I/ITSEC 2016 OFFICIAL DAILY NEWS DIGEST

SHOWDAILY

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WEDNESDAY, NOVEMBER 30, 2016

US Navy Looks to Ready, Relevant Learning

"When I talk about our priorities for the team, our first and foremost priority is always going to be support of our fielded training systems, the devices that are used by Sailors and Marines that are out there in the Fleet. Those are the devices that are always going to be at the top of our priority list for support because they are training the folks that are on the front lines executing national taskings at sea and overseas," Captain Erik 'Rock' Etz, Commanding Officer of the Naval Air Warfare Center Training Systems Division (NAWCTSD), told the *Show Daily*.

"I think it's always incumbent upon our teams to do the best we can to ensure that our training systems match the configurations of the deployed platforms, whether that be ships, submarines or aircraft. Configuration management is always tough on those platforms, at any given time you're going to have a number of different configurations deployed executing activities out in the fleet. We don't have an unlimited number of training systems. For us, what makes the most sense is to have a training system that has the capability to very quickly change configurations – primarily via software implementation – so that the crews can train on the systems that they will employ on their platforms."

NAWCTSD (Booth 549 and 1239) is the Navy's principal center for modeling, simulation, and training systems technologies. The command provides training solutions and research for a wide spectrum of naval programs, including aviation, surface and undersea warfare, and other specialized requirements.

"When we take a strategic long term look, there are a couple of things that emerge as our top priorities, first of which is to continue to deliver integrated warfighting capability via our networked trainers. We are looking to bring all of our simulators, in particular our aviation simulators, up to a certain standard that will allow them to execute distributed training across the Navy Continuous Training Environment. We are always looking to add to the list of mission areas that can be exercised and rehearsed across those networks in those synthetic environments. Laying that foundation is a critical priority for us."

"With that, we fully expect that we're going to continue to look for opportunities to bring in a live component, which brings us to the live, virtual, constructive (LVC) discussion. Distributed training goes right to that VC portion. We need to strengthen that first, and then bring in live where it makes sense to provide flexibility for the forces in terms of how they train. We need to get away from the mindset of either simulator or live training and start to look at the efficiencies that can be gained by merging these activities. Whether that be, for example, amplifying an aircraft count in a live arena by adding in virtual or constructive entities either on the red or blue side, or even bringing a live component into a VC event because you need to get proficiency for that team that's in the live aircraft or platform."

"Anything that brings in LVC, that's going to be the next step.

Continued on p8

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TODAY'S CONFERENCE

HIGHLIGHTS

WEDNESDAY, NOVEMBER 30

SIGNATURE/FOCUS EVENTS

0830-1000 **Paper Sessions** *(Room W304ABEFGH)*

0830-1000 **Finding and Keeping Cyber Operators** *(Room W304CD)*

0830-1000 **Cloud-Based Simulation:** Fiction or Future? *(Room W306AB)*

1030-1200 **Paper Sessions** *(Room W304ABEFGH)*

1030-1200 **Operation Blended Warrior:** Taking Control *(Booth 349)*

1030-1200 **A Design for Maintaining Maritime Superiority** *(Room W311BCD)*

1030-1200 **Warfighters Corner** *(Booth 2081)*

1030-1200 **Engineering the Future Simulator Through Open Systems Approaches** *(Room W306AB)*

1030-1200 **The Future is Now:** Future Leaders Pavilion Presentations *(Room W304G)*

1400-1600 **Spectrum Encroachment and its Growing Use in the Public and Private Sectors** *(Room W304CD)*

1400-1530 **Paper Sessions** *(Room W304ABEFGH)*

1600-1730 **Paper Sessions** *(Room W304ABEFGH)*

1600-1730 **Operation Blended Warrior:** Turning the Tide *(Booth 349)*

PROGRAM BRIEF

1400-1530 US Army PEO STRI TSIS UPDATE *(Booth 2081)*

COMMUNITY OF INTEREST

1030-1200 **International Outreach:** Business Opportunities II *(Room W311A)*

1400-1530 **Understanding Exportability Considerations for Modeling, Simulation and Training** *(Room W306AB)*

1600-1730 **The Army M&S Enterprise:** Governance and Workforce *(Room W306AB)*

INNOVATION SHOWCASE *BOOTH 2949*

1000 **Putting It All Together:** Animaticmedia VR

1045 **Train Different – New Concept for Infantry Training:** Bagira Systems

1130 **MÄK Introduces New Product:** VT MÄK

1215 **Physiological Sensing to Select, Predict and Augment Human Performance:** Design Interactive, Inc.

1300 **Scenario Building and Measurement of Human Performance in Simulation Training:** SimCore Technologies

1345 **DLP Projectors:** 4K Pixel Shift Technology: Digital Projection

1430 **Proliferating Content: Why Organizations and Vendors Should Centralize Their Content:** Rustici Software

1515 **Interoperable Voice Communication for Training and Simulation:** Clear-Com

1600 **The Latest in American Made Electronic Target Systems for Advanced Marksmanship Training:** Oakwood Controls Corp

EXHIBIT HALL HOURS

0930-1830

REGISTRATION HOURS

0700-1800

Brisk Booth Sales for I/ITSEC 2017!

Sustaining Members of NTSA have started to make plans for I/ITSEC 2017 by booking their exhibit space early onsite at I/ITSEC 2016, and the pace of sales is brisk. If you want to get ahead of the crowd, stop by Room 207A and enquire about NTSA Membership and booking information for next year!

SHOWDAILY

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Day 2 Highlights

Boeing's AH-64 Apache simulation-based helicopter trainer for aircrews dominated the top hashtags list.

See more results at blog.scraawl.com/iitsec16

Top Hashtags

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What's trending at I/ITSEC on Twitter?

Top Mentions

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Lockheed Martin and Boeing lead the top mentions, followed closely by reporter account @sherpardnews. @Aptima makes an appearnace on the list after Daniel Serfaty's inspirational keynote address.

See results in real-time!

