023, where the "EcosySTEM of Learning" provides a wide range of physical and virtual platforms for global participation by students, teachers and industry professionals.

Reflecting on student opportunities at this year's conference, Linda Brent, PhD, STEM Coordinator and Director of Strategic Planning for NTSA, explained, "One of the educational priorities that Admiral Robb [President, NTSA] established a few years ago was that we were first going to focus our STEM education efforts on underserved and under-represented students and 'Title 1' schools. He said that because he felt that those schools that could afford the technology also could afford some of the opportunities that it offers. So he wanted to be sure that those opportunities also were offered to underserved and under-represented students and schools as well."

Reflective of this approach, she said that I/ITSEC 2023 will once again feature student tours, but those tours are going to be focused on underserved schools first.

"This year we have schools coming from South Florida, Northeast Florida and Central Florida," she said. "The word is spreading and people are interested in coming. We'll have close to 600 students visiting. We'll also be hosting the ROTC in the local area, high school students and some college students. In addition, there are a large number of scholarships and a huge amount of money will be going into scholarships this year."

She added that I/ITSEC 2023 will also see the return of NTSA hosting the Department of Defense STARBASE program, a national DoD effort that supports 'at-risk' fifth graders.

"STARBASE provides training and education in STEM for at-risk fifth graders at [military] bases around the country," she said. "We started last year and again this year we are hosting the directors and teachers from the STARBASE program. We'll have about 70 teachers with us who will be doing training on Tuesday and Wednesday. We're providing local training with the Navy on STEM-related content as well, where we will have teachers and administrators from all over the country."

She continued, "We're also doing a 'Student Problem Challenge' with high school students. We've got four teams coming; three are regional to Orlando and one of them is from Virginia. Each is a team of four students and one teacher. They will be given a problem to solve – some critical problem in today's society – and they will solve the problem with their solution using conceptually STEM-related math and science technologies. It's a two-day program and awards will be given out in the STEM Pavilion on Wednesday afternoon."

Another STEM activity at I/ITSEC 2023 will be a career panel for students on Thursday morning.

> Last year the students loved it. And the people participating in the panel loved it as well.

"This is the second year we've done that," Brent said. "Last year the students loved it. And the people participating in the panel loved it as well."

She noted that NTSA STEM activities are not limited to I/ITSEC, outlining a year-round program ranging from webinars for teachers throughout the year to student tours at NTSA's spring MODSIM conference.

"This year also we're going to be doing student tours as part of an event that NTSA will be sponsoring for the Air Force. And we're going to look at doing teacher training in the summer as well," she said.

Attributing the success of these programs to NTSA's "amazing volunteer committees," she summarized her STEM messages.

"Number one," she began, "People need to understand that our collective involvement in STEM Education K-12 is critical to the future of our workforce. And that's why NTSA believes it is so important. It's critical to the future. Secondly, industry needs to step up and get involved. And there are many ways that they can do that, both with the I/ITSEC conference and beyond. Examples could be providing internships and providing opportunities. We have a career fair at the conference as well. They can get involved in the career fair and talk with college students coming out of school in STEM-related fields and get them into the industry. But the overall message needs to be that our industry is growing and needs talented, qualified, young professionals, and we have to prepare them early to be able to support that industry going forward."

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Service Executives Offer Early Glimpse of I/ITSEC 2023

During a November 15 Webinar hosted by the National Training and Simulation Association (NTSA), I/ITSEC Service Principals provided an early preview of this year's event.

The Pre-I/ITSEC Webinar was moderated by Eliot Winer, PhD, who opened with a brief description of the "portfolio of events" hosted by NTSA each year, building up to "the largest training and simulation conference and exposition of its kind in the world."

"Today, we're pleased to give you a preview of I/ITSEC 2023, where once again, we will be welcoming our government, industry and academic colleagues from around the country and the world," he began.

Winer offered a brief overview of planned activities, ranging from Monday's special event presentation and exhibit hall visit by members of the Congressional Modeling and Simulation Caucus to the broad range of educational opportunities, scholarships, papers, tutorials, workshops and other special events.

"We are really, really excited about the program that we have for you this year," he said.

He went on to introduce the service executive representing this year's lead service, the US Army.

"I'm so grateful to Ms. Karen Saunders, Program Executive Officer for Simulation Training and Instrumentation (PEO STRI), for her strong leadership, creative approach and unwavering support this year," he said. "I've spent a lot of time with Ms. Saunders, and it's just truly been amazing how the Army and her office has supported the conference this year."

