I/ITSEC 2024 OFFICIAL DAILY NEWS DIGEST

# I/ITSEC SHOW DAILY

THURSDAY
December 5, 2024



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Published by NTSA

## Air Force Training Changes Reflect Strategic Environment

The United States Air Force has adjusted the structure and organization of training resources to better address the challenges of Great Power Competition (GPC) and its implications for the Air Force and industry partners. One of those significant changes was the establishment of a Program Executive Office (PEO) – Training on October 1, 2024. Carlos A. Quinones, Colonel USAF, Acting Air Force PEO – Training, talked about his new role as well as some of the industry implications reflected by the new organizations.

"Obviously, Great Power Competition is something bigger than just PEO – Training," he began. "It is a department-wide activity with the bottom line being that there is a significant shift in the strategic environment, and the way the Air Force Chief of Staff and the Secretary of the Air Force Kendall describe it as 'a time of consequence.' We did not have to deal with GPC for many years after the Cold War. And that change is a shift on the overall outlook of how the Air Force is dealing with national security in the future. As a matter of fact, the National Security Update speaks specifically of this change in the strategic environment, mentioning China as presenting just one example of the challenges we have as a service. As a result, the Secretary [of the Air Force] and the [Air Force] Chief [of Staff] have established a line of initiatives and a reorganization on how the Air Force will go forward in order to meet this new challenge."

Quinones explained how one piece of the GPC construct involved organizational realignment and enterprise solutions, asserting, "These are going to be important, because PEO – Training will play a big part in how we prioritize mission over function. Instead of aligning everything with regards to functions that add up to a mission, now it's mission first, and then we will then do whatever the function needs to do to meet that specific mission."

He said that the big Air Force construct regarding GPC translates into transformational actions across four areas: center on developing people; generate readiness; project power; and develop integrated capabilities.

"Of course, those are very comprehensive activities and we don't play in all those areas," he said. "But within those four areas, we are really into the 'develop integrated capabilities,' because as a PEO and as a series of program offices, our job is to deliver materiel solutions to our user in order to be able to execute their mission. So within that big construct that the Air Force is working on, we actually fit within the development of integrated capabilities."

*Continued on p16*

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## THURSDAY, DECEMBER 5
# CONFERENCE HIGHLIGHTS

### REGISTRATION HOURS

*0700-1500* ***(South Concourse)***

### EXHIBIT HALL HOURS

*0930-1500*

*1200-1330* Lunch

### SIGNATURE EVENTS

*0830-1000* Great Power Competition ***(Room 330ABCD)***

*1030-1200* Army Science Board Human Machine Interface Study Panel ***(Room 320H)***

### FOCUS EVENTS

*0830-1000* M&S Requirements: Urgency, Innovation to Meet Tomorrow's Globally Connected Training Gaps ***(Room 310AB)***

*1330-1500* Air Force MAJCOM O-6 Panel ***(Room 330ABCD)***

### COMMUNITY OF INTEREST

*0830-1000* NATO M&S Development and Opportunities ***(Room 320H)***

*0830-1000* Transforming Simulation Supported Training with Project Tripoli ***(Room 330GH)***

*1030-1200* The M&S Standards Landscape for NATO Distributed Synthetic Training ***(Room 310AB)***

*1030-1200* Training as a Service: Flipping the Script ***(Room 330GH)***

*1330-1500* Training Information Advantage: Using Modeling and Simulation to Enable the Information Warfighter ***(Room 320H)***

*1330-1500* Army Live Training ***(Room 310AB)***

### NEXT BIG THING

*0830-1000* The Future of XR-Based, AI-Driven Simulation Technologies: What Effective Human- Focused Systems will Look Like Beyond the Next 5 Years ***(Destination Lounge)***

*1030-1200* Biometrics/Government Innovation Labs ***(Destination Lounge)***

*1300-1430* NATO Tech Grove AI Showcase ***(Destination Lounge)***

### PROGRAM BRIEFS

*0830-1000* Navy Training Programs Vision ***(Room 330EF)***

*0830-1200* Army Acquisition Update (TSIS Updates) ***(Room 310CD)***

*1030-1200* Navy Vision from Training Systems Program Managers ***(Room 330EF)***

*1030-1200* Air Force Acquisition Update ***(Room 330ABCD)***

### PAPER SESSIONS

*(Download the I/ITSEC app for synopses)*

*0830-1000* ***(Rooms 320BCEFG)***

*1030-1200* ***(Rooms 320ABCEG)***

*1330-1500* ***(Rooms 320ACEG)***

### AWARDS

*1300-1400* Serious Games Showcase & Challenge Awards Ceremony ***(Booth 2909)***

*1800-1900* Hosted Reception Sponsored by Lockheed Martin Corporation ***(Hyatt Windermere Ballroom)***

*1900-2100* Conference Awards Banquet ***(Hyatt Windermere Ballroom)***
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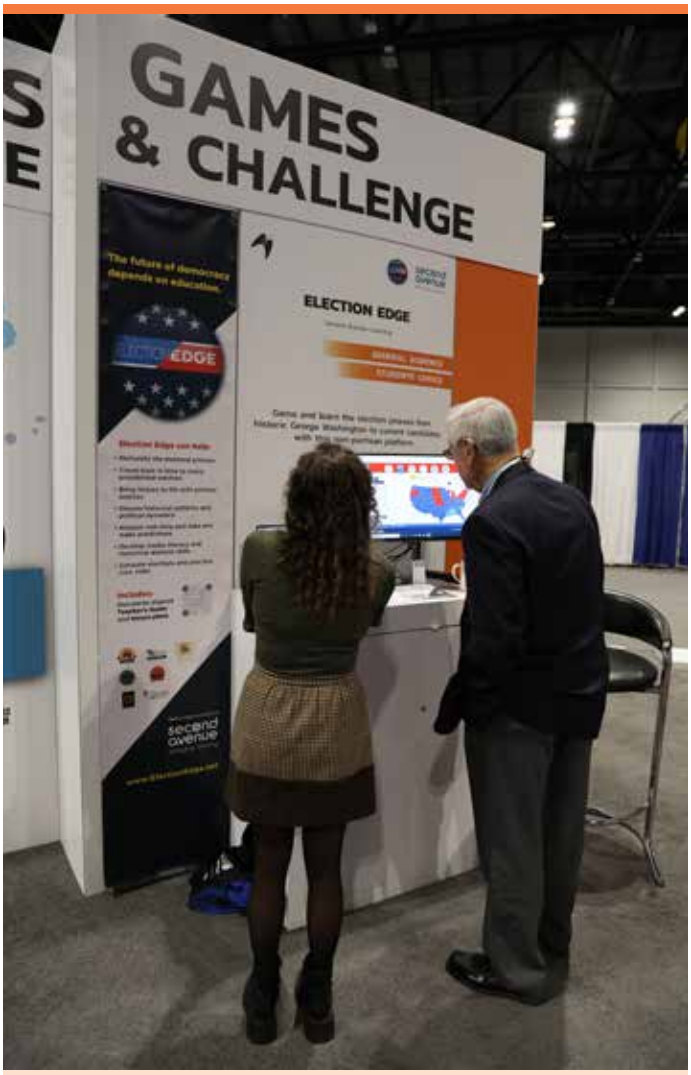


The Serious Games Showcase & Challenge award winners will be announced today at 1300 at the Innovation Showcase [Booth 2909].

