

I/ITSEC SHOW DAILY



I/ITSEC 2024 OFFICIAL DAILY NEWS DIGEST



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Navy Identifies Training Vision

As Commander of the Naval Air Warfare Center Training Systems Division (NAWCTSD), Captain Tim James has an excellent understanding of where he needs to go with Navy training.

"The Chief of Naval Operations has been clear about that with her 'Project 33' initiative," he explained. "We have to train like we fight. And the way we fight is joint and coalition. It's never just the Navy. So we need an integrated way to train, not just across services, but across countries, in an LVC environment, so we can do things that the bad guys can't watch. That's the thrust that the CNO has put on us for training under 'Project 33.' And that's my primary focus: ensuring that we can make her vision come true."

His focus includes exploration of enabling technologies or improvements in LVC infrastructure.

"Infrastructure is always big on that list," he said. "That includes any ways to get better bandwidth or faster processing or better cyber. It's anything to make our LVC better, and that includes cross domain solutions. Those are foundational things that the Navy needs to pay a little bit more attention to. Then after that comes things like next generation high resolution goggles or the better full motion sims or whatever comes with that."

In parallel with a focus on meeting the CNO guidance, James said that NAWCTSD has been working on putting trainers where trainers have never been before.

"That means being able to put simulators on aircraft carriers and putting them over the horizon so they can still have effective training," he said. "That is becoming of paramount importance. In fact, we now have a couple aircraft carriers out there with a pilot program that we call 'Sims at Sea.' We've got different simulators in the air wing all linked together in a classified space on the carrier, so they can actually train and practice and mission rehearse like they fight."

He continued, "With 'Sims at Sea,' they can get F-35, F-18 and E-2 pilots in the room, where they can practice some missions. And if we find out that the world has gone sideways again and something unexpected needs to be addressed, we can rehearse that now, even when we're not flying. And if you're not on a flight schedule today, or it's bad weather, or whatever, we can go get some more 'reps and sets' in. So not only are we maintaining proficiency, but we're actually improving and being able to iterate real time. Rather than taking lessons learned and bringing them back and putting them in the simulator here months late to need, we can do it on the spot. It's having assets that don't just help train the new guys, but

Continued on p16



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TUESDAY, DECEMBER 3
CONFERENCE HIGHLIGHTS

REGISTRATION HOURS

0700-1800 (South Concourse)
0730-1800 (Satellite Registration - Hyatt Regency Main Lobby)

OPENING CEREMONIES

0800-1000 (Hyatt Windermere Ballroom)
Including Conference Chair Opening Remarks, Naval Services Fireside Chat and Industry Keynote
1000-1130 Signature Event: Senior Leader Panel (Hyatt Windermere Ballroom)
1130-1200 Government Keynote (Hyatt Windermere Ballroom)

EXHIBIT HALL HOURS

1200-1830
1200-1330 Lunch
1700-1830 Exhibitor Networking Event

SIGNATURE EVENTS

1400-1445 A Fireside Chat with Admiral Christopher W. Grady, Vice Chairman, Joint Chiefs of Staff (Room 330ABCD)
1500-1615 Naval Aviation Flag Officer Panel (Room 330ABCD)
1600-1730 GenAI: Transforming Defense Operation (Room 310AB)
1630-1745 Army General Officer Panel (Room 330ABCD)

FOCUS EVENTS

1400-1530 Joint & Multi-National Constructive Training Exercise (Room 310CD)
1600-1730 Implementing Learning Engineering in Military Environments: An Operational & Tactical Perspective (Room 310CD)
1600-1730 Maximizing the Emerging Wargaming Capabilities (Room 330GH)

NEXT BIG THING

1400-1530 Large Language Models (Destination Lounge)
1600-1730 Human & Machine Teaming (Destination Lounge)

PROGRAM BRIEF

1400-1530 Joint Simulation Environment (JSE) (Room 310AB)

PAPER SESSIONS (Download the I/ITSEC app for synopses)

1400-1530 (Rooms 320ABCDEFG)
1600-1730 (Rooms 320BCDF)

I/ITSEC
SHOW DAILY

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**Annual 5K Event Supports
Tunnel to Towers and
STEM at I/ITSEC**



**Start the day bright and early
and join the I/ITSEC community in
supporting I/ITSEC charities!**

The Annual I/ITSEC 5K Run/Walk/Roll will occur Wednesday, December 4 beginning at 0630 in front of the OCCC South Concourse. Packet pickup opens at 0530.

The event supports the Tunnel to Towers Foundation and the NTSA EcosySTEM of Learning at I/ITSEC.

Tunnel to Towers is an organization that since 9/11 has been helping America's heroes by providing mortgage-free homes to Gold Star and fallen first responder families with young children, and by building custom-designed smart homes for catastrophically injured veterans and first responders. The foundation also works to eradicate veteran homelessness and aid victims of major U.S. disasters. Proceeds from the I/ITSEC 5K Run/Walk/Roll support the Orlando Chapter of Tunnel to Towers.

The NTSA EcosySTEM of Learning at I/ITSEC focuses on strategically and tactically building interest and educational momentum through a wide breadth of science, technology, engineering and mathematics (STEM) initiatives to establish, nourish and maintain a solid foundation for launching tomorrow's leaders and fostering the future workforce.



Congressional Caucus Shares Perspectives

During the first Signature Event of I/ITSEC 2024, members of the Congressional Modeling and Simulation Caucus shared their thoughts and key messages for I/ITSEC attendees on Monday morning. Caucus members in attendance included Congressman Bobby Scott, (VA-03), Congressman Jack Bergman (MI-01), Congressman John Rutherford (FL-05), Congressman Darren Soto (FL-09) and Congressman Maxwell Frost (FL-10).

The event opened with an introduction by VADM Sean Buck, USN (Ret.), President of the National Training and Simulation Association, who welcomed attendees with the hope that each of them benefitted from their attendance at I/ITSEC 2024.

Noting that this is his first I/ITSEC event, he said, "I'm really excited to be joined by our guests on stage and I'm excited to hear what they all have to say and share with the audience this morning."

"I asked myself: Why is this particular session so important?" Buck offered. "I came up with three reasons. First of all, we're very well aware a significant portion of the sales in this industry are based on government funding, both to the Department of Defense as well as many other federal agencies. Second, we're going to have time this morning together live to talk to one another, collaborate, share notes and listen to what the representatives have to say as far as their point of view on modeling and simulation, but also representing their constituencies from their respective districts. And third, this obviously can be a jumping off point, a starting point, especially for those of you who are attending for the first time, to start a dialog and better appreciate what's needed from the folks out in the world."

Congressman Scott began, "The kind of thing we've been working on has been making sure that we encourage modeling and simulation in legislation we pass, making sure that there are directives to use modeling and simu-

lation to the degree practicable, to ensure that we're designing programs most efficiently to save money and save lives."

As an example, he pointed to the Homeland Security Bill, which currently includes an Emergency Preparedness Network.

"As many of you know, we haven't finished our appropriations this year. But if we pass the bill as it is now, the Emergency Preparedness Network will be there to help train people, to make sure that the training is there and we are prepared for emergencies."

