

Military Training Technology



Navy Training
Enabler

**Capt. Harry
Robinson**

Commanding Officer
Naval Air Warfare Center
Training Systems Division
(NAWCTSD)
and Naval Support
Activity (NSA) Orlando

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Navy Training Enablers



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Captain Harry Robinson

Commanding Officer
Naval Air Warfare Center
Training Systems Division
(NAWCTSD)
and Naval Support
Activity (NSA) Orlando



Captain Harry Robinson is commanding officer of the Naval Air Warfare Center Training Systems Division (NAWCTSD) and Naval Support Activity (NSA) Orlando. A native of Philadelphia, Pa., he is the son of Captain and Mrs. Eddie Robinson, USNR-Retired. While both parents were legal professionals, his father served over 30 years in the Naval Reserve as an Aviation Intelligence/Training Officer for an F-8 Crusader squadron and public affairs officer. Harry earned his commission through NROTC upon graduation from the Pennsylvania State University in 1982 with a Bachelor of Science in computer science.

Subsequent to earning his wings as a Naval flight officer, he completed operational squadron tours in the VAW-126 "Seahawks" and VAW-123 "Screwtops." Staff assignments include Carrier Air Wing One, Airborne Early Warning Wing Atlantic, Cruiser Destroyer Group Eight, U.S. Second Fleet, and NATO Striking Fleet Atlantic. Robinson deployed onboard the aircraft carriers USS John F. Kennedy (CV 67), USS America (CV 66), USS Dwight D. Eisenhower (CVN 69), and USS George Washington (CVN 73). He served as commanding officer, for the VAW-125 "Tigertails" participating in operations Noble Eagle and Enduring Freedom.

Shore duty assignments include U.S. Naval Test Pilot School, E-2C Group 2 Developmental Test Phase II-C project officer, and instructor duty at the E-2C/C-2A Fleet Replacement Squadron, VAW-120 "Greyhawks." Robinson assumed responsibilities as commander, Airborne Early Warning Wing, U.S. Pacific Fleet, and upon type wing consolidation became commander, Airborne Command Control and Logistics Wing. He screened for Acquisition Major Command and currently serves as commanding officer of NAWCTSD and NSA Orlando.

Robinson earned a Master of Science in Aviation Systems from the University of Tennessee and completed the Naval War College Command and Staff Course. He has over 4,000 flight hours in 30 separate model aircraft and is designated as an acquisition professional. Decorations include the Legion of Merit, Meritorious Service Medal (three awards), Air Medal-Strike Flight (two awards), Naval and Marine Corps Commendation Medal (four awards), Navy and Marine Corps Achievement Medal (two awards), and various other unit/service awards.

Captain William H. Reuter IV

Executive Officer
Naval Air Warfare
Center Training
Systems Division
(NAWCTSD),
and Naval Support
Activity (NSA) Orlando



Captain Bill "Roto" Reuter, a native of Key West, Fla., was commissioned in August 1984 through the NROTC program at the University of Florida where he earned a Bachelor of Science in aerospace engineering.

After flight school, Reuter was trained in the F/A-18A Hornet at VFA-106 and assigned to VFA-87 at Cecil Field, Fla., conducting the maiden deployment of the USS Theodore Roosevelt (CVN 71) as well as USS Abraham Lincoln (CVN 72).

Reuter was selected for the Naval Postgraduate School/U.S. Naval Test Pilot School Cooperative Program and earned a Master of Science in aeronautical engineering. He was awarded the Admiral William Adger Moffett award as the Aerospace Engineering Student of the Year for 1992.

Reuter then reported to the U.S. Naval Test Pilot School in Patuxent River, Md. (Class 103). Graduating in July 1993, he received the degree Aeronautical and Astronautical Engineer (Engineer's Degree) and was assigned to Strike Aircraft Test Directorate where he was the F/A-18 Mission Systems project officer and F/A-18 test pilot. He joined the staff of the U.S. Naval Test Pilot School in 1995 as the lead F/A-18 systems instructor. During his tour with TPS, he flew some 15 more aircraft including the Swedish SAAB Viggen.

After a one-year tour at TPS, Reuter was ordered to PMA-265 (F/A-18 Program Office) at the Naval Air Systems Command in Crystal City, Va., serving as deputy program manager for communication, navigation and identification programs. During his tour in PMA-265, he was responsible for managing numerous avionics upgrades to the F/A-18 Hornet managing over \$200 million annually.

In November 1998, Reuter began his second tour at the Naval Strike Aircraft Test Squadron, serving as the ordnance support team leader, F/A-18 A-D project coordinator and was responsible for merging the F/A-18 E/F integrated test team into a single F/A-18 A-F project team, which he led until June 2002.