I/ITSEC
SHOW DAILY

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# TOP UNDER 40

NTSA is very pleased to announce our second annual NTSA Top Under 40 awardees for this year. These awardees are being recognized for significant impact to the modeling, simulation, and training (MS&T) community via their leadership, professionalism, and volunteerism. Our MS&T community is in great shape for the future as indicated by what these individuals have and continue to achieve. These individuals are a reflection of the organizations that they represent, and we thank them for enabling their contributions to our community. Awardees will be recognized during I/ITSEC 2024.

**E. Michael Bearss, Ph.D.**
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U.S. Army DEVCOM SC STTC

**Victoria Claypoole, Ph.D.**
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# General Officers Discuss Marine Corps Training Needs

Wednesday's Marine Corps General Officer Panel Signature Event explored the importance of modeling, training and simulation within the Marine Corps. Moderated by Colonel Marcus J. Reynolds, USMC, Program Manager, Training Systems, Marine Corps Systems Command, panelists included Brigadier General David C. Walsh, Program Executive Officer, Air Anti-Submarine Warfare, Assaults and Special Mission Programs (PEO(A)); Brigadier General Tamara Campbell, USMC, Commander, Marine Corps Systems Command; and Brigadier General Anthony Henderson, USMC, Commanding General, Training Command.

"At Marine Corps Systems Command we are responsible for equipping our Marines," Campbell began. "That's really our true mission."

Pointing to the elements of the Commandant's Planning Guidance, she offered that Marine Corps Systems Command "plays a heavy hand in all of it," ranging from providing the uniforms that Marines wear to radios, trucks and amphibious combat vehicles.

"As we look at the mission of Marine Corps Systems Command, today and into the future, it's a partnership. So I'm happy to be down here at I/ITSEC to be part of it. This is my first one. I have been to several conferences, but this has actually been absolutely phenomenal. The teamwork and partnership that I've seen here and evidence within these spaces, on the floor, at the dinners and the award ceremonies, really can be pretty astounding. This is a really great partnership here at Team Orlando and we're happy to be a part of it."

Referencing the conference theme, she said, "If you looked at the comments that were made by the Secretary of the Navy and the senior leaders in yesterday's opening remarks, you'll see that we don't just need to be focused on what's happening in that data window and the years that we're really micro-focused on, but we need to look into the future as well. And there are a couple different future aspects that involve training, how we train and how we make sure that we're prioritizing that training for our forces as we move forward. In the past, you've probably seen that training in modeling and simulation and some of those other efforts has been kind of on the tail end of what we look for and do in the acquisition cycle and as we deliver equipment and capability. But we really need to ensure that our warfighters, in order to properly equip them, are properly trained on the front end. And we're thinking about what that looks like. How do we train for the generation that we have today, not yesterday's generation?"

As Commanding General of Training Command, Henderson said that he has a "humbling and incredible responsibility" in the making of Marines, adding, "As of today, at this time, there are 28,000 Marines between enlisted and officer training who are currently in the training cycle under Training Command."

Citing the spectrum of training locations and opportunities, he said, "I use the terminology that Training Command is the decisive ground in making Marines. Now, our production requirement is pretty high in what we generate each year with over 140 enlisted MOSs [Military Occupation Specialties], over 40 plus officer MOSs on the unrestricted side and then another 20 restricted MOSs for Warrant Officers. So we have a wide and diverse portfolio."

He said that Training Command is supported by 17 formal learning centers across the country under the command of 15 Marine Corps colonels and two Navy captains.

"That's again reflecting the broad, diverse development of Marines that we produce in our court," he explained. "One of the mantras introduced into that recently is, how do we train Marines to fight, to win, to survive? In our generation, I remember very well being taught techniques, the skills and the competency to fight and organize as teams, understanding how to win as a MAGTAF [Marine Air Ground Task Force], how to win as a platoon and how to win as a company. But how to then understand how to reset and survive has been one of the things we're paying attention to. I can't tell you how modeling and simulation challenges us to that end. That's the conversation I plan to have with you as we go forward here, in that when I'm looking at what we build as Marines, we focus on character, decision making and competency. How does what we use as techniques of our education and our training and our learning inside the training committee help us to assess, evaluate, and, if necessary, pretest a Marine to make sure that they achieve the standards to be able to go forward into the operating forces and do their role?"

Walsh outlined the naval aviation PEO(A) program portfolio, citing 11 programs split between Navy and Marine Corps, across 27 different types of aircraft and 29 different foreign partners and allies, reflecting a culture of excellence focused on delivering mission dominance through program execution.

"Training and readiness is woven through all those priorities and all of our programs," he said. "if you take a look at the life of a program, from requirements, through resourcing, into production and fielding and on to sustainment, training and simulation is woven into all that. If you start looking at requirements, you can use simulation, use War Gaming to help inform those requirements. You can do iterative execution and make sure that we're buying the right thing before we start spending some real money and go into production. It allows us to iterate and try things we couldn't try in the real world, and inform those requirements through a live, virtual, constructive environment to make sure we're buying great things before we go out there."

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# Professional Development Workshops Grow at I/ITSEC

According to Brian Vogt, CMSP, Chair of the Professional Development Workshop (PDW) Committee, the nine PDW sessions on Friday are more than enough reason to stay at I/ITSEC until then.

"PDWs have been around for quite a while, but they were primarily focused on CEUs, continuing education units, and it was done by the University of Central Florida," he said. Over the last three to four years, he explained, they have become part of I/ITSEC, and have transitioned from "essentially a four-hour class, very didactic."

"By Friday morning, everyone's pretty tired, and what we wanted to do is change it up to make it much more interactive," Vogt continued. "So, we select PDWs that are very engaging and when I say that, I mean this is how far we have gone."

Vogt described two representative examples of this year's PDWs that attendees can experience. "One is a starship bridge simulator where they're going to learn about how to set this up for team building," he said. "And then they're all going to get into simulators. There'll be six simulators in the room that simulate a starship bridge – think Star Trek. There'll be a pilot, co-pilot, first officer, engineer, captain and navigator, who will all have to work together to accomplish something."

In another example, describing a session in its second year, Vogt said, "Last year they said, 'What happens if there's a zombie apocalypse? Let's talk through what that means, in a very sci-fi manner, where it's an opportunity to explore ideas, capitalize on ideas, see consequences of decisions and engage. So, this year, it's after the apocalypse. Now, how do you rebuild society? How do you rebuild infrastructure? It's a very interactive, thought-provoking way of thinking about problems.

"What's unique about these sessions is that no one has domain knowledge," he continued. "Nobody knows anything about zombies. No one has flown a starship. So, everyone's coming in equal; they're coming in with their skills and abilities that they've learned other places, but now they have to do something dramatically different. So, how do people work together as a team to accomplish something? So essentially the purpose of it is to say, 'You can do this kind of thing back at your company, in your government office, if you want to do a team building exercise."

Vogt indicated that other PDWs are more traditional topics such as serious game design, Certified Modeling and Simulation Professional 3.0 and fundamentals of artificial intelligence in simulation. They're all designed a little differently, but all of them are very participatory and interactive. And the sessions are growing, he observed. "The attendance at these in the last three years has more than doubled, so we're anticipating a lot of people this year as well," he said.

For I/ITSEC 2024 attendees who may be unfamiliar with the PDWs, Vogt concluded, "It's an opportunity to learn something they wouldn't have normally learned. It's an opportunity to explore something that maybe interests them, but that they don't know a lot about. It's a very low-threat environment, an opportunity to expand and see something different. And it's not just to hear it, but it's actually be a part of it, actually participate in it, engage in it, put your hands on it."