Congressman John Rutherford offered an adage about vision and action, stating, "Vision without action is just daydream, but action without vision is chaos."

"I want to congratulate I/ITSEC," he added, "because I believe that what you are doing and what you have been striving to do is actually to create a vision for where we can go with modeling simulation in this whole world."

Rutherford cited some recent visits made to M&S companies and development sites, expressing appreciation for the capabilities he has personally witnessed.

"I want to challenge all of you. I'm willing to travel anywhere in this country, and I want to know what you're doing so that we can better create a vision together, and we can help you in your interactions with Homeland Security, particularly in my stead, but also Transportation and Housing and Urban Development. The field is wide open, and I can tell you those one-on-one opportunities with growing businesses are going to be the future of this industry. I want to partner with you. So reach out."

Congressman Bergman highlighted the positive contributions of "those of you who make things and are developing new products," adding, "I believe that our role in the Federal Government is to create the environment where good, healthy competition supports people who are developing new products and new itera-

tions, in the modeling and simulation arena or wherever it happens to be. You need the environment where you can do that and have decision-makers at the governmental level not slow down the innovation process."

He continued, "One of the things we've gotten in the last two plus years is a look at the nature of warfare as we look at Ukraine, and to an extent, in the Middle East as well, involving the use of drones and other things. I'm sure there are many of you in here who have ideas of advancing our warfighting capability. There's only one goal in war. And that's to win."

Congressman Soto prefaced his remarks by emphasizing synergies between hospitality, academia and simulation and training industries, also building on the challenges in Eastern Europe, the Middle East and East Asia.

"Our industry will need to continue to adapt to those challenges," he said. "Thank you for what you do, to help protect the warfighter, to help prepare. We also know there could be some challenges ahead with some discussion of potential cuts to the defense budget or to veterans care, and so this presents an opportunity to help save money through the simulation training field."

Congressman Frost, during a dynamic question and answer session, addressed the question: Given the rapid advancement of tech, how can the Caucus ensure or oversee that K through 12 and university curriculums are agile enough to keep up with the demands of industry in the area of AI machine learning or virtual reality?

"Even though we're not here to directly put things in the curriculum, a lot of these investments that our government has made over the last several years into the industry as a whole doesn't exist within a vacuum," he said. "Often-times it encourages school districts and outside organizations to level up the work they're doing. So that way, their students are competitive in being able to have these type of jobs."



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Learning Engineering in Focus Today

One of this afternoon's I/ITSEC Focus Events will examine concepts surrounding learning engineering during a session titled *Implementing Learning Engineering in Military Environments: An Operational & Tactical Perspective* [1600-1730, Room 310CD].

Sharing their perspectives on this topic are panelists Lindsey Fredman, Director, Air Force Career Development Academy, ADC/2AF/AFCD; Benjamin Goldberg, PhD, Senior Scientist, U.S. Army DEVCOM SC STTC; Raluca Gera, PhD, Professor of Mathematics, Academic Associate Chair, Department of Applied Mathematics, Naval Postgraduate School; and Jennifer Sinclair, Deputy Commander and Chief Learning Officer, USCG Force Readiness Command.

Event moderator Wendy Walsh, EdD, Chief Learning Officer, HQ AETC, said, "I'm bringing together people that represent the efforts of learning engineering across the services." With panelists from the Navy, Air Force, Army and Coast Guard, she said, this panel "brings a joint service perspective of how we might implement learning engineering."

As chief learning officer, Walsh said, "my job is to optimize the learning environments and systems for the total force. It's a systems perspective."

She added, the role entails "understanding what learning is happening out there. Where are people challenged? Where are the opportunities to see successful practices in one area and carry them on to another? So, it's really an enabling structure for the total force for learning, but also for the generals that are leading our Air Education and Training Command, helping them to see the enterprise."

In explaining learning engineering, Walsh identifies three basic areas: human-centered design, interdisciplinarity and evidence- and competency-based learning.

Employing human-centered design in the learning environment, Walsh explained, involves awareness of individual learning preferences and attributes, and "designing learning experiences to optimize that so you can learn quicker and retain longer."

Walsh added, "As we're moving into having more technology, especially large lan-

guage models that really allow us to do a lot more customization, we might ask what that human-machine interface looks like. How are we utilizing the current and emerging tools and innovations to help that human-centered design along?"

The second area, interdisciplinarity, concerns "how we are bringing together all the different academic disciplines, the job fields, and figuring out how we can work together and help each other understand and see the complexity of the systems and the threats that we're facing today," Walsh said.

Evidence- and competency-based learning, the third aspect, focuses on the importance of understanding and measuring competencies in various roles. "It's really about creating a structure or a system that we can measure, and that we have evidence of competencies in various roles," she said, and how those competencies can be improved.

"That is the objective of learning engineering - to look at learning through the lens of science, through the lens of many different disciplines, to glean what we can to really understand and facilitate learning," Walsh said.

Asked what she hopes attendees of the session gather from it, Walsh said, "Learning engineering has just around a decade of research. It's a very new approach. And so, first and foremost, I want people to be introduced to the concept of learning engineering and to see how they fit in. I want to demystify it," adding, "I am incredibly passionate about this, because I do believe this is the way that each individual can see that pathway of how they contribute to the whole."

Also, Walsh added, with this panel is the operational and tactical level, "I'll be talking to educators, people who are working in the learning environments across the services, and asking them about how they're applying it. They're working directly in education, training or research environments. How are they applying



the principles of learning engineering to what they're doing within their service?"

"The aim is really to build a community of practice around learning engineering. I want people to think about it, ask questions about it, just ignite their curiosity," she said.

Walsh concluded by sharing her key messages about the importance of learning as a competitive advantage and the potential of learning engineering to optimize human performance and enhance mission readiness.

"Many times, when we talk about learning or achieving our mission, we talk about what problem we are trying to solve," said Walsh. "And one of the ideas that I love to leave people with is, 'how are we imagining a future that we want and thinking about how we can potentially work together and co-create learning environments that are optimized?' So, it's moving beyond the competitive 'us and them' to really creating a total force, a unified joint force that is creating an environment for all of our service members to learn and to optimize their contributions to the mission. And I think that learning engineering gives us a roadmap for being able to do that."

"I like to say learning is our competitive advantage," Walsh concluded. "When we have that mindset of learning, and if we can engineer that and really discover ways that we can optimize our learning environments, the human performance of learning, the collectiveness of learning, we will be unstoppable. We will be able to create the realities and achieve the mission that we need."

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Tuesday Exhibitor Networking Reception at I/ITSEC 2024

Start I/ITSEC 2024 by visiting the participating booths at the I/ITSEC Exhibitor Networking Event [1700-1830, Exhibit Hall]. Explore cutting-edge technology while connecting with exhibitors and fellow attendees in a dynamic networking setting. Stay updated on hospitality participants by checking the official I/ITSEC website and onsite signage.