"This is a great year for the Army," Saunders said. "The Chief of Staff of the Army and the Undersecretary have declared FY'23 as the year of digital transformation for the Army. And so, what PEO STRI and the rest of our Army elements will have on the floor at I/ITSEC and all the panels show how we are digitally transforming the way we're doing training in the modeling and simulation domain. So I would encourage all of you to come to the PEO STRI booth [Booth 3235], where we're going to have represented all of our modernization programs that are fielded today, like the Intelligence of Electronic Warfare Technical Proficiency Trainer as well as the Persistent Cyber Training Environment. Then we will also have a very large program that we will start to field later on in FY'24: the Synthetic Training Environment. We're demonstrating our footprint around the world through institutional home station and combat training centers as well as with our allies and partners. We have over 300,000 products fielded throughout the world, and we will have a major representation of those on the floor in our I/ITSEC booth, so I really would encourage you to come to the Army booth [Booth 1539] to learn about some of the challenges that we're facing in the Army as we're going through this digital transformation."

Saunders added that the Department of Defense is transitioning to address a Large Scale Combat Operations (LSCO) environment, explaining, "As we as we look at the LSCO environment, we're adding on new capabilities. More than just air, ground and maritime, we're including cyber and space into these multi-domain operations."

Saunders stated that some of the key technologies that she and some of her program managers would be looking for at I/ITSEC would be in the Artificial Intelligence, Machine Learning and Intelligent Tutoring domains.

"We're always looking to see how we can have AI help us automate our models and our behaviors, automate how we can dynamically shape terrain, as well as help us in decision support systems," she offered. "We're always looking for how to do immersive and multi-sensory to provide a better experience in the AR and VR domains for our Soldiers. That's key for cyber and Intel training...In the case of cyber we have the Joint Cyber Solution and so we're looking at how to expand those environments and make them more mature and more relevant as we're focusing on the competition to conflict spectrum."

Captain Tim James, United States Navy, offered his I/ITSEC preview from his perspective as Commanding Officer, United States Navy Naval Air Warfare Center Training Systems Division.

"It's great to be in any conferences where you get to walk around and see all the [new technologies], but something that sets I/ITSEC apart from other events are the 200 hours of professional development we're bringing in, with 148 papers, 44 special events and 31 tutorials and workshops," he said.

As evidence of broad service support of I/ITSEC, he highlighted projected attendance by seven Navy flag officers.

James continued, "One thing that we started last year that we are going to continue this year is the [expanded] use of Other Transaction Authority (OTA). We've already put out a call for white papers to try and fit into the I/ITSEC theme, trying to make it even more valuable than it always has been and really maximizing that interaction with government and industry with the single biggest collection of all those experts at any one given time and place. Last year, we had a very successful event with over 36 papers received, six of which we found by walking in the exhibit hall itself, resulting in four awards."

He added, "We're going to do that OTA effort again this year, through our NASC [Naval Aviation Systems Consortium]. We already put that out."

James also pointed to the I/ITSEC Special Events calendar, singling out examples like "this year's panel of Navy training officers, at the O-6 level, coming from around the fleet to tell the entire community what they need and what's hurting their head right now."

This year's Marine Corps preview was provided by Colonel Marcus Reynolds, United States Marine Corps, Program Manager Training Systems Marine Corps Systems Command.

Reynolds began by highlighting the change of posture in the Indo-Pacific Command, force posture alignment, and the stand-up of live, virtual and constructive (LVC) training capabilities in Guam to support the training for Marines across the Indo-Pacific Command region.

"We will also be working with our joint partners out there with Japan, Korea, Singapore, Thailand and basically the whole Indo-Pacom region," he added. "It gives us a lot of capabilities that we didn't have before, starting with Guam and moving up to CNMI [Commonwealth of the Mariana Islands], to give us training capabilities that just have been a shortfall in the Indo-Pacom region of responsibility. And over the next four years, we're really going to be leaning into our LVC training to support that effort."

Reynolds continued, "With our pacing

Continued on p20

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Service Executives ... continued from p18

threats, it's never been more important for training, especially in in the Pacific. And we're looking forward to partnering with industry to help us bridge the gap that's been there for so many years. We are building more efforts with the [Force-on-Force Training System – Next], which provides more combat realism enabling the Fleet Marine Forces to train as a fight. And the Marine Corps Tactical Instrumentation Systems capability provides a real-time simulated instrumented training environment.

"We also have our federation for LVC training that we're doing with a joint force," he added. "So it's not just the Marine Corps. It's all services that we're leveraging on that. So there are lots of opportunities there."

Reynolds said that this year's Marine Corps booth [Booth 1433] at I/ITSEC was established in cooperation with Marine Corps Training and Education Command, and would not only highlight emerging capabilities but also provide opportunities for talking with subject matter experts.