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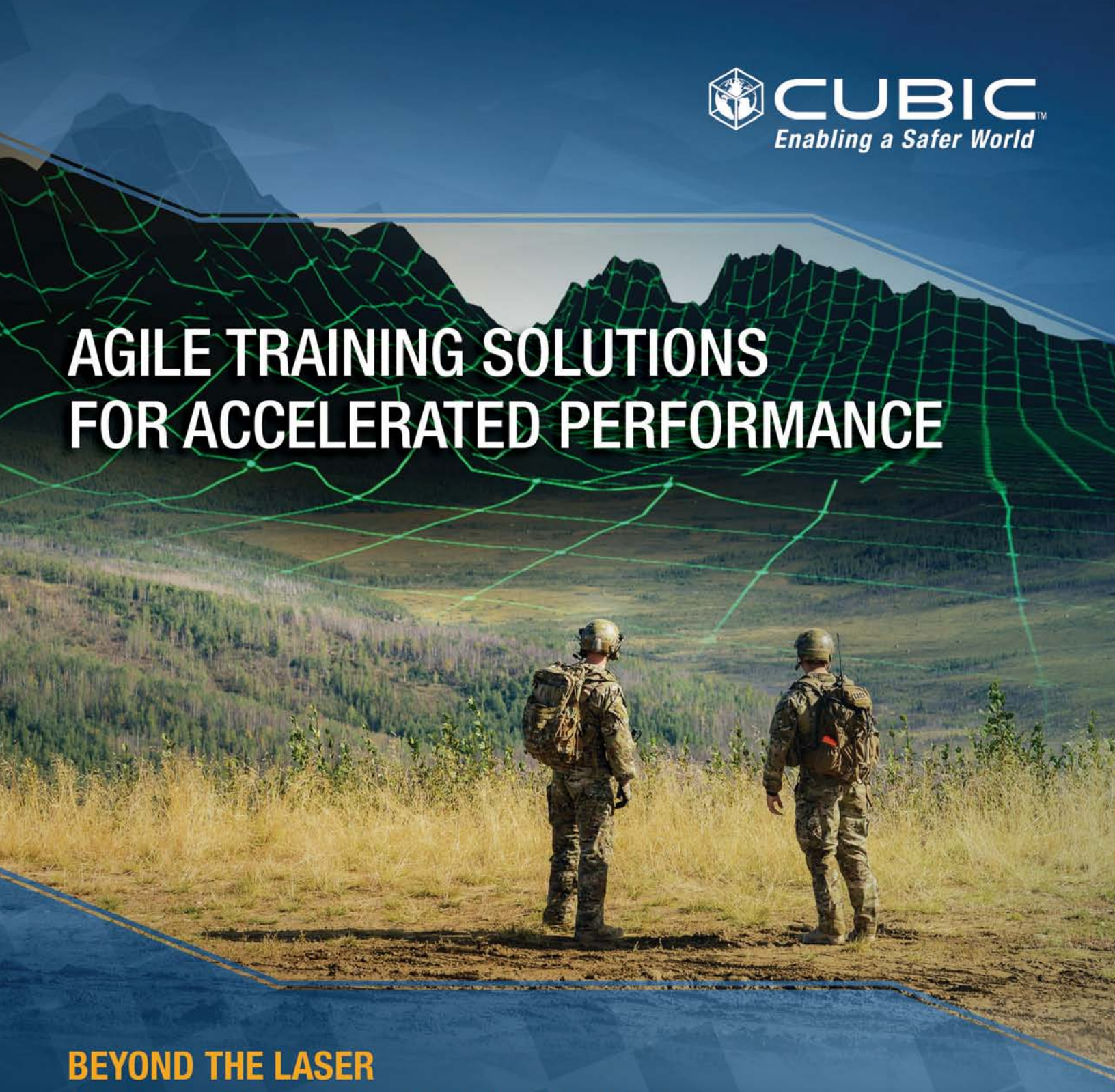
A FULL HOUSE WATCHED THE I/ITSEC OPENING CEREMONIES Tuesday morning at the Hyatt Regency Hotel featuring the Keynote Address from Major General Robert D. McMurry Jr., Commander, Air Force Research Laboratory, Wright-Patterson Air Force Base, OH.



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Pentagon Revamps Learning Models Across the Services

Traditional education models and ways of teaching are proving insufficient to keep up with the pace of technology and today's evolving threat.

That was the theme of this year's General/Flag Officer Panel at I/ITSEC 2016, where the assembled leaders admitted the live, virtual, constructive (LVC) concept and emerging technologies such as mixed/augmented reality were forcing them to change their approach to training.

Frank DiGiovanni, Director of Force Training, Office of the Assistant Secretary of Defense (Readiness), argued that the formal education model is a "Victorian era relic."

"Some things that I challenge everyone here to think about is the concept of action learning; the concept of contextual learning – being able to immerse yourself in things that replicate the actual environment; connective-ism, which is learning collectively together; virtual tribes – people who have the same interest being connected together through virtual media," DiGiovanni said.

"All of these approaches I believe contribute to velocity of training."

In particular, DiGiovanni argued that the Department of Defense needed to rethink how it trains operatives for cyber operations because hackers are using a high velocity training model, rather than the formal education system.

Dennis Thompson, Executive Deputy of Training and Education Command, Marine Corps Base Quantico, said the big gap the USMC was targeting was decision-making and training capabilities at the company, platoon and squad level.

In one example, he said a "Range 400 scenario" had been created in VBS3, replicating the Marine Corps Air Ground Combat Center (MCAGCC) Range 400 live firing and maneuver range, allowing Marines to experience virtual representations of the exercise before hitting the range.

Vice Admiral Paul A. Grosklags, Commander of Naval Air Systems Command, said the US Navy has a number of training initiatives underway to improve aircraft readiness, the Ready, Relevant Learning (RRL) pillar of Sailor 2025

"From my perspective, what Ready, Relevant Learning means is providing maintainers on the flight line with the right training at the right time and with the right methodology. You may think that sounds simple, but what we tend to do… is we don't ever go back and refresh their training,"

One element already introduced was job performance aids – video instructions of difficult or rarely required tasks.

"The job performance aids are a real tactical response to an existing problem. The idea with Ready, Relevant Learning is a more strategic, relevant approach to the entire force, to make sure when those Sailors move to another platform or move to a new ship, they have the tools at their fingertips to make them proficient in maintaining that piece of gear he or she has to work on."

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US Navy Looks to Ready from page 1

"To do that we're looking at a number of future systems as well as leveraging some data pads that exist already. The example I'll give you is we should probably be trying to utilize Link 16 [tactical data exchange network] to the maximum extent practical to bring in an intersection of live and VC forces."

"Another top priority is looking at the needs of the 21st century Sailor. There's some great work being done across the Navy on supporting the Sailor 2025 initiative. At NAWCTSD we are specifically supporting the Ready, Relevant Learning (RRL) pillar of Sailor 2025, and we're honored that we have been asked to provide a coordinating role to this point in terms of taking a look at how we train Sailors, a holistic look that allows us to re-scope both the 'when' and the 'where' of how that training is delivered. We are in the middle of developing plans to modernize delivery of that training capability to bring it closer to the Sailor where they need it, and that could be the waterfront or onboard ship, and when they need it in their career paths as well."

Etz explained that the Navy "is getting away from the mindset of all the training up front because we recognize that may not be the most efficient way to do things because a lot of those skills that are taught in the early days of a Sailor's career may not be needed for several years. Due to skill decay, which occurs for everybody, they may forget a lot of the things they learned. By pushing things later in the career path we have the opportunity to deliver that training at a more appropriate time and a more appropriate location that provides the opportunities to gain efficiencies across Navy training."

"Across all of our training systems we need to find ways to improve the paths in which we deliver training to the Sailor to allow them to train at a pace that's appropriate for those individuals. For example, when we look at the things we can do to either improve the speed or the rate at which we deliver training, probably the first step we want to do, which involves a discussion of intelligent tutoring and adaptive learning, is to decouple a training pipeline from a requirement to train to the lowest common denominator."

"Every person involved in a training regimen has a different set of experiences and backgrounds. Some might need a longer path to train than others just due to the fact that they may not have had the same experience level as other folks. Whatever we can do to ensure that our training systems recognize how individuals train and then tailor that curriculum to meet the needs of that individual Sailor to get them most quickly to a fully trained end state, I think that's going to pay big dividends and that falls right in line with that idea of 'high velocity learning' - improving the rate and paths at which we deliver training to Sailors and Marines."

The Navy's Littoral Combat Ship (LCS) program is pioneering a new approach to training. "The LCS program, based on their concept of operations with a number of vessels forward deployed, made investments as a program in significant shore-based training facilities. They created an immersive virtual ship environment where they can train their Sailors on board their specific ships. Some of that is avatar-based instruction that is enabled by instructors. We've been getting very positive feedback. The LCS is a new ship program and we're always looking for ways to improve training modules that have been delivered and there's still a number of modules yet to go. The early indications are that the program is making the right investments in those immersive environments and avatar-based instruction."