BOOTH	COMPANY NAME	OFFERING
138	SOAR TECHNOLOGY LLC	Beer from Michigan and Florida
332	XR TRAINING (XRT)	A Variety of Seasonal and Craft Beers
372	INGALLS INFORMATION SECURITY	Beignets and Sweet Tea
463	PRECISION FLIGHT CONTROLS, INC. / PFC DEFENSE	Beer and Popcorn
538	BOHEMIA INTERACTIVE SIMULATIONS	Beers from Around the World
681	THE WEATHER COMPANY	Beer and Wine
833	BUGEYE TECHNOLOGIES, INC.	Beer
839	VERTEX SOLUTIONS	Industry Partner and Customer Appreciation Social
859	3D PERCEPTION	Beer Bar, Shots of Norwegian Aquavit and Finger Foods
1018	APTIMA, INC.	Beer, Wine, Soda, Water and Appetizers
1089	STM	Bakes Pastries, Gourmet Cookies, Cakes, Pies and Nonalcoholic Drinks
1201	ELECTRIC PICTURE DISPLAY SYSTEMS, INC.	Beer and Wine
1649	RUDDY NICE LTD	Craft Beers, Cocktails and Mocktails
1701	V2X	Beer, Wine and Appetizers
1735	BARCO	Beer and Drinks
1787	KONGSBERG DIGITAL	Beer, Wine, and Snacks
1820	INHANCE DIGITAL	Cocktails and Beverages
1821	BOOZ ALLEN HAMILTON	Beer and Wine
2220	KBR	Cappuccinos, Espressos and Lattes
2271	THREAT TEC	Beer, Soda and Water
2409	HTX LABS	Beer and Wine

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Mass Virtual's Battle Manager Revolutionizes Mission Planning

Mass Virtual [Booth 849] recently showcased its latest breakthrough in immersive military technology to senior leaders of the 101st Airborne Division (Air Assault), demonstrating the groundbreaking capabilities of its new Battle Manager. This cutting-edge extended reality (XR) solution is designed to replace the traditional physical sand table, offering an unparalleled visual tool for mission planning and decision-making processes.

Battle Manager allows military leaders to visualize and articulate their operational approach with greater precision and clarity. By

leveraging XR technology, this tool provides a 3D map view that immerses users into the battlefield, enabling them to view aviation, artillery and ISR (intelligence, surveillance and reconnaissance) platforms in a way that 2D maps and Google Earth overlays simply cannot replicate.

The limitations of traditional 2D maps, which often hinder the ability to see an entire route or battlefield from one perspective, are overcome by Mass Virtual's immersive technology. Leaders can now experience a 360-degree view of their operations, switching seamlessly between a first-person perspective and a high-al-

titude overview. Grid lines, routes, phase lines and flight paths are all visualized in real time, giving commanders an all-encompassing picture of their mission environment.

Billy Webb, Command Sergeant Major, USA, (Ret.), Senior Director for Business Development at Mass Virtual, said, "Battle Manager helps military leaders visualize the operations process, synchronizing efforts across units and ensuring a more comprehensive understanding of mission planning. This technology gives valuable time and resources back to commanders, expediting the planning process and enabling mission success."

Mass Virtual's demonstration for the 101st Airborne Division highlighted the system's practical application in combined arms training. Leaders from the division, known for its prowess in long-range large-scale air assault, were particularly impressed by how the technology allows them to manipulate the training environment in real time, improving situational awareness and operational efficiency.

With its Battle Manager, Mass Virtual is providing the Department of Defense with a revolutionary platform that transforms traditional mission planning. The technology is on track to deliver game-changing capabilities, with full deployment expected after further development, refinements and testing. The potential for this dynamic tool to enhance military readiness and operational efficiency is already evident.



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Eduworks to Unveil CADRE Platform at I/ITSEC 2024

The Eduworks Corporation [Booth 1026], an Oregon-based company that provides cutting-edge, AI-powered solutions, is proud to announce the launch of CADRE (Common Architecture for Distributed Readiness and Evaluation), a software platform that redefines how military and defense organizations develop, track and train their warfighters' skills by integrating training with frameworks, analytics and AI, at I/ITSEC 2024.

Dr. Benjamin Bell, Managing Director of Eduworks, is excited to bring this platform to its consumers conveying "CADRE is a game-changer for ensuring the right skills are available when and where they matter most. The platform bridges the critical gap between skill development and operational performance – so our customers can have confidence that their training programs are aligned with mission requirements and readiness needs."

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MAK Technologies Unveils AI-Powered Avatar at I/ITSEC 2024

MAK Technologies [Booth 1213], a company of ST Engineering North America, is entering the artificial intelligence game with NICO (Next Generation Interactive Counterpart), an AI-powered virtual avatar that will transform the way simulation-based training environments are conducted. I/ITSEC 2024 attendees will gain an exclusive preview of the avatar alongside the MAK ONE suite of simulation software.

According to company representatives, NICO will elevate virtual interactions to an entirely new level of realism by engaging in lifelike conversations, interrogations and instructions using verbal and non-verbal cues, allowing instructors the ability to simulate complex human behaviors and scenarios more effectively than ever before.

NICO 1.0 is also joined by MAK ONE, a robust suite of simulation software. MAK ONE products have been offering stability and performance across multiple training environments for over 30 years. Guests will be able to experience the scale and breadth of MAK ONE through its VR-Forces scenarios. Guests also get to see other insights of MAK Technologies, including MAK's Driver Trainer and MAK FIRES, the Call for Fire Trainer for Forward Observers.

Bill Cole, CEO at MAK Technologies, reiterated his excitement for I/ITSEC, stating, "We're proud to be a decades-long leader in the simulation and training community, and we're excited to highlight both our legacy and our innovations at I/ITSEC this year."

SimthetiQ's 3D Library and Its Role in Modern Training Solutions

SimthetiQ [Booth 1421], a provider of high-fidelity 3D digital content for more than 20 years, is excited to showcase the latest developments in their 3D technology and vision for the future at I/ITSEC 2024.

According to company representatives, SimthetiQ's 3D Library sets the standard, offering features like validated geometric accuracy, thermal sensor textures, dynamic movement and complex articulations. This 3D Library supports both DIS and HLA standards, ensuring high visual fidelity and performance. The library integrates effortlessly with evolving simulation platforms.

SimthetiQ announced on Monday, December 2, that SimthetiQ has been awarded work to support the delivery of a new Unreal-Engine based simulation environment called Rocket IG that has been developed by the US Army DEVCOM. Program Manager James D. Lee commented on the recent deliveries from SimthetiQ, stating, "We were impressed with SimthetiQ's high-fidelity, interoperable 3D content that is easily deployed in Unreal Engine. Leveraging SimthetiQ's visual content library is beneficial for the timely deployment of our latest, state-of-the-art simulation environment."