The United States Air Force executive, Colonel Matt Ryan, Chief of the Simulators Program Office, Air Force Materiel Command, Wright Patterson Air Force Base, opened his message by pointing to the planned I/ITSEC attendance by more Air Force senior leaders – General Officers and Senior Executive Service – than ever before.

"I think that's indicative of the emphasis that's happening right now, from senior leaders in the Air Force, on training," he said. "In particular, hopefully folks have seen that there is a new cross-cutting enabler that has been stood up by the Secretary of the Air Force. These are complementary activities to his operational imperatives, which of course, as the name implies, are top of mind for the Secretary of the Air Force. And the new cross-cutting operational enabler that he has stood up is the Training and Test CoE [Center of Excellence]. So really, that reflects that the Secretary of the Air Force wants to have some emphasis and focus on how we, as a Department of the Air Force, ensure that we continue to maintain a strategic, asymmetric advantage over our adversaries when it comes to training. That has traditionally been something that we have held, that position of having a wide margin or advantage there of our operator training over our adversaries. And we want to maintain that."

Ryan outlined senior service leader participation on a range of panels at I/ITSEC, adding, "When you come see us in 'the quad booth' you'll get to see good representation from some of the things that are happening with the Air Force Research Lab. You'll see a lot of emphasis on the Joint Simulation Environment, and Simulator Common Architecture Requirements and Standards (SCARS) programs.

"The other thing I think you'll see in our booth is a lot of synergy between ourselves and the [NAWCTSD] booth for the folks there from the Navy that we are collaborating with, in particular, on Joint Simulation Environment," he said.

Following their overviews, the service executives answered questions submitted by the audience on topics ranging from "What is one key security or operational concern you have with generative AI?" to "What actions are taking place to create consistency across the Department of Defense to ensure interoperability, as well as the ability to leverage assets more readily?"

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Black Swan Explores Super Soldier Technologies

At a Focus Event on Monday afternoon [Monday, 27 November, 1415-1545 Room W304CDGH], I/ITSEC attendees will have an opportunity to learn about the benefits and risks of emerging technologies capable of augmenting the human body and creating what some have called the "Super Soldier." From withstanding pain, extreme cold or the need to sleep, the idea of expanding the physical capabilities of warfighters is a tantalizing prospect for any military.

Amazing human enhancements, ranging from injectable night vision to blood engineered for the ability to breathe underwater, are no longer science fiction. Super Soldiers are fast becoming a reality as militaries across the world are experimenting with human enhancements. But what happens if these "superpowers" get into the hands of an enemy or terrorist? Monday's Focus Event will offer a team of experts that have done extensive research into the possibilities and potential risks.

"'Black Swan' is the name given to events that are low probability/high impact," explained Marryam Chaudhry, who leads the Black Swan team at I/ITSEC 2023.

In developing this year's Black Swan Focus Event, she said that the team began with a list of several possible topics but quickly narrowed it down to Super Soldiers.

"Human augmentation is a reality," she said. "In fact, in some communist countries it is being done by force. So there's the aspect of the ethics of it. Another ethical concern stems from the idea that, if you create a Super Soldier, it means that you are going to send them into more perilous situations. There are also medical concerns, because if you heighten one of your senses, the rest of the senses have to compensate. And that takes a toll on the body."

> We want attendees to understand that something is happening, where it's not just in the movies anymore.

She continued, "There are also possibilities of adjusting blood oxygen. Athletes sometimes do something called blood doping, where they retain a high level of oxygen within their blood. So what happens when we can enable warfighters like Navy SEALs to stay underwater for longer lengths of time without having to come up to breathe – up to four to five hours even? Those are just some of the examples of what is being done. The human augmentation can be done to the body itself, like injections, or it can be something like attaching shoes that allow jumping like a kangaroo."

As a result, she said that the panel will explore the pros, the cons and the ethical dilemmas that are presented by human augmentation.

"The event is to create an awareness," she summarized. "We want attendees to understand that something is happening, where it's not just in the movies anymore. We'll be talking about XYZ country has done this, or XYZ country has done that. It's basically to allow them to use this awareness, because once you're aware of something, that's when you can prepare yourself for it. That's when you can think about it. That's when you can say, 'Okay, if people are already doing things in this area, maybe we should too.'"

Today's Sessions Include the I/ITSEC 2023 Nominees for Best Tutorials

23T17 A History of Games for Military Training: From Sheep Knuckles to the Metaverse [0830-1000, Room W300 – Theatre]

23T19 Behind the Screams: M&S Anatomy and Decomposition of a Contemporary Ride System Attraction [1030-1200, Room W300 – Theatre]

23T68 Putting the When and Where into Simulations [1245-1415, Room W300 – Theatre]

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Moog Reveals New Aviation Simulator Design

Moog [Booth 539] is utilizing I/ITSEC 2023 to reveal its latest immersive aviation training design.

