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NOVEMBER 2015

I/ITSEC Preview Issue

A Special Edition of the **nasa** Newsletter

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I/ITSEC 2015

The World's Largest Modeling, Simulation & Training Conference

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Visit L-3 Link at I/ITSEC in Booth 1449.

Link Simulation & Training

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Rockwell Collins' Joint Secure Air Combat Training System

(JSAS) – Certified, in production and ready to accelerate TCTS

Inc II

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Upcoming Events

[I/ITSEC 2015](#)

November 30 - December 4, 2015
Orange County Convention Center
Orlando, FL

[2016 M&S Leadership Summit](#)

February 9, 2016
Chesapeake, VA

[2016 NMSC National Meeting](#)

February 10, 2016
Chesapeake, VA

[MODSIM World 2016](#)

April 26-28, 2016
Virginia Beach, VA

[Simulation & Training Community Forum \(STCF\) - TENTATIVE](#)

May 10, 2016
Dayton, OH

[ITEC 2016](#)

YouTube - I/ITSEC 2015 Trailer Video



May 17-19, 2016
ExCel
London, UK

[TSIS \(Training and Simulation Industry Symposium\) 2016](#)
June 15-16, 2016
Orlando, FL

HEADLINES FROM THE MODELING, SIMULATION & TRAINING INDUSTRY

In Memory of **CAPT Nelson P. Jackson, USN (Ret)** [Read More](#)

Forbes and Scott Offer Amendment to Highway Bill to Highlight Importance of Modeling and Simulation Technology in Transportation Projects [Read More](#)

ITSA News

Registration is now open for **ITEC 2016** [Read More](#)

ETSA Pre-IITSEC Newsletter [Read More](#)

MIMOS Update - November 2015 News / Save the Dates for 2016 [Read More](#)

NTSA Member News

L-3 Link Opens C-17 Training System Operation at Martinsburg ANGB [Read More](#)

Saab Sells Live Training Systems to Austrian Army [Read More](#)

Cubic Wins Air Combat Training System Contract [Read More](#)

Boeing Completes Major Upgrade to Air Force F-22 Simulators [Read More](#)

Lockheed Martin Introduces Enhanced Precision in Virtual Training [Read More](#)

Bohemia Interactive Simulations Awarded US Marine Corps Contract [Read More](#)

Fidelity Technologies Wins Contract for PC-12NG Training Devices [Read More](#)

Lockheed Martin Receives Regulatory Approval to Close Sikorsky Acquisition [Read More](#)

Thales Wins French Navy Simulator Support Contract [Read More](#)

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To learn more about the requirements, the CMSP exam, and the applications process, please visit

WWW.SIMPROFESSIONAL.ORG

Headlines from the Interservice/Industry Training, Simulation & Education Conference (I/ITSEC)

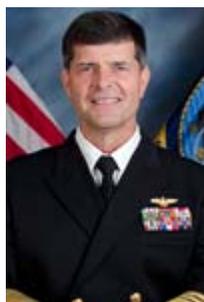
Chief of Naval Operations, Chief of Naval Personnel and Commandant of the Marine Corps to speak at I/ITSEC 2015

The following individuals have confirmed to speak at I/ITSEC 2015:

- **Admiral John M. Richardson, USN, Chief of Naval Operations** will deliver the Service Keynote Address during the Opening Ceremonies at 0830 on Tuesday, 1 December.
- **Vice Admiral Bill Moran, USN, Chief of Naval Personnel**, will participate in the General/Flag Officer Panel on Tuesday, 1 December. **Admiral Moran** will also moderate the ***“Forging the Future of Navy Training (Training Innovation: Key to Maritime Strategy)”*** special event at 1400 on Tuesday, 1 December.
- **General Robert B. Neller, USMC, 37th Commandant of the Marine Corps**, will provide the Session Keynote for the ***“Forging the Future of Marine Corps Training Through Innovation: Preparing for the Future Naval Campaign”*** special event at 0830 on Wednesday, 2 December.



Admiral John M.
Richardson, USN



Vice Admiral Bill
Moran, USN



General Robert B.
Neller, USMC

For more information on these and other speakers and special events, view the detailed program agenda at <http://www.iitsec.org/attendees/Pages/Brochures.aspx>

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Navy and Marine Corps Proud and Excited to be the Lead Services for I/ITSEC 2015



Col Walter Yates, USMC



CAPT Wes Naylor, USN

On behalf of the professionals at NAWCTSD and MARSYSCOM, the Navy and Marine Corps are proud and excited to be the lead services for I/ITSEC 2015! As a team, we are even more proud to support our nation's warfighters, who volunteer to go into harm's way in defense of our way of life if necessary. I say this because what we do makes a difference. Effective training saves lives, saves taxpayer dollars, and gives our warfighters the advantage over potential adversaries.

During peacetime and times of conflict, the Navy and Marine Corps team provides a persistent and reliable presence around world. Our forward deployed, globally engaged sea services, are truly the Nation's first line of defense against those who would do us harm. At any given time, our Sailors and Marines are ready to respond to virtually any corner of the globe with very short notice. That continuous deployment of naval forces requires extremely well-trained forces whose forward presence guarantees our freedom at home. We are proud to provide the finest possible training solutions for those who serve.

With the Chief of Naval Operations, Adm. John M. Richardson, and the Commandant of the Marine Corps, Gen. Robert B. Neller, scheduled to be among the many flag and general officers expected to participate in I/ITSEC this year, there is very little doubt that simulation-based training is important to the success of our armed forces.

This year's I/ITSEC conference theme "Forging the Future through Innovation" is more than just words, it is what we do every day. At this year's conference, the Navy is proud to demonstrate some of our training innovations that will prepare our forces today and into the future.

One special event that I am looking forward to is a multi-year Live-Virtual-Constructive (LVC) program, called "Operation Blended Warrior", in which Navy, Air Force, Marines and members of industry will join forces to showcase LVC capabilities. Operation Blended Warrior will not only demonstrate the current state of LVC capabilities, but serve to establish standards for future LVC training development. This effort will better enable future LVC innovations by having the military services and industry all working towards the same technical standards. I encourage you to witness this groundbreaking innovation in action at the Operation Blended Warrior exhibit (Booth 339), and throughout the showroom floor.

This year, the Navy is making significant strides toward implementing Ready, Relevant Learning programs in support of the service's Sailor 2025 vision. In our service booth, Booth 1439, we demonstrate systems that take full advantage of mobile technologies that today's generation of Sailors expect to be part of their training solution set. The e-Sailor Mobile exhibit highlights the

role mobile apps can play in delivering training to Sailors from the day they sign up through the Delayed Entry Program until the day they transition out of a naval career. Another new exhibit this year is an e-Sailor Augmented Reality (AR) app called "HindSight." This technology platform enables relevant, real-time, dynamic information to be displayed in real world environments to guide and train Sailors.

The Navy continues to find new applications for its ground-breaking Multi-Reconfigurable Training System (MRTS) 3D™. This year we will demonstrate two new iterations that support both undersea and aviation training requirements. With relatively low cost, intuitive interface, and flexible software, MRTS 3D™ system truly demonstrates the value of innovative thinking that we value in the Navy today.

There will be many more examples of innovative training solutions on display across the floor at I/ITSEC. These displays offer just a sample of what we are doing to better train our Sailors and Marines for success across all warfighting domains.

From improving upon traditional training methods, to delivering training to our warfighters in ways never before imagined, we, the proud members of the military modeling and simulation team, truly are "Forging the Future through Innovation." I look forward to seeing you at I/ITSEC this year.

