I/ITSEC: MVRsimulation introduces new mixed-reality Sand Table

Orlando, FL, 27 November, 2023: At I/ITSEC MVRsimulation is launching a new mixed-reality Sand Table, designed to allow commanders, instructors, trainees, and students to interactively plan and review training missions in a shared, mixed-reality setting. The Sand Table is being demonstrated in the MVRsimulation booth (#1019) networked with the company's Deployable Joint Fires Trainer (DJFT) and Part Task Mission Trainer (PTMT) simulators in a JTAC call for fires scenario.

The Sand Table is a collaborative visualization tool designed to deliver real-world networked or stand-alone military mission planning and after action review (AAR) in three dimensions via integration with the Varjo mixed-reality headset, with geospecific terrain, real-time models and culture rendered by Virtual Reality Scene Generator (VRSG) in its round-earth 3D format.

Wearing the Varjo headset, users are immersed in a mixed-reality environment that allows the wearer to freely explore the 3D visualization of the scenario and geospecific 3D terrain. Users can plan, enact, and review training scenarios while directly interacting with cultural objects in VRSG or by the use of any DIS-based Semi-Automated Forces (SAF) commercial or government off-the-shelf (GOTS) software.

Mixed-reality provides real-world pass-through for direct interaction with other observers in the real-world. Users can operate physical emulated military equipment in the real world, and GOTS military equipment such as ATAK via the Special Warfare Assault Kit (SWAK) with imagery correlated to the terrain, without the need to remove the headset. The eye-gaze of the trainee is visible to observers throughout the mission, captured by the Varjo headset and rendered by VRSG. Each user has a Valve Index Controller to control their own unique view within the sand table, and to zoom in/out for close-up evaluation of a single entity, or to a top-down view of the entire battlefield. The controllers also provide a virtual pointer used to point to specific elements in mission planning or AAR, and direct other participants' attention to a particular location or entity.

At I/ITSEC the Sand Table will be networked with MVRsimulation's DJFT and PTMT simulators. Participants will carry out JTAC/CAS/FO mission planning in VRSG's U.S. Army Yuma Proving Ground, Arizona, geospecific 2 cm per-pixel resolution 3D terrain. They will then watch the mission unfold in real time while it is carried out by JTAC trainees in the DJFT; and conduct AAR, enabled by VRSG's DIS recording and playback capabilities.

The demonstration training scenario will include a behind lines JTAC call-for-fires mission on a group of military vehicles, missile launchers and radar preparing to launch short range ballistic missiles. The scenario will mimic a recent real-world event in Western Iraq that saw militia fighters fire on U.S. troops. The demonstration will use new 3D real-time VRSG vehicle model entities that replicate the platforms used in the actual event, complete with highly-detailed geometry and accurate paint schemes, giving users the ability to experience the training effect delivered by training with models of currently-deployed platforms.

In its stand-alone configuration the Sand Table requires only a COTS high-end notebook running SAF software, and Varjo mixed-reality headsets to conduct classroom-based mission planning training, or point-of-need real-world mission rehearsal. Users can conduct mission planning in VRSG's

geospecific terrain, populating the scenario with real-time blue/red force entities from VRSG's model library, or build their own mission-specific terrain using VRSG's Terrain Tools application.

"Our mixed-reality Sand Table brings the capabilities of VRSG, the DJFT and PTMT together into a single, networked training environment that allows every aspect of a mission to be planned, rehearsed and reviewed in a collaborative environment designed to maximise learning," Garth Smith, President, MVRsimulation, said. "The ability to carry out this training in VRSG's geospecific terrain, using real-world locations and models based on actual vehicle, weapons and radar equipment being deployed by military forces and insurgents in current conflicts, creates an extremely effective and adaptable training tool to help prepare military personnel for the challenges they face in theater."