And, he added, "in the case of the flight bridge simulator, to literally put your hands on the controls of a starship."

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James L Regens & Quint Avenetti, Extreme weather preparedness is critical to tactical success in the battlespace, October 1, 2024.

# I/ITSEC Rises Above Expectations

For an initial assessment of early lessons learned at I/ITSEC 2024, *Show Daily* sat down with Debbie Langelier, Senior Vice President of the National Training and Simulation Association.

"I/ITSEC 2024 reflects the largest attendance in well over a decade," she said.

She added, "Just look at the quality of our opening ceremonies! And the same afternoon witnessed a conference presentation by Admiral Christopher W. Grady, Vice Chairman of the Joint Chiefs of Staff. Honestly, it's hard to overestimate the significance of those levels of participation at I/ITSEC."

Although attendance figures are still rising as the week progresses, Langelier estimated attendance at over 18,000, with those higher numbers mirroring an exhibit hall that has grown to 514 companies displaying their latest products and technologies across 219,400 net square feet, with a significant AI presence.

The expansion of NTSA's STEM program is also reflective of I/ITSEC growth, with new programs for students, such as a problem challenge requiring a team solution that was then presented to the audience. Other educational milestones at I/ITSEC 2024 included the award of 22 undergraduate, masters and doctoral scholarships."

Langelier continued, "Significantly, the NTSA will be naming a scholarship after our past-president, RADM James A. Robb, USN (Ret.). The named scholarship will honor the generosity of Admiral Robb's family as well as his commitment to the modeling and simulation industry and his embrace of what he described as "The M&S Family."

I/ITSEC's tutorial program also witnessed what Langelier described as "overwhelming participation," with 33 tutorials reflecting growth and interest in both long-time subjects as well as updated topics such as Generative AI and Digital Twins.

"I/ITSEC 2024 also saw over 800 international military representatives. The growth of international participation is a possible reflection of a rapidly changing and threatening global environment."

Langelier reiterated the significance of participation by Admiral Grady and the Secretary of the Navy. "They brought the conference to an entirely new level," she said.

Looking toward I/ITSEC 2025, she noted that bookings for NTSA Sustaining Members have already begun and that they are extremely strong, as quantified by orders for 70,000 net square feet by the first 63 companies.

She was quick to add that I/ITSEC should not be viewed in a vacuum, but rather as a key milestone in an annual cycle of events. In 2025 those events will include a Congressional Leadership Summit in February, the Simulation and Training Community Forum in April, the Department of the Air Force Modeling & Simulation Summit in May, the Training & Simulation Industry Symposium in June and MODSIM World's return in August.

"It's going to be a full year with a full slate of activities," Langelier concluded. "As industry expands and evolves, NTSA and its members are at the forefront of that evolution. And with the growth of I/ITSEC 2024, we anticipate the growth of other M&S conferences and events to follow."

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# I/ITSEC 2025 Planning Already Underway

I/ITSEC 2024 will officially come to a close in the ceremonies at tonight's dinner, but I/ITSEC 2025 planning is already in full force. Anne Little, PhD, who will serve next year as the Conference Chair, sat down with *Show Daily* to discuss the range of activities that are already taking place.

Little opened with her excitement for the lead service of I/ITSEC 2025, as this is the first time that the United States Space Force will be joining as a lead service, saying, "The thing I'm most excited about is this will be the first time that the Air Force and Space Force will be the lead service. Air Force has been a lead service previously, but with the Space Force joining ranks, it's now a Department of Air Force for 2025, so we'll have the Air Force and Space Force represented."

Little also shared the insight for planning an event as big as I/ITSEC, revealing that the theme, as well as other ideas for the conference, started well in advance. "We knew Space Force was coming on board. So, we've been talking to the Air Force and Space Force executives and principals for more than a year, and we're proud of our partnership with them. The Air Force and Space Force have a great theme video that they'll debut on Thursday night," she stated. "Both Kelly [Kelly Hale, PhD, Program Chair for I/ITSEC 2025] and I have been having just a really great partnership with the lead service execs and principals"

When asked about any prevalent technology attendees may see grow between this year's I/ITSEC and next year, Little spoke on the use of artificial intelligence (AI). "It's always our responsibility as industry to provide the right kind of support from what we see and how we use AI as a tool. So, this is the perfect event to bring the industry and the service partnerships together to ensure that it's used ethically and appropriately. It's good that we have this conference to bring all those perspectives together. So, I'm sure that we'll see so much more on that next year."

I/ITSEC planning for 2025 will continue full steam ahead over the next year, with Little encouraging readers and attendees to stay in the loop, stating, "I think every year the bar just keeps getting higher and higher, so preparing what you want to see as an attendee would be really good advice to take, to start looking at the program early in October, to start seeing, 'wow, what do I want to make sure I don't miss?' I imagine with these two service partnerships, there's going to be so much more content and a whole new focus with a new service."

Little closed with a personal note, reflecting on her experience and her excitement to work alongside good friends and colleagues. "Working with the services as a volunteer, many of us have done this for a decade or more," she said. "It's always nice when we get to have our friendships and professional relationships with the service partners kind of blend together because we get to see that we're doing things that don't just help some unknown person. They help the people that we come together with every year, and a couple of times a year, especially with how the Air Force has teamed with us. It's very rewarding to know that we're helping our friends, not just our warfighters, but our warfighter friends."

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# NCO Panel Offers Enlisted Perspectives

Wednesday morning's Focus Events options included a Department of the Air Force Non-Commissioned Officer (NCO) panel, where experienced Airmen and Guardians shared their unique perspectives across a variety of technologies and related applications.

Chief Master Sergeant Christopher S. Cole, USSF, Senior Enlisted Advisor, Chief Technology & Innovation Office moderated a panel that included: Master Sergeant Nathan J. Ganster, USAF, Flight Chief, Airman Development Analytics, HQ AETC /A9/ Studies and Analysis Squadron; Chief Master Sergeant T. Powell Crider, USAF, Senior Enlisted Advisor (ANG), Kelly Johnson Joint All Domain Innovation Center (KJJADIC)/Joint Warfighting Experimentation Center (JWEC); and Master Sergeant Shannon L. Van Roekel, USAF, Operations Superintendent, HQ 2AF / Det 23.

"I think there are 13 different options competing your time at I/ITSEC this morning," Cole began. "So thank you for joining us. As I look across this audience, I see a swath of service members, including Guardians, some international partners and some industry."

Acknowledging I/ITSEC as "the premier event dedicated to modeling, simulation and training," he said, "I found out yesterday that this is the 58th year for this event. That's pretty impressive for an annual conference...And while none of us on stage have been around for 58 years like I/ITSEC has, I did a quick canvas across careers and we are right at 58 years of total experience on this panel this morning, which is also pretty impressive."

He continued, "This session will explore the practical applications of modeling and simulation within the Department of the Air Force from an enlisted perspective, which I think is invaluable. A lot of the events and panels that I've gone to typically have senior officers on the panel. So this is a rare opportunity to hear the enlisted perspective on what we need from an operational arena."

As one representative example, Cole opened questioning of the panelists by asking Ganster about the challenges and opportunities that he saw in integrating virtual reality and augmented reality into DAF programs.

"One of the first challenges that I've come across is adoption," Ganster said. "AR and VR is something that a lot of people aren't ready to adopt yet. It's kind of in early stages. There are

a lot of older service and civilian maintainers that have been in the in the military scene for a long time, and they're not exactly ready to adopt virtual reality or augmented reality to support training in the maintenance world. Additionally, one of the other challenges that we've seen, and it's something that's being researched a lot, is motion sickness. A lot of people aren't conducive to virtual reality, and their body doesn't handle it well. They can only stay in training for a matter of minutes, if that."