CAPT Wes Naylor, USN, Commanding Officer, Naval Air Warfare Center Training Systems Division

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Message from the I/ITSEC 2015 Conference Chair



Mr. Brent Smith
Engineering & Computer Simulations, Inc.
(ECS)
I/ITSEC 2015 Conference Chair

One of the most rewarding endeavors I've undertaken in my career is working as the 2015 Conference Chair for I/ITSEC. Over the past year, I've witnessed a team of volunteers that are unparalleled in their expertise, their sense of duty, and their ability to collaborate together to bring you one of the best conferences I could have imagined. The 2015 leadership team has instilled a spark into this year's conference that will be reflected in the quality of our papers, tutorials, and special events across the entire week. These proceedings provide a foundation for the technical interchange that occurs between Industry, Academia, Government, and our International partners.

As the conference chair, I want to do everything in my power to ensure that this year's conference will be a memorable one. This year is packed with content and I encourage you to download our mobile app and program guide from the www.iitsec.org website to start planning which activities you want to attend. From a military

perspective, we have more flag level officers presenting their vision for the future of training and education than I can ever remember in previous year's. Industry and academia are also on top of their game with numerous events and activities that showcase the latest tools, technologies, and research our industry relies on to do our jobs better, faster, and more cost effectively. Our International participation is also at an all-time high with numerous events designed to open up dialogue and engage our attendees with their day to day challenges of the global M&S community.

To this end, we have many paper sessions and events that provide a glimpse of what the M&S industry will look like in the future as new tools, technologies, and methodologies are developed. In many instances, these technologies are disruptive and foundational in their nature and have the potential to change the face of our industry. This is important because everyone who attends I/ITSEC is there to learn. It is this spirit of continuous learning that keeps I/ITSEC at the forefront of the training, simulation, and education industry. This can be illustrated by visiting numerous areas within the conference such as the Future Leaders and STEM Pavilion where students are demonstrating technical projects to support our industry, the Innovation Showcase where new ideas and concepts are presented by industry and academia, or the Warfighters Corner where we have an opportunity to dialogue with the end users of our collective efforts.

The I/ITSEC planning committee is constantly looking to refresh the conference to provide optimal benefits to each attendee. This year, every paper presented at the conference is eligible for CEU/CLP credits to help our attendees meet continuing education requirements for their respective fields. We've also extended the conference by a day to incorporate Professional Development workshops on Friday to provide a more in-depth look at topics that you, the attendees have asked for. The spirit of this year's theme, "*Forging the Future Through Innovation*", has been a guiding principle through the year, but has also been prevalent through the conference's history. In case you didn't know, this year, the Serious Games Showcase & Challenge will be celebrating its 10th anniversary. We're going to celebrate with a special event that provides a retrospective of how this capability has evolved.

Most importantly, I/ITSEC is about building relationships. Beyond the paper sessions, special events, and exhibits, there are numerous opportunities to network with, and learn about potential customers, strategic partners, or technology/tools providers. These relationships often transcend into lifelong friendships built around the common goal of training and educating our warfighters. However, as I/ITSEC evolves, we're bringing new industries into the mix and this year is no exception. This year, we have attendees from energy, transportation, manufacturing, and numerous fortune 500 companies that are constantly looking to improve workplace performance through training, simulation and education products that our industry can provide.

I hope to see you all in just a few weeks. Also, if you have ideas

for what you would like to see at I/ITSEC, please don't hesitate to get in touch to let us know. All options are on the table because in the end, this is your conference and is made possible by your peers who volunteer their time to make it a reality year after year. Thanks to all who are involved in making this possible.

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Message from the I/ITSEC 2015 Program Chair



Mr. Dave Hutchings
Raydon Corporation
I/ITSEC 2015 Program Chair

With just a few weeks remaining before I/ITSEC 2015, it's time to complete your plans to take advantage of the many new Events throughout the week. The volunteer members of our six subcommittees, the Tutorial Board and the

Conference Committee have spent this year finding the best technical papers (150), tutorials (21), educationally-focused special events (12), and a range of special programs including the inaugural "Operation Blended Warrior" multi-year Special Event which will highlight readiness through LVC. As a result, I am certain you will find the 2015 Program to be rich, diverse, and highly relevant. All Monday tutorials, Friday professional development workshops, and for the first time, all paper sessions are available for continuing education units and continuous learning credits.

Some of our key events include:

- **On the Exhibit Floor throughout the week: LVC Operation Blended Warrior (OBW)** with over 30 government and industry organizations joining forces to create an LVC environment.
- **International Programs.** Outreach Event, One-on-One appointment opportunities
- **Monday: Small Business and the Government.** an SES presented event in the Warfighters Corner
- **Tuesday Service Keynote:** Admiral John Richardson, Chief of Naval Operations
- **Wednesday Session Keynote:** General Robert Neller, 37th Commandant of the Marine Corps
- **Wednesday Community of Interest: Energy Roundtable.** New event to demonstrate and discuss training and simulation requirements in the Energy Sector
- Record number of **General/Flag/SES Officer Events and participants** (Navy Panel, USMC Panel, F-35 Multi-service, OSD Small Business)
- Large number of Visitors from the **Army Acquisition community**
- **Black Swan Sessions.** What are they? How to Prepare, Train and Equip for Black Swans

Finally, I want to express my sincere thanks and appreciation to

our dedicated volunteers and their sponsors. Their commitment and support has made I/ITSEC 2015 a reality and ensured this Conference remains the premier professional development event across the globe for the training and simulation professional.

I look forward to seeing you at I/ITSEC 2015! Forging the Future through Innovation.

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I/ITSEC Mobile Planning Guide / Social Media

The I/ITSEC 2015 mobile app is now available. You can use the mobile app to:

- Search for Exhibitors, read the company descriptions, and request meetings.
- Locate the booths of your favorite exhibitors on the Interactive Floor Plan, and download your personalized walking map.
- Store your meeting notes and networking contacts' info and email them to yourself or colleagues.
- Review the Conference Sessions, search for sessions, read the descriptions, and save your favorites.
- Plan your itinerary and view your saved exhibitors and sessions. Sync with the website in real-time.
- View buzz alerts: Tune into exclusive updates and notifications from the event management team.

The I/ITSEC 2015 mobile app can be downloaded here:

[Apple](#), [Android](#), [ChirpE Web](#).

Social Media

Be sure to also follow I/ITSEC on

Facebook - <https://www.facebook.com/IITSEC>

and

Twitter - <https://twitter.com/iitsec> for all the latest on I/ITSEC 2015!

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Special Events at I/ITSEC 2015

There are numerous noteworthy events at I/ITSEC 2015. Here are just a few highlights, for your reference:

- **Congressional Modeling & Simulation Event** – Monday 30 November, 1030-1200
- **DoD Small Business Programs** – Monday 30 November, 1530-1700
- **I/ITSEC Opening Ceremonies with Keynote Addresses and General/Flag Officer Panel** – Tuesday 1 December, 0830-1200
- **Forging the Future of Navy Training (Training Innovation: Key to Maritime Strategy)** – Tuesday 1

December, 1400-1530

- **Forging the Future of Marine Corps Training Through Innovation: Preparing for the Future Naval Campaign** – Wednesday 2 December, 0830-1000
- **Training the Cyber Warrior: A Learner-Centric Model (Cyber is THE domain and WE are at Risk!)** - Wednesday 2 December, 1030-1200
- **F-35 Lightning II** – Live, Virtual, Constructive (LVC) - Wednesday 2 December, 1400-1530
- **Fellows Program: Duncan (Duke) Miller, Ph.D., "SIMNET and Beyond: A History of the Development of Distributed Simulation"** - Wednesday 2 December, 1600-1730
- **Warfighters Corner** (From the Tip of the Spear: Joint Warfighter Panels)
 - Tuesday 1530-1700
 - Wednesday 1030 – 1200
 - Thursday 1030-1200
- **Black Swan – Setting the Stage** – Thursday 3 December, 0830-1000
- **Black Swan - Training Adaptive Leaders for a Black Swan World (Thriving in Uncertainty)** - Thursday 3 December, 1030-1200
- **Operation Blended Warrior (OBW)** – All Four Days (See Schedule Below)

For complete details on these and other special events, please visit [here](#).