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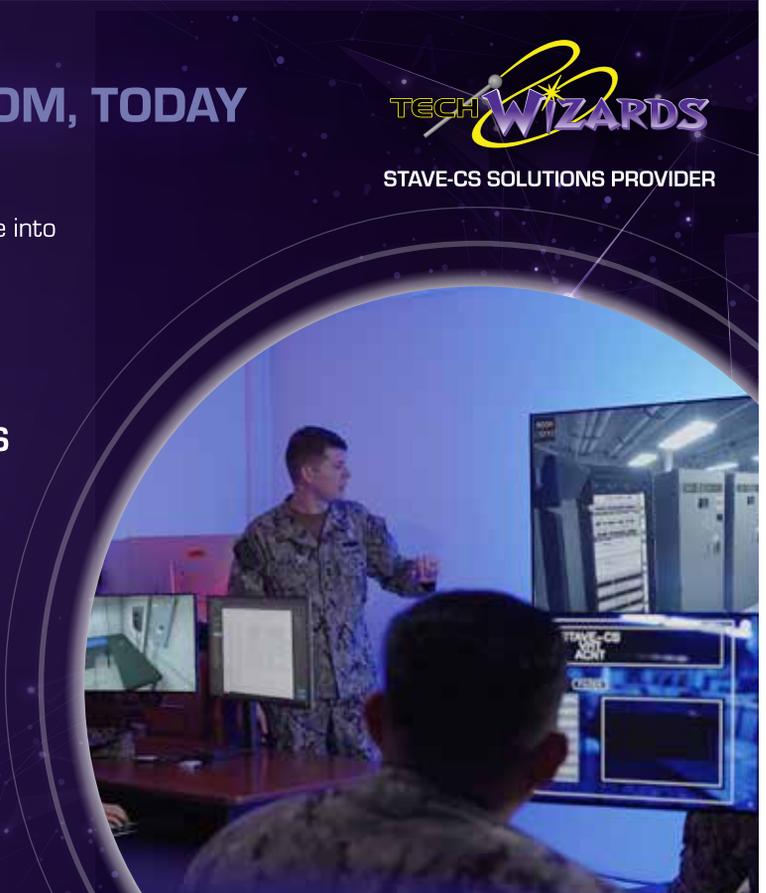
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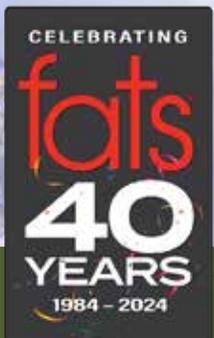
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Next Big Thing Accelerates Technology Adoption

One of the I/ITSEC opportunities that has grown in both scope and significance over the past few years is “Next Big Thing” TalX, an event designed to accelerate the adoption of emerging technologies [Destination Lounge].



According to Robert Kleinhample, President of RCK Simulations and Director of the NTSA Next Big Thing, this year’s presentations, which occur Tuesday, Wednesday and Thursday, are designed to inspire, inform and collaborate in an environment of cutting-edge technologies.

“Next Big Thing has really evolved quite a bit this year,” Kleinhample began. “We have done this at I/ITSEC for about three years and in previous iterations it has involved just a few special events that were largely focused on a single technology. But this year we have significantly expanded the event to fully encompass our mission, which is accelerating the adoption of certain novel technologies in the modeling, simulation and training market.”

Against that mission statement, he said that committee members attempted to evaluate how technologies were really being accelerated for adoption.

“And we realized that we needed to focus not on just one technology, but on multiple technologies that are out there and need to be accelerated. We also looked at the types of strategies that are successful and attempted to identify roadblocks that needed to be overcome. And we ended up building a greatly expanded program of talks around multiple areas to achieve that mission,” he said.

In addition to a broader technology agenda, he said that another change this year involves a new venue in the concourse called Destination Lounge, a more vibrant setting that overlooks the exhibition hall.

In terms of backgrounds for the Next Big Thing presenters, Kleinhample said that they cover a representative sampling from across industry, government and academia.

“All of our presenters were very excited about being asked,” he said. “In fact, what was great about this year is that put we our mission out there and conducted a data call. We told people what we were looking to do and

what we were trying to achieve and allowed everybody in the community to nominate talk ideas. Then our committee reviewed the nominations, not only selecting the best of the best, but also making sure that we were covering all aspects of our mission. For example, we wanted to make sure we had broad speaker backgrounds. We wanted to make sure we had talks on the strategies for accelerating a technology. And we wanted to have a fair amount of technologies represented, too.”

While previously likened to “TED-style Talks,” Kleinhample said that this year’s evolution includes two primary presentation styles: a “TED-style” presentation and a “fireside chat” style.



This year we have significantly expanded the event to fully encompass our mission, which is accelerating the adoption of certain novel technologies in the modeling, simulation and training market.

“We went with those two styles because we wanted the discussions to be engaging with the audience. So the people that submitted their ideas also proposed to us how they were going to engage with the audience. Also, to make sure that we have dynamic speakers, our committee members have been working with them to ensure that their presentation styles will be engaging,” he said.

Kleinhample noted that an important nuance involving Next Big Thing is that it’s not something that just occurs at I/ITSEC.

“We do several events throughout the year, which culminate at I/ITSEC,” he offered. “But they are also at the various NTSA events. So last year we had a panel at MODSIM World, we had a panel at the Department of the Air Force Modeling and Simulation Summit (DAFMSS) and another event at the Training

and Simulation Industry Symposium (TSIS). And we will continue to leverage those NTSA venues this coming year, to keep the dialogue and momentum going.”

Asked for an example of how a technology formerly highlighted by Next Big Thing appears to be accelerating, he immediately identified extended realities.

“That was the very first topic that we took on three or four years ago, the first year that we did Next Big Thing,” he explained. “And at that time there might have been two booths that had an actual extended realities solution. Now you see it throughout the exhibit hall, and I think that’s partially because this process helped to

get the attention of government and spread the message that this thing is real and it’s ready to be adopted as displays continue to improve and people can stay in goggles longer.”

Other exploration areas highlighted by Kleinhample include artificial intelligence, which is expanding this year to reflect the acceleration of AI, and human performance, which will address the potential to scale new brain wave technologies to support a wider variety of applications.

“It’s a very rich agenda,” he concluded. “And that’s a key message I want to share. There is a lot to see and witness at Next Big Thing, and we hope that people will come in to be part of the conversation, to collaborate with the speakers and to be part of the solution to get these technologies out there into the hands of the warfighter faster.”

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Navy Vision ...continued from page 1

also keep the proficiency up for everyone.”

The new efforts are not restricted to pilot simulations. James pointed to another program, called Multipurpose Reconfigurable Training System (MRTS) 3D, which places classrooms aboard ships where Sailors and officers can train across a spectrum of skills.

“Effectively, it’s like a big screen TV-sized iPhone. It’s touch enabled. You can put apps on it. The Navy controls the specs and the middleware, but anybody can create an app for it, as long as it meets our specs. And it’s not just a single screen. You can link any number of screens together. So if you had them all the way around the space, it’s like a holodeck. They can all be linked together to replicate one room, or they can all do separate individual training things, or they can all run an organized class doing all the same thing. It’s incredibly flexible for every type of training that’s applicable for that kind of media,” he said.

“All those different capabilities are now open to us and the fleet is really loving it,” he added. “I’m fairly certain that all of these projects and pilot programs are going to turn into official programs of record. And I expect the workload to definitely increase, as we are able to put training where the Sailors are, versus having to wait till the Sailors get back to where the training is.”

The capability to train aboard ship in a controlled space also provides the Navy with expanded benefits in terms of operational security.

“Ironically, now that we have such great training ashore, we can’t practice everything out in the open,” he observed. “Your peak readiness and proficiency is before deployment, and then you steadily go downhill during deployment, because you can’t practice all that stuff. You can’t practice all of your latest capabilities because we don’t want the bad guys to see what we’ve got. But now you can practice in a controlled environment aboard ship and we can keep you at peak proficiency and expertise throughout the deployment, which is where it’s needed most. That’s pretty exceptional.”