I/ITSEC 2016 will build on the success of the inaugural Operation Blended Warrior (OBW) in 2015. "Operation Blended Warrior provides us a tool by which we can mutually – with government, military and industry – look at how we network our devices together, and creates an opportunity for us to explore that network connectivity capability to ensure that we - in a world of many standards – understand the challenges associated with connecting devices together to accomplish training across multiple warfighting areas. I think last year was very successful with over 30 industry partners participating in OBW and we're on the order of 50 participating this year."

Etz observed that "OBW has been described as a sandbox for experimentation in the LVC realm. We are fully supportive of that activity because it allows each of the participating elements, on their own and in voluntary support, to join this coalition of the willing to support a scenario across multiple days of I/ITSEC that allows each of the elements to connect and in the process of doing that we are solving the problems associated with interface standards and database alignment."

"On the Navy side of the house we always learn new things every year at I/ITSEC in terms of what industry is doing. I fully recognize that while I lead the naval team here we don't ever deliver things in pure isolation. Our products are typically joint activities that represent the partnerships between the military and industry, and they represent the best of the capabilities that can be delivered to the Fleet to provide training solutions."

Chief of Naval Operations Admiral John M. Richardson will be the keynote speaker in a Special Event today examining 'A Design for Maintaining Maritime Superiority: High Velocity Learning at Every Level'. Adm. Richardson and other senior Navy leaders will discuss the critical importance of modeling, simulation and training to support the CNO's Design for Maintaining Maritime Superiority. This will be held in Room W311BCD at 1030-1200.

ITEC 2017 to Brief on European Conference Agenda

I/ITSEC 2016 provides an excellent opportunity for the ITEC 2017 team to brief colleagues on Europe's annual simulation, training and education event, which brings together representatives from a broad international community.

ITEC
16-18 May 2017
Ahoy, Rotterdam

The ITEC 2017 event will be held at Ahoy, Amsterdam from 16-18 May 2017 with the theme 'Innovation through Collaboration in Military Training and Education: Focusing Efforts, Harvesting Success'.

RADM Simon Williams, RN (Ret.), Clarion Defence & Security Chairman, will lead an ITEC 2017 briefing at 1000-1130 this morning in Meeting Room W205A. Other speakers include: Wim Huiskamp, ITEC 2017 Conference Chairman: Major Chris Lukose, Netherlands Ministry of Defence; and, Sanjay Khetia, Chief Technology Officer, Centre for Modelling and Simulation.

"Modern military and security forces rely on ever more complex technical equipment deployed, employed and supported by ever smaller numbers of people," Williams told the *Show Daily*. "These forces are facing a spectrum of simultaneous challenges ranging from humanitarian support, policing actions, and counterinsurgency through to being ready to meet peer competitors deployed in strength on the battlefield."

He noted that "these challenges refuse to be geographically bound. They happen at home and in every climatic environment on the planet. Smaller numbers, more sophisticated technology, and continually evolving threats in diverse environments demand forces that can be educated, trained, and retrained on a continuous basis. Consequently, the demand on the education, training, modelling and simulation communities that support our forces has never been greater. The need to seek new ideas, innovations, and inventions has never been greater."

"ITEC 2017 has taken its cue from the Netherlands as this year's host nation," explained Williams. "We will be exploring how the Dutch 'Triple Helix' partnership of government, industry and the R&D community seeks to generate comparative advantages to overcome these complex defense challenges. The Netherlands actively seeks international partners to cooperate and collaborate with it in pursuit of cost effective solutions, and ITEC's international focus will underpin this year's conference."

"ITEC 2016 in London saw approximately 2,700 visitors – 25% from the military – from 65 nations come to listen, see and exchange ideas; the first step in any collaborative effort. We are confident that ITEC 2017 in Rotterdam will provide the same vibrant forum, build solid relationships, generate business opportunities, offer outstanding content set in a modern exciting city with outstanding international connections."

At this morning's briefing the ITEC 2017 team will present the conference agenda. Visitors to I/ITSEC can pick up a copy of the conference preview at Booth 2635 and receive an exclusive I/ITSEC discount code to book their ITEC 2017 conference pass.

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Marathon Launches New Autonomous Target

Australia's Marathon Targets (Booth 649) is launching its new T30 autonomous target robot, developed to provide cost effective and realistic live fire infantry training for higher volumes of automatic fire, at I/ITSEC 2016.

The company's existing T40 robots have been deployed on four continents and have logged almost 100,000 miles of autonomous operation in live fire conditions, Ralph Petroff, Marathon's North America President, told the *Show Daily*.

It is based on a four-wheeled autonomous mobility platform developed by Marathon which is better at navigating moderately rough terrain than the two-wheel Segway Robotic Mobility Platform used for its original T20 target in 2008. The actual target is a human-sized all-aspect 3D mannequin made from durable plastic that will withstand thousands of shots before easy replacement, while the mobility platform is protected by armor plate. The targets use GPS and a scanning laser rangefinder for navigation, positioning, and obstacle detection and avoidance.

Marathon Targets' new T30 (left) and T40 (right).

The targets replicate humans by moving at various speeds and turning abruptly. When the mannequin is shot, it tips over at the waist to indicate a hit; the target can differentiate between lethal and non-lethal hits. When targets are operating as a group they can be programmed to respond by scattering, as civilians are likely to do, or react as an enemy might do, either by moving behind cover or advancing toward the firer. Stationary or rugged laptop computers can be used to program the targets and they can be loaded with audio files enabling them to scream in pain or shout commands.

The new T30 robot offers "a bit less functionality" than the T40 but at a lower cost, enabling it be more widely employed for regular combat training as it is uparmored to withstand higher volumes of automatic fire.

The Australian Army was the first customer for T20 targets in 2008 for use by its special operations forces (SOF), and the US Marine Corps purchased the T20 target for evaluation under the auspices of the Foreign Comparative Test program. This was later expanded to include the T40 target. The USMC subsequently awarded Marathon Targets an indefinite delivery/ indefinite quantity contract, with a potential value of up to $50 million, for both the T20 and T40 robots. The first eight T20 robots were delivered in November 2011 to the USMC, and these were transferred to the US Army's Asymmetric Warfare Group (AWG) at Fort Meade, MD, which has showcased the robots at key installations. Since late 2014, the AWG robots have resided primarily at Fort Benning, GA, where they have been used by snipers, rangers, and the Infantry and Armor Basic Officer Leadership Courses. The robots have also been featured at many shooting competitions.

End users have used the robots in a wide variety of training exercises. Snipers at Fort Benning have used the robots to train highly dynamic and quickly evolving scenarios, with robots playing the roles of high value targets, hostages, sentries, and innocent bystanders. Combined-arms live-fire exercises at Fort Benning and Fort Campbell, GA had robots representing a robotic OPFOR during live-fire exercises - a capability which cannot be implemented any other way. AWG focused on teaching 'adaptive thinking' as the robots are able to surprise the shooters by doing unexpected and unpredictable maneuvers. The Marine Corps has used the robots to enhance their moving marksmanship training programs. Robots can represent enemy combatants crossing streets in an urban scene with non-combatant robots present.

Petroff explained that "in various forums, senior Army and USMC leadership, as well as the US Congress, have stressed the need for increasing autonomous robots in training. Publicly-released DoD documents highlight the need for autonomous realistic moving targets for future ranges. In the meantime, various active and reserve units in the Army, Air Force, Special Operations Command, and USMC have shifted their training and pre-deployment budgets to obtain robots under training-as-a-service contracts." Marathon currently has three US offices which provide rental robots and operators which have supported training periods ranging from a week to several years.