According to company representatives, the new simulator being demonstrated at I/ITSEC "enables an unprecedented mix of motion control, virtual reality and comfort that will set the standard for immersive aviation training." They added that conference attendees will be able to buckle themselves into a flight demonstrator, including a pilot's seat atop a 6-degree-of-freedom (DOF) high-performance motion platform, don a Head Mounted Display (HMD), and experience "an unparalleled level" of flight simulation.

"We've known for years that virtual reality and mixed reality would find their way into simulation, but, until now, there hasn't been a way to prevent the uncomfortable mismatch between what pilots see from inside the simulator and what they feel through a motion base," said Jean Paul Warmerdam, global engineering manager for Moog. "The demonstrator we've brought to I/ITSEC synchronizes visual and motion cues in a way that's never been done before; it's a seamless, real-world sensation."

The combination of complex visuals and cues is enabled by three components: motion compensation software employing advanced algorithms and motion sensors to marry real and virtual elements; control loading technology that seamlessly integrates the cyclic, collective and pedals with Moog's motion base and HMD; and an electric 6-DOF motion platform and base employing the same technology found on more than 500 of Moog's systems in use around the world. The human-rated technology includes safety electronics and built-in dynamic brakes.

"Our demonstrator proves Moog can overcome a very important aspect of what has made simulation challenging to this day," said Noud van Bavel, global marketing manager for Simulation & Test at Moog. "The demonstrator we have at I/ITSEC is the basis for what any customer can have and finalize into a simulator that suits their training needs."

Moog will also bring to I/ITSEC a G-Seat, which can have up to nine moving elements in its seat bucket, seat pan, back-pad, shoulder harness and seat belt. The cueing system is designed to provide motion cues in all three translational axes.

VIOSO Announces New Acquisition

Düsseldorf-based company VIOSO GmbH, a global provider of automated alignment solutions for complex projection and visual systems, has announced that it has acquired 100% of the shares of domeprojection.com GmbH [Booth 2164]. The two companies will appear together at the domeprojection.com booth during I/ITSEC 2023.

Company representatives said that domeprojection.com will continue to operate under the leadership of its current managing director, Christian Steinmann, as an independent brand under the name "domeprojection – a VIOSO simulation company." Steinmann will also become a shareholder of VIOSO.

"This acquisition is a major milestone in our company's history, with the competition becoming partners in the best sense," said Benjamin Fritsch, managing director of VIOSO GmbH. "VIOSO's overall expertise in the AV market and the massive growth in the simulation market perfectly aligns with domeprojection's competence and reputation in the simulation branch. This is a unique alliance with a grand vision and incredible possibilities for our customers."

The company representatives added that the acquisition will enable VIOSO to further expand worldwide and especially in the USA, where the company plans to open dedicated offices.

"VIOSO's AV business, which has completed thousands of projects in the AV and media server sector in the last few years, will also benefit from new opportunities, including solutions for XR installations and LED screens," added VIOSO chief sales officer Raul Vandenberg.

Steinmann expressed enthusiasm about the transaction, offering, "This union represents a win-win situation for our two companies. We are thrilled to be part of the VIOSO family and confident that this partnership will further enhance our innovation capabilities."

Simthetiq Announces New Support Package Agreement

Simthetiq [Booth 1413], a provider of 3-D simulation content solutions for the defense sector, has announced that it has signed an agreement to provide a comprehensive support package to a leading defense simulation company, to assist the company's transition to a new image generation system based on Unreal Engine 5.

A Simthetiq representative offered that the company was chosen for its proven flexible support for the configuration and deployment of visual content at scale and in a streamlined way for Unreal Engine 5 environments, while maintaining correlated outputs for their customer's existing simulation solutions.

"By ensuring compatibility between Simthetiq's large-scale library of immersive, DIS/HLA [Distributed Interactive Simulation / High-Level Architecture] compatible 3-D content and our customers' new Unreal Engine-based image generation solutions, Simthetiq is able to support the rollout of our customers' next generation immersive simulation and training products," they said.

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Army Key Milestones ... *continued from p1*

who is the Principal Deputy at ASA(ALT) and Ms. Jennifer Swanson, who is Deputy Assistant Secretary of the Army for Data Engineering and Software. So, as they are looking to digitally transform the Army, I'm doing the same within PEO STRI."

She emphasized the criticality of teamwork in the process, noting that it would be impossible to transform and modernize without the broad network of partners supporting PEO STRI activities.