In addition to “Sims at Sea” and MRTS 3D, James highlighted NAWCTSD’s organic development of its T-45 project mixed reality trainer.

“You have goggles where you can still see your hands and your knee board card and stuff like that,” he said. “And between buying commercial off-the-shelf components or 3D printed pieces, we’ve replicated a linkable

T-45 cockpit. So I now have a simulator the size of my office desk. Now it’s not as high-fidelity as the full blown building-size simulator, but we’re starting to be able to offload training into something that size. And being that size, it’s also significantly cheaper.”

He noted that NAWCTSD has rolled out its first half-dozen T-45 cockpits to Naval Air Station Meridian and is in the process of bringing that total up to 24. Additionally, he said that the T-45 mixed reality simulator will be on display in the service “Quad Booth” in the I/ITSEC Exhibit Hall.

“Now we’re able to tackle Naval Aviation’s number one training problem, which is pilot production,” he stated. “We’ve been running about 10% behind schedule in pilot production for the last 10 years, which last year led us to a 1,000 pilot backlog in Pensacola. So now we’ve been challenged to help the Chief of Naval Air Training (CNATRA) both shrink the pipeline and expand the bandwidth. In fact, whether it’s getting them extra contract instructors or creating new ways to train, like these T-45 mixed reality simulators, we are helping CNATRA achieve over 100% production with new, innovative ways of training.”

Acknowledging that the T-45 simulator “can’t train everything,” he said, “It does enable me to let pilots either rehearse a flight before they do it for grade with their instructor, or come up to speed and practice after they have a bad flight. And we’re starting to try and embed automatic grading like AI into these, so you don’t have to have an instructor or even a trusted classmate there to watch you and tell you where you messed up. We can get the system to tell you itself and all of that for a 10th of the price of a full motion simulator. So it is a very cost effective way to roll out training for our newest aviators.”

In terms of his takeaway messaging, James referenced a standing challenge that is being embraced by both the NAWCTSD workforce and their industry partners.

“There’s a common ‘bumper sticker slogan’ around here that ‘Status quo is a losing proposition.’ We must find a way to get products out faster. We are well aware of ‘The Davidson



Window,’ [That China may be prepared to act to control Taiwan by 2027] and we’re trying to get as much high quality training out as fast as possible so that we can create a credible deterrence, or if that fails, have a credible force to back that up. So speed to the fleet is on everybody’s mind.”

James said that his closing message was one that he gives to his workforce as well as industry.

“We’ve got to be teammates,” he concluded. “And we owe each other clear, frequent, two-way communication. If we’re going to err on anything, we’re going to err on over-communicating. We’re trying to get away from the legacy way of doing things in secret, throwing it over the fence and just hoping industry figures it out. We’re trying to be more collaborative. We’ve got a great outreach network. We’ve got an open door policy. Anybody can come talk to anybody about process improvements. I’m not interested in that business pitch, but I’m very interested in how we can do things better as a command. So that’s what I need from industry. First of all, I need feedback on how we can do things better. Where are we doing things that are negatively impacting that teaming relationship with industry? Second, I need them to perform. I need people to meet their benchmarks. If they’re supposed to give me a proposal in 30 days, I need it in 30 days or less. I don’t need an extension request for 45 days, because every day matters.”

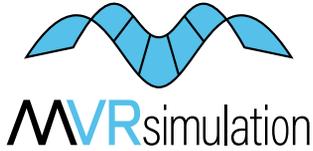
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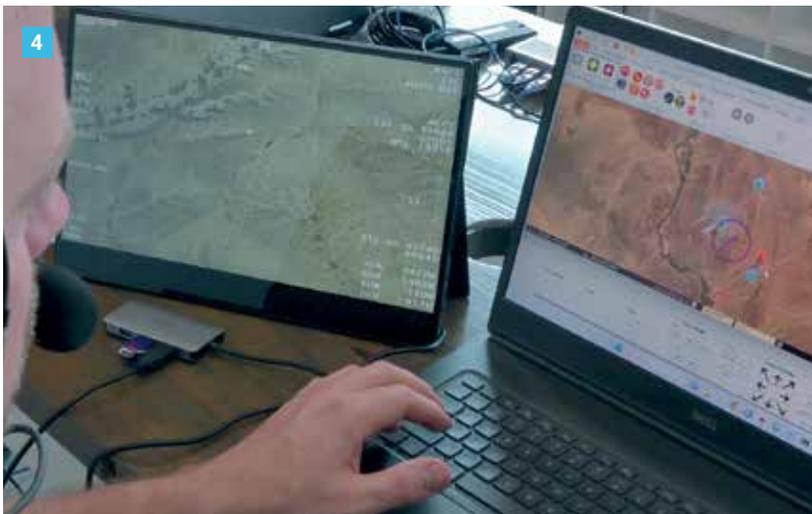
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- 1 JTAC trainee's first-person view inside the Varjo HMD showing VRSG's virtual Yuma Proving Ground terrain, with viewing radius showing pass-through into the real world below.
- 2 The PJFT contains all equipment required to set-up, run, and have full dynamic control of training scenarios.
- 3 The PJFT is delivered with a real-world end user device ready for GOTS SWAK software configuration.
- 4 PJFT uses MACE's datalink capability and VRSG's KLV metadata to integrate with real world targeting software suites (ATAK/WinTAK) & datalink message middleware (BADL, TRAX/ATRX, FACNAV).
- 5 A complete PJFT consists of one Instructor Operator Station (IOS) and one JTAC Backpack (OBS), each fully contained in a backpack, and weighing less than 50 lbs combined.



Saab Highlights Capability Driven Approach

Saab [Booth 1039] is showcasing its full range of ground combat weapons training, including AT4, 'Carl-Gustaf' M4 and NLAW.

"We have a different profile compared to most of our competitors in the live segment, especially," said Hans Lindgren, who is in charge of business development at Saab's business unit Training and Simulation. "And at I/ITSEC 2024 we have an up and running live exercise in the stand showcasing our world leading platform of GAMER Gunnery and Maneuver Exercise, which is what we call our live solution. That platform is exported to more than 40 nations and we are demonstrating it here at I/ITSEC with our expansion packs, which represent a mix of laser and non-laser solutions where they best fit, based on current market needs."

As examples of dynamically changing market needs, Lindgren pointed to the fact that the company is closely following the war in Ukraine, which Saab sees as representing "a new type of conflict with drones loitering ammunition."

"Part of keeping up with these operations involves adding on small features," he said. "But that is a significant change in the way soldiers

must behave. So, for example, the add-on package includes a mix of the laser segment and what we call blending in other technology, or geometric pairing technology if you like. And we are demonstrating at I/ITSEC in a live scenario."

He said that the I/ITSEC exhibit is a way for Saab to communicate with the market, demonstrate prototype concepts at an early stage, get feedback, listen to customers and then further develop concepts."

He added, "We feel that we are different in that perspective from some other vendors in the segment because we invest in our portfolio actively, on our own private money, to provide the market with developed solutions that they can adapt into their training needs."

