

America's Longest Established Simulation & Training Magazine

Military Training Technology

2012
TOP SIMULATION &
TRAINING COMPANIES

**Training
Innovator**

**Col. Matthew
Clarke**

**Commander
Sergeant First Class
Paul Ray Smith
Simulation and
Training Technology
Center**

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**Helicopter Simulation ★ Realistic Urban Training
Ground Vehicle Gunnery**

FEATURES



Ground Vehicle Gunnery

Simulated weapons training not only continues to save money by off-setting the need for more extensive and higher cost live fire training—it results in efficient and effective training.

By Christian Bourge



Realistic Urban Training

The desire to enhance the realism of urban training over the past decade is clearly evident in things like the proliferation of urban training infrastructures on military bases at home and abroad, the introduction of “hyper-realistic” training to the urban training environment, and technology developments that are already providing the benefits of greatly expanded urban training realism.

By Scott R. Gourley

SPECIAL SECTION:



2012 Top Simulation & Training Companies

This annual competition recognizes companies that have made a significant impact in the military training industry throughout the current fiscal year in simulation, distributed learning, serious gaming, visual systems, embedded training, targets and ranges, database modeling and any other training component.



Helicopter Simulation, Real Benefits

High fidelity simulators offer the military cost-effective alternative to live training exercises, and the options for helicopter simulators are extensive.

By Kenya McCullum

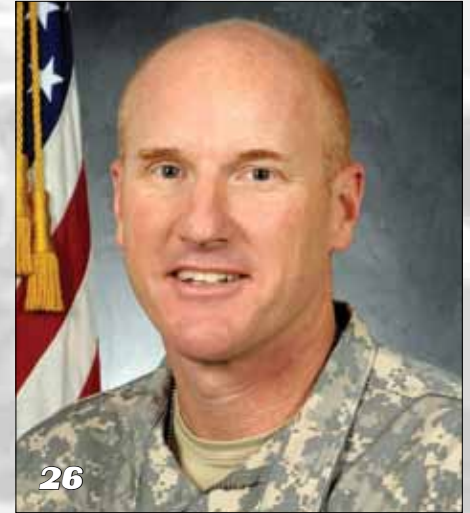
COMMAND PROFILE Army Modeling and Simulation Office



Exclusive Interview with:
Colonel Michael “Mike” Sanders
Assistant Director
Modeling and Simulation Center for Army Analysis
Chief, Army Modeling & Simulation Office

AMSO's main goal is to help the Department of the Army's modeling and simulation (M&S) proponent (the Deputy Chief of Staff, G-8) plan, develop, integrate and resource M&S programs and activities which support soldiers by balancing current force needs with future force capabilities.

COVER / Q&A



Colonel Matthew Clarke

Commander

Sergeant First Class Paul Ray Smith
Simulation and Training Technology Center

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INDUSTRY INTERVIEW



Skip Rodgers
President
Polhemus

Military Training Technology

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- 8 issues per year
- Greatest advertiser base
- More readers by far
- 2012 is our 17th year



Skip Rodgers President Polhemus



Skip Rodgers is president of Polhemus, the leader in magnetic motion tracking for precision motion measurement. Formerly the vice president of military programs, Rodgers has established expertise in simulation and training, as well as real aircraft integration of their high accuracy trackers.

Q: Can you describe Polhemus' history and evolution?

A: In the late 1960s, Polhemus started with navigation system studies as part of military development programs for improving navigational systems utilized by military aircraft. Shortly thereafter, internal research regarding magnetic fields led the company to pioneer the world's first magnetic motion tracking system. The initial application for the newly invented high resolution tracking system was to track the motion of a pilot's head; the objective was to more efficiently match aircraft sensors and displays to the actual point-of-regard the pilot was focused on at any given moment. The reverse was also possible in that a pilot could be dynamically cued in real time to look in a specific direction when an aircraft sensor system identified an incoming threat. This coupling of a precision motion tracker with a visual display allowed for what is today known as helmet mounted cueing systems [HMCS].

Polhemus branched out in the '80s with product launches within the commercial virtual reality markets. In 1995, Polhemus engineers won an Academy Award for Technical Achievement due to the success of a magnetic digitization device that allowed three-dimensional data points to be collected with a simple handheld stylus. Both the stylus and FastScan, a laser-based, magnetically tracked, handheld scanner, have been used by creative production studios to animate films such as *Toy Story*, *Beauty and the Beast*, and *Ice Age*.

Q: What are some of your key products in the DoD training and simulation industry?

A: The Scout trackers are flying on F-16, A-10 and C-130 aircraft today—the driving force behind the highly accurate Scorpion

HMCS. We supply and support the identical tracker to the simulation community responsible for training aircrew to utilize HMCS capabilities. Polhemus also addresses the motion tracking needs within dismount and mechanized training shoot domes, forward observer/call for fire and search and rescue simulators. Polhemus G4, Fastrak and Patriot tracking systems are our most popular products outside of Scout.

Q: What are some of the new training/simulation technologies Polhemus is developing?

A: We've developed fully scalable tracking coverage systems that allow our customers the ability to simply add hardware components as their tracking needs evolve. G4, our latest tracker, offers this scalable value, in addition to tetherless tracking that many dismount training systems need to employ.

Q: How are you positioned for the future within the military?

A: Polhemus maintains a high level of internal research and development. The military is a core segment of our business; we take a great deal of pride in supporting this market and its mission. Being able to offer the training and simulation market the same proprietary tracking technology fielded on real, fighting aircraft positions us well to serve our customers.

Q: What is Polhemus' connection with the defense community?

A: It is our legacy as a corporate organization. Our founder, Bill Polhemus, was a retired Air Force navigator when he founded

the company in the late 1960s and began work on military navigational aids for aircraft. The Polhemus mission today, as it was back when the company began, is deeply rooted in providing hardware and tracking expertise to the military and defense community.

Q: What is an example of your success in the military, and what are some of your goals [specific to the training/simulation industry] over the next year?

A: We provide the Scout head trackers integrated into the Scorpion HMCS flying on A-10, F-16 and C-130 aircraft now. Our goal is to support the integration of these same trackers within the simulation and training community. The Scout and G4 trackers offer the highest tracking fidelity possible to those responsible for emulating real aircraft systems within mission and crew trainers.

Q: How do customers benefit from Polhemus' varied resources and expertise?

A: Beyond our tracking hardware, we support our customers as they integrate visual coupled systems into their platforms; we work through the complexities of creating common reference frames, minimizing system level latency and other engineering challenges associated with integrating, in many cases, dozens of subsystems into one harmonized trainer.

Q: How do you measure success?

A: We lead with our product lines and support expertise in an effort to give our customers the power to break new ground within the real and virtual worlds they service. Success in this regard leads to customer satisfaction and loyalty to our company as a valued partner. This, along with knowing we are providing high-fidelity training capabilities to the men and women serving in the armed forces, makes all of us at Polhemus very proud to be the leader in precision motion tracking; this is our true measure of success. ★

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