"Robots also save money on training," said Petroff. "Because of automation, range throughput for some exercises has been measured by the Army as increasing over 300 per cent. The robots can also mimic behavior of pop-ups and targets on rails and can be deployed in a fraction of the time. This simplifies a range manager's job, while acting as a force multiplier for their staff."

Following positive feedback from its SOF, the Australian Army recently fielded both the T40 and T30 with its three combat brigades and the School of Infantry, where recruits train with the robots. "What we have found when teaching young people to prepare for an operation as ambiguous and as difficult as Afghanistan, is that shooting at an orange and black pop-up target isn't a meaningful replication of reality," said Major General Gus McLachlan, the Australian Army's Head Modernisation and Strategic Planning, at a demonstration for parliamentarians in August. "The semi-autonomous targets made by Marathon Targets can accurately replicate human behavior, like an enemy that is advancing and taking cover."

"We have rental fleets on three continents and are steadily increasing the number of robots in the rental fleet," said Petroff. "Some of our international customers include Canada, Australian Army and SOF, UAE SOF, various NATO members, and also international law enforcement. The British Army has successfully conducted field trials on the T-40. Based on recent interest from the UK, we added a UK distributor earlier this month."

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Future Leaders Pavilion Showcases Student Talent

Visitors to I/ITSEC 2016 will gain an impressive insight of the talent which America's high school students will be able to bring to tomorrow's modeling and simulation community at the Future Leaders Pavilion (Booth 2881) in the STEM Pavilion.

The students will present their projects at 1030-1200 today in Room W304G during a session entitled 'The Future is Now!'. Awards will be presented during a ceremony tomorrow at 1345 in Booth 2081(Warfighters Corner).

This is the 11th year that the NTSA has hosted the Future Leaders Pavilion and Paper Session. It spotlights the work of students from across the USA who are committed to excellence. Most are enrolled in engineering, computers sciences, mathematics, or modelling and simulation tracks.

It is vital to America's national security and economic prosperity that more students are encouraged to pursue studies and careers in the STEM field as more than 30% of current DoD science and technology professionals are expected to retire by 2020 and 40% of US companies report difficulty in filling positions because of a lack of STEM skills. The US would gain an extra $2.5 trillion in GDP between now and 2050 if its students scored at the international average on math and science tests.

Since 2002, secondary schools from Alabama, Florida, Georgia, Hawaii, New York State, Texas, Virginia, as well as schools from India, the Netherlands, and the United Kingdom have been represented.

For the first time in 2016 through, a partnership of NTSA, the Florida High Tech Corridor Council and other 'STEM-U-Lators', it is possible to bring I/ITSEC to the classroom through the STEMConnect program.

Tomorrow I/ITSEC will welcome about 600 students high school students, accompanied by school chaperones and volunteer I/ITSEC member escorts, who will experience first-hand simulation, training and education solutions that will help bridge the gap between classroom theory and the applied use of STEM subjects.

I/ITSEC offers two graduate-level scholarships, named the RADM Fred Lewis Postgraduate Scholarships, or Lewis Scholarships, to stimulate student interest and university participation in preparing individuals for leadership in the simulation, training and education communities. One is at the Master's level for $5,000 and the other is at the Doctoral level for $10,000. Over $400,000 in scholarship awards have been distributed to date.

The Students and High Schools Represented in the FLP

Bishop Moore Catholic High School, Orlando, FL
Spencer Compton, Ben Valente presenting 'Optimizing Classrooms to Forestall Active Shooters'

Crooms Academy of Information Technology, Sanford, FL
Miranda Bernheim, Alexander Byerly, Joseph Grzelka, Garrick McCann, Evan Scarborough presenting 'Virtual Disaster'

Dayton Early College Academy, Dayton, OH
Damon Alexander and Aaron Lewis presenting 'Precision Agriculture'

The Governor's School of Science & Technology, Hampton, VA
Chenyun Zhang and Julie Zhou presenting 'A Simulation on the Effect of a Major World War on the Population of the World'

LaSalle College High School, Philadelphia, PA
Ruijie Fang and Siqi Liu presenting 'A Performance Survey on Stack-based and Register-based Virtual Machines'

Shaker High School, Latham, NY
Aleksandra Lajeunesse and Huiwean presenting 'Automated Medication Distribution and Alert System for Independently Living Seniors'

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Raytheon Looks Beyond Warfighter FOCUS

Raytheon (Booth 827) is using the I/ITSEC 2016 venue to highlight current activities as well as its underlying technologies and capabilities with a view toward future opportunities.

According to Rob Reyenga, Director of Program Management at Raytheon Global Training Solutions, the company's primary effort at this time includes continued execution of the milestone Warfighter Field Operations Customer Support (Warfighter FOCUS) program. He noted that, since 2008, the Raytheon-led Warrior Training Alliance has delivered flexible, cost-effective support under Warfighter FOCUS to the US Army, through: government and military training; mission support; intelligence and unmanned aerial systems training; maintenance and logistics; and combat training centers.

"To our knowledge, it's the largest training contract, ever, for the Army," he said. "And it's been extremely successful. Some government estimates of cost savings are literally hundreds of millions of dollars."

"Virtually every US soldier has been trained by or trained with devices that were maintained or provided under Warfighter FOCUS," he continued. "Significantly, in addition to the training of US forces, our nation has used that contract to provide training and training related services to coalition partners."

"We are extremely proud of what we have done under the Warfighter FOCUS contract, but we are also extremely proud of the services that we provided to our Army and other priority work of the nation."

Raytheon is already looking beyond the current contract toward potential future opportunities.

"As successful as Warfighter FOCUS has been, all good things must come to an end," Reyenga said. "And, although the end of the Warfighter FOCUS contract is not imminent, it is approaching the last couple of years of a 10-year contract. And that seems close to the end. A shorter term contract might seem like it's right in the middle, but, given the long term of Warfighter FOCUS, it is really being viewed as coming to an end, and I think that part of the importance being placed on what to do after Warfighter FOCUS in many ways reflects the success of that program."

Reyenga explained that the Army has a "multi-fold strategy" in contracting for the support to replace Warfighter FOCUS.

"The core of the Warfighter FOCUS work is sustainment of the Army's Training, Aids, Devices, Simulators, and Simulations (TADSS)," he said, noting that related future efforts are being directed toward a program designated as the Army TADSS Maintenance Program (ATMP).

"And of course, as with our unmatched experience sustaining Army TADSS we're certainly doing all we can to pursue very competitively that ATMP contract," he offered, adding, "Also, for some of the training services work that's currently being done under Warfighter FOCUS, the Army is putting in place a new contract referred to as the Enterprise Training Services Contract (ETSC).

"Much different than Warfighter FOCUS, ETSC is intended to be a multi-award IDIQ [indefinite delivery / indefinite quantity] contract. ATMP, I think the army has gone with a single award IDIQ contract for that, in large measure, because of the success and cost savings that they realized through Warfighter FOCUS," Reyenga said. "For ETSC though, it's got to be multi-award so after multiple teams win a seat on the contract itself, companies will compete for task order awards."

He characterized related Raytheon activities as "in the midst of putting together the most competitive team possible; the team with the most experience and ability to cover the breadth of projected requirements that the Army may need under ETSC."

Turning to the specifics of the Raytheon booth at I/ITSEC 2016, he summarized, "Much of what you see there will, obviously, highlight the tremendous success of Warfighter FOCUS. And, to the degree that we can, we will offer a little bit of insight into the kind of capabilities we'll bring as solutions for the follow-up efforts."