Reuter departed Strike to serve at the Pentagon as the executive assistant to the principal deputy assistant secretary of the Navy (Research, Development and Acquisition). He was notified shortly thereafter of his selection to command VX-23, reporting in January 2003 as chief test pilot and assuming command in June 2004.

Upon completion of his command tour in December 2005, Reuter reported to commander, Naval Air Forces as the director for aircraft material and engineering. He subsequently screened for acquisition major command and assumed his current duties as executive officer of the NAWCTSD and NSA Orlando in May 2008.

Captain Reuter has over 3,000 hours of flight time in 33 different aircraft, of which over 2,100 are in the F/A-18, including 300 hours in the F/A-18 E/F Super Hornet. He has been awarded the Legion of Merit, two Meritorious Service Medals, two Navy Marine Corps Commendation Medals and the Navy Achievement Medal. He is a member of the Society of Experimental Test Pilots and the International Test and Evaluation Association.

are a subordinate command of the Naval Air Warfare Center Aircraft Division, headquartered at the Naval Air Station Patuxent River, Md. Both of our units are part of the Naval Air Systems Command, and they accrue the benefits of operating as competency-aligned organizations that enable our integrated product teams [IPTs] to succeed. We exist to provide the best possible support to all the men and women who serve in defense of our nation.

Q: What is NAWCTSD doing to meet the challenge of providing training and simulation systems under fluctuating budget constraints?

A: One of NAWCTSD's core strengths is our ability to provide effective and efficient training solutions, while keeping costs to a minimum. You may be able to develop the most sophisticated simulator in the world, but it doesn't really make much sense to do that if you can't afford to deploy enough of them to effectively serve the fleet, or if the life cycle costs are untenable. In developing a solution to meet a training requirement, the first standard we set is making sure it meets the needs of the warfighter—both the operator and maintainer. We

cannot compromise that standard. We then conduct an extensive front-end analysis of the training requirements, which includes finding the most cost-effective means to achieve the desired proficiency. We have been highly successful in meshing efficiency with affordability. For instance, NAWCTSD has been a pioneer in developing training systems driven by off-the-shelf personal computers using, whenever possible, open system architectures and standards. The use of PC-based simulation to support training needs not requiring full mission trainers has allowed us to develop highly successful training solutions at a much lower cost. An example is the recently fielded PC-based device 19G4A Machinery Control System [MCS] trainer for the *Arleigh Burke* (DDG-51) class of guided missile destroyers. This system augments the full-size-hardware 19G4 MCS trainer, which supports gas-turbine propulsion plant training at the Surface Warfare Officers School in Newport, R.I. The DDG-51 destroyers are constantly undergoing configuration improvements, which could have required expensive



Capt. Reuter (right) will assume command from Capt. Robinson (left) in June 2010. [NAWCTSD Photo]

Q: Would you tell us about the mission of NAWCTSD?

A: Our fundamental job is to provide training solutions to the fleet enhancing the ability of sailors and Marines to achieve success in their assigned missions. This is the imperative that drives us all. The mission framework comes from our assignment as the Navy's principal center for research, development, test and evaluation, acquisition and life cycle support of training systems. We deliver four primary product lines: training systems, training services, courseware content, and intellectual services. Something that often surprises visitors to NAWCTSD is the wide range of training solutions that we provide. While training solutions for the aviation community make up the majority of our projects, we also provide support to the Surface and Undersea Warfare Enterprises as well as other specialized applications within our Cross-Warfare Directorate. We are also tasked with integrating our capabilities with our sister services and joint entities. Organizationally, we

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hardware modifications to achieve trainer concurrency with each hull-specific change. The PC-based simulator allows us to train ships' officers on all variations of the *Arleigh Burke* class without the considerable cost of modifying the hardware on the baseline trainer. By the way, the 19G4A will be one of the systems we're exhibiting this year at the Interservice/Industry Training, Simulation and Education Conference (I/ITSEC) here in Orlando.

Q: We look forward to seeing it. Speaking of Orlando, for just over four decades, the Navy's training and simulation headquarters has been located here. Why Orlando?