He said that another challenge involves "isolated maintenance units that are not up on networks" and so not getting relevant updates in a timely manner.

"Complex technical orders change all the time," he said. "Sometimes those updates haven't made it to the virtual reality systems that they're currently using yet. You know, a lot of those systems are isolated systems. They're not hooked up to networks. So some of those units we visited don't have relevant updates. They don't have the new modules. They don't have the latest things coming from whatever company is providing them, due to them not receiving those updates physically through a USB drive or whatever method they use to update that. Some of that's been resolved recently with some of the places we've visited. We've made the companies that provide the virtual reality devices aware of it, and they're actually getting better conversations going to make sure that they're currently up to date, that everything on the plane is up to date that they're training on and they're not getting negative training by having it out of date."

He continued, "One of the opportunities I see with virtual reality and augmented reality is basically the fact that we can upscale this. Basically the sky is not even the limit that can go as far as virtual reality. As technology increases, there's no cap to what we can utilize it for and how effectively we can train with it."

Crider added, "When you're talking about some of the challenges that get in the way of trying to bring VR and XR technology into the service, you have a lot of people who, for years, have been told that XR stuff was coming, and a lot of times they saw very early iterations and products. And they were scarred by what they saw because it didn't meet the hype. So now, even when things start to meet the hype, they're looking at it through a lens that this is not good. And they won't even pay attention to what they're seeing a lot of times. So you have to break through that wall and get to those people who can make the decisions, because they might be working on 10 year old information that VR technology doesn't look good or it makes you seasick the moment you put it on."

Van Roekel added that a key piece for all of the modeling and simulation capabilities involved infrastructure. "I'm talking about everything associated with academia: our learning management system; how we manage assets; how we integrate them into our lesson plans," she said. "If we don't start with the foundation, everything else is for naught. I think it's really important, especially at our command levels, that they understand that the rules that we have written for ourselves can be changed because we wrote them."

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## Air Force Training ...continued from page 1

Quinones highlighted several new organizational steps being taken by the Air Force, ranging from an Information Dominance Systems Center to an Air Dominance Center.

"So how does PEO – Training fit in all of that? Well, with the standup of the Air Dominance Center later in '25, there was a critical side initiative to relook all of the portfolios within the existing Program Executive Offices, and there were many changes resulting from that. And one of those addressed the fact that there was formerly a PEO for Mobility and Training. But the decision was to separate the training piece from that, so now there is a dedicated Program Executive Officer for Training. That brings training to the forefront and provides dedicated attention to ensure that we are providing those materiel solutions to our users," he said.

Elaborating on the benefits of the new reorganization, he offered, "It matters because, in the past, we had a little bit of a vertical stovepipe approach in how we trained each functional area, such as bomber aircraft, fighter aircraft or the weapons piece, whatever that happened to be. But PEO – Training now helps to integrate those training systems horizontally, ensuring that we bring capabilities and systems that can be used by more than one functional community. That not only saves us money, because now multiple people can utilize or leverage the investments that the Air Force makes, but it also allows for quick changes across common enterprise solutions in multiple organizations."

He said that PEO – Training approach brings all of the training aircraft – including T-37s, T-6s and the future T-7s, all within one scope.

"But we also have the simulators," he said. "And now we have the simulation activities, or environments, in which we can do some of the work, all connected. So now when I speak about training, I speak to training across all the enterprise. I look at the live training. I look at virtual training. I look at constructive training, which is a combination of both. And then it brings all these tools together in all these areas where industry is investing significant amounts of dollars, particularly in the virtual and the constructive areas, where we are looking to leverage those investments and bring them into solutions and systems that our warfighters can use for training purposes."

Reiterating that PEO – Training wasn't officially stood up until October 1, 2024, he pointed to "great early progress," identifying initial milestones, including a training summit to examine ongoing training activities and identifying vertical stovepipes that could be eliminated.

Asked how the PEO – Training transition might affect industry partners, Quinones said that he envisions "small changes," stating, "the industry providers that were working on training aircraft are going to continue to work on training aircraft. The industry providers that were doing simulators before will continue to support those activities. But I think the biggest change, in my mind, with regards to industry, is based on what Lieutenant General Robinson is doing in standing up the Airman Development Command. Combined with the fact that we're going to have an Integrated Capabilities Command and combined with a dedicated PEO – Training, means that we are going to have a clear voice to the industry side on what we need when they are looking for opportunities and how to invest their own funds."

Looking further into the future, Quinones said that industry partners can expect engagement on a unified front from both the acquisition side and the operational side on specific training requirements.

"I/ITSEC is a perfect example of what I think will happen very quickly," he said. "We are going to be here to speak training as a united PEO, not just the simulator part of the activity. And this is just what I expect that to be in the future. It will become the norm as you have the dedicated user, focused on the training side, with the dedicated provider of capabilities, all delivering a clear signal to industry on the kinds of things we need them to be looking at so we can leverage those capabilities."

He concluded with a team message to Airmen around the world, stating, "PEO – Training is here to make them better by providing capabilities. I'm not a trainer. I provide the training capabilities. But we are there to do whatever it takes to provide the systems that they need to do their job, at their best. And then we will do whatever it takes to provide those in a timely manner and of the quality that they need in order for them to be ready to do their job. And PEO – Training, in conjunction with all the operational organizations that support the training enterprise, will be there to ensure that, when they are asked to go and do the Nation's mission, they will have what they need to be able to do their very challenging jobs."

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2. Real-time F-16C entity in flight over VRSG's terrain of the Washington D.C. metro area, which includes more than 130,000 buildings.

3. VRSG's Holloman Air Force Base database is built from high-res 30cm imagery, seamlessly blended into 1-meter resolution NAIP imagery for the surrounding areas.

4. MVRsimulation's Japan terrain includes the islands of Miyako and Ishigaki, which feature a geospecific model inset of Southern Gate Bridge, and Ishigaki Port.

# Air Force Prepares Airmen for Great Power Competition

In a recent discussion with the I/ITSEC *Show Daily*, Lieutenant General Brian S. Robinson, Commander of the Air Force Air Education and Training Command (AETC), outlined how the Department of the Air Force has enhanced mission-focused training at all levels while introducing other key initiatives to produce highly capable Airmen efficiently, leveraging data and technology to optimize training and development.

Robinson began by noting the recent decision to redesignate AETC as Airman Development Command (ADC), outlining the thinking underlying how the command is preparing Airmen for the strategic challenges posed by great power competition.

"That involves a lot of work in several different layers," he began. "But a key part of it involves getting to a more mission-focused training environment at every level. As an example, at the Basic Military Training (BMT) level, we continue to evolve the training, such as introducing the stressors of being in a competitive environment where there are time pressures and friction built in. That's part number one, because we want Airmen to be critical thinkers. We want them to understand the commander's intent, the objectives that need to be met despite all the challenges that are coming at them and the time crunch they have to achieve those outcomes."

To illustrate how this is being implemented, he pointed to an exercise called "Pacer Forge" that is conducted during the sixth week of BMT.

"Essentially, like any assessments training for a military service, it's about how to become a member of the team; how to become an Airman or Soldier and conforming and meeting the standards. They get a session where they sit in today's environment and have about 36 hours to solve a problem as a team with resources that are available. That's all they have. And the MTI [Military Training Instructors] step back into a coaching, safety observer, risk management role, not an overly present instructional and directional role. And that exercise is about to expand into a three-day event in early 2025."