He continued, "Although we have absolutely unmatched experience, we are not relying solely on that experience. Instead, we're bringing forth all the power that we can; all the innovation; all the insight; from Raytheon as a company to offer the best possible solution to both of these efforts, both ETSC and ATMP. We think that, without a doubt, we are the lowest risk and we are doing everything we can to provide the most competitive price possible for what are really critical requirements of the Army."

One additional element of the Raytheon display is the company's "cyber hardening demonstration," which integrates software, skill sets, product and service solutions in the cyber domain to keep weapon systems and platforms networked and able to operate in compromised environments.

Another Raytheon I/ITSEC display demonstrates motion capture video technology used in a Patriot missile crew training system.

Reyenga concluded,"We are extremely proud of what we've done under Warfighter FOCUS and we are doing everything we can to bring all of the strength of the Raytheon company and the strength of what we believe to be the strongest teammates together to provide even greater capabilities at a very competitive price to future Army training requirements."

THE VALUE OF

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OBW Takes LVC Training to the Next Level

The team behind Operation Blended Warrior (OBW) (Booth 349) has given itself a significant technical challenge due to the complex nature of the event this year.

The organizations involved are nevertheless relishing the chance to publicly demonstrate their training and simulation products and to also use the event as a testbed for newer technologies.

OBW kicked off on the first day of I/ITSEC 2016 with Block I 'Unrest to Upheaval', which saw a US Navy carrier strike group arrive on station, combat air patrols starting to cover deployed Marines, an F/A-18 shot down by a surface-to-air missile and a cyber event.

Dr. Angus McLean, from Rockwell Collins (Booth 2300), who led the vignette creation portion of OBW, said rather than managing the scenario in short segments like they did in 2015, this year the event more closely resembles a rolling exercise.

"We haven't got things divided up like we did last year where it was 30 minute chunks of show pieces. Instead, we are managing this like an entire continuous exercise. So, it's as if it's a four-day exercise and then we are just taking an hour and a half snapshot each day of how it would play out. The context of the simulation is going to stay the same – there's continuity," McLean explained.

"The venders have come in with the capabilities that they'd like to show off and some things that they'd like to test. So, we are providing an experimental capability this year in addition to our show capability."

"For example, Cubic (Booth 1549) is testing a social media monitoring capability that they expect to show off next year. But this year they are using OBW as a context for testing."

While the distributed and continuous nature of OBW can sometimes make it difficult to fully track when new systems are coming online, the use of a mock newsroom at the event's Distributed Training Center (DTC) (Booth 349) provides a good focal point for the audience.

The DTC also controls and coordinates the synthetic battle space; provides role playing, technical oversight; and has the 'God's eye' view.

The DTC's Blue Cell depicts a typical watch team conducting an event and is working from stations equipped with Joint Semi-Automated Forces (JSAF), Command and Control Personal Computer (C2PC), Next Generation Threat System (NGTS) and Excite.

The combined White/Red Cell is equipped with JSAF, NGTS, and for cyber the Network Effects Emulation System (NE2S).

One major highlight of OBW this year takes place on Wednesday when two L-29 jet trainers from the University of Iowa's Operator Performance Laboratory (OPL) will take to the air and be integrated live into the exercise.

Rockwell Collins has worked with the director of the OPL, Dr. Thomas Schnell, to integrate the two aircraft into the exercise in the morning and afternoon, weather permitting.

"We have an active multi-purpose experimental range in Iowa. It's integrated long haul from Iowa to the Rockwell booth, from the Rockwell booth through multilevel security, into a gateway so that it's isolated from the main show floor network, and then into the OBW network. It's a pretty complicated connection to ensure the security, the integrity, and also the reliability of the network,' McLean explained.

"We're going to be streaming video from the cockpit while they're flying live. You'll be able to see them flying just like they were on a test range."

Helping to coordinate OBW this year is Dr. Jim Frey from Aero Simulation, Inc, (Booth 801) who explained to the gathered crowd during Block I that LVC events such as OBW are a perfect opportunity to train in rules of engagement (ROE).

"As the situation escalates, so the force escalates and gets more complicated – a commander has to learn how to make those ROE decisions on the fly," Frey explained.

"Whether you're a Marine Corps captain on the ground controlling movement, or maybe you're a Navy lieutenant in the air flying a helicopter, the ROE is a real time dynamic thing that needs to be trained and learned. You can't actually learn that on the battlespace – you have to learn that in a virtual environment."

For trainees involved in the exercise, Frey noted that the realism brought about by the LVC construct provided a massive training benefit.

"The true actual training happens in what's called the suspension of disbelief. The suspension of disbelief is cognitive saturation. If anybody has flown a flight simulator before, if you get out and you sweat and you stink, it's because you forgot that you were pretending and now you're doing it for real.

"At that point of the suspension of disbelief is where true training happens – and that's the strength of LVC. The live, virtual, constructive environment provides the cognition power or the saturation needed for someone to get into the zone to learn that way."

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ADL Means a Persistent Learning Ecosystem

One of the cutting edge activities entering the spotlight at I/ITSEC 2016 is the Advanced Distributed Learning (ADL) Initiative. ADL is a US government program, reporting to the Deputy Assistant Secretary of Defense for Force Education and Training, under the Office of the Assistant Secretary of Defense for Readiness, that was established to help programs, initiatives, and policies better support flexible, lifelong learning through the use of technology.

Sae Schatz

Sae Schatz, Ph.D., Director of the ADL Initiative, is participating in an I/ITSEC Academic Roundtable later today. She recently sat down with *Show Daily* to talk about the initiative.

"As the name implies, ADL is all about distributed learning," she began. "But what does that really mean? And if you look back at the historic documents that originally stood up ADL back in the 90s, it means some sort of learning – training, education, informal learning or even 'just in time' support – that is delivered through technology and connected through the network in some way."

"Back in the day, that was your old page turner courseware," she said. "And that's still true. But now it's mobile learning. Now, it's eBooks. Even sensors in the environment could be considered part of this."

Schatz said that the current initiative is looking at advancing innovation in distributed learning in six primary areas: e-learning; mobile learning; web / browser based learning; simulations; serious games; and virtual worlds.

One related area of special interest to Schatz involves interoperability infrastructure and the technologies of getting different devices to communicate with each other.

"How do you break down those data silos?," she observed. "Well, we're doing some really exciting work in that area in particular and trying to get disparate devices to communicate."

"If you can create specifications, just like LVC has done, but for all learning systems to be able to exchange data, then you can create a persistent and pervasive learning ecosystem around you," she added.

Distributed learning used to be the idea that you can learn anytime / anywhere," she continued. "Now we want to move to the idea that you can learn and you are learning everytime / everywhere; where learning is integrated across your environment; where you have education and training seamlessly blended together, even blended into operations. It's learning all the time. It's learning everywhere and being able to collect real measurement data throughout."

Schatz identified two things that she hopes to accomplish in her current position as Director of the ADL Initiative.

"One is to build this vision of that persistent learning ecosystem," she said. "I truly believe this is the way that training and education needs to move. You keep hearing me saying the word 'learning,' because I think the distinctions between training, and education, and informal learning, and even performance support in an operational environment, like on the job, are all blending together. I just use the term learning. This, I think, is where we have to go. And this is the talk I'm giving on Wednesday at the academic panel."

She sees five major elements, or "pieces," to the vision: a persistent learning environment; data driven learning; system governance by learning science; a social learning environment; and, organizational learning.

In addition to creating the vision of the persistent learning ecosystem, Schatz said that her "second big goal" is "really embracing and demonstrating a human systems integration approach to doing research and development."