A: Understandably, most people associate Orlando with the area's attraction industry, including Disney World, Universal and the other theme parks. While the technology in those parks is certainly impressive, the real show—the one you can't buy a ticket to—takes place every day on the other side of town in laboratories throughout Orlando's Central Florida Research Park, where NAWCTSD is located. We relocated here in 1988 from the Orlando Naval Training Center, which is now closed, to be near the University of Central Florida [UCF]. UCF, which is literally right across the street from us, is one of the nation's leaders in training and simulation studies, and we are fortunate to partner with their researchers. It wasn't long before the trainer acquisition commands from all the military services, including the Coast Guard, established offices in the Research Park, along with an ever-increasing number of high-tech companies. As a result, we now enjoy the best of all possible worlds in this triad of military, private industry, and academia training and simulation expertise. Orlando provides the perfect environment for the teamwork that is necessary to find solutions to our challenges in the field of modeling and simulation for training. Orlando is also at the heart of the world's largest training and simulation industry cluster, a region called the Florida High-Tech Corridor. This region stretches from the space industry around Cape Canaveral in the east, to the technology-rich Tampa area in the west. About 17,000 scientists, engineers, technicians, logisticians, and support personnel work in this region, including about 2,500 Department of Defense workers in the Orlando area. Over 100 companies in Orlando compete for over \$5 billion in training and simulation contracts every year. There is a unique synergy here for problem-solving and forward-thinking that you won't find anywhere else.

Q: The nation's large defense contractors play a central role in providing the military with the training and simulation products you need. But do small businesses have a place in your development of these training systems?

A: Our country's small businesses play an absolutely crucial role in helping us provide the Navy's warfighters with the training products they need, and we're very proud of our track record of partnership with the small business community. Last year, NAWCTSD placed on contract \$720 million in the development and acquisition of training solutions. In any given year, about a third of our contracts are awarded to small businesses. In fiscal year 2009, we awarded \$291 million, over 40 percent, in contracts to

small business. From machined parts, courseware and software development—all the way to full mission trainers, this sector of the industry remains a vital partner in helping us deliver our final products to the fleet. Our staff continues to encourage all of our project managers to work with our small business program manager, Tina Thompson, in finding opportunities for small businesses whenever it will further our mission of providing the best trainers to the fleet. Those opportunities come on a regular basis. NAWCTSD has regularly exceeded its goals for contract awards to small business. We encourage small businesses to become familiar with our requirements and to compete for our business. They can contact us directly, take advantage of our Website resources, or meet with us at one of the many conferences we attend each year, like I/ITSEC here in Orlando.

Q: What does your conference schedule look like for 2010?

A: We have a fairly busy travel schedule for the coming year. Our investment in exhibiting at conferences serves to advertise our capabilities to fleet sailors and Marines, showcase opportunities for participating industry organizations, and recruit top talent. In January, we have the Surface Navy Association National Symposium in Crystal City, Va., and OTRONICON, the Orlando Electronic Interactive Convention. The following month, we'll be attending the Women in Aviation conference and Engineers Week conference, both in Orlando. In May, we have three events: the Sea-Air-Space Symposium in Washington, D.C., the Navy Helicopter Association meeting in Jacksonville, and ITEC [International Training and Education Conference] in London. The Tailhook Reunion takes place in September, and the Naval Air Systems Command Small Business conference follows in November. And then, of course, we have the 2010 I/ITSEC conference in Orlando the following month.

Q: Captain Robinson and Captain Reuter, thank you for your time. Do you have any closing thoughts?

A: We asked to conduct this interview in tandem to demonstrate our enduring and long-term commitment to achieving our mission and leading the 1,150 members of this great team. (*Editor's Note: Captain Reuter is scheduled to assume command in June 2010.*) The importance of fielding high quality, scalable training solutions continues to grow in order to support recapitalization of the fleet and reduce operating costs. We're tightly aligned with the Maritime Strategy and Chief of Naval Operations' vision in maintaining our war fighting readiness, building the future force, and developing our people. Vice Admiral Venlet, commander of NAVAIR, has challenged us all to improve the fundamentals behind project performance. At NAWCTSD, we're undertaking numerous initiatives to decrease acquisition timelines while reducing schedule risk and improve our capabilities to reinvest in our work force. We're endeavoring to enhance the relationships with our industry partners, regional entities, and acquisition colleagues, such as NAVAIR's Program Manager for Aviation Training Systems, other warfare centers, training commands, and OPNAV requirement sponsors. Our bottom line metric is to provide training solutions that enable fleet readiness. ★



Doing Business With **NAWCTSD**



Charles Betterson

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Tina Thompson

argentina.thompson@navy.mil

One of the foundations of NAWCTSD's success in the development and acquisition of training systems is a close working relationship with its military and private industry partners. The Orlando organization's primary mission is to provide training systems for the defenders of the nation and its allies that allow them to achieve mission success—at the lowest possible risk to life.