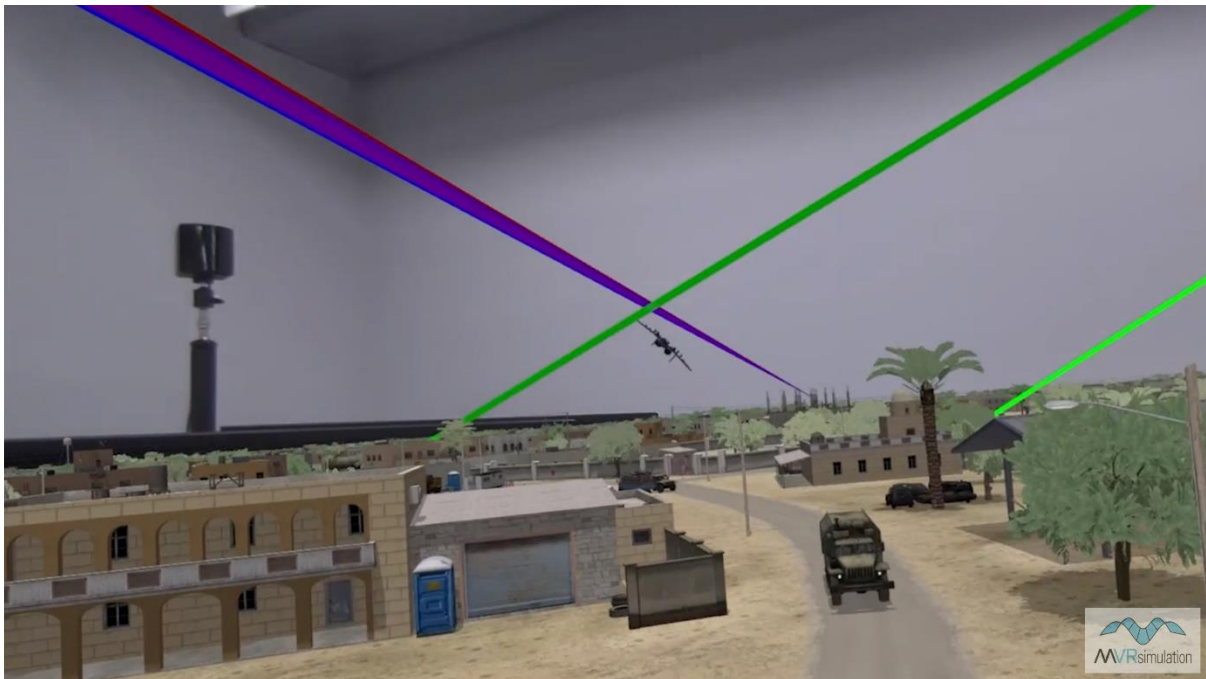*View a video of the mixed-reality Sand Table [here](#).*

Image: First person student view from inside the Varjo mixed-reality headset in MVRsimulation's mixed-reality Sand Table. The scene is rendered by MVRsimulation's VRSG. The red and blue cones depict the JTAC trainee's eye gaze from the Observer Station in the DJFT. The green beam is a pointer from the instructor who is collaborating with the student in the virtual sand table.

Media contact

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About MVRsimulation

Founded in 1997, MVRsimulation develops commercial PC-based software for the military simulation and training markets, featuring high-speed 3D visualization content and rapid creation of networked virtual worlds using real-world data. MVRsimulation's real-time visual systems provide the fidelity of geospecific simulation with game-quality graphics. Users can build (with real-world photographic imagery, elevation data, and feature data) high-fidelity virtual worlds with our terrain generation

tools, and render in real time, at 60Hz frame rates, the resulting virtual world with our real-time 3D visualization application, Virtual Reality Scene Generator. MVRsimulation systems are used for applications such as UAS/RPA trainers, manned flight simulators, mission planning and rehearsal, joint fires and JTAC simulation training, urban operations training, and emergency response management training. For more information, visit www.mvrsimulation.com.