In support of these two goals, she said that the ADL initiative will be conducting its first test and demonstration with Soldiers at Fort Bragg, NC. The demo is currently scheduled for mid-April 2017.

"We are going to have multiple 'activity providers' connected to a backbone. that is the interoperability piece," she explained. "We call it the total learning architecture. Basically we're talking about interoperability specifications. Like HLA [high level architecture], except this is for distributed learning."

Expanding on the HLA analogy, she added, "We are trying to do something similar, not for simulation – although it could be used in simulation – but rather for this kind of larger scale learning ecosystem that's not about people being able to play at the same time together, but rather just making it so that you can plug and play different learning technologies."

"I'm holding up my phone here, because one of those technologies is on a mobile device," she said. "Another one is on an iPad. Several of them are on a traditional computer. We have a serious game. We have a simulation. We have a traditional learning management system. We have a smart eBook called an actionable data book, which is basically an ePub on steroids. We have a GIFT tutoring system."

"So we have all these things made by different companies," she added. "This is the whole thing, made by different companies. They just put these application programming interfaces in just like you would with something like HLA. Then it allows their systems to exchange information about the content, about the student performance in the system."

She outlined a resulting system that could "tell" a particular Soldier,

"Hey, you took a concept map assessment – which is one of the things in the demonstration - 'and you know what? You didn't do so well. Maybe you should go read this eBook over here to learn the basics.' Then perhaps someone else is told, 'Hey, you did fantastically on that assessment. Why don't you go and try the simulation over here?'"

"The system is able to recommend to you the course of action that you need so that you can get the most efficient, most effective learning," she said. "And we will be tracking all that data."

Approximately 10 hours of content will be included in the first demonstration, although Schatz indicated that the content would be different for each person "based upon their knowledge levels."

"We're doing cyber security as the content, so it's really exciting for everybody," she said. "These are not cyber security officers, so it's entry level stuff. But everybody needs cyber so it's great."

She asserted that one of the many "really cool things" about the demonstration is that it is really tested at this point.

"We're really testing it, even though it's in the early days," she enthused. "It's not even a bet – it's really, really early. It's okay. That's good. This is design-based research. This is, 'You put the idea out there.' Some parts of it are not going to work right. You try it out. You figure out what works and what doesn't work. Next year you do it better. You refine those pieces."

In her presentation this afternoon to the I/ITSEC Academic Roundtable, Schatz will say that her primary message for the assembled university representatives will involve the future learning ecosystem.

"I think that it's absolutely critical that this is not 'siloed' just within the Department of Defense," she said. "For this to work, it really needs to extend across somebody's life. And if you think about some of the things that have been coming out about forces in the future, one area involves the idea that we have to have greater permeability between defense and other government organizations; between active and reserve; even between defense and regular private sector colleges. We need to all be talking. It needs to be interoperable, because a warfighter's life doesn't begin when he or she enters the military, and it doesn't end when he or she separates."

She continued, "You can imagine a world where you have this electronic learning profile. Similar to your electronic health record, and it travels with you. You can take that to the university, and they can learn what you've done in DoD. Again with the safety, and security, and privacy in place, but to the extent that you allow. They can learn what you've done, and that can inform whatever degrees that you get and vice versa. The classes you take at the university can feed into it."

In addition to those types of "usage benefits" that could result from greater cooperation, Schatz pointed to the developmental reality that the DoD simply can't do it alone.

"There are a lot of moving parts to make this work," she asserted. "We have to reach out and pull in all the great smarts and things that have been going on in the university community. My big message is that this is a big idea. It's going to benefit all of us when it is successful."

Acknowledging the likely need to negotiate some aspects of the strategic vision, she concluded, "If we can all point to the same strategic vision and be working toward the same goal then I think that we'll be able to get there much more effectively and much more efficiently. The end result is that we will all be able to use and benefit from the ultimate future learning ecosystem."

Serious Games

The Serious Games Showcase & Challenge (SGS&C) has grown to be one of the main attractions at each year's I/ITSEC, and plays a critical role in helping to generate interest in the use of digital games and game technology for training and education.

While the definition of a "serious game" varies among different communities and different parts of the world, each qualifying SGS&C serious game must have clearly defined, measurable learning objectives; provide players with a clearly identified challenge/problem; and make use of game play dynamics and/or gaming technology.

The SGS&C team is very appreciative of this year's sponsors: Bohemia Interactive Simulations; Engineering and Computer Simulations, Inc.; Antlion Audio; BreakAway Games; Plas.md; Virtual Heroes Division of ARA Inc.; Newport News Shipbuilding; HP; and Box.com.

Be sure to visit the SGS&C booth 2781 before Wednesday at 1800 to check out the games and cast your vote for this year's People's Choice Award.

Award winners will be announced on **Thursday Dec. 1 at 1300 in Warfighters Corner**.

GOVERNMENT FINALISTS

A Fine Line
Carnegie Mellon Entertainment Technology Center

Bots & (Main)Frames
New York University Tandon School of Engineering

Limbitless Training Games
University of Central Florida

Musikinésia
Federal University of Sao Carlos

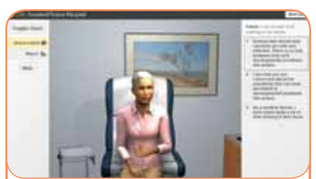
Project Zap
Orange Technical College, Mid-Florida Campus

Robonaut by Fullsail and UCF School of Visual Arts and Design

STUDENT FINALISTS

Crime Scene Investigation (CSI)
Dubai Police

U.S. Army Stars
Elements Army Game Studio, Software Engineering Directorate



USC Standard Patient
U.S. Army Research Laboratory developed by USC Institute for Creative Technologies & BreakAway Games

BUSINESS FINALISTS

ADAPT-MP
Design Interactive, Inc.

Cognify
Revelian

Evergreen
Siege Sloth Games

FRS Virtual Team
Florida Hospital Nicholson Center

Vote Now!
Visit the SGS&C booth 2781 before Wednesday at 1800 to vote for this year's People's Choice Award.

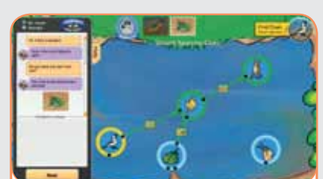
NBCOT Navigator
National Board for Certification in Occupational Therapy and BreakAway Games

Night of the Living Debt
Learning Games at New Mexico State University

Pediatric Vital Signs
Children's Hospital Los Angeles, USC Keck Medicine, and BreakAway Games

Post Attack Reconnaissance (PAR)
Virtual Training Mode
ARA Virtual Heroes

Sales Command
Deloitte Center for Immersive Learning



SimScientists Food Web Game
WestEd and Intelligent Automation, Inc.

Vetor
Supernova Games

NEWS IN BRIEF

Medical Training Solutions from Pulau

Pulau Corporation (Booth 860) is showcasing its Pulau Medical Training Solutions (PMTS) at I/ITSEC 2016. The patient simulators and battlefield effects technology allow learners to practice dangerous scenarios in a controlled, safe environment and ultimately demonstrate the skill proficiency required for improved patient outcomes.

PMTS civilian emergency medical responder and combat medic education and training programs simulate emergency environments, use evidence-based instructional design methodologies, and integrate best practices and performance metrics, plus after action reviews.