"The best products," said Charles Betterson, who heads NAWCTSD's Business Support Team, "are developed by teams that are made up of a diverse range of skills and backgrounds. The surest way of meeting our mission of enabling warfighter success is to bring together the best of our military, private industry

and academic communities to provide optimum solutions to our training challenges."

Most of NAWCTSD's training and simulation projects are just that—a team approach to success. From the nation's largest defense contractors to small businesses with just a few employees, NAWCTSD has been highly successful in finding the best products at the right price, according to Betterson.

One of the organization's many success stories is its Small Business Program, led by Tina Thompson. In any given year, about one-third of the total contract dollars spent by NAWCTSD go to small businesses, a feat that Thompson is quick to credit to the organization's project and program managers.

“My job,” said Thompson, “is to let managers know about the capabilities of the small businesses out there, and try to convince them to take a chance on the smaller companies that are capable of meeting their program needs. Without the support of these managers, the program would not be a success. Because they’ve been willing to work with small business, everyone wins. The Navy fulfills a requirement, and small business gets a valuable customer.”

Thompson, who started working for NAWCTSD in 1987 as a contract specialist and moved to her small

business role 10 years ago, also credits NAWCTSD leadership for the success of the program.

“The NAWCTSD command here in Orlando has maintained an environment that encourages getting the job done as efficiently as possible,” said Thompson. “And often, that means going to a small business that can provide a product or fulfill a need more quickly and less expensively than a large corporation.”

Small business owners interested in partnering with NAWCTSD and the Navy can reach Tina at 407-380-8253, or by e-mail at argentina.thompson@navy.mil.

While many contractors are already very familiar with the path to business opportunities with NAWCTSD, Betterton offered the following advice to those who have a product or service to offer—but may be unfamiliar with government contracting processes: “If you have not done business with the government yet,” said Betterton, “there are several steps you need to follow:

STEP 1: Identify your product or service.

Know the Federal Supply Classification (FSC) code and North American Industry Classification System (NAICS) code for your product or service. Many government product/service listings and future procurements are identified by FSC or NAICS codes found at the following Websites:

- FSC Codes: <http://www.dlis.dla.mil/hcfsch21.asp>
- NAICS Code: <http://www.census.gov/epcd/www/naics.html>

STEP 2: Obtain a DUNS number, register in the CCR system, and obtain a CAGE code.

Dun and Bradstreet maintain the DUNS company identifier system utilized by both government and corporate officials searching for background information on companies.

To obtain your DUNS number, go to: http://www.dnb.com/us/duns_update/.

You must be registered in the Central Contractor Registration (CCR) to be awarded a contract from the DoD. The CCR is a database designed to hold information relevant to procurement and financial transactions. To register, go to: <http://www.ccr.gov/>.

A Commercial and Government Entity (CAGE) code is a five-position code that identifies contractors doing business with the federal government, NATO member nations, and other foreign governments. The CAGE code is used to support a variety of mechanized systems throughout the government and provides for a standardized method of identifying a given facility at a specific location. The code may be used to request a facility clearance, a pre-award survey, automated bidders lists, identification of debarred bidders, fast pay processes, etc.

The CAGE code request process is now incorporated in the CCR registration. Therefore, upon activation in CCR, your company will be assigned a CAGE code. Notification of your new CAGE code is by letter via the U.S. Postal Service. The CAGE notification is sent to the person listed under the “Registrant Name” in the registration documentation. In addition, once your registration is active you may view your CAGE code on the Web by searching the active registrations. Search active CAGE codes at: <http://www.dlis.dla.mil/cageserv.asp>.

STEP 3: Familiarize yourself with federal, DoD and Navy contracting procedures.

Be familiar with Federal Acquisition Regulations (FAR), the Defense Federal Acquisition Regulation Supplement (DFARS), and the Navy Marine Corps Acquisition Supplement (NMCARS) at the following Websites:

- FAR: www.arnet.gov/far
- DFAR: <http://www.acq.osd.mil/dpap/dars/dfarspgi/current/index.html>
- NMCARS: <http://acquisition.navy.mil/content/view/full/3464>

An “Understanding How To Do Business With the Navy” page on the Navy’s Research Development and Acquisition Website contains many documents to facilitate doing business with NAWCTSD. It can be found at: <http://acquisition.navy.mil/content/view/full/186>.

STEP 4: Identify current and future NAWCTSD procurement opportunities.

Visit the Federal Business Opportunities (FedBizOpps) Website. FedBizOpps has been designated as the single source for federal government procurement opportunities that exceed \$25,000. All agencies must use FedBizOpps to provide the public access to notice of procurement actions over \$25,000. The Web address is: <https://www.fbo.gov/>.