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Operation Blended Warrior (OBW) at IITSEC 2015

Operation Blended Warrior
(Addressing 23 Years of LVC Status Quo)

Readiness Through LVC

Monday "Disaster Strikes"	1430-1600
Tuesday "Immediate Response"	1530-1700
Wednesday "Countering Exploitation"	1030-1200
Wednesday "Securing the Skies"	1600-1730
Thursday "Overmatch: Forward from the Sea"	1030-1200

In this Live-Virtual-Constructive (LVC) Special Event, industry members and government organizations are joining forces to create an LVC environment for the purpose of: 1) showcasing their capabilities, and 2) collecting data on challenges encountered during their efforts. The relative effort to establish an LVC event versus the benefit of, or the effort to conduct the LVC event is out of kilter; the former takes considerably more time and effort, and too little is being done to address this discrepancy.

This year, Operation Blended Warrior will provide attendees with glimpses of the state of LVC capabilities constrained to I/ITSEC confines, as well as insights into the number, degree and priority of challenges encountered. This year's concentration is on standards, after action review, and traditional LVC and cyber-contested environments using a Black Swan (humanitarian assistance) event as a backdrop. In future years, additional complexities and concentrations will be added to the event construct — both to showcase additional capabilities, and to tease out additional challenges that need to be addressed.

By working together, NTSA, Industry and Government Personnel believe solutions can be found to improve the creation and execution of LVC events.

For complete details, please visit Booth 339 and click below to see the full [OBW playbook](#).

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Black Swan at I/ITSEC 2015



What is a Black Swan?

A Black Swan event refers to a high impact/low probability event. It is an occurrence that is very difficult to predict, and carries a massive impact. Throughout history, these events, both good and bad, have had a substantial impact on individual organizations, entire industries, nations, or populations on a global scale. Black Swan is typically associated with the phrases "That will never happen", "That can never be done", "No one would ever do that" or "What if?" Because they will never happen we assume away their risk or potential value. Are they truly unpredictable?

Why Black Swan at I/ITSEC?

We rarely take time to try to imagine the unimaginable. Why spend time studying something that will never happen? Why should we spend time and resources attempting to conceptualize and plan for something that will never happen? The answer is obvious — They do happen! The significance of Black Swan to I/ITSEC is that you can't study the effects of a Black Swan in reality — you have to do it in Simulation and Simulation is what we do best.

Thursday 0830-1000

Black Swan - Setting the Stage

Join Us for the I/ITSEC Black Swan Kickoff!

Thursday 1030-1200

Training Adaptive Leaders for a Black Swan World (Thriving in Uncertainty)

This Signature Event will focus on the critical human dimension —

the importance of training and developing truly adaptive leaders, able to challenge the status quo and embrace innovation. The event will feature a diverse panel of top experts. Expect a wide-open discussion that will apply to the future of military training, business industry practices, academic research, and learning how to thrive in ambiguous environments. This panel builds upon the earlier Black Swan Signature Event as well as I/ITSEC's new Operation Blended Warrior floor activity.

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Innovation Showcase

South Hall B / Booth 1180

Presentations within the Innovation Showcase are led by cutting-edge exhibiting companies and government agencies that are knowledgeable on the various subject matter within the M&S Industry. Be sure to stop by one of the 30-minute sessions to hear what is new and exciting in M&S! Be sure to check the onsite schedule for any changes or updates to the Innovation Showcase schedule.

Booth Schedule

Monday 30 November:

- 1515 **Caliente SimIS** – Caliente SimIS Mobile Target–Meet Sheldon
- 1645 **Digital Projection** – Innovation in Projecting the Visible Color Space

Tuesday 01 December:

- 1230 **Argon Electronics (UK) Ltd.** – CBRN/WMD Simulation in a Live Training Environment
- 1315 **BNH Expert Software** – Recipe for Driving Effective, Efficient and Timely Training
- 1400 **Forge FX Simulations** – Game Engine Use for Simulations: What's New in 2015 in Unity, Unreal and More
- 1445 **Auto Desk** – The Future of Making Things – Training and Simulation
- 1530 **D-Box** – Making Motion Available to all Simulators: Optimize Motion Cueing to Augment Trainees Simulator Adoption and Preparedness

Wednesday 02 December:

- 1000 **VT MAK** – Building a Beautiful World: Using Blueberry 3D and VR-Forces to create Content-Rich Terrains

- 1045 **Tannas Electronic Displays, Inc.** – Advances in Resized LCD's - TheGreatEnabler
- 1130 **CM Labs Simulations** - Vortex Dynamics for Simulation-based Training for Ground Vehicles and Heavy Equipment
- 1300 **Simventions** – The Defense M&S Open Catalog: Discussion and Reuse Without a CAC
- 1345 **Adobe** – Adobe Learning 2015 – Beyond the Traditional LMS
- 1430 **Pitch Technologies** – How to Build a Simulation & Training Cloud using Open International Standards

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International Outreach – Community of Interest Event

We're bringing "Speed Dating" to I/ITSEC 2015! Well, not exactly, but we are bringing the concept of 15 minute "One-on-One" meetings. The International Program is highlighting teaming opportunities with US programs for International Industry, International & US Governments, Military, Laboratories and Universities. Don't miss the opportunity to leverage resources for combined benefit!

US DoD program opportunities will be discussed by Col Scott Wallace, USAF, OSD Director for the Comparative Technology Office, and Col Mike Malley, USAF, OSD Director of the Coalition Warfare Program, followed by their team holding One-on-One meetings.

Col Wallace will brief Industry on the opportunities available in Foreign Comparative Testing (FCT) focus areas of Electro-magnetic Spectrum (EMS) Agility, Autonomous Systems, Space Capability Resilience, and Asymmetric Force Application.

Col Malley will brief Government/Military/Laboratories/Academia on the opportunities available in strategic technology gaps for current and future missions, interoperability solutions for coalition operations, current defense partnerships, and developing new relationships through research and development.

Both Col Wallace and Malley will brief:

- ***Monday 1430 pm - Room S310A***
- ***Wednesday 0830 am - Room S310A (repeat session)***

Col Wallace, Col Malley, and their teams will host these One-on-One meetings. This opportunity to personally interact with experts knowledgeable of these programs is a great opportunity. We hope to see you there!

Please sign-up early and reserve your personal meeting time for this valuable opportunity [here](#) and during I/ITSEC week in the International Pavilion Room S310E-H.

Continuing Education and CEUs at I/ITSEC 2015



Attending I/ITSEC 2015? Consider earning Continuing Education Units (CEUs) for the time you are dedicating to further develop your knowledge within the industry. The University of Central Florida's Division of Continuing Education is proud to have been the Official CEU administrator for I/ITSEC activities for the past ten years. By obtaining CEUs, participants are able to demonstrate their commitment to ongoing education activities. Additionally, CEUs will often assist employers or organizations in further validating the time spent at a conference or training event.