As part of its ground combat weapons and advanced weapon training capabilities, Saab is also presenting its "training as a service concept" at I/ITSEC. Lindgren said that this has been "part of the Saab training solution for many years" and provides customers with a flexible financial model within the training service portfolio.

"We are a capability-driven company," he continued. "In terms of choosing technology, we select mature technology to provide training value. It doesn't matter if it's laser or non-laser based. In fact, our view today is that the future is hybrid. We will not select the technology too early. Instead, we will make sure that we provide good training solutions. Consequently, we are not fixed into either laser or

geometric pairing. We think the future is a mix and that it is dependent on the type of weapon or the weapon effect we need to simulate. We strongly believe in a hybrid future."

He asserted, "There are vendors on the market that believe in digging into new technologies only. But I do think sometimes they forget to look into what is the need for training. I mean, technology isn't important. It is a solution for a problem. And we select to reflect current needs in the market. And that is why we are showcasing drones, loitering ammunition, mortar as a live player and forward observer technology."

He said, "We listen to our customers. We invest in our portfolio. And we are here at I/ITSEC to demonstrate new capabilities, not necessarily technologies. And we get important feedback. I/ITSEC is not just a U.S. event. We have a global customer base and this is the world's largest exposition in the training and simulation market."

Lindgren emphasized that the system, which is currently running in more than 40 countries, is "constantly evolving," with customers able to use the existing and installed base while just adding new features to meet their needs.

He pointed to the U.S. Army as one example, highlighting Saab's installed base of systems over the past decade.

In another example, he said that the company is expanding their training role for the U.S. Marine Corps, observing, "We have managed to take over the entire live segment for the U.S. Marine Corps. So, we are today their single provider of all live training in their program that they call MCTIS Marine Corps Tactical Instrumentation System. They have just started the journey, and, like most of our customers, they have ideas to expand and add expansion packs in the future."

Lindgren summarized, "Here at I/ITSEC, we are showcasing add-on capabilities that match the new needs on the modern battlefield. And we do this by demonstrating loitering ammunition, UAVs and blending in new technologies for beyond line-of-sight weapons,"

He concluded, "We are the leader of interoperability for deployed live training at the point of need. And today that capability is not only there for training, but it is part of the deterrence in Europe as well."



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Generative AI Raises Important Questions

Monday's full schedule of 33 tutorials included a human-centric overview of Generative Artificial Intelligence (AI). One of three of I/ITSEC 2024 Best Tutorial nominees, *Navigating the Generative AI Revolution*, explored questions that Generative AI raises about our structures and systems, ways of working and the future of our communities.

Presenters Julian Stodd, Sea Salt Learning Ltd., and Geoff Stead, MyTutor, were unable to attend, with Sae Schatz, PhD, Partnership for Peace Consortium, presenting the tutorial.

The two other Best Tutorial nominees presented Monday were *An Introduction to Cognitive Systems for Modeling & Simulation* and *Unleashing the Potential: Harnessing Large Language Models and Generative AI in Military and Industry Applications*.

Schatz began, "We're going to talk about four things, starting with: Explain like I'm five – what the heck is AI? Secondly, what does AI tell us about who we are as people? How do



Just keep in mind, machine learning is very data hungry. It's also really important to understand that you need to have diverse and unbiased data.

we judge it? How do we think about it? Next, what kind of change can we expect to see from AI rippling across the world? And then finally, of course, what's in it for me? What does this mean for me, for my business, for the work and the world that I live in?

"If you are looking for a deep dive on large language models or foundation models, this is not the place for you," she continued. "What

we're going to do is a take broad look at artificial intelligence, and particularly Generative AI, and think about how it will impact across work, life and society."

Schatz defined artificial intelligence as a very broad class of software that simulates human cognition capabilities and includes searching, representing knowledge, perception, language and learning. More specifically, current AI is predominantly machine learning,

"Deep Learning is a subset of machine learning that allows us to find and exploit patterns in complex unstructured data," she explained, such as emails, websites, photographs or videos, "so basically, anything that's not your carefully managed spreadsheet,

you can now start to feed in and have the algorithms learn from it."

Schatz described the classic cycle used when discussing machine learning – data collection, training, then testing the algorithm, getting feedback and using that feedback to improve the algorithm.

"When I say you need to collect data, you need a lot of data," she said. "Just keep in mind, machine learning is very data hungry. It's also really important to understand that you need to have diverse and unbiased data."

A discussion of bias included how it is introduced into AI models and the question of what to do about it and who solves it, including government interventions.

Schatz also asked for audience responses in defining intelligence, resulting in several ideas from attendees and leading into discussion of augmenting intelligence with AI and the concept of "expert generalists."

In exploring notions of change across art, culture, organizations, society and security, Schatz again asked for input from the audience to the question of "What is creativity?"

"So Generative AI is, I think by all of these definitions that you just threw out, creative. I mean, it literally creates things. You type in your request, and it produces artwork or music or text. Now, you can argue this is mechanical, that this isn't the spirit of art. I don't know. But one of the questions I sometimes ask people is 'How would you feel if generative AI produces a greeting card for you? Do you like that? Does that feel weird?'"

Continuing by exploring the idea of truth, Schatz said, "So the question is, when we are online or in any kind of digital environment, how do we find truth? Or, more relevant for our discussion in these environments, how is AI manipulating what is considered, or what seems to be, the truth? And in fact, Generative AI is really fueling a lot of disinformation, the decay of people's trust in the concept of truth and also facilitating a lot more social engineering attacks."

Schatz concluded by again asking for attendee input to inspire discussion. "So that's a lot to think about – intelligence, creativity, truth – but what I care about is me. What's in it for me, or, more specifically for you all, what is in this for you? What are the implications for you?"

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M&S Caucus Leadership Summit Survey Regarding Artificial Intelligence (AI)

The world of artificial intelligence (AI) has been a leading topic of Congressional discussion and some legislation over the past two years. The United States is also facing decisions regarding the legislative role in the overall management of the proliferation of AI and its applications across our country. NTSA is hosting the upcoming M&S Caucus Leadership Summit in Jacksonville, FL on Monday, February 10, 2025, to explore the rapid expansion and advances of this technology, the role of federal policy and regulations, and the need to establish guardrails that protect Americans, our intellectual property and our safety and security. In preparation for the Summit, we ask that you respond to this questionnaire. The results will be discussed at the upcoming Summit.



Collins Aerospace Highlights Integrated Simulation Solutions

Collins Aerospace [Booth 2201], an RTX business, is emphasizing a range of programs and technology capabilities at I/ITSEC 2024.

According to Philippe Limondin, Vice President and General Manager for strategic solutions at Collins Aerospace, the company is highlighting its portfolio of advanced simulation and training technologies including: Arcus™ the company's latest image generator; Tactical Combat Training System – Increment II (TCTS II); Deployable mission training system; Live / Squad Training; Marksmanship virtual demo with an AR display; and a virtual reality trainer.

"With a growing variety of battlespace environments, there is a need for innovative ways to ensure teams are ready for the mission ahead," Limondin said. "Collins Aerospace's high-fidelity integrated simulation solutions help enhance mission effectiveness."