NAWCTSD posts information on open acquisitions and business forecast on the business opportunities Website, located at: <http://nawctsd.navair.navy.mil/ebusiness/busops/index.cfm>.

“At the Navy’s IITSEC booth this year, a NAWCTSD products and services handbook will also be available to those interested in doing business with us. The handbook outlines the capabilities and business practices of the organization and provides helpful information for potential contractors.”

For further information on doing business with NAWCTSD, contact Charles Betterton of NAWCTSD’s Business Support Team by telephone at (407) 380-4169, by e-mail at orlo_businesssupportteam@navy.mil, by fax at (407) 381-8744, or by mail at Business Support Team, NAWCTSD, 12350 Research Parkway, Orlando, Fla. 32826. ★

For more information, contact MT2 Editor Marty Kauchak at martyk@kmiemedia.com or search our online archives for related stories at www.mt2-kmi.com.



NAWCTSD Delivers New Trainer to Law Enforcement



By **PHIL HOWELL**

Law enforcement officers throughout the United States face danger every day. Even situations that seem “simple” and straight-forward, like pulling over the apparently intoxicated driver of a weaving vehicle, answering a domestic dispute call, or questioning a person acting suspiciously, can easily end in tragedy.

Fortunately, such officials receive extensive training in how to recognize the danger signs of situations that may spiral out of control. More often than not, these skilled officers, representing federal, state, and local agencies, are able to either defuse such situations or take quick action to control events.

The Naval Air Warfare Center Training Systems Division (NAWCTSD) in Orlando, Fla., widely known for its innovative advances in simulation technologies, recently fielded a new training system that will help law enforcement officials across the nation prepare for the unexpected. In partnership with the Federal Law Enforcement Training Center (FLETC), NAWCTSD recently delivered five new Advanced Use of Force Training Systems (AUFTSs) to FLETC’s training facilities in Glynco, Ga., and Artesia, N.M.

To the casual observer, the AUFTS system appears at first glance to be just another “shoot-or-don’t-shoot” trainer of the types that have been around for decades. It is, in fact, one of the most advanced systems of its type in the world—unlike anything else developed for law enforcement training.



During a recent visit to the Weapons Lab of the Naval Air Warfare Center Training Systems Division (NAWCTSD) in Orlando, Florida, Rear Adm. Donald Gaddis, commander of the Naval Air Warfare Center Aircraft Division (NAWCAD), receives a briefing on the AUFTS system from Tyson Griffin, Lead Engineer on the project. (U.S. Navy Photo)

NAWCTSD Top Ten Contractors for Fiscal Year 2009

CONTRACTOR NAME	Total Value of Contracts
McDonnell Douglas Corp.	\$108,270,901.50
L-3 Communications Corp.	\$66,490,610.47
D. P. Associates Inc.	\$61,040,975.94
Fidelity Technologies Corp.	\$48,847,142.83
Bell-Boeing Joint Project Office	\$44,607,395.00
CAE USA Inc.	\$44,491,271.70
Cubic Worldwide Technical Services Inc.	\$31,421,079.61
Swiftships Shipbuilders LLC	\$23,558,753.00
NLX Corp.	\$21,124,143.11
Carley Corp.	\$18,919,156.32

A trainee using the system is provided with the AUFTS “weapon” and takes a position in front of a large screen. He is then presented with a variety of situations often faced by officers, including a drunk driver, an individual with a knife, persons exhibiting suspicious or threatening behavior, and several others. One of the principal features that separates AUFTS from the pre-recorded “shoot/don’t shoot” video-based training systems is the extensive interactive capabilities of the trainer. Avatars, or computer-generated people, “talk” to the officer and exhibit a variety of moods, word choices, and movements that provide law enforcement trainees with important clues as to their potential actions.

AUFTS also allows the officer to talk to the avatar suspects in order to gain more information, calm them down, or give orders. The system is so advanced that the words spoken by the officer during a training session can automatically change the mood, behavior, and actions of each avatar. For example, if an officer speaks to the avatar in an insulting manner, the avatar is likely to react by becoming more belligerent and threatening.

Instructors are also able to influence events during a training session and can further complicate each situation to chal-

lenge an officer’s capabilities. Even if an officer treats a suspect with respect, for instance, the avatar can be made to react with angry, aggressive behavior—similar to the unreasonable reactions often faced by law enforcement officials. A variety of other conditions can also be changed for each scenario, including the time of day, weather conditions, terrain, the avatar’s race, gender, age and mood, along with the type of weapons involved.