CEUs at I/ITSEC

All paid conference registrants are eligible to receive CEU credit at no additional charge; however, it is important that those interested in CEUs register to receive these in advance or while at the conference to ensure individual attendance is recorded. CEU credits are available for all papers and tutorials. Furthermore, Friday's Professional Development Workshops provide an additional opportunity to earn CEUs as these meet for either four or eight hours covering a variety of areas from scholarly, governmental and industry best practices. Participants will explore these topics in-depth with interactive facilitation from subject-matter experts within the industry. The 2015 Friday Workshops will be held on December 4th, and include:

- Serious Game Design Tutorial
- Certified Modeling & Simulation Professional (CMSP) Exam Preparation
- Live-Virtual-Constructive (LVC) Interoperability Techniques
- Modeling & Simulation for Acquisition
- Seamless Mobile Learning and Simulations
- ROI Methodology

Those who participate in CEU eligible events (papers, tutorials, Friday Workshops, Fellows Special Event) will receive a certificate of completion denoting earned CEUs upon conclusion of the I/ITSEC 2015 Conference. CEU credits earned will be calculated as follows: ten contact hours equate to one CEU credit. CEU participants will be required to check-in during each CEU session by scanning their conference badge to record their attendance, and ensure the correct number of CEUs are awarded.

If interested in receiving CEU credits for paper and tutorial attendance, please complete *step 3- Additional Items- Continuing Education Credits* category within your registration. Additionally, please remember to select the Professional Development Workshops you would like to pursue! Registrations can be submitted or edited by visiting [here](#).

Participants from past years have stated, ***“CEUs are a convenient and efficient way to keep track of my participation in professional development activities.”***

If you have additional questions regarding the CEU process, please contact CEU Coordinator Maria Cherjovsky directly:

CEU Coordinator

Maria Cherjovsky

Assistant Director

UCF Continuing Education

Phone: 407-882-0247

E-mail: Maria.Cherjovsky@ucf.edu

We sincerely hope that you will consider documenting your I/ITSEC attendance through CEU credits. Do not miss this opportunity, it is provided free of charge!

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RADM Fred Lewis Postgraduate Scholarship Awardees
Assess Modeling and Simulation; Their Futures



Michael Eady

Masters Student, Cybersecurity

Johns Hopkins University

What first motivated you to become interested in modeling and simulation?

My formal education in M&S was directed by the Marine Corps through a board selection process, without which I likely would have no involvement or great interest in M&S. Since being designated an M&S Officer as an additional military occupational specialty, my motivation to better understand the M&S body of knowledge and continue pushing the envelope with training systems is simply to ensure Marines succeed in battle.

Where do you see modeling, simulation and synthetic environments heading in the near and somewhat more distant future?

In the near future, I think augmented reality technologies are going to become more prevalent. There is a great desire to be able to simulate force on force engagements with live people wearing their standard kit, unencumbered by bulky sensors and attachments. I think as augmented and wearable technologies continue to advance and become lighter, faster, and cheaper they will be embraced more fully across many domains.

Regarding the long term, establishing synthetic environments which truly integrate multiple stakeholders and training audiences will continue to be a priority. The concept of creating meaningful and effective interoperability between the live, virtual, and constructive environments has been around a long time now, and great strides have been made, yet there are still many things that must happen for LVC environments to succeed.

Where do the challenges lie in developing the full potential of modeling and simulation?

1. Education. A well educated workforce in the M&S field, as in most any field, is essential to realizing and developing potential.
2. Advertising. M&S touches so many different disciplines, yet there are a plethora of organizations who don't understand how M&S could or should apply to their operations. Advertisement of capabilities of existing systems, technologies, or methodologies within the M&S community to these organizations will likely result in new ways to apply capabilities, and further drive innovation as the user base of M&S tools and services expands.
3. Proof of efficacy. Simulation systems need to be reliable and effective. When a user interacts with a simulation system, whether it be for training, analysis, experimentation, or acquisition, the user needs to be able to trust that the system is benefitting them and that it will yield a valid output or increased level of proficiency.

What do you believe can be done to attract more young people to the study of STEM disciplines?

Focus more investment into STEM education. Students need to be made aware of the opportunities in STEM fields. Exposure to STEM fields and activities that are fun and stimulating at a young age will garner more interest in STEM career fields later in a student's education path, and at least open the aperture of students' minds of what they might be interested in for a career.



Amelia Kinsella

Doctoral Candidate, Human Factors Psychology
Clemson University

What first motivated you to become interested in modeling and simulation?

I was first motivated to learn more about modeling and simulation through my undergrad mentor who specializes in simulator sickness in head mounted displays. Through his work, I was introduced to the field of simulation via virtual environments. I found simulation to be really intriguing because of the many possibilities it brings to so many different areas. I used to think of simulation and virtual environments only in terms of gaming and entertainment (which is a big part of the appeal), but there are many other applications for this technology that enhances human performance (such as learning and training). That is what really pulled me into learning more about this area.

Where do you see modeling, simulation and synthetic environments heading in the near and somewhat more distant future?

In the future, I see modeling and simulated/virtual/augmented environments permeating everyday life. I think a good example of what we will see in the near future are products like Microsoft's HoloLens, a product that allows people to interact with a simulated environment in their own home. More and more people are interested in making this technology available to the general

population, whether it be for entertainment or practical purposes such as learning or creating.

Where do the challenges lie in developing the full potential of modeling and simulation?

As a human factors psychologist, one challenge I am constantly aware of is how humans will interact with this technology. Even when the technology is top notch, if a human cannot interact with it in a positive way then the technology is not doing what it is supposed to do. There are many challenges we as humans bring to the table while working with these technologies (e.g., simulator sickness and negative transfer of training). However, ongoing research on topics such as simulator sickness can inform developers of ways to overcome some challenges that humans bring when interacting with these technologies.

What do you believe can be done to attract more young people to the study of STEM disciplines?

I think there is a general misconception among young people about what working in a STEM discipline actually means. There are many different professional opportunities for students graduating with a degree in one of the STEM disciplines—including creative opportunities—that students may not be aware of. I think it's really important for professionals in STEM disciplines to reach out to students early on in their education to show them what it actually means to work in STEM, and how their job is impacting society. I also think introducing young students, especially young girls, to programs such as “Made With Code” and “Girls Who Code” can open their minds to all of the possibilities there are in STEM disciplines, and help them see themselves working in STEM.



Sean Osmond

Masters Student, Modeling and Simulation
University of Central Florida

What first motivated you to become interested in modeling and simulation?

I have been a gamer since the original Game Boy and the SEGA Master System. When I was asked in my Sophomore year if I would be interested in taking an internship converting a game into something that would help train Marines, I jumped. 15 years later I am still a huge fan of the industry because I have seen it work first hand.

Where do you see modeling, simulation and synthetic environments heading in the near and somewhat more distant future?

I see it becoming a more main stream and accessible teaching tool for the k-12 sector. As the cost for entry level simulation options continues to become more accessible I am seeing more application in this primary education realm as teachers are able to use it to more fully engage their students and show them the practical applications of many of their lessons as it relates to STEM related curriculum.

Where do the challenges lie in developing the full potential of modeling and simulation?

I think getting legal policies and IA policies in line with the technology possibilities will be the biggest challenge. The opportunities to apply modeling and simulation to so many venues is nearly unlimited if we can get everyone on the same page in a timely fashion. IA and legal can be a nail in the coffin of potential when not tempered with common sense and creativity.

What do you believe can be done to attract more young people to the study of STEM disciplines?

Let them learn with STEM and get their communities exposed to STEM. Anyone, regardless of age, can be shown the possibilities of STEM education if just given the opportunity to experience it. Science centers, community centers, technical education centers, should all be looking for ways to draw in people to show them the possibilities. That said, STEM providers should also be thinking outside the box as to how to show non-traditional users that they can benefit from technology too.