Robinson highlighted similar approaches with officer training, citing revamping of curriculum in multiple programs, including Officer Training School, Air Force Reserve Officer Training Corps and the United States Air Force Academy.

"Again, they are similar adjustments: commander's intent, mission command. Here's your team, here are your objectives. Now go forth and solve this by meeting those objectives to the best of your ability," he said.

Asked how the Air Force is ensuring that training not only focuses on peer or near-peer adversaries but also prepares Airmen for the spectrum of multi-domain operations, Robinson observed that those potential adversaries are already implementing multi-domain operations, adding, "I think the way we get after it is with our focus on bringing information warfare more into the space in terms of how to consume information critically and understand what that means in terms of if you're being subjected to disinformation or if that's a reliable source of information," he said. "In the space domain, we intend to and will, because that's been General [David] Allvin [Chief of Staff of the Air Force] and the [Air Force] Secretary's charge, stay closely integrated with the Space Force, because the interdependencies between the Air Force and Space Force and the way those two domains interact is absolutely critical. One cannot exist without the other."

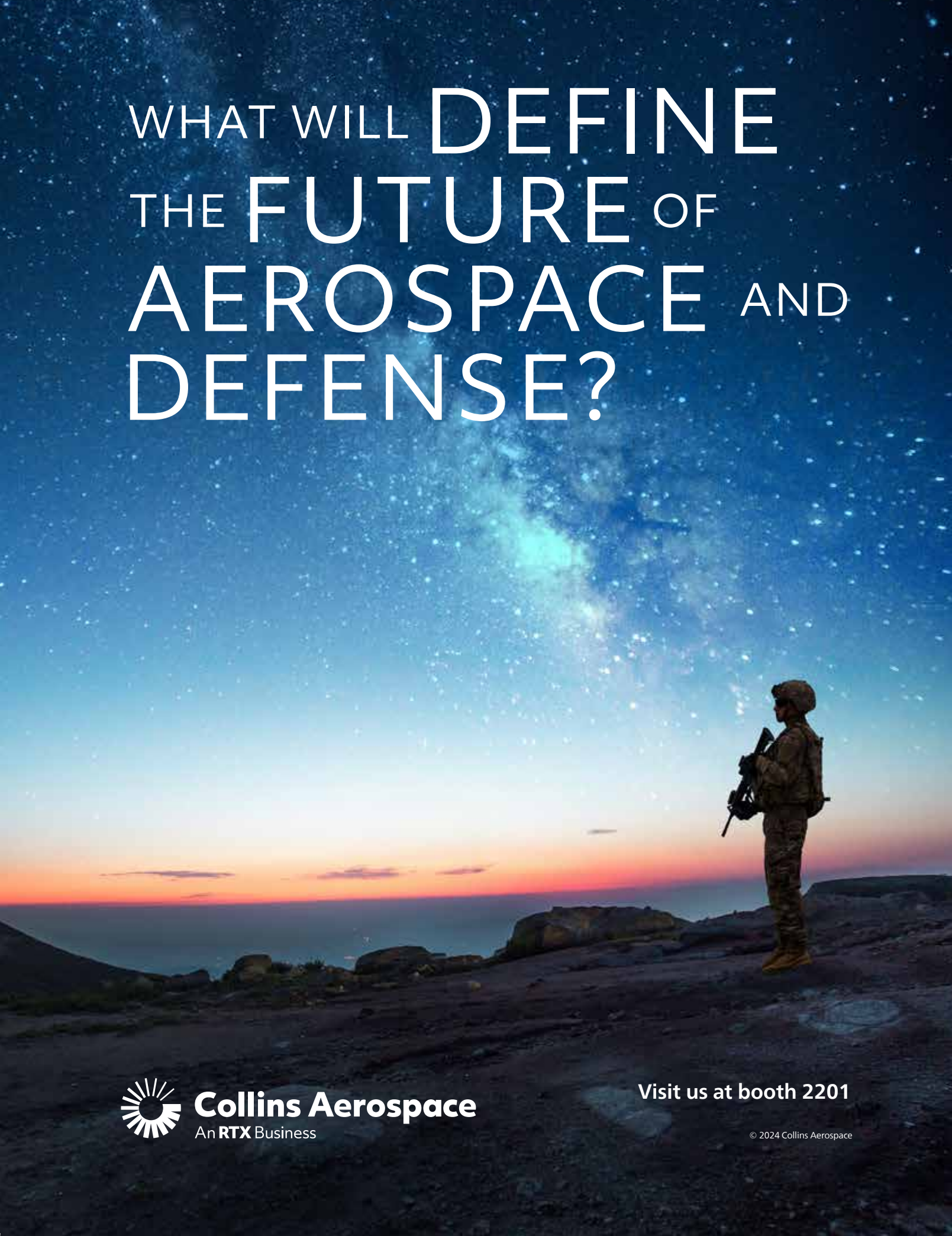
Turning to a number of key service initiatives that he wanted to highlight for I/ITSEC attendees, Robinson began by pointing to "technologies that are in the learning industry that can be utilized in the way that we need to train and develop our Airmen, going through those various phases of training from an institutional perspective, and then understanding the human performance aspect of it, and how you assess the trainees' ability to perform and succeed in the environment. It's more Airman-centric, making the material more available to them."

He offered a representative example from Keesler Air Force Base, where some simulators have been moved into some training dormitories, explaining, "Now, on the weekends or whenever, an Airman who has the time and wants to practice a certain aspect of a course, driven by the scenario that's run by technology, can do that. And we've seen a significant reduction in the washout rates in that space, on the order of about 30% less washing out for one particular course, and several days earlier in completion as well."

Another representative example Robinson cited involved establishment of an Enterprise Learning Engineering Center of Excellence at the Major Command level, with a small core of 25-30 people "focused on being dialed into the learning industry at large, again at a more macro level, evaluating those technologies to help us in the innovation space to go after areas where we can put our limited resources after the highest likely payoff, technologies and approaches to training focused on human performance."

The last area he offered addressed the concept of "mission over function," where he asserted, "We need to integrate the training sooner than we do today, in terms of core tasks and competencies...For those who are involved in operating an airfield, skills such as air traffic control, airfield lighting, pavement, civil engineers and weather forecasters, what are the common core tasks that group should be able to do, and train that sooner, rather than later on in their careers."

Summarizing and prioritizing his messages for the I/ITSEC audience, Robinson offered, "The key message I want is for them to understand that we are 100% behind taking advantage of the technologies in the learning industry that have come to bear in the last five or six years, and that are going to continue increasingly to come to bear. We're going to double down on the use of artificial intelligence in training as well as how we execute our mission roles here as a staff at this level and as the training wings deliver training as well. The third part is, we cannot overestimate the value of data to understand where the specific trainee Airmen are on their path and get them through the training journey to where they need to be."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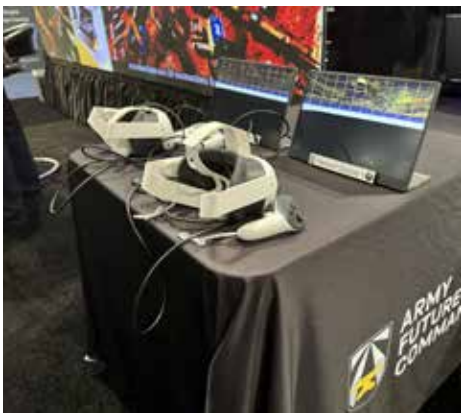
# Army Unveils New Mission Planning Toolkit

**U.S. Army Futures Command [Booth 1861] is displaying its developmental Synthetic Training Environment (STE) Mission Planning Toolkit now under development by the Army's STE Cross Functional Team (CFT).**




According to STE CFT representatives, the toolkit was initially designed to help the Army's Security Force Assistance Brigades (SFABs) quickly obtain and process terrain data in a synthetic training environment and export it for multiple training purposes.