The PMTS program of instruction is built on the training standards and principles of the American Heart Association, the National Association of Emergency Medical Technicians, the National Registry of Emergency Medical Technicians, the US Army Medical Department and the US Department of Health and Human Services. Pulau's medical team customized a cost-efficient, customer-identified specific program which provides an up to date curriculum including first aid and other medical standards, high-tech virtual patient simulators, experienced certified instructors and environmental disaster special effects.

NCS Takes M&S Certification Nationwide for STEM Students

Interest and competency in STEM prepares students for high paying, exciting modeling and simulation careers in many diverse fields. Student interns who are M&S certified are high performers who are better prepared and more qualified as candidates for full-time employment in the M&S industry. They also require less entry-level training, improving overall productivity with the potential benefit of remaining with the organization for a longer period of time.

"The National Center for Simulation (NCS) M&S Certification Program can be a key to an exciting future for students," said Hank Okraski, SES (Ret.), P.E., CMSP Chair, NCS Education & Workforce Development Committee. "It is an industry-accredited certification that was originally aligned with the State of Florida framework and standards, but is now available to high school and technical school students nationwide."

NEWS IN BRIEF

TRU simulators for Finland's Coptersafety

TRU Simulation + Training Inc. (Booth 1301) a Textron Inc. company, has announced its signing of agreements to provide five Level D full flight simulators for various rotorcraft aircraft models to Coptersafety – an independent helicopter flight training service provider based in Helsinki, Finland. The high-fidelity simulators will represent Airbus Helicopters H125 and H145 and AgustaWestland AW139, AW169 and AW189 and all will be dually EASA and FAA certified. The installation will begin in mid-2017 at Coptersafety's new state-of-the-art flight training center, adjacent to the current training center in Helsinki. The first device is expected to be ready for customer training in late 2017, while the last device is planned to be ready by late 2018.

Built upon TRU's industry-leading ODYSSEY HTM Roll-On/Roll-Off platform, the simulators will employ a 240 x 80 degree standard visual field of view. The simulators will also be reconfigurable to accommodate various types of mission training. Additionally, the devices will come equipped with Rockwell Collins EP-8100 image generation systems in order to provide a totally immersive and most realistic training experience with technologies previously used in military helicopter applications, such as the new Whole Earth world model and laser-illuminated ultra-high-definition 4K projectors.

"The ODYSSEY H platform is designed specifically for rotorcraft training – with a focus on key characteristics that maximize visual and motion cues," said Troy Fey, TRU's Vice President of Technology. "By combining a wide 240 x 80 degree field of view and ultra-high visual resolution with an added secondary six-degree freedom of motion system that complements the primary 62.5-inch motion system, we have provided a totally immersive and unique training experience that is necessary for rotorcraft pilot mission training."

Ternion releases FLAMES 15.0

Ternion Corporation (Booth 873) has announced the release of FLAMES, version 15.0, which company representatives credit with "well over 100 changes and enhancements that make FLAMES-based applications even more powerful and easy to use."

In terms of user interface enhancements, they identify "several miscellaneous enhancements made to the user interface of FORGE and FLASH." Examples include: The currently-selected Unit is highlighted in yellow in the 2D View; Button added to the FORGE Status window that opens the entity editing window for the entity that generated the selected configuration error or warning message; Filter field has been added to entity selector windows that lets the user filter the list of entities to include only those with a name that begins with the characters entered; and The 2D View preferences now support scaling 2D icons.

Other enhancement areas in version 15.0 include Command Editing, Unit Commander Enhancements; Unit Controller Enhancements; User Monitor Enhancements; Support for International Dates; Context Sensitive Help, FLARE Enhancements, Command and Pattern Input Enhancements, and enhancements to Jewel, the FLAMES graphic user interface subsystem.

Barco introduces new projector family

Barco (Booth 1563) has announced the introduction of its F70 series laser phosphor projector for simulation. Company representatives claim that the 4K UHD resolution, higher brightness, longer lifetime and dedicated design features make the F70 family of simulation projectors "the most advanced on the market today."

They add that the entire projector is encased in "protective metal," making the F70 "robust enough to withstand the harsh conditions of motion platforms." Additionally, they point to 24/7 operational advantages of a system with a lifetime of up to 60,000 hours (depending on the mode of operation).

According to a company release, "With the Constant Light Output (CLO) functionality, the projector produces constant brightness and color over an extended period of time. And thanks to Barco's unique and proprietary Single Step Processing technology, all image processing for 4K UHD – including warp, blend, gamma and color – is calculated in a single operation. Performing this procedure in just a single step produces a much higher overall image quality, with a sharper image and fewer artifacts and less latency."

Additional cited benefits are derived from brightness and clarity enhancements in the new projector.

3D Perception delivers visual dome display system

3D Perception (Booth 867) has announced the signing of a contract to deliver a Northstar immersive visual display system (VDS) for Lockheed Martin Corporation in support of the United Kingdom's Military Flying Training System (UKMFTS) Fixed Wing program. The VDS will support a Beechcraft T-6C Flight Training Device (FTD) and will be delivered, ready for training, in 2018 to RAF Valley, Wales.

The simulator will feature 3D Perception's Northstar VDS with an immersive 270-degree horizontal by 120-degree vertical field-of-view screen, which can fit within a 20x20 foot floor space. The design features an extremely high-resolution pilot's view. The display system's projectors are automatically aligned, blended and color calibrated via Northstar's sensors embedded in the 18-foot diameter dome screen, expediting and simplifying maintenance procedures and producing a completely seamless image.

The Lockheed Martin T-6C FTD will feature a high-fidelity cockpit and incorporate the fidelity and performance of a full-flight simulator without the full motion.

WARFIGHTERS CORNER: From the Tip of the Spear

As combat operations in the Middle East diminish, America's warfighters are still expected to perform around the globe without hesitation. In recognition of their service, Warfighters Corner (Booth 2081) provides an opportunity to meet and hear from war fighters across the Services about their personal experiences on recent deployments to better understand the impact that training systems and education had on their recent job performance.

Both Warfighters Corner sessions will include representatives from each of the Services. The presenters will discuss operations and provide insights into the role of Allies, international organizations and private organizations in theater. These Soldiers, Sailors, Airmen, and Marines derive great benefit from I/ITSEC and the organizations and industries that support the conference. Many of the speakers have served multiple tours and will be sharing their stories; their personal experiences; and their views of what was or was not effective in terms of the training they received prior to deployment

The stories told during these 90-minute panels help bring realism to the fascinating and innovative training products highlighted on the I/ITSEC floor and highlight this year's theme, "Pushing the Training Envelope".

The speakers at today's session from 1030-1200 are:

US Army Major Steven L. Chadwick is an Armor officer commissioned out of the Army Reserve Officer Training Corps program at the University of Tampa. His assignment history includes command and staff positions in light cavalry and armor formations. Key staff positions include Deputy Chief of Plans for the 1st Infantry Division during their deployment in support of Operation Key Resolve, S3/Operations Officer for 3-66 AR as well. He served as the aide-de-camp to the Director of Joint Improvised-Threat Defeat Organization. MAJ Chadwick commanded A Troop and later the Headquarters and Headquarters Troop in the 1st Squadron 89th Cavalry Regiment, 2nd Infantry Brigade Combat Team, 10th Mountain Division and is currently serving as the Brigade Operations Officer, 1st Armored Brigade Combat Team, 1st Infantry Division.

His deployment history includes three deployments to Iraq in support of Operation Iraqi Freedom, one deployment in support of Operation Inherent Resolve, and Korea. MAJ Chadwick holds degrees from the University of Tampa, Kansas State University, and the Command and General Staff College.