He said that the programs represented in the Collins Aerospace booth help to highlight the breadth and depth of the company's training systems, including image generators, synthetic-Inject to live systems, augmented reality and mixed reality systems.

"Leveraging strengths in avionics systems development and training systems design, Collins can deliver integrated solutions that span the entire training continuum, from instructional systems design through fully integrated, high-fidelity simulators. Blending the real world with the virtual world, the company can provide the simulation and training solutions needed to prepare for what's ahead," he said.

He noted that visitors to the booth will be able to meet with subject matter experts and explore demonstrations in the mixed, augmented and virtual reality environments the company will have on display.

Summarizing his company message, he said, "Collins Aerospace offers advanced, immersive training simulation solutions for a variety of customers. Scalable training systems can help prepare common training battlespace for the future of Combined Joint All Domain efforts. One of three RTX businesses, Collins has been an attendee of I/ITSEC for decades and continues to lead efforts in realistic and flexible simulation and training solutions."

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SIMETRI to Demonstrate M3TS at I/ITSEC

SIMETRI will showcase its mobile version of the Multi Modal Medical Training System (M3TS) during I/ITSEC 2024 at the Army Simulation and Training Technology Center’s booth [Booth 2135].

The mobile version of M3TS features an immersive, care-under-fire scenario. The components of this mobile version include billboards that will provide a blue screen chroma key, a mixed reality headset, speakers for immersive, 3D audio, an air rifle version of the M4 carbine and haptic technology, not be confused with haptic gloves. M3TS requires trainees to make decisions throughout the scenario that involve alternating between providing care to a physical manikin and returning fire against a virtual enemy as circumstances evolve.

SIMETRI emphasizes the value of the hands-on experience provided to trainees through their interactions with the system based with the physical world, whether they are shooting a rifle or tightening a tourniquet.

Darin Hughes, PhD, SIMETRI’s Lead Software Engineer, explained, “One of the

advantages of doing mixed reality is that you can use your own hands, not a virtual representation of your physical body. You see your own hands, you see other people, and you can see things like tourniquets. As part of the scenario, you apply a tourniquet to a wounded soldier, and you’re physically doing this. So you feel the tourniquet, you’re physically having to turn it, and that’s something that can’t really be done in purely virtual environments.”

While this can be simulated with haptic gloves, Hughes continued, “You’re not going to know what it feels like to put on a tourniquet if you don’t do it with your own hands.” He added that haptic gloves can also make it awkward to do things like fire a weapon, which is included in the training scenario.

Another example of the haptics, he said, is physically interacting with and moving

an injured soldier manikin, for example, “as opposed to just pointing and clicking on something and suddenly the 165-pound soldier is moved halfway across the room. You have to physically do that.”

Ed Stadler, Vice President of Engineering at SIMETRI, added, “One of the things that we talked about when we proposed this system, and first started it, is what we call ‘true haptics.’ So the haptics that trainees get is a true haptic feedback, because they’re using the actual device, or a near facsimile of the actual device.”

Hughes said they’re also working on other applications such as an Israeli bandage and a needle chest decompression device that will be instrumented and allow trainees to physically go through the motions of performing it.

M3TS also improves warfighter readiness by helping Soldiers psychologically prepare, not only for traditional combat scenarios, but for other situations they might not expect, particularly in a gender-integrated military. The M3TS manikin can be a female manikin that has breasts and other gender-specific characteristics.

Continued on p28

NTSA 2025 EVENTS

For more information, visit [NTSA.org](https://www.ntsa.org)

Congressional M&S Leadership Summit

10 February | Jacksonville, FL

This summit brings the modeling and simulation community together to discuss important M&S issues that are then relayed to the Congressional M&S Caucus to take action.

IT²EC

25 – 27 March | Oslo, Norway

Held in different European locations, this conference presents a unique overview of the industry’s latest innovations as well as the opportunity to discuss developments and exchange ideas about future requirements for military training, education, and simulation.

Simulation & Training Community Forum

16 April | Dayton, OH

STCF provides industry an opportunity to network and interact with Air Force procurement officials for training and simulation products and services. The Forum includes updates from the Simulators Program Office and the Simulator Branch.

DAF M&S Summit

6 – 9 May | Orlando, FL

The goal of the M&S Summit is to gather Air Force and Space Force M&S experts to learn about new M&S initiatives and techniques, network across military services and with industry experts, and to hear our technological leaders’ perspectives on how M&S can transition more training from the real world to digital.

Training & Simulation Industry Symposium

17 – 18 June | Orlando, FL

TSIS gives industry the opportunity to network and interact with procurement officials for training and simulation products and services from the Army, Marine Corps, Navy, and Air Force.

Capitol Hill M&S Expo

July | Washington, DC

Modeling and simulation demonstrations from around the country are brought to the nation’s capital at this expo.

MODSIM World

18 – 20 August | Norfolk, VA

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SIMETRI ...continued from page 26

teristics. According to Hughes, research has indicated that men, and even some women, are more hesitant to do full body searches for entry wounds and exit wounds when it comes to areas like the breasts. This, he indicated, is another area M3TS trains and evaluates, in addition to hasty tourniquet application and other decision-making processes for care under fire.

A significant feature of M3TS includes its ability to store and track data. It can tell how many times trainees have fired at the enemy, if trainees have been shot and how long it took them to go from engaging the enemy to tending to the casualty. The tourniquets also send pressure data, and they can be applied to live "patients" without discomfort due to a built-in spring system.

A larger, more stationary version of the M3TS system located at the company's facilities, Hughes said, includes a 20-by-20-foot blue screen chroma key set, surround sound speaker systems, and transducers embedded underneath the floor to provide vibrations from simulated explosions. One of the main advantages of the smaller, more portable mobile version, he explained, is that "there are only so many people that can come to our facilities here,



and this enables us to take it to the Soldiers, as opposed to them having to come to us."

When asked to express what the company's message about M3TS is to Soldiers, Angela Alban, Founder and CEO of SIMETRI, said, "What we want Soldiers to take away is the fact that we believe in state-of-the-art technology and future technologies that will enhance the way that they train, and will provide them more flexibility, heightened realism, more immersive scenarios and the ability to track and improve their performance. And by digitizing things like we have done, we have more capability to

track and improve their performance. It's less subjective and more objective in terms of performance assessment."

Alban said M3TS is funded by a Small Business Innovative Research (SBIR) contract, and recently began its SBIR Phase II sequential stage. "This development tells us that the Defense Department and the warfighters who use M3TS consider it a valuable training asset to prepare them for worst-case scenarios. We're really looking forward to showing the improvements we've made to M3TS at I/ITSEC this year."



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Booth 538, I/ITSEC 2024.
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MVRsimulation Introduces First Person View UAV Simulator

MVRsimulation Inc. [Booth 727] is using I/ITSEC 2024 to introduce its latest simulator, which provides a first-person view (FPV) of a racing-style unmanned aerial vehicle (UAV) quadcopter attack drone. Company representatives note that the FPV UAV Simulator, which combines MVRsimulation's Virtual Reality Scene Generator (VRSG) with a high-fidelity flight model from Bihrl Applied Research, provides a highly realistic training solution for the visual and cognitive demands of operating agile UAVs in combat to successfully defeat enemy targets.