According to Frank Pavon, a support contractor for the prototype development team, the complete system was designed to rapidly gather terrain data, ingest it and convert it in near-real time into an actual synthetic environment.

Although the prototype was originally developed for use by the SFABs, another application was identified by the 188th Infantry Brigade out of Fort Stewart, Georgia, who are using it to scan operational terrain and provide that data to its National Guard and Reserve elements, allowing those reserves, who may only be called up to active duty for a few weeks each year, to see the terrain, get their sets, get their repetitions, practice and execute. As a result, by the time the reserve unit attends its actual rotation at one of the Combat Training Centers, they have seen the terrain, rehearsed their concepts and are ready to move to execution.

The prototype kit is packed in a large, hardened transfer case, which carries a Parrot quadcopter from ANAFI AI, packaged with a hand control station, batteries and four laptop computers. The quadcopter camera catches the terrain imagery and ingests it into a surrogate game server, currently running on VBS4.

Unit leaders use the laptops to do mission planning. Although still in prototype configuration, it is likely that the laptops would be used by the company commander with the three platoon leaders each using one of the other laptops.

As noted, the prototype design was initially developed for use by the SFABs and were first used when one of the SFABs deployed to Honduras.

"When they arrived in Honduras, they needed to train the Honduran Army, but they didn't know exactly how to do it without knowing the local terrain," said one project developer. "So they reached out and asked how to do it. How could they visualize terrain? How could they get that data quickly to effectively train the Honduran Army? So that's where the concept came from. Let's quickly put a drone in there. Let's put some computers in there. Let's ingest it with VBS4 and actually put all that together to see what happens."

"One World Terrain is that documentation and all those characteristics of the Earth that we see divided into different layers, points, vectors and that huge database of things," said Matt Zirhut, senior test and evaluation manager for the STE CFT. "Now, as One World Terrain progresses, it gets more and more things. What we do is take that whole database of stuff, of land classification, roads, characteristics, heights, mailboxes, power lines, everything. And in this case, it's going into an image generation engine. This one is VBS4, but you can do it with others."

He continued, "Again, One World Terrain is not unique and VBS4 is just a surrogate for us. But in this case, as VBS4 pulls that database in, it replicates those database items with models from this library. So One World Terrain says, 'Here's a power line,' and VBS4 says, here's one of my power line models that goes right here. And it finds points in its mesh of where those go, correlating to the earth in a One World Terrain file. And this applies to numerous amounts of things, like different types of houses. And now there's a new feature that is now being generated from the data itself. Rather than saying this whole area is a suburb, just fill it in. In some cases, it will say that this is an area like grass, and VBS4 will come in and actually put grass. One World Terrain doesn't have individual grass plants. It doesn't do that. It doesn't actually have individual trees. The game engine will come and fill those areas, but it does have things like light poles, houses in particular areas. So the difference between the database and the game is that the game will fill in some things, and it also provides models for those things that are specific, and puts it together, not to mention that it collapses numerous layers of information into the one visual element that you can utilize. And there are additional elements in here that hopefully we can get to in the future.

"So the drone data goes into VBS4, which gives you that more realistic look. And then you can prepare your missions based on how realistic it looks. You can execute some simulated exercises on which ways to go, different routes to follow. You can prepare and prepare and prepare and run rehearsals. And then you execute the mission."

The Mission Planning Toolkit also provides the capability to conduct after-action reviews, a capability that was explored last summer at the Army's National Training Center, during a rotation by the Army's 1st Squadron, 7th Cavalry.

Emphasizing that the system is still under development, Zirhut said that the objective game engine is not certain.

"We're not going to tie into a particular vendor," he said. "That's for the acquisition process to determine. This is just basically to inform the requirements. And then the materiel developer, PEO STRI, takes all the data that we get them and says, 'This is good. Let's go with it,' or 'Let's try and go back to the drawing board.' Then, of course, TRADOC [U.S. Army Training and Doctrine Command] sits over top of all."

"It's not perfect, but it's good enough to work," he concluded. "And it gives Soldiers that familiarity, which helps them to make decisions better, faster and smarter, because they've already done this in this scenario dozens of times."

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# Naval Postgraduate School Leverages AI and Simulation Technologies

The Naval Postgraduate School (NPS) in Monterey, California has announced that it will use cutting-edge artificial intelligence (AI) and simulation technologies to enhance education and research applications with NVIDIA's AI Technology Center Program.

In a recent ceremony at NVIDIA's headquarters in Santa Clara, California, NPS President VADM Ann Rondeau, USN (Ret.) and NVIDIA Vice President of External Affairs Ned Finkle signed a new Cooperative Research and Development Agreement (CRADA) to collaborate on the development of AI-based technologies for learning and real-world applications.

"Working with NVIDIA represents a major step forward in leveraging cutting-edge AI, machine learning and the NVIDIA Omniverse platform to address complex challenges," said Kaitie Penry, Director of Emerging Technology and Innovation at NPS, who will oversee the initial projects. "This collaboration will create opportunities for groundbreaking research and education that will drive innovation and enhance capability for the Department of the Navy and will be incorporated into the Naval Innovation Center at NPS."

Trusted AI and Autonomy is one of 14 critical technology areas identified in the *National Defense Science and Technology Strategy 2023*. This collaboration underscores the importance of integrating AI and industry technology into the advanced education of students at NPS to develop their talent as leaders and technically proficient problem solvers.

"The Department of the Navy continues to champion rapid development of technologies that accelerate decision-making as part of our maritime advantage," said Secretary of the Navy Carlos Del Toro. "I'm excited about the work the Naval Innovation Center at Naval Postgraduate School will do to leverage and accelerate AI-enabled outcomes from research projects like this with our industry partners."

The recently released *Chief of Naval Operations NAVPLAN 2024* aims to enhance situational awareness, decision-making, and rapid planning through AI as an enabling technology. The *NAVPLAN* also recognizes that AI-based training and education must be employed at equal pace in reliable, realistic and relevant environments for naval forces to complete them successfully.

Innovation in live, virtual and constructive (LVC) technologies fuels advanced modeling and simulation (M&S) applications. The Navy's goal is to make LVC training widely available anytime, anywhere by providing the ability to build tactical proficiency. NPS is a leader in advanced M&S education and applied research through its Modeling Virtual Environments and Simulation (MOVES) Institute and will be one of the hubs for collaboration with NVIDIA.

NPS students and faculty met with NVIDIA team members this week at I/ITSEC to share current research and kick-off discussions of technology applications that will form the cornerstone of the CRADA partnership.

(The Cooperative Research and Development Agreement (CRADA) does not constitute endorsement of NVIDIA or its products and services by the Naval Postgraduate School, the Department of the Navy, or the Department of Defense.)

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## Bugeye Technologies to Supply Avionics Panels for Air Force T-38 Enhanced Immersive Training Devices

Bugeye Technologies [Booth 833], a supplier of complex assemblies and simulation products, announced its partnership with Vertex Solutions, a woman-owned small business providing premier systems integration and learning technology, to supply six state-of-the-art simulated avionics panels and flight controls on the T-38 enhanced immersive training device (eITD) at Joint Base San Antonio in Randolph, Texas.