US Marine Corps Lieutenant Colonel Marcus Mainz is the Commanding Officer for 2nd Battalion, 6th Marine Regiment in Camp Lejeune, NC.

LtCol Marcus Mainz has deployed in support of Operation Iraqi Freedom, and Operation Oaken Lotus. He has served in positions of increasing responsibility as: Platoon Commander for Company G, and Combined Anti-Armor Platoon, Weapons Company for the 2nd Battalion, 7th Marines; Warfighting Instructor, Staff Platoon Commander, and instructor for the Infantry Officer Course at The Basic School; Company Commander for Company L, 3rd Battalion, 7th Marines; Battalion Operations Officer while deployed to Ar Ramadi, Iraq; primary instructor for the Marine Corps Planning Process and Critical Thinking at the Expeditionary Warfare School; II Marine Expeditionary Force G-3 Future Operations (FOPS) planner, and 2nd Marine Expeditionary Brigade G-3 FOPS planner. In June 2016, LtCol Mainz assumed command of 2nd Battalion, 6th Marines.

US Navy Commander Gilbert 'GG' Gay, a native of Homestead, FL, graduated from the University of Memphis with a degree in Engineering Technology in 1997 and earned his Naval Aviator Wings in June 2000.

CDR Gay is a maritime patrol pilot and completed tours in two fleet squadrons, the VP-45 Pelicans and VP-5 Mad Foxes, as well as a disassociated sea tour as a Catapult and Arresting Gear Officer on the USS Harry S. Truman. He also completed tours as an operational planner at FOURTH Fleet in Mayport, FL and FIFTH Fleet in Manama, Bahrain. CDR Gay has completed deployments to Iceland, Puerto Rico, Italy, Japan and the Arabian Gulf. He is a 2010 graduate of the Maritime Advanced Warfighting School with advanced level instruction in operational planning.

US Air Force Lieutenant Colonel Alex 'Hazard' Heyman is Director of Operations, 9th Air Support Operations Squadron, Fort Hood, TX. In this role, he ensures the training and readiness of over 100 Tactical Air Control Party Officers and enlisted Airmen, providing combat-ready Air Liaison Officers and Joint Terminal Attack Controllers in support of four geographic Combatant Commanders. He has previously served as an Instructor Pilot at Undergraduate Pilot Training, Mission Commander in the F-16, and Deputy Director of the Afghanistan Air Support Operations Center. He has extensive experience with simulators to include those used at *Undergraduate Pilot Training*, F-16, MQ-1, Air Support Operations Center, and Air Support Operations Squadron.

Lt Col Heyman is a Senior Pilot with over 2,400 hours in the F-16, T-37, T-6, and T-38 aircraft and is a veteran of Operations Noble Eagle and Enduring Freedom. He served as Director of Operations, 717th Expeditionary Air Support Operations Squadron and Deputy Director, Air Support Operations Center – Afghanistan, International Security Assistance Force Joint Command, Kabul-Area International Airport. During this deployment, he led a team of 24 personnel to provide persistent country-wide command and control of all theater close air support aircraft, representing eight different nations and flying from 12 different bases. His team coordinated the reassignment of allocated aircraft in support of more than 100,000 US and Coalition ground forces, providing country-wide coverage of priority missions and troops-in-contact situations through the busy summer fighting season. Their efforts culminated in the successful execution of Afghanistan's Parliamentary election in which International Security Assistance Force experienced zero casualties over a 36-hour period of record enemy activity.

Special Operations Training a Passion for VATC

US Air Force Special Operations CV-22 Ospreys during Southern Strike 17, November 2, 2016

Visual Awareness Technologies and Consulting, Inc. (VATC) (Booth 2348) has come to I/ITSEC 2016 with its new EPIC Ready product, a cloud-based or appliance-delivered platform that creates fully integrated training experiences.

VATC, a woman-owned small business, has been providing live, virtual, constructive training environments to US Special Operations Command (USSOCOM), conventional forces, and partner nations since 2003 and is currently located at 36 client sites around the world.

"For a small business we have relatively large reach," said Shands Pickett, VATC Vice President of Applied Research and Technology. "But what's really unique about us is that we are predominantly comprised of retired veterans, many with special operations backgrounds."

Acknowledging that there are other small businesses similarly supported by retired veterans, Pickett said that VATC uniqueness includes "taking engineering talent and combining it with warfighter expertise and lessons learned from the field to try to develop new tools that address government requirements in unique and interesting ways.

"Those ways may not have been considered by some of those other companies who may not have that tactical level warfighting experience," he added.

Pickett said that the company works across the USSOCOM components, including Air Force Special Operations Command, Naval Special Warfare, Marine Corps Special Operations Command, US Army Special Operations Command and others.

Across that portfolio, VATC has recently supported exercises and training events like Emerald Warrior, Jade Helm, the Raven exercise series, and the Southern Strike Air National Guard exercise.

"This is our first time bringing a product to I/ITSEC," he offered. "We've been here before but this is the first time we are presenting. And that's the key part of why we are here.

"We have taken lessons learned across the various USSOCOM components that we touch and we have tried to create a product that addresses training requirements in unique ways. We developed EPIC Ready - a product that is a federated tool that works across government systems. We're not trying to reinvent the wheel. But we are trying to fill in gaps that we see as issues," he said.

Pickett said that one of the big gaps involves "tracking training metrics over time. One of the big questions we are trying to answer is: 'What is readiness?'"

VT MÄK Gets Ahead of the Game

VT MÄK (Booth 1048) has already secured four customers for its new VR-Engage multirole virtual simulator after publicly launching the product at I/ITSEC 2016.

Pulling together a bundle of the company's existing products, VR-Engage lets users play the role of a first person character: a dismounted soldier; a vehicle driver, gunner or commander; or the pilot of a fixed wing aircraft or helicopter.

Dan Brockway, VT MÄK's Vice President of Marketing, said the company had often presented full simulations to demonstrate the capabilities of its products, which had always proven popular.

"We are demonstrating this technology to show customers what they can build using our products," Brockway explained.

"We have always worked with the systems integrators and people who build simulators. Now we've pulled together all of our products in a full first person simulation as a stand-alone product. It's ideally designed as a role player station to augment a full mission simulator."

VR-Engage gets its simulation engine from VR-Forces, its "game-quality" 3D graphics from VR-Vantage, and its network interoperability from VR-Link.

The system employs RTDynamics (Booth 1913) for the air vehicle physics and Vortex Studio Essentials from CM Labs Simulations (Booth 2270) to power the vehicle simulation.

VR-Engage users will also be able to download the free Vortex Studio Essentials edition to create their own vehicle and equipment simulations for deployment in VR-Engage, or to edit the existing vehicle simulation content.

As well as ground, rotary and fixed-wing vehicles, the system includes a full library of friendly, hostile, and neutral characters from the company's DI-Guy human simulation software.

Sensors, weapons, countermeasures, and behavior models are included for air-to-air, air-to-ground, on-the-ground, and person-to-person engagements. The simulation also features realistic vehicle and person-specific

interactions with the environment, such as the ability to open and close doors, and move and destroy elements.

Characters are controlled using the keyboard, mouse, and game controllers while the graphic user interface provides command menus and cockpit and crew cabin displays.

Meanwhile, VT MÄK is playing a key role in Operation Blended Warrior (OBW) during I/ITSEC 2016. Fifteen companies are using the company's VR-Exchange universal translator for distributed simulations to plug into the OBW network.

In addition, VR-Forces is being employed to generate maritime traffic, such as commercial shipping, during the exercise as well as an MQ-8C Fire Scout UAV and several Coast Guard vessels.

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