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Spotlight Article

Cisco makes the Live, Virtual, Constructive training environment a reality

Efforts to develop LVC have largely focused on requirements for sophisticated simulators, virtual gaming, and the complexities of integrating live and virtual entities. While all of these elements are critical to a LVC environment, without a reliable, flexible, secure and sufficiently capable network, each component of a LVC environment is an island and the potential of LVC collapses. Cisco delivers the broad array of solutions necessary for the next generation LVC infrastructure to provide effective, relevant, realistic and efficient training and test capabilities in a secure, persistent and global LVC environment.

Networking of a distributed synthetic LVC battlefield is increasingly driven by the sophisticated capabilities of 5th generation aircraft, advanced sensors, cyber threats, anti-access/area-denial threats, and the need to reduce the cost of, and simultaneously increase the value and efficiency of, training. To accomplish these goals the LVC network must provide more than a linkage between simulators. It must provide multi-domain security, event management, an ability to measure individual, team and C2 performance metrics, planning and debriefing collaboration and the ability to record and evaluate strategies, tactics, techniques and procedures. It must also provide the ability to be easily replicated or changed to meet evolving requirements. Cisco technology and solutions can be leveraged across the spectrum of operational requirements for the LVC environment.

A LVC network is inherently complex, linking many different devices and digital and live entities. Cisco networks provide the reliability, flexibility and capacity necessary to ensure the highest fidelity LVC operations while reducing the risk of downtime caused by, complex configurations, increased maintenance, or hardware and software faults. Additionally, Cisco Software Defined Networks

provide rapid reconfiguration of networks to meet changing requirements.

LVC operations are conducted across multiple security domains involving multiple users. Each connected entity presents another penetration point for security breaches from both external and internal threats. Cisco provides one of the industry's most comprehensive advanced threat protection portfolios. Cisco's threat-centric and operational approach to security reduces complexity, while providing superior visibility, continuous control, and advanced threat protection across the extended network and the entire attack continuum.

To effectively evaluate individual and team performance as well as the effectiveness of the training schema in a Performance Based Training environment, large amounts of data must be stored and analyzed for trend analysis, digital training folders, lessons learned, etc. Cisco data center solutions allow improved deployment of applications, data analytics, desktop virtualization, and cloud solutions. Superior scalability, simplified management, and streamlined operations increase LVC flexibility and interoperability with a programmable infrastructure built on open standards, all with less risk and lower costs.

LVC is inherently collaborative; to effectively link geographically separated entities and ensure the most effective communications, LVC operations must employ the full spectrum of voice and video tools to include mobile solutions. Cisco collaboration solutions span a wide variety of technologies, including Collaboration Endpoints, Conferencing, and Unified Communications, all with mobility in mind. Cisco collaboration solutions provide new collaboration initiatives, ease of deployment, and collaboration infrastructure management with greater visibility and responsiveness.

The National Security Agency (NSA) Commercial Solutions for Classified (CSfC) program provide an avenue to reduce the complexity and costs of LVC networks while maintaining the ability to easily transition from unclassified to top secret domains. Cisco certified products deployed in a NSA approved CSfC Architecture can reduce the cost to procure and install systems by eliminating or reducing costs for Type-1 crypto and Protected Distribution System (PDS) devices. Cisco's next generation encryption enabled products are part of a holistic approach to security that includes next- generation network security, intrusion prevention, advanced malware protection, secure access, and mobility to protect data and networks before, during, and after an attack.

Contact Cisco at: <http://www.cisco.com/go/defense>

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Spotlight Article

Rockwell Collins' Joint Secure Air Combat Training System (JSAS) – Certified, in production and ready to accelerate TCTS Inc II

Rockwell Collins, a leader in Live Virtual Constructive (LVC) blended training, will demonstrate our capabilities during Operation Blended Warrior at I/ITSEC 2015 in booth 2201. As a provider of avionics, communications, simulation and training, we can network all of these components to facilitate secure, interoperable, low-cost, real-time, LVC blended training. Ultimately, this offers military trainers and trainees an immersive, highly realistic collaborative training environment.

JSAS, from Rockwell Collins, brings LVC-enabled hardware together for high-fidelity air combat training. Founded as part of the Common Range Integrated Instrumentation System (CRIIS) program – which implemented the Department of Defense’s vision of common test and training infrastructure for improved operational realism – JSAS is certified and in production to meet the U.S. Navy’s needs for Tactical Combat Training System Increment II (TCTS Inc II). By meeting all of the Navy’s requirements for next-generation training, Rockwell Collins provides the only solution that enables the Navy to “Train like they fight.”

JSAS features the first and only certified, four-level Multiple Independent Levels of Security (MILS) training equipment in both airborne and ground applications. MILS provides secure interoperability between 5th- and 4th-generation aircraft, bringing significant training benefit to all participants in a simulated, high-threat combat environment. Further, it supports LVC-enabled training now.

“JSAS is the next generation of secure, LVC-enabled training solutions, providing seamless interoperability between 5th-generation F-35 and legacy aircraft as they train together in coalition events,” said Tommy Dodson, vice president and general manager of Surface Solutions for Rockwell Collins. “JSAS enables 5th-generation and 4th-generation aircraft pilots to realize significant training benefit when simulating a high-threat, LVC rich, combat environment.”

Some of the capabilities we’ll be demonstrating during Operation Blended Warrior and also during I/ITSEC include:

- Certified MILS encryption for enhanced security on the ground or in the air
- High-bandwidth data links with the ability to accept the waveforms of your choice
- Interoperability between participants of varying security classifications

Rockwell Collins will participate in nine of the 30 Operation Blended Warrior vignette scenarios in our booth 2201 – Monday, Nov. 30, through Thurs., Dec 3. These scenarios will range from LVC demonstrations of E-2D, F/A-18 and UAV aircraft engaging in air-to-air scenarios, to convoys on the ground getting ambushed, joint terminal attack controllers (JTACs) calling for air support and much more.

In addition to our Operation Blended Warrior demonstrations, we will also be conducting demonstrations showcasing four independent levels of security on certified, production hardware.

The scenarios will show how Top Secret, U.S. Secret, NATO Secret and Confidential assets can train together in an air-to-air scenario, followed by a call-for-fire exercise with a strike package delivering weapons on target. I/ITSEC attendees will want to experience the excitement of this highly immersive exercise firsthand by attending as many of the in-booth demonstrations as possible.

Finally, join us for an official unveiling and demonstration of the new Rockwell Collins WholeEarth™ synthetic environment on Tue., Dec. 1, at 1500 in booth 2201. See firsthand the highest-resolution, most complete Earth database in the industry.

Join us and see how all our blended training capabilities are secure, interoperable and available now.

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Full Articles HEADLINES FROM THE MODELING, SIMULATION & TRAINING INDUSTRY

In Memory of CAPT Nelson P. Jackson, USN (Ret)



Those who have attended I/ITSEC or an NTSA event have all been touched, either directly or indirectly, by the work and influence of CAPT Nelson Jackson, USN (Ret). Nelson was a fixture of the NDIA and NTSA family since 1980 and helped shape the framework of today's I/ITSEC.

It is with a very heavy heart that we inform you that Nelson Jackson passed away on Sunday November 1st. Nelson was a patriot, and a good friend and mentor to the entire NTSA and I/ITSEC

family. He will be greatly missed.

More details regarding his career and life, along with family requests, are available [here](#).

The family held a Celebration of Life gathering in Myrtle Beach on Sunday November 15th. Captain Jackson will be laid to rest in Arlington National Cemetery with full military honors at a date to be determined later .

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Representatives Forbes and Scott Offer Amendment to Highway Bill to Highlight Importance of Modeling and Simulation Technology in Transportation Projects

In early November, Representatives J. Randy Forbes (VA-04) and Robert C. "Bobby" Scott (VA-03) offered an amendment to H.R. 22,

the Surface Transportation Reauthorization and Reform Act, urging the U.S. Department of Transportation to utilize modeling and simulation technology to ensure that federally funded transportation projects will increase transportation capacity and safety, alleviate congestion, reduce travel time and environmental impact, and are as cost effective as practicable. The Scott-Forbes Amendment passed by voice vote.