> It would be impossible to transform and modernize without the broad network of partners supporting PEO STRI activities.

As one representative example of transformation and modernization within PEO STRI, Saunders pointed to a program portfolio that was traditionally divided up between live, virtual, constructive and gaming domains.

"I am converging those into a single enterprise product line, if you will, so that we're only developing capability once and then, using the program managers as partners, spinning out common technology or common capability into the live domain or into the synthetic domain. So I've stood up a product shop called Unified Integration Transformation Enterprise (UNITE) and they are taking an enterprise approach to building training for the Army. It's common tools and services. They are leveraging a modular open systems approach and digital engineering techniques to create a common product line that provides capability," she said.

As another example, Saunders outlined the recent establishment of another team focused on the Synthetic Training Environment – Live.

"They are looking at specific technologies that we can spin out into the [STE] 'live' acquisition program," she stated. "They're looking at specific technologies across live training, which include direct fire, indirect fire and counter defilade. Those are three of the 12 domains in 'live,' and they are looking at technologies we can mature for those domains. We're also doing that through Soldier touchpoints, and then spinning them out into the program management shops, so they can mature them into our integrating architecture and instrumentation systems."

PEO STRI's third priority is streamlining acquisition, where Saunders acknowledged the adaptive acquisition framework codified in DoD 5000 and the multiple pathways that it provides to develop capability.

"Through the leadership of Mr. Douglas Bush (ASA(ALT)), and since my portfolio is mostly software, we are leveraging the software acquisition pathway to its max. All of my modernization programs, as well as several of my programs that aren't modernization programs, are transitioning to the software acquisition pathway. We're also leveraging the middle tier of acquisition pathway as appropriate."

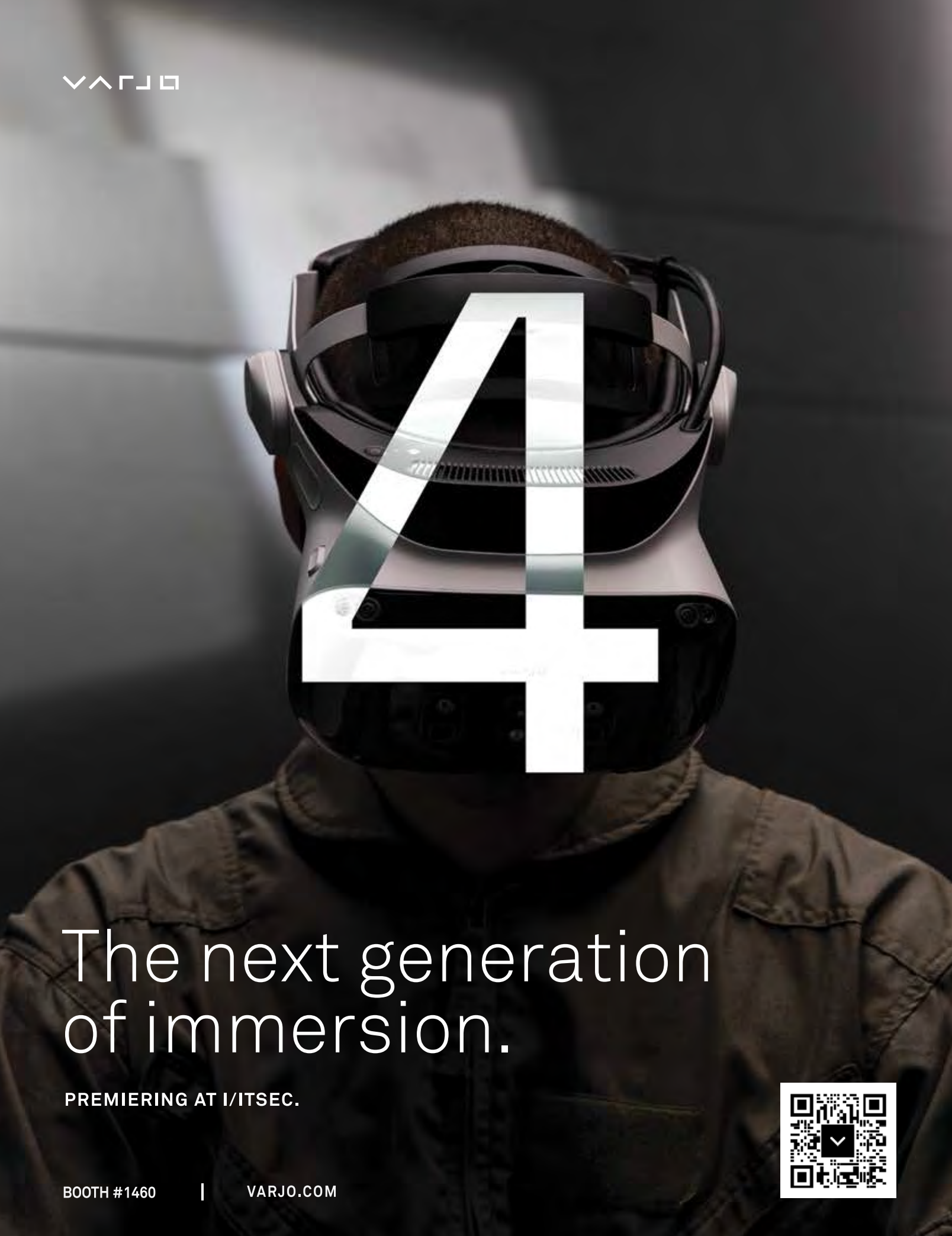
She added, "I think that my portfolio has really benefited by these new authorities, because we're able to develop technology and get it out to the user faster."