The AUFTS team includes experts in weapons simulation and tracking, speech recognition, software development, computer-generated imagery, and training simulation systems. The group is headed by Lead Engineer Tyson Griffin of NAWCTSD’s Weapons Lab. This same NAWCTSD team has developed several ground-breaking systems, including specialized small arms trainers, interactive “raid-house” facilities, and virtual environment/immersion systems.

The AUFTS trainer is expected to have a wide impact on the nation’s law enforcement training regimen. FLETC serves as an interagency training organization for almost 90 federal agencies and trains over 63,000 students a year. These organizations conducted nearly 500 active training programs in fiscal year 2008. FLETC partners

include the Secret Service, Customs and Border Protection, Coast Guard, Transportation Security Administration, and Immigration and Customs Enforcement—as well as many other federal, state, tribal and local law enforcement agencies.

With the initial fielding of the new NAWCTSD trainers to FLETC, word quickly spread throughout the law enforcement community about AUFTS, and support for the system—along with demand—has quickly grown. “This is an excellent tool for teaching the officer to think through what is the appropriate level of force to use based on the scenario,” said Peggy Schaefer, director of the North Carolina Justice Academy, which trains thousands of law enforcement personnel every year.

There are more than 800,000 sworn law enforcement officers in the United States working for thousands of different agencies. Thanks to the partnership between NAWCTSD and FLETC, training and simulation innovations born in Orlando will help them stay safe while they protect the citizens of our nation.

For more information, contact *MT2* Editor Marty Kauchak at martyk@kmiemediagroup.com or search our online archives for related stories at www.mt2-kmi.com.



Capt. Harry Robinson
Commanding Officer



Walt Augustin (SES)
Technical Director



Capt. Bill Reuter
Executive Officer



Rob Matthews
Deputy Technical Director



Rob Matthews
Director of Acquisitions
and Operations



Tony Delicati
Director of Contracts



Walt Augustin (SES)
Director of Human
Systems

2009 WHO'S WHO



Joseph Mortensen
Director of Test and
Evaluation



Dixie Bishop
Director of Logistics



Mike Friedman
Director of Corporate
Operations



Suzanne Cormier
Director, Comptroller
Group



Geoffrey Chun
Director, Counsel Group



Mike Merritt
Director, Aviation
Programs



Capt. Dave Grimland
Director, Cross-Warfare
Programs



Dave Whittaker
Director, International
Programs



John Freeman
Director, Surface
Programs



Isiah Shepherd
Director, Undersea
Programs



NAWCTSD: The Navy's Principal Center for Training and Simulation

The Naval Air Warfare Center Training Systems Division (NAWCTSD), headquartered in Orlando, Fla., is the Navy's principal center for modeling, simulation and training systems technologies. The center provides training systems development for a wide spectrum of military programs, including aircraft, surface ships, submarines and other specialized requirements.

NAWCTSD is a subordinate command of the Naval Air Warfare Center Aircraft Division (NAWCAD), headquartered at Patuxent River Naval Air Station, Md.

Both organizations are part of the Naval Air Systems Command (NAVAIR).

Located in Orlando's Central Florida Research Park, NAWCTSD employs about

1,000 engineers, scientists and support personnel. Its location in central Florida gives the center the advantage of being co-located with other military training and simulation organizations and the University of Central Florida. NAWCTSD is also located in the center of Florida's High-Tech Corridor, a technology-rich region stretching from Cape Canaveral in the east, to Tampa on the west coast.

The center's advanced laboratories and highly skilled work force, working from this unrivaled technology base, continue to produce cutting-edge advances in training simulation and human performance. NAWCTSD awards an average of \$850 million in contracts to simulation technology companies each year.



Capt. Harry Robinson



Capt. Bill Reuter

ORGANIZATION

NAWCTSD is commanded by Captain Harry Robinson, who brings to his assignment extensive operational aviation and ashore command experience. Walt Augustin, a member of the Senior Executive Service, serves concurrently as technical director, NAWCTSD, and as director of NAVAIR's Human Systems Department.



Walt Augustin

Captain Bill Reuter, currently the NAWCTSD Executive Officer, will take command of the unit next June. Captain Reuter is an F/A-18 pilot with wide experience in testing, development and acquisition program management. An accompanying graphic shows the major departments and the primary leadership of NAWCTSD.

MISSION

NAWCTSD is the Navy's point organization for research, development, test and evaluation, acquisition, and product support of training systems. The Warfare Center not only crafts simulation technologies for the Navy, but is often an integral part of simulation development for the Army, Air Force, Marine Corps and Coast Guard, as well as many federal, state and local agencies.

