



# SHOWDAILY

MONDAY, NOVEMBER 29, 2010

## Desktop to Dome: Air Force Integrates Global Training at the Speed of Real World Operations

Air Force Research Laboratory's (AFRL's) 711th Human Performance Wing, Warfighter Readiness Research Division, Mesa Research Site, is a premier location for world-class training research testbeds. AFRL partners with operational units, industry, and academia to develop sophisticated simulation technology capable of shaping and meeting operational training requirements.

These multifaceted training research systems are designed and built through a collaboration of warfighters, scientists, and engineers. This unique arrangement provides the opportunity for researchers to conduct training research with the warfighter, in turn providing the warfighter with valuable integrated training, all within a research laboratory.

Several of these systems are on display across the I/ITSEC show floor and will be incorporated into daily scenarios to showcase their integrated training capabilities.

By incorporating game-based systems with high-fidelity trainers, Mesa will be highlighting the utility of smaller footprint, lower-cost options to augment training. Referred to as the complimentary family of trainers, this concept explores the ability of several incorporated devices to train the multitude of missions for each operator while reducing cost and increasing availability of training devices.

The main booth (2244) will feature the Joint Terminal Attack Controller Training and Rehearsal System (JTAC-TRS) from the

Integrated Combat Operations Training Testbed (ICOTT) and several game-based training systems from the Gaming Research for Integrated Learning Laboratory (GRILL). The JTAC-TRS is a 200 X 220 degree field-of-view, 13-projector environment, providing an immersive experience for JTACs to rehearse and train, while researchers collect performance data, allowing analysis to inform future training requirements and syllabi. Game-based commercial-off-the-shelf systems include Virtual Battlespace II, X-Plane, Crysis, and Second-life.

Across the floor on the Acme booth (2746), an F-16 Deployable Tactical Trainer (DTT) with Acme's Dynamic Motion Seat (DMS) installed will be on display. This system is exploring the utility of minimal seat motion in a simulator to reduce operator error due to lack of vestibular clues. By providing some tactile feedback, the device can increase the operators' situational awareness and provide key insight into the performance of the simulated airframe.

Another DTT will be on display in the Immersive Display Solutions booth (1245), this one featuring a 3m partial dome visual system. Mesa is comparing this immersive concept with previous 3-screen cockpit layouts to determine what training gains, if any, can be realized.

To complete their showcasing of trainers, the SDS

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CUT SUIT  
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NGRAIN DELIVERY  
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SOCIAL SCENE  
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TODAY'S CONFERENCE

# HIGHLIGHTS

Monday November 29

## SPECIAL EVENTS

0830-1000 Tutorials – *(see conference guide for locations)*

1230-1400 Doing Business with Big Business:  
A Special Session for Small Business *(Room S220F)*

1245-1415 Tutorials

1430-1600 Tutorials

1500-1630 Warfighters' Corner *(Booth 685)*

## INNOVATION SHOWCASE BOOTH 2885

1430 Maximizing performance of Visual Display Systems  
While Reducing Costs – **projectiondesign**

1515 MSIAC: Your GPS for M&S – **MSIAC**

1600 Training Transformed: 3D Virtual Task Trainers in  
Action – **NGRAIN**

1645 Practical Ultrasound Training Workshop for FAST  
Using Virtual Reality – **CAE Healthcare**

## EXHIBIT HALL HOURS

1400-1800

## REGISTRATION HOURS

0700-1800

## TUESDAY SPECIAL EVENT

0900 Breakfast with Ternion  
*(Rosen Centre Hotel, Signature Room 2)*

# SHOWDAILY

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International's Reaper Mission Training Device (MTD) located at the Air National Guard booth (723) will be integrated into several of the scenarios. This system provides training to both pilot and sensor operators via a robust representation of the MQ-9 Reaper. SDS International, Mesa Research Site, and the Air National Guard have teamed up to research and improve the fidelity of training for Reaper operators.

During the morning scenario, Swedish warfighters will connect from the Flygvapnets Luftstridssimuleringscenter in Stockholm, Sweden to the exhibition floor and interact with the JTAC-TRS, DTTs, AWACS via Plexsys (Booth 1225), and others to provide support for a non-governmental organization escort and protection scenario. The afternoon scenario will consist of the local players in a scenario with the JTAC coordinating close air support for a convoy. Interim times will feature smaller scale, interactive, game-driven scenarios incorporating the JTAC-TRS and assets including: Aptima's DDD, Sonalyst's Dangerous Waters, and other game-based training systems.

Noting how the combined scenarios will highlight the utility of games in the family of complimentary trainers, representatives for the Mesa Research Site express the belief that this ground breaking coordination of platforms puts their ongoing efforts at the forefront of discovery, development, and integration of affordable warfighting technologies.

Cover photo: US Air Force



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