Although not officially part of the streamlining acquisition domain, Saunders pointed to the importance of Army Futures Command's vision surrounding Soldier Centered Design.

"As I talked about earlier, we're leveraging these agile methodologies to develop capability," she said. "But partnering with the STE CFT and CAC-T, we also are bringing in Soldiers from the field all the time to take a look at what we've developed and shape it. We've instantiated this with the Reconfigurable Virtual Collective Trainer. When it came time to make the decision to buy the hardware we had had over 48 Soldier touchpoints, so we felt pretty good that we had a hardware design that was going to meet the user's requirements."

Saunders pointed to her fourth FY'24 priority, investing in people, noting, "It is

Continued on p28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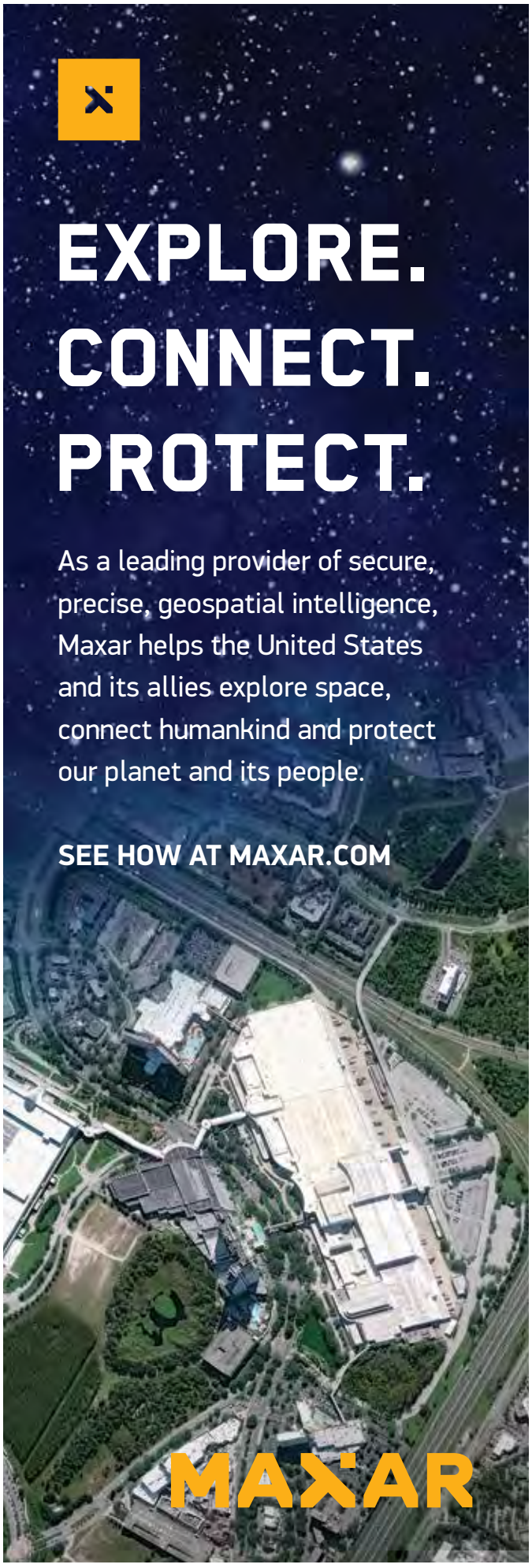

Army Key Milestones ... *continued from p26*

paramount that I have a workforce that is trained and ready to be able to work in the training domain."