According to Garth Smith, president of MVRsimulation, the internally developed FPV UAV simulator can be used as an ultra-low footprint stand-alone training device for tactical operations or networked with other in-use air and ground simulators that operate on VRSG infrastructure, enabling large scale combat operations training exercises.

"We are mimicking the one-way attack of first-person drones," Smith explained. "We had been looking for new product development efforts and it seemed pretty obvious that we wanted to spend some of our IRAD [internal research and development] resources on a first-person drone simulator."

Pointing to the company's collaboration with Bihrl Applied Research, Smith highlighted Bihrl's "extremely advanced flight model that mimics how a quad copter armed drone would actually behave."

Training scenarios take place in VRSG's high-resolution geospecific terrain, which can be populated with real-time entities from VRSG's 3D model library of 10,100+ currently-deployed military weapons and platforms.

"You may see other game-style drone simulators at I/ITSEC," Smith added. "However, they are probably just steering a camera view around with no real physics behind it. But I was 'flying

this' the other day and realizing how hard it is to steer to the target, and that's what we're trying to do — make something extremely realistic in terms of training. So it's not like a simple video game where you just go hit the target. You have to spend some time learning the flight model in order to go after a target properly."

Smith said that the two companies conducted their collaboration remotely, without meeting in person, and evolved the model based on changing global battlefields.



"When we started the collaboration, the drones that the Ukrainians were using were hard-dropping munitions," he said. "But during our process of 'specing' out the development of what the two teams would do, we literally had to change the simulator to be a one-way attack drone. The Ukrainians still use drones that drop munitions but by far the largest fielded drone in that conflict appears to be a one-way attack drone. And so we sort of did advanced product development without a contract. But that's what we've done. And we're going to be releasing it at I/ITSEC, and letting people fly it."

Another aspect of the development effort has been integration with the ATAK [Android Tactical Assault Kit].

"We have a version of this where, if you add a downward-facing camera, you can integrate an ATAK display. So as they fly the drone it is producing a moving map that appears on

the ATAK display. And because the VRSG feed has embedded KLV [Key-Length-Value] metadata, there's no integration required. The ATAK device is a real, physical device that gets used in the field. And our video feed that is coming out is indiscernible in structure from a real video feed coming out of a drone."

He continued, "Now I don't believe that the one-way attack drones are equipped with a downward-facing camera to provide a moving map. But we are showing the extent of our capabilities to produce those sorts of features."

The highly portable FPV UAV system consists of a high-end gaming notebook running

VRSG and an ROG handheld controller device with configurable integrated pilot controls. Additionally, the simulator is supplied with 2D video goggle headsets, allowing the UAV operator to experience the FPV camera as a head-mounted (non-tracking) view.

"That hand controller would not look out of place in Ukraine," Smith asserted. "And the goggles are not even VR. They're just used as a monitor. We see the drone operators in the

field using a hand controller with and without any aided visualization."

He added, "What's interesting is that the physics model from Bihrl is running on a high-end notebook. Then we're transmitting a video feed to the game controller and the Bihrl software is interpreting our interactions with it. They built the user interface so the thumb controllers are interacting with the simulator and the video feed on the display is coming from VRSG. But it's being transmitted as a real-time video onto a small controller. So what's exciting about that is that it looks like the real thing."

Other products that MVRsimulation has on display at I/ITSEC include the Deployable Joint Fires Trainer (DJFT) and another simulator launched earlier this year, which is an ultra-light version of the DJFT called the Portable Joint Fires Trainer (PJFT).

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Babcock's BITE Makes U.S. Debut at I/ITSEC

Babcock International Group [Booth 871] is demonstrating its new immersive training product at the 2024 Interservice/Industry Training, Simulation and Education Conference (I/ITSEC).

The Babcock Immersive Training Experience (BITE) on display at I/ITSEC is a state-of-the-art product which exposes trainees to operationally accurate scenarios, replicating the intensity of multi-domain operations by delivering physical, sensory and cognitive challenges to users via seismic simulation, visual stimuli and environmental effects.

a sterile classroom environment. But now what we're doing with BITE is, in essence, putting them into full immersion that represents the environment that you're going to be operating in. That could be heat. That could be smell. It could be vibration. It could be any of the environmental challenges that you would get from sustained modern combat."



Following BITE's unveiling in the UK earlier this year, I/ITSEC will mark its stateside debut, providing attendees with the opportunity to experience first-hand the realistic training experience across a variety of relevant use cases.

According to Jo Rayson, managing director of Babcock's Training Business, the company identified what appeared to be a gap in the training market around enhancing realism to provide warfighters with a well-rounded immersive experience to facilitate warfighter ability to train as they will potentially be fighting.

"We spotted what we call that 'realism gap' and we've created a product that's going to plug it," she said. "Currently you probably have a great deal of existing training taking place in

where you can train either as individuals or as a team. And we can dial up and dial down the pressure, depending on the scenario that we're wanting to recreate."

Rayson noted that the BITE system includes an expandable, customizable and fully transportable infrastructure that can be delivered to wherever a unit wants to train.

"It's a complete module unit that includes data analytics on the back that is used in creating the scenarios and environments," she said.

She said that the system has been under development for approximately 18 months, offering, "We started off with a very basic type of prototype, and we have enhanced that based on what we're currently observing in modern warfare conflicts around the world as well as

from our existing customer base. And we are working with third parties as well, so it's been continually honed and developed. The great thing is that we can do that because it's fully customizable."

Acknowledging that the I/ITSEC exhibit has been framed as a military application, Rayson stated, "We're also talking about it in the framework of use with our emergency services customers, or, more broadly, anywhere you need to do team type instant command or scenario-based training. But for I/ITSEC, BITE has been designed specifically to replicate the challenges of dispersed command and control in a multi-domain environment."

Rayson said that one primary goal of their I/ITSEC exhibit is the formal launch into the U.S. market, offering, "It's not something that we've ever demonstrated, so we want to raise awareness of BITE. And we obviously want feedback as well. We are keen to see if there are things that we could do to evolve the product to make it even better than it currently is today. Clearly, we always will welcome feedback from customers around scenarios because we can always create more of those. But the actual infrastructure of the system is there and ready to go."

"We are also looking for partners that may be interested in coming with us on the BITE journey," she added. "So, as we think about how we launch this into the U.S. market, are there potential partners that would want to work with us on that?"

Summarizing system features, she said, "In an ideal world, you would set up your command post in a nice set of conditions. But the reality is that isn't always the case. So, within BITE you can do things like dim the lighting. You can have a noise that's continually cycling around, because that's the reality of what you might face. We can make it cold. We can make it hot. We can introduce the social media element or the political landscape. We can inject that sort of material into the scenario as well to make it feel more real and heighten the intensity."

"This is our first time exhibiting at I/ITSEC and we are really keen to demonstrate the product," she concluded. "A lot of people say, 'Oh, BITE is a VR tool.' But it's not a VR tool. It's something much broader than that. It's the immersion. VR is something that you put on and you take off. With BITE you could be in it for three or four days, potentially. It's not something you can walk away from. It's something where you are fully immersed."

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