“As Chairman of the Modeling and Simulation Caucus, I have witnessed firsthand the powerful advances our country has made in modeling and simulation technology,” said Congressman Randy Forbes. “That is why it is crucial we incorporate modeling and simulation as a fundamental component in the Department of Transportation’s process of reviewing and vetting some of our nation’s most critical transportation and infrastructure projects. By incorporating modeling and simulation, we have the opportunity to move forward with a system that furthers our efforts to maximize transportation dollars, cut down on congestion, improve safety, and grow our economy.”

“Modeling and simulation technology has almost limitless beneficial purposes and the Department of Transportation should utilize it whenever possible to better plan and analyze federally funded transportation projects,” stated Congressman Bobby Scott. “This technology can precisely mimic real world factors and variables, allowing transportation planners the ability to see the impact of road and transit projects at the click of a mouse and long before shovels are in the ground. We have limited federal resources for transportation projects and it is critical that we know that federal dollars are being used wisely to fund projects that will actually increase capacity and safety, alleviate congestion, reduce travel time and environmental impact, and are cost effective.”

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ITSA NEWS



Registration is now open for ITEC 2016

Next year, ITEC is set to welcome over 2,200 delegates from the international military training, education and simulation community to London for the first time since 2012. Book today to reserve your place and take advantage of the Super Early Bird rate, saving up to £500 on the standard ticket rate.

Why You Should Attend ITEC 2016

- 95% of exhibitors would recommend ITEC to their colleagues in the industry
- 75% of visitors are decision-makers
- 78% consider ITEC as being the ideal platform to discover the latest technologies in terms of military training and

Reasons to attend

- Discover the latest technology and innovations affecting the sector
- Source new suppliers who can improve your product's or operations' flexibility
- Network with key industry players, suppliers and integrate with the entire training and simulation community
- Learn about developments for the future at the conference.

ITEC is the annual forum where representatives from across the military, industry and academia connect and share knowledge about military simulation, training and education community. Presenting a unique overview of the industry's latest innovations, the event provides visitors with a platform to discuss developments in this evolving market and exchange ideas about future requirements for military training and simulation. Established for over 26 years, ITEC offers a world-class exhibition (free to attend) and conference showcasing the very latest products and services from leading organisations, thought provoking papers as well as unique networking opportunities. Join the ITEC community on 17-19 May in London. For more information, visit ITEC in Booth 606 at I/ITSEC 2015 or visit www.itec.co.uk

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ETSA Pre-IITSEC Newsletter



The following excerpt is the introduction from the 40th ETSA Newsletter - pre-I/ITSEC edition.

For the full Newsletter, containing all the usual interesting content and reports, please click [here](#).

For details of other ETSA activities, please go to the ETSA at www.etsa.eu

PRE-I/ITSEC NEWSLETTER

When you receive this summary of recent activity in world Modelling, Simulation and Training (MS&T), the largest world event in this field is about to take place. This is the annual Inter-service and Industry Training, Simulation and Education Conference (I/ITSEC), which as usual will be at the Orange County Conference Centre in Orlando, from 1 - 3 December.

US Navy Chief of Naval Operations Admiral John M. Richardson and Commandant of the US Marine Corps General Robert B. Neller are to be keynote speakers, together with senior officers from Army, Air Force and policymakers from the Pentagon. The fact that two Service chiefs are attending is a "first" and shows the

growing importance of MS&T to the military. It will be interesting to see who the US Army and Air Force put forward as their Keynote speakers. The I/ITSEC throughput is likely to be some 15,000 people, over three times the number compared to the equivalent European event that is held every May.

ETSA European Pavilion at I/ITSEC

Following the success of the ETSA European Pavilion at I/ITSEC 2013 and 2014, and building on ETSA's special relationship with NTSA, ETSA is organizing another Pavilion at I/ITSEC 2015. This year, the Pavilion will feature two new members; eSim Games and Exsel Dytechna, and will be at Stand # 1980. If you are attending I/ITSEC, please drop in and say hello. ETSA will be co-hosting the Exhibitors Networking event at 17:00-18:30 on Tuesday 1st December. Please drop in and combine chat with a glass of beer, wine or juice. It is a great opportunity to network and meet new people from the MS&T community.

Captain Nelson P Jackson, USN (Ret)

It is with great sadness that we have to inform you of the passing of Captain Nelson P. Jackson US Navy (Retired), who passed away in his sleep earlier this month after a long battle against cancer. He was a great friend of ETSA and many more people in the MS&T community. Nelson was a key member of the USA National Training & Simulation Association (NTSA), and was a lead instigator in the formation of ETSA back in 2003 and had been a great supporter ever since. Nelson will be greatly missed by many in our community and I/ITSEC will not be the same without him! Our prayers go to his widow Earlene and the rest of his family. You can Access the full obituary by following the link on the lead article on our home page at <http://www.etsa.eu/>.

Members Survey

ETSA Members should be receiving an email from MailChimp inviting them to complete a survey about ETSA. This is your opportunity to inform the ETSA Board of your views on the way ETSA is being run. Please complete the survey as soon as possible. We hope to analyse and report on the survey findings at the Members Meeting in Orlando on Monday 30th November.

This Newsletter

The increasing pace of activity in the world MS&T area is indicated by the sheer size of this newsletter, published only 5 months after our last one that followed the European ITEC event in Prague.

There is reason behind the large amount of MS&T activity in civil aviation. Boeing's annual Current Market Outlook predicts that in the 20 years between 2015 and 2034, no less than 558,000 new commercial airline pilots will be required and 609,000 new maintainers, increases over their last forecast of 4% for pilots and 5% for maintainers. Per year, this averages about 28,000 pilots and over 30,000 maintainers. All these will need to be trained and for pilots the Level D Full Flight Simulator (FFS) will be used in ever increasing numbers. New pilot training centres will be needed, particularly in regions of greatest civil aviation growth. The Asia Pacific area has already overtaken North America and

Europe as the primary growth area, and some figures follow.

The breakdown by region is as follows in order of forecast numbers, with annual figures in brackets: Asia Pacific - new pilots 226,000 (11,300 pa) & new maintainers 238,000 (11,900 pa). North America - pilots 95,000 (4,750 pa) & maintainers 113,000 (5,650 pa). Europe - pilots 95,000 (4,750 pa) & maintainers 101,000 (5,050 pa). Middle East - pilots 60,000 (3,000 pa) & maintainers 66,000 (3,300 pa). South America - pilots 47,000 (2,350 pa) & maintainers 47,000 (2,350 pa). Africa - pilots 18,000 (900 pa) & maintainers 22,000 (1,100 pa). Russia/CIS - pilots 17,000 (850 pa) & maintainers 22,000 (1,100 pa).

On aircraft numbers, Boeing predicts that 38,050 new Commercial Air Transport (CAT) aircraft will be needed worldwide over the next 20 years, valued at US\$5.6 trillion, an increase of 3.5% over last year. 22,070 aircraft (58%) are for fleet growth rather than replacements. Finally, the world commercial fleet is forecast to more than double from about 21,600 aircraft now to 43,560 in 2034. So there is no doubt that there will be huge growth in the civil aviation MS&T area for the foreseeable future.