In recognition of that reality, she pointed to the recent establishment of an Acquisition Apprentice Academy Program, a competitive 11-week program for assessing potential team members and leading to a two-year internship within the PEO organization. The program, which started about 18 months ago, is slated to graduate its "third cohort" during I/ITSEC 2023.

"It's also very important that, not only is the workforce trained and technically ready, but also proficient from a leadership and management perspective. So we're standing up a supervisory course to make sure supervisors understand what their duties are and understand how to counsel their people. I think that's probably a lost art," she said.

Reflecting on the development and refinement of this year's I/ITSEC theme – Sustaining a Global Force in a Digital World – Saunders offered that Rear Admiral James Robb, USN (Ret.) President of the National Training and Simulation Association, had worked closely with her office and reflected on every single word, resulting in a statement that describes "the total effort" underway across the services.

She summarized, "What they're going to see on the floor in the Army booth and the PEO STRI booth is an instantiation of where we're going. The Synthetic Training Environment is kind of at the core of how we're building our product line architecture. We're leveraging the modular open systems approach. We're leveraging digital engineering to create the environment before we actually start building it. We created a product development kit, which is a collection of tools that tells industry how to play in our architecture. It gives you standards and protocols and it helps industry understand how they can be a part of what we're developing. So I'm hoping that industry will see the successes we've had over the last couple years working with them building technology, as well as where we're going to go in the future."

> I would urge I/ITSEC attendees to look at the list of panels every single day, pick out topics that are of interest, go to those panels and then spend the rest of your time walking the floor.

Along with the exhibit opportunities, Saunders placed the spotlight on issues ranging from the expanded I/ITSEC 2023 web application to some "amazing" panel presentations.

"All the services have really well thought out panels across multiple topics," she said. "As just one example, this year, for the first time, we have a Non-Commissioned Officer (NCO) panel. I am one of three Army PEOs fortunate to have a Senior Enlisted Advisor. So my Sergeant Major has pulled in Sergeants Major from across the Army to talk about training. Training is one of an NCO's critical roles and I think it will be an amazing panel."

"And don't overlook the great joint panels," she concluded. "In fact, I would urge I/ITSEC attendees to look at the list of panels every single day, pick out topics that are of interest, go to those panels and then spend the rest of your time walking the floor. Oh yeah, and don't forget your comfortable shoes."

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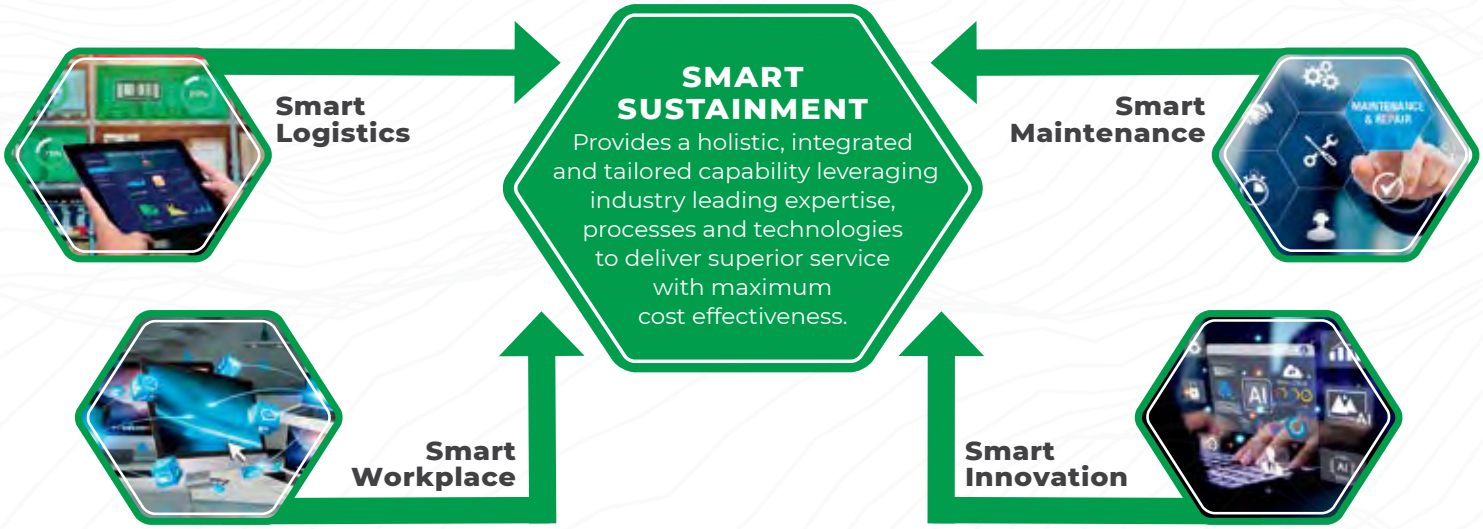

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I/ITSEC 2023 Fellow Offers Challenges to M&S Community

One of today's Signature Events features a presentation by James A. (Jim) Wall, PhD, 2023 I/ITSEC Fellow [1600-1730, Room W300 – Theatre].