The Warfare Center provides a full range of innovative products and services that provide complete training solutions. This includes requirements analysis, design, development and full life cycle support. The organization provides continuous learning across a wide variety of applications including aviation, surface and undersea. NAWCTSD continually engages the warfighter to understand challenges, solve problems, create new capabilities, and integrate the science of learning with performance-based training to improve the performance of the warfighter.

Formed in 1941 as the nation's first military simulation developer, NAWCTSD serves as the Navy's Technical Center of Excellence in Research, Development, Acquisition, On-Site Testing and Sustainment of Training Solutions. These solutions are provided in four product lines:

- Training Systems. This product line includes both the development of new

training systems and modifications to existing ones.

- Training Services. These consist of training courses, site surveys and support of fielded systems.
- Training Content. This includes both new training content and the modification of existing curriculum.
- Intellectual Services. This broad product line includes front-end analysis, training system requirements analysis, training situation analysis, technical and operational analysis, mission support analysis, verification and validation analysis, modeling and simulation, mission capabilities study and analysis, patents, publications, specifications and prototypes, among others.

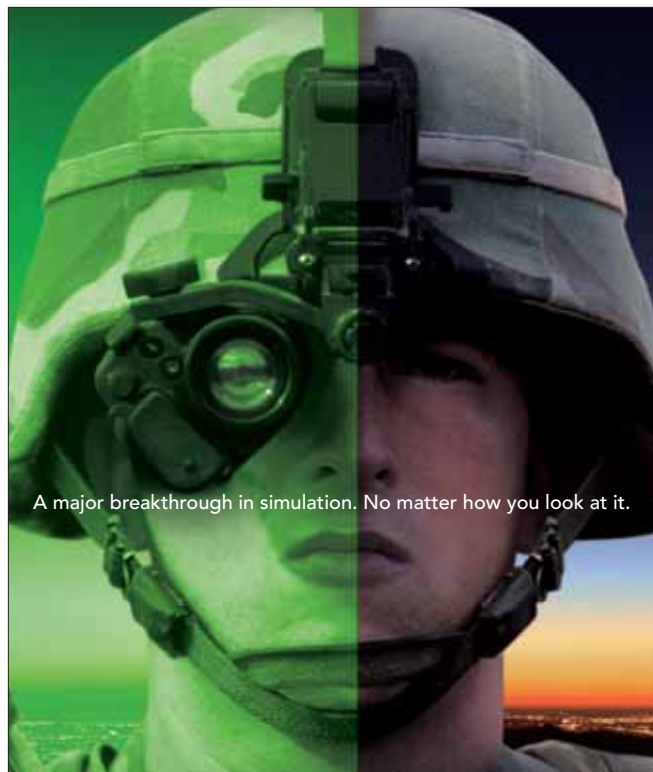
PROGRAM DIRECTORATES

The five principal NAWCTSD program directorates are Aviation, Surface and Expeditionary Warfare, Undersea, Cross-Warfare, and International Programs.

AVIATION. The program director for Aviation Programs (PDA) manages Naval and Marine Corps aviation training programs, systems and products relating to the aviation weapon systems, platforms and environment, including aircraft, missiles, air traffic control, aviation systems, and other related systems, and provides support for aviation-related training provided by the Naval Education and Training Command (NETC) and its subordinate commands.

SURFACE AND EXPEDITIONARY WARFARE.

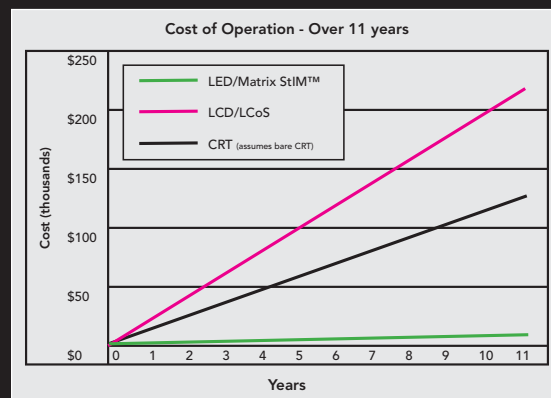
The program director for Surface & Expeditionary Warfare Programs (PDS) manages training programs, systems and products relating to the Navy's surface weapon systems, platforms and envi-



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ronment, including ships, ship systems, ship-launched missiles and munitions, and other related systems and supports surface-related training.

UNDERSEA. The program director for Undersea (PDU) manages training programs, systems and products relating to undersea weapon systems, platforms and environment, including submarines, submarine systems, integrated undersea surveillance, deep submergence, and other related systems; the program director also supports undersea-related training provided by Naval Education and Training Command (NETC) and its subordinate commands.