What about the military? At ITEC 2015 in Prague, General Petr Pavel, Chairman of the NATO Military Committee, covered training challenges and said that what he called Virtual Training would not only assist in preparing for such challenges, but would at the same time reduce training costs. In this context, Virtual Training is another term for the use of simulation technology for training rather than for design or research. The armed forces of smaller nations, he said, need to join up with others so that what he called "large formation training" can be carried out for Collective Defence rather than single-nation training. He said that training should be able to include civil agencies as well as military, because in many real situations they are involved. It therefore has to be recognised that if such training is to be realistic, any problems in dealing with security levels of data used by military and civilian agencies in training exercises, must be solved. General Pavel pointed out that NATO has a more challenging group of threats than before and mentioned Afghanistan, Iraq, Syria and the Ukraine. Modern conflicts are becoming more complex, he said, with Hybrid Warfare involving conventional and irregular forces, with terrorism and cyber threats as well. In conclusion, he said that our training needs to be flexible so that these factors can be taken into account.

The theme of "Going Virtual" was used in a recent US Government Business Council paper that pointed out that integration of simulation into training reduces costs. Perhaps more significant, it also said that simulation helps prepare for new situations. This can include quick reaction to explore the best ways of countering new threats. Other points in the paper included a recommendation for multi-service training rather than single-service, and continued investment in simulation technology, particularly the latest developments. Figures in the paper include Air Force savings of some 350 million dollars per year by using simulation to replace training previously flown on aircraft. On Naval aviation, the paper noted a saving of about 60 million dollars per year per aircraft type

by increasing the proportion of training by simulation. Finally, the US Navy strategic plan for 2015-2019 includes the use of live, virtual and constructive (LVC) training, and states that the aim is to achieve more realistic training at less cost.

Another recent paper is for a new Training Strategy for the Canadian Air Force. This points out that training using real aircraft is becoming difficult to afford in a country with a large land area but a small population and limited military resources. The paper acknowledges that training through simulation continues to improve in quality and reduce in cost, whereas the expense of real flying hours in complex modern aircraft has greatly increased. The Canadian Air Force will therefore introduce a "Networked Common Synthetic Environment" for future training. At the same time, there will be reductions in live training flying, which the paper suggests will make aircraft more available for operations and prolong their Service lives. The word "networking" is crucial in future training systems, and builds on the original US Air Force Distributed Mission Operations (DMO) system of the late 1990s that expanded simulation training to include different aircraft types that operate together. It is also possible to have network links that work over inter-continental distances, and for well-prepared training exercises real military vehicles can be networked in to the exercise as well. The principle started by DMO has now been expanded to multi-Service and multi-National networked training, and Canada's Networked Common Synthetic Environment follows this trend.

Turning now to the UK, a stated aim in its government's last Defence Review paper was to transition to about a 50:50 balance in training between Live and Simulation. The Full Mission Simulator (FMS) aims to be as realistic a model as possible of the military vehicle concerned. The vehicle can be an Armoured Fighting Vehicle (AFV), an artillery piece; a ship's bridge, control room or weapon system; or a military aircraft. Such full mission simulations are expensive, but can be shown to be cost-effective when compared to the costs of using front-line equipment for training. Mission Simulators for large aircraft and heavy helicopters normally follow the design of the Level D Full Flight Simulator (FFS) that has been in use in world airlines since the 1980s. Level D is currently the top standard and includes a 6-axis motion platform, a high fidelity replica cockpit, and a wide-view visual for each pilot. Military equivalents have extra facilities such as defensive aids, terrain data for low flying, and so forth. The effectiveness of the Level D design in military use is illustrated by the big C-17 Globemaster III strategic transport aircraft, for which conversion of new pilots to this complex aircraft is done almost entirely on an FSI-built simulator that has been described as "Level D Plus". Qualification to fly the aircraft itself on operational missions is generally after only two training air rides before the checkout itself. Before this, over 20 simulator sorties will have been flown, and the alternative cost of flying the same number of training sorties on the aircraft can be imagined!

In sum, there is no doubt that the general trend in world training is for the use of more simulation and less use of expensive front-line equipment in a training mode. There is also a recognition that the

proper application of simulation technology can achieve more than training using the equipment itself, because of modern simulation can train for potentially dangerous events and for future scenarios as well as the present. In addition, Network links can be used for multi-Service and multi-National exercises. Simulation does not have the constraints of using real vehicles and weapons in a training mode, and a sensible balance between the two is now becoming the norm.

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MIMOS Update - November 2015 News / Save the Dates for 2016



Here is an update on MIMOS initiatives for 2016, in order to allow all of you to properly plan your participation.

MIMOS 2016

MIMOS Conference will back in 2016 on the main topics about simulation and virtual reality applications. The date is for early April 2016 in Rome where a two-day conference will be held:

- MMVR_Italy devoted to RV applications to medicine and surgery
- Recovering Cultural Heritage to reconstruct no longer visible cultural heritage assets
- HistorySim to reproduce main events of the past Wars, in particular those related to the I World War
- SimSea devoted to simulation in maritime context
- EmergencySim devoted to simulation and virtual reality application in emergency and crisis situation management
- SeriGamEx devoted to serious game exploitation in industry.

Related Call for Papers and Call for Sponsors will be issued in a few weeks.

MIMOS is also organizing the new edition of Spring School 2016 in 3D Interactive Museum to be held on next March (tbc)

2016 Events

In the international calendar, MIMOS supports and cooperates on many events, listed in the following, and to which the MIMOS Members can register with discounted fees. For more information, send email to roma@mimos.it

* NATO M&S Standardization Workshop (MSG-144), 17 November 2015, Roma

* I/ITSEC 2015 Interservice/Industry Training, Simulation and Education Conference, 30 November – 2 December 2015, Orlando (FL)

* DSET Defence Simulation, Education & Training, 23-24 February 2016, Bristol UK

- * ITEC, 17-19 May, London UK
- * MESAS Modelling and Simulation for Autonomous Systems, 15-16 June 2016, Roma
- * SalentoAVR, 15-18 June 2016, Otranto
- * SIMULTECH, 29-31 July 2016, Lisboa, Portugal
- * I3M, 19-21 September 2016, Cyprus (tbc)

Membership 2016

In the next weeks the 2016 MIMOS Membership Campaign will start with a different membership fees related to the enterprise size:

- * very small enterprise (<10 people)
- * small enterprise (<50 people)
- * medium enterprise (<250 people)
- * large enterprise (<2000 people)
- * very large enterprise (>2000 people)

More details in the following weeks with a dedicated newsletter. Membership benefits are, among others, the free of charge registration to MIMOS Events and the discounted fee to MIMOS supported events, as above mentioned.

MIMOS Award

The new edition of the MIMOS Award for the best PhD and Graduated thesis on modelling, simulation and virtual reality applications will be ready in a few weeks. All the Italian University' Departments will be invited to the contest.

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NTSA Member News

L-3 Link Opens C-17 Training System Operation at Martinsburg ANGB

(Reprinted with permission of MS&T magazine)

L-3 Link Simulation & Training (L-3 Link) has commenced operations at a new C-17 Training System (TS) site located at Martinsburg Air National Guard Base (ANGB), in West Virginia. As prime contractor for the US Air Force's C-17 TS program, L-3 Link will conduct over 750 simulator missions each year in support of the 167th Airlift Wing's C-17 pilot, loadmaster and maintenance engine run technician training requirements.

"This new C-17 schoolhouse establishes the 15th training center operated by L-3 Link under the C-17 Training System program and is the fourth new site we've activated since beginning the program

in June 2011," said Lenny Genna, president of L-3 Link. "Our team at Martinsburg is highly experienced, skilled and fully dedicated to providing training that comprehensively supports the 167th Airlift Wing's global air mobility mission."

Pilots, loadmasters and maintenance engine run technicians from Martinsburg ANGB will receive refresher, upgrade and currency training provided by L-3 Link instructors using classroom and hands-on operations training in a realistic C-17 Weapon Systems Trainer and C-17 Loadmaster Station Trainer. In addition, L-3 Link and C-17 TS team member TRU Simulation + Training will provide contractor logistics support and maintenance of the site's training devices.