This is the first time the Air Force's "Fighter Bomber Fundamentals" syllabus will include a mixed cockpit. Company representatives state that the use of mixed reality in the T-38 eITD provides pilots with an enhanced sense of realism, resulting in more effective training while they stay immersed in a virtual flying environment.

"This contract strengthens Bugeye's ongoing relationship with Vertex Solutions as a supplier of choice for high-quality, high-value simulation products," said Kyle Zick, President of Bugeye Technologies. "This groundbreaking project highlights Bugeye Technologies' commitment to rapid, high-quality innovation to support air dominance."

## Varjo Secures U.S. Air Force Certification for Varjo Base Software

Varjo [Booth 612] announced that it has received a Certificate to Field (CTF) from the U.S. Air Force for its Varjo Base software. This certification validates Varjo's cutting-edge technology for use within the U.S. Air Force's Operational Test and Training Infrastructure (OTTI). The certification is valid for the current 4.5 version of Varjo Base and all future versions of the fourth-generation software supporting the XR-4 Series.

This CTF certification, awarded in accordance with Air Force Instruction (AFI) 17-101, confirms that Varjo Base has met the U.S. Air Force's stringent security and operational standards. The software is now included in the OTTI Evaluated Products List (OTTI E/APL), enabling its deployment in U.S. Air Force training and simulation environments. This achievement underscores Varjo's commitment to delivering secure, high-performance solutions tailored to the needs of defense training and operational readiness.

"We are honored to receive this certification from the U.S. Air Force, as it reflects the security and reliability of our solutions in even the most demanding environments," said Tristan Cotter, VP of Defense & Aerospace at Varjo. "Combined with our TAA-certified XR-4 Secure Edition hardware, we believe that we can uniquely support the U.S. government and NATO allies in leveraging XR technology to advance training capabilities that will improve readiness."

The certification will remain in place for three years. During this time, Varjo will continue to support and enhance the U.S. Air Force's simulation and training capabilities.

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# Look Ahead to MODSIM World 2025

As I/ITSEC 2024 wraps up this week, another modeling and simulation (M&S) event put on by the National Training and Simulation Association (NTSA) is well into the planning stages. Slated for August 18-20, 2025 in Norfolk, Virginia, the 17th International MODSIM World Conference is the next in a series of annual international conferences that serves as a premier platform for the M&S committee.

"MODSIM World is dedicated to the exchange of modeling and simulation knowledge, research and technology across sectors, including defense, industry, training and education," explained Claire Hughes, Conference Chair for MODSIM World 2025. "We emphasize the importance of modeling and simulation and driving innovation to help solve complex, real-world problems. We bring together professionals from diverse fields and foster a collaborative environment where participants can share their advancements, form partnerships and explore how M&S is being applied to the modern challenges in a variety of different fields."

Hughes said that the conference is designed for a diverse audience across defense, government, first responders, researchers, educators, industry, healthcare, engineering and infrastructure.

"It really aims to provide value to anyone who's interested in leveraging M&S to enhance capabilities," she noted. "There are a lot of people that are brand new to modeling and simulation, and there are a lot of people who are seasoned experts. So MODSIM World is really relevant for people who recognize the need for a collaborative approach and how they can develop future-ready solutions."

She highlighted Norfolk's geographic benefits as a regional hub for modeling and simulation, research, innovation and development, adding, "There also are a number of institutions that are located there, including U.S. Army Training and Doctrine Command (TRADOC) on the government side and Virginia Modeling, Analysis and Simulation Center (VMASC) on the academic side. So, the conference location really underscores our commitment to connecting with key players in those areas."

"Our theme for MODSIM World 2025 – *Forging the Future: Bridging the Gaps Through Modeling and Simulation* – was chosen to reflect the critical need for modeling and simulation to help us bridge gaps across technology, knowledge and practice. As our global landscape becomes increasingly complex, the ability to anticipate and prepare for future challenges through modeling and simulation becomes extremely important. So the theme highlights the role that M&S plays in creating adaptable, forward-thinking solutions for current and emerging technology needs," she said.

Asked about any comparisons between I/ITSEC and MODSIM World, Hughes was quick to characterize the latter as "a distinct experience," adding, "It offers a broad perspective on the different applications for M&S and dives in deep on specific ways that we can bridge industry gaps and expand the way that we're thinking about these technologies."

She concluded, "I would say that MODSIM World 2025 provides a distinct but complimentary experience for people who attend I/ITSEC. It offers a broad perspective on applications of M&S across traditional and emerging sectors under an umbrella theme that really invites attendees to consider how M&S can be expanded beyond conventional applications."

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## DLH Demonstrates Full Dive Virtual Reality Training Platform at I/ITSEC 2024

DLH [Booth 1955], in collaboration with Touro University California, will demonstrate its Full Dive Virtual Reality (FDVR) Training Platform during I/ITSEC 2024. This prototype platform features the ability to record biometric data in real time during training, which sets it apart from similar tools and represents exciting future capabilities.

DLH and Touro University, along with military, academic and industry collaborators, have created a training platform which provides a means to exercise cognitive behavioral skills to build resilience and readiness while advancing technical expertise. When trainees don FDVR's full kit to interact with the platform, they resemble VR users in the science fiction movie *Ready Player One*, with a VR headset, haptic gloves and a haptic body suit as they move around on an omnidirectional treadmill. This setup creates an immersive experience that fully engages a user's sight, sound and touch. If configured with the body suit, the body suit allows users to experience physical feedback based on the visual simulation and body motion capture with biomechanical monitoring regardless of the visual field.

Trainees will also wear a small LifeLens biometric sensor to collect real-time physiological data, while the VR headset tracks eye movements to assess cognitive load. The platform measures and records data points to provide feedback on a trainee's performance throughout a given scenario, and their status (stress level, fatigue, engagement, etc.) while performing tasks in the VR training simulation. The data is assessed and compiled into an after-action report that describes how well that user operated under stress and potential areas they need to improve. The information collected can also loop back into the platform itself to refine training content going forward in scenario generation or future metrics recording.

"The FDVR platform encompasses a lot of different areas that DLH has in terms of capabilities," said Zachary Parker, DLH's President, CEO and Board Director. "That ranges from modeling, simulation and training to data analytics, to artificial intelligence and machine learning, to research work. It's a compilation of multiple disciplines concentrated into one platform."

Currently, DLH and Touro University are focusing the use of FDVR on warfighters in military medical operations and civilians in state and local emergency management as its first demographics. Through the collaboration, special effort is being devoted toward developing this platform for "role 1" through "role 4" applications in the medical continuum of care, which involve increasing levels of medical care.

"The live collection of real-time data has always been an issue for similar training tools, as well as the ability to develop content quickly based on the assessments," Parker said. "FDVR's capabilities represent a significant improvement in the market in how we've managed to resolve training challenges, particularly in real-time data gathering and providing users with information to make better decisions."

## The U.S. Air Force Reserve Command and the U.S. Army Reserve Order Doron Driving Simulators

Doron Precision Systems, Inc. [Booth 581] recently received orders from the U.S. Air Force Reserve Command for 20 "550Truckplus" driving simulator systems that will be installed at 20 different air base locations throughout the continental U.S., as well as an order from the U.S. Army Reserve for a "550JLTVplus" driving simulator system for Camp Parks, California.

Both types of Doron simulators include a 3 DOF [degree of freedom] motion base to provide warfighters with realistic training experiences to develop and sharpen critical skills without the risk of accidents or additional costs caused by normal "wear and tear."