CROSS-WARFARE. The program director for Cross Warfare Support Branch (PDX) manages training programs, systems, services and products related to individual training, joint services, cross and multiple warfare areas and non-Department of Defense systems and applications. Typical projects in this directorate are those supporting Naval Education and Training Command requirements, special operations, U.S. Joint Forces Command, and the modeling and simulation community. The directorate is often the incubator for emerging technologies or non-traditional training methodologies such as gaming and entertainment industry techniques.

INTERNATIONAL PROGRAMS. The program director for International Programs (PDI) provides the skills, resources, processes and references necessary to develop, plan, direct, negotiate and monitor the Defense Security Assistance Program; distributes policy guidance and standardized procedures; executes Foreign Military Sales (FMS) cases and monitoring programs for training systems and equipment sold to allies; coordinates foreign

disclosure, export licensing and foreign visit requests; and assists the Navy International Program office.

/ITSEC 2009

At Orlando's Interservice/ Industry Training, Simulation, and Education Conference (/ITSEC) this year, exhibits at NAWCTSD's booth (# 2139) will include:

- Sensor-Based Training Effectiveness Evaluation in Live-Virtual-Constructive Environments (STEELE): STEELE focuses on integrating the Quality of Training Effectiveness Assessment (QTEA) tool set and the Common Distributed Mission Training Station (CDMTS) to support performance monitoring and assessment in live-virtual-constructive (LVC) training environments. LVC training scenarios, such as those demonstrated in the booth, support distributed training involving both flight simulators and live aircraft. Leveraging the QTEA and CDMTS tools within this environment allows instructors to monitor pilot technical and physiological performance during dynamic training scenarios.
- Advanced Use of Force Training System (AUFTS): AUFTS is a simulator that targets cognitive decision-making within possible use of force situations for law enforcement and force protection. The system incorporates speech recognition, computer generated imagery, simulated weapon tracking, scenario generation tools, and an enhanced after action review (AAR) capability. A significant

improvement offered by this system is the high level of common, everyday interaction possible between trainee and computer-generated characters enabled by speech recognition.

- Modeling for Evaluation and Tactical Realism for Instructional Capabilities (METRIC): The METRIC tool set includes Automated Expert Modeling for Automated Student Evaluation (AEMASE) and Trainable Automated Forces (TAF). These tools leverage state-of-the-art modeling capabilities to provide enhancements to performance assessment and Semi-Automated Forces (SAFs). AEMASE helps instructors rapidly and accurately assess student performance for more efficient AAR. The focus of TAF is to develop learning agents that allow instructors to alter the behavior of SAFs without becoming computer programmers.
- Multi-Mission Tactical Trainer (MMTT)/Tactical Action Officer (TAO) Intelligent Tutoring System (ITS): The MMTT provides tactical sensor and command and control (C2) simulation for use by ship and ship/air combat teams and Strike Group staff supervisory-level personnel. The MMTT system supports a wide range of training operations. It can be run as a stand-alone multi-ship/multi-aircraft trainer, or can be interfaced to existing training devices to upgrade or enhance current training capabilities.
- DDG-51 Machinery Control System (MCS): The MCS simulator (Device 19G4) provides a realistic training environment for the *Arleigh Burke* (DDG-51)

guided missile destroyer gas-turbine propulsion plant training. Designed to closely resemble the DDG-51 Central Control Station and the Shaft Control Unit located in the main engine room, its primary purpose is to teach gas turbine principles, watch keeping practices, and the full scale operation of the DDG-51 MCS consoles. The PC-based 19G4A version of the MCS will be shown at /ITSEC.

- P-3 Air Crew Tactical Team Trainer (PACT3): This system will consist of the five crewmember stations on board the P-3 aircraft, which include: Pilot, Tactical Coordinator (TACCO), Sensor Operator 1 and 2, and Sensor Station 3. The exhibit will showcase the capabilities for the Pilot and Sensor Station 3. PACT3 will provide a first-ever PC-based (small footprint, low-cost) training capability for currently fielded P-3 maritime patrol aircraft that can be reused with very minor flight dynamics model modifications to represent the Navy's future P-8 Maritime Patrol Aircraft, and that allows for cross platform (aviation, surface, sub-surface) coordinated ASW integrated team training.

NAWCTSD continues traditionally strong ties with its military, private industry and academic partners in the development, acquisition and support of training systems that enable the nation's warfighters to achieve mission success. ★

For more information, contact *MT2* Editor Marty Kauchak at martyk@kmiimagroup.com or search our online archives for related stories at www.mt2-kmi.com.

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