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Saab Sells Live Training Systems to Austrian Army

(Reprinted with permission of MS&T magazine)

Saab has signed a contract with the Austrian Federal Ministry of Defence to supply a new advanced training system for the Austrian Army.

The order value is approximately SEK 180 million and deliveries are planned from 2015 to 2018. Production will take place in Huskvarna.

The Austrian army has previously purchased Saab simulation systems for its tanks, anti-tank weapons and soldiers. This contract includes Saab's next generation of soldier training systems with new add-on equipment that will extend the current system. Saab will also deliver a mid-life upgrade for Austria's existing vehicle and anti-tank training systems. The contract will provide more capability for training conscripts and professional soldiers.

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Cubic Wins Air Combat Training System Contract

(Reprinted with permission of MS&T magazine)

Cubic Global Defense has won a multi-year contract from the US Air Force Research Lab (AFRL) 711th Human Performance Wing to develop and demonstrate a Live, Virtual, Constructive (LVC) system for air combat training.

The award is part of the Secure LVC Advanced Training Environment (SLATE) Advanced Technology Demonstration (ATD) program. AFRL formed the SLATE ATD team as a government/industry consortium since each partner leverages unique expertise or key system understanding to support the overall ATD objectives.

Cubic is designated the Systems Integrator working with partners to deliver LVC airborne and ground subsystems. While the overall

purpose of blending synthetic environments with live training in an LVC system is to enhance realism and improve the cost-effectiveness of training, the specific intent of the SLATE ATD is to prove technological feasibility and assess operability and ability to produce LVC subsystems. Cubic and the SLATE partners plan to develop and demonstrate an LVC system at Technology Readiness Level 7.

“Cubic invented Air Combat Maneuvering Instrumentation (ACMI) back in the early 70’s and we see LVC as the natural evolution of ACMI,” said Bill Toti, president of Cubic Global Defense. “LVC will provide an increased threat density, wider expanse of virtual airspace and an interoperable multi-level secure environment where pilots can ‘train as they fight’ with their advanced sensor and weapons systems in the highest fidelity environments.”

The overall approach in the SLATE ATD will be to employ fourth-generation aircraft with modified ACMI airborne subsystems repurposed for multi-level encrypted LVC, in both tethered and untethered training scenarios. The team will also evaluate extensibility of the technical solutions to the F-35 Joint Strike Fighter. After successful demonstrations, the ATD will deliver specifications, use cases and technologies that can be used to support an LVC acquisition program.

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Boeing Completes Major Upgrade to Air Force F-22 Simulators

(Reprinted with permission of MS&T magazine)

Boeing has completed its upgrade of all US Air Force F-22 Raptor Mission Training Centers with its high-fidelity Constant Resolution Visual System (CRVS). The system trains pilots in a more realistic visual environment than current simulators and allows them to experience extreme maneuvers that typically are only practiced in a simulator.

The final CRVS installations were recently done by Boeing and the Air Force at Tyndall Air Force Base in Florida. Simulators at Hawaii’s Hickam Air Force Base, Alaska’s Elmendorf Air Force Base and Virginia’s Langley Air Force Base, also have the system.

Boeing’s patented CRVS display is the centerpiece of the training suite and provides high-resolution imagery for pilots with nearly 20/20 acuity in an immersive, 360-degree visual environment. By using off-the-shelf projectors, the system takes advantage of the rapidly emerging commercial technology.

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Lockheed Martin Introduces Enhanced Precision in Virtual Training

(Reprinted with permission of MS&T magazine)

Lockheed's new Prepar3D® v3 lets users build or experience advanced simulation environments and tools that simplify development and augment the training experience.

Prepar3D v3 enhancements simplify training scenario creation with a SimDirector drag-and-drop technique. The user interface is also improved, with expanded gauge and panel training through Autodesk® Scaleform® support. A new avatar mode lets users experience the simulated environment in the third or first person for increased realism and situational awareness.

Prepar3D continues to partner with hundreds of third-party developers and partners in an active community that continuously enhances the software. Prepar3D v3 features memory and performance improvements to provide greater fidelity and increased realism. Lockheed says users can now utilize next generation hardware to achieve a heightened experience that was never possible before.

From novice learners to military service members, Prepar3D provides a realistic training environment for critical mission readiness. First launched in 2010, Prepar3D is a full earth simulation platform through which users can create training scenarios anywhere in the virtual world – from underwater to suborbital space. It offers immersive, experiential learning for private pilots, commercial organizations, militaries and academia.

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Bohemia Interactive Simulations Awarded US Marine Corps Contract

(Reprinted with permission of MS&T magazine)

Bohemia Interactive Simulations (BISim) has been awarded a contract to deliver enhancements to and support for its desktop tactical trainer Virtual Battlespace 3 (VBS3) to the US Marine Corps.

VBS3 is a 3D desktop virtual training environment that enables Marines to train on geo-specific, high-fidelity terrains, familiarize themselves with equipment they use in the field, develop leadership skills and practice adaptable, tactical decision making.

The \$12.3 million, five-year contract was an extension of BISim's previous three-year contract with the US Marines to deliver enhancements to VBS3, which is used as a training environment for Marines' learning tactics, techniques and procedures across the globe.

The US Marine Corps were early adopters of VBS and purchased an enterprise license of VBS1 in 2006 with an upgrade to VBS2 upon release. Following delivery of the VBS2 Virtual Training Kit to the US Marines in 2008, VBS2 was rolled out later that year to all Marine simulation centers and on all DVTE laptops.

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Fidelity Technologies Wins Contract for PC-12NG Training Devices

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Fidelity Technologies Corporation has been awarded a contract from the United States Army valued at \$9 million to provide training devices for the PC-12NG Knight Ryder Light Lift Utility Aircraft used by the Afghan Special Mission Wing.

Under this contract, Fidelity will produce a PC-12NG flight training device (FTD) along with a cockpit procedures trainer and other components. The FTD will meet FAA Level 6 and the cockpit procedures trainer will meet FAA Level 4 certification standards. After installation in Afghanistan, these training aids and devices will be used to train Afghan pilots in aircraft familiarization and operations in support of the war on terrorism and the effort to stop the proliferation of drugs within the region.

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Lockheed Martin Receives Regulatory Approval to Close Sikorsky Acquisition

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Lockheed Martin has received the final regulatory approval needed to close its acquisition of Sikorsky Aircraft from United Technologies Corp. The completion of the regulatory review by the Ministry of Commerce of the People's Republic of China marks the end of a comprehensive regulatory review process in eight jurisdictions.

This final regulatory approval brings the company a step closer to completing Lockheed's acquisition of Sikorsky which "brings a legacy of innovation performance that perfectly complements Lockheed Martin's portfolio," according to Marillyn Hewson, Lockheed Martin chairman, president and CEO. Lockheed says acquiring Sikorsky will help expand its core business into helicopter production and sustainment.

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Thales Wins French Navy Simulator Support Contract

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Thales has won a six-year contract from the French Navy to provide through-life support (TLS) for almost all of the Navy's simulators. The contract with the Navy's fleet support department (SSF) calls for Thales to support 41 simulators at six naval facilities in France.

The simulators cover a broad spectrum of operations and all deployment contexts, from shipboard system maintenance to surface vessel crew training, as well as firing simulators for the Mistral missile, 12.7 mm and 20 mm guns and other weapons.

The devices are used to train the crews of all French Navy surface vessels, including its multi-mission frigates, air defence frigates

and the Charles de Gaulle aircraft carrier. The new TLS contract covers simulators delivered from the 1990s to today, including systems currently on order.

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