"Doron continues to prove that its land vehicle driving simulation systems are a successful and powerful driver training tool for today's military," said Michael Stricek, Senior Vice President of Doron Precision Systems. "These recent orders demonstrate the value the Defense Department sees in Doron simulators, and we are proud to continue preparing warfighters for the many driving challenges they may encounter when conducting logistics and transportation operations. We have a consistent track record that spans over 50 years, and we look forward to training our men and women in uniform for another 50-plus years."

The 550Truckplus includes more than 80 truck driver training scenarios. Each scenario focuses on specific learning objectives, including commercial driver's license maneuvers and defensive driving techniques, as well as urban, rural and highway driving. Doron leads the industry with its 550Truckplus driving simulator system that has trained thousands throughout the Defense Department. Many civilian truck driving schools across the country also use the same training systems.

The 550JLTVplus integrates original-equipment-manufacturer instrumentation and controls to replicate the look and performance of the actual vehicle. It offers high resolution graphics, precise vehicle dynamics and a comprehensive virtual training environment where a driver can experience various weather conditions, visibility issues, challenging roadways, off road trails, steep inclines, side hills, moguls and rivers.


## RGB Spectrum's Zio Video-Over-IP Platform Powers Lockheed Martin's MMRT for Advanced F-35 Mission Training

RGB Spectrum [Booth 2112], a designer and manufacturer of visual solutions, announced its integral role in the Modified Mission Rehearsal Trainer (MMRT) program, Lockheed Martin's latest innovation in F-35 pilot training.

According to company representatives, RGB Spectrums's Zio Video-over-IP platform is seamlessly integrated across the MMRT"S core components. "This program highlights our commitment to providing cutting-edge technology that ensures pilots remain ahead of threats and masters of their war-fighting domain," said Bob Marcus, CEO of RGB Spectrum. "The Zio platform's advanced capabilities, including superior video fidelity, low latency, and intuitive controls, set a new standard for mission-critical training environments. We are honored to contribute to the success of the MMRT program and the readiness of F-35 pilots worldwide."

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BAE SYSTEMS

# NTSA Modeling and Simulation Awards

Each year, NTSA presents awards for outstanding achievement in the development or application of models and simulations. Awards are given for outstanding achievement in the following categories: Education and Human Performance, Training and Simulation and Training Systems Acquisition. Award nominees may come from government, industry or academia. In addition NTSA awards a Lifetime Achievement in Modeling and Simulation and a Lifetime of Service Award.

## LIFETIME ACHIEVEMENT

### Dr. Alok Chaturvedi

PURDUE UNIVERSITY


Dr. Alok R. Chaturvedi has been at the forefront of modeling and simulation for over three decades. As a Professor at Purdue University and founder of Simulex, Inc., he has consistently pushed the boundaries of what's possible in agent-based modeling and simulation (ABMS). His work has transformed the field from a niche technique into a cornerstone methodology for computational social science and decision support systems. Dr. Chaturvedi's most significant contributions include the development of large-scale agent-based virtual worlds (ABVWs), notably the Synthetic Environments for Analysis and Simulation (SEAS) platform and its successors: the Reference World Information Simulation Environment (RWISE), the Quantum World Information Simulation Environment (QWISE), and most recently, Quantum Strategy AI (QuaSAI). These innovations have provided researchers and decision-makers with unprecedented tools to explore emergent phenomena, test hypotheses, and anticipate outcomes in complex socio-technical systems.

For his transformative contributions to the field of modeling and simulation, his pioneering role in advancing agent-based approaches, and his groundbreaking work in integrating quantum computing and GenAI into simulation methodologies, Dr. Alok R. Chaturvedi is awarded the 2024 NTSA Lifetime Achievement Award.


## NTSA 2024 RADM JAMES A. ROBB LIFETIME OF SERVICE

### Allan "Al" G. Rodgers

POLHEMUS

Allan "Al" G. Rodgers career spanned 50+ years at Polhemus, the company that invented 6 Degree of Freedom Magnetic Motion Tracking in the late 1960's. Shortly after Bill Polhemus founded the company and established it in Vermont, he hired Rodgers to join the team as an engineering technician.

Rodgers mechanically assembled the R&D company's first Electromagnetic (EM) tracking system components. This work, and that of the engineering team, was the pioneering establishment of what is today utilized in thousands of applications, simulators and technological advancements requiring motion tracking.

## EDUCATION AND HUMAN PERFORMANCE

### Dr. Meredith Carroll

FLORIDA INSTITUTE OF TECHNOLOGY COLLEGE OF AERONAUTICS


Dr. Meredith Carroll led a project that combines her expertise in education and training with her passion for Women in STEM. Over the last three years, she has led a multidisciplinary STEM program, funded by the Office of Naval Research, that developed an introductory cybersecurity curriculum for high school students focused on engaging and educating underrepresented minorities (URMs) in cybersecurity, including women and minorities. This program provided training to over 100 middle and high school students, increasing interest and in some cases, intent to pursue cybersecurity. Carroll teamed with Dr. TJ O'Connor, a professor in Florida Tech's cybersecurity department, to match his expertise in cybersecurity education with her expertise in training and education.

The results of the development and evaluation effort include an 8-week course that will be made available for free to high school STEM teachers, and several academic publications and conference presentations that share strategies for increasing URM engagement and education in cybersecurity and other STEM-related fields.


## TRAINING SYSTEMS ACQUISITION

### Raoul "RA" Rall

NAVAL AIR WARFARE CENTER TRAINING SYSTEMS DIVISION (NAWCTSD)

Raoul "RA" Rall's supreme dedication to supporting the warfighter inspired him to leverage his extensive education and experience as an E-2D training systems acquisition professional to rapidly field a fidelity upgrade which accurately replicates the real world "Auto-Feather (AUTO-FX)" aircraft discrepancy. This discrepancy was determined to be a causal factor in a fatal aircraft mishap and subsequent aircraft Red Stripe in 2023. Upon learning of the aircraft mishap and prior to requests from PMA-231 or the Naval Safety Command, he coordinated an effort to determine if the E-2D Operational Flight Trainer (OFT) could simulate the failure in order to support the pending accident investigation effort. The causal factor from the mishap related to how rapidly the power levers are moved during flight operations.

Flight trainers in Norfolk, VA, Point Mugu, CA and Iwakuni, Japan were all subsequently updated and currently accurately replicate the issue and provide pilots with the appropriate aircraft feedback related to this critical issue.

## SIMULATION AND TRAINING

### Ship/Tow Simulator

U.S. ARMY CORPS OF ENGINEERS (USACE) ENGINEER RESEARCH AND DEVELOPMENT CENTER (ERDC)


ERDC Ship/Tow Simulator - Advancing Harbor Design, Navigation Safety, and Crisis Response U.S. Army Corps of Engineers (USACE) Engineer Research and Development Center (ERDC) developed the Ship/Tow Simulator to address critical needs in harbor design and navigation safety. This innovative technology, developed at ERDC's Coastal and Hydraulics Laboratory (CHL), has become an indispensable tool for optimizing navigation channels, evaluating harbor modifications and enhancing maritime safety across the United States. The Ship/Tow Simulator project, led by a team of dedicated researchers including Dr. S. Keith Martin, Richard W. Hunt II, Jacob Hodges, Osler Kendall Moore Jr., Elizabeth G. Staebell and Kelly Turcotte, has evolved over years of collaborative efforts with port authorities, USACE, and maritime stakeholders.

# Scenes from I/ITSEC 2024


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