Wall's remarks will draw on his nearly four decades of modeling and simulation (M&S) experience in a broad scope of roles and settings and will cover a range of topics including: utilization of M&S in increasingly diverse application environments; emerging trends in M&S; and opportunities and challenges brought by advances in supporting technologies including artificial intelligence.

Wall earned an MS degree in Systems Technology from the Naval Postgraduate School in Monterey, CA and a PhD in Computer Science from Texas A&M University. He served in the US Army as an Armor officer and his M&S work has encompassed multiple US Government Departments including Defense, Homeland Security, Energy and Agriculture. Prior to retirement, Wall served as the Executive Director of the Texas A&M Center for Applied Technology and the Inaugural Director of the Innovation Proving Ground at the Bush Combat Development Complex.

Always interested in science, and increasingly technology and engineering as he progressed though his career, Wall said his first exposure to simulation was in an academic setting at the Naval Postgraduate School. "I can think back very favorably on a couple of class projects," he said, and because those endeavors encompassed subjects of interest, he remembered thinking, "this is fun, this is great. I really enjoy this… I saw that it was a great tool for problem-solving, and I could combine it with other passions that I had."

As an Armor officer in the US Army, "I really got to see the power of simulation. I was an M1A2 Abrams main battle tank combat developer," he said. "There were nine improvements to the M1A2 over the M1A1 and all of them had to be tested and shown in simulation before the money would actually be spent. So we did, and I was part of a cost and operational effectiveness analysis that used simulation to prove those things."

In his subsequent work at the Army Research Laboratory, Wall said, "I got to see more of the power of simulation [when] I did a project called the Virtual Sand Table, which was the first horizontal display in a singular unit where we were doing a 3-D representation of entities on a tabletop. With my team, we built the first one, I think, that did combat modeling. It wasn't our idea to build an interactive horizontal display, but we were the first to put it in a simulation and use it for combat training."

Wall believes that his broad M&S experience in many different settings provides a unique perspective. In addition to the academic side, he said, "I've developed requirements, I've used simulations, I've built simulations and I've modified existing simulations, not only for military applications, but for non-military applications."

"I am always a strong advocate in promoting the use of modeling and simulation and discovering more ways to use it," he said. "I want to tell anybody who's willing to listen."

Asked about trends he anticipates in M&S over the coming years, Wall replied, "I think simulation will be more pervasive. And it will be quite a bit more powerful in broader, more diverse applications. Some of the power will come from the greater availability of high-performance computing systems, and also integrated artificial intelligence. That's going to open up modeling and simulation, I believe, a lot more."

And those trends won't come without challenges. "Most technologies have the 'Yin and Yang,'" Wall said. "Once you enter into a great technology, it may solve one problem but pose others."

For example, he continued, "AI can be used very effectively to aid in the testing and evaluation process. But when it's being used in that [entity] that's being tested, it may present some set of problems."

Wall identified another challenge. "I think we have to pay much more attention to data," he asserted. "It has been said that data is the new oil. However, even if we are 'drowning' in data, do we have the right data? Did it come from an authoritative source? M&S and decision support systems will demand new requirements on data, where metadata fully describing the data becomes increasingly more important. We need to better understand the full context of how the data was acquired and its reliability."

He added, "We must understand how to minimize bias when collecting data and identify and mitigate bias in existing large datasets to prevent corruption of new and emerging AI platforms."

Wall acknowledged that the I/ITSEC Fellow recognition and standing before peers and mentors in the M&S audience is "incredibly humbling," adding, "they're the people I learned from, they're people I respect. And some are just getting started in their career."

Conveying his message to I/ITSEC attendees, Wall summarized, "By being a part of the modeling, simulation and training community, you have an opportunity to join those who made a difference in the past by helping to overcome the many challenges of the future. While the successes have been many, the opportunities continue to grow at a rapid pace, especially given the advances in technologies such as artificial intelligence, high-performance computing, augmented reality and real-time streaming analytics, to name a few.

He continued, "Participation in I/ITSEC is a fundamental requirement for keeping abreast of new and emerging technologies, advancing your knowledge of methods, techniques, programs and funding sources, while growing an all-important network of professionals who have similar expertise and interests.

"Personally," Wall concluded, "I cannot overstate the importance of my participation in I/ITSEC to the successes of my modeling and simulation career."

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