



U.S. Air Force Combat System Officers use mixed reality MetaVR-based software for training

MetaVR's Virtual Reality Scene Generator forms part of a mixed reality embedded training device on the T-1A aircraft

Brookline, MA, August 13, 2019: MetaVR's Virtual Reality Scene Generator (VRSG) has been integrated into the U.S. Air Force T-1A Jayhawk twin-engine jet trainer aircraft as part of an embedded training device to provide a simulated mixed reality Electro-Optical/Infra-Red (EO/IR) training capability to the aircraft.

The U.S. Air Force's Combat Systems Officer training station at Naval Air Station (NAS) Pensacola, FL, has purchased 49 MetaVR VRSG licenses which will be installed on 21 T-1A Jayhawk training aircraft at the base.

VRSG forms part of the T-1A Combat System Officers Training System (CSOTS) embedded training device for the aircraft, which is used to train students in the operation of EO/IR sensors. VRSG generates the visuals for the system, resulting in a mixed reality training experience for trainees that combines simulated and live environments.

In-flight EO/IR training is carried out using a generic simulated sensor model similar to the MX-20. A total of 15 flight paths between North Carolina and Louisiana can be flown during training exercises, with correlated views rendered on MetaVR's SE CONUS ++ terrain. The system is integrated with a third party computer-generated/semi-automated forces application so that students 'see' targets inserted into the simulated view. These targets – buildings, ground vehicles or other aircraft – are models from MetaVR's model libraries.

"The training environment is truly mixed reality – students looking out the aircraft window see real-world locations that correlate with the simulated sensor views of MetaVR's geospecific 3D terrain rendered in VRSG software," Garth Smith, President of MetaVR said. "The major benefit here is that the students obtain maximum training value by flying a real platform and benefitting from having a sensor view that correlates to their actual geographic location."

The sensor simulation approach helps reduce overall training costs to the US Air Force by providing an alternative to more expensive actual EO/IR sensors. Two VRSG licenses are installed on each of the 21 aircraft. One VRSG display is located in front with co-pilot, the other is situated behind where the student sits. In addition to the aircraft-based training system, VRSG is used on a ground-based trainer to increase student's familiarization, and to provide the ability to play back training missions in a debrief setting.

"VRSG is used to teach students various techniques and theories related to the use of the EO/IR sensor equipment in a simulated environment, with targets inserted into the simulated view – something that would be cost prohibitive to recreate in the real world," Smith added.

All US Air Force CSO Training is consolidated at NAS Pensacola under the 479th Flying Training Group Air Education and Training Command unit. The T-1A CSOTS is the first course of a 1.5 year-long CSO training course. After the T-1A course, students go on to EW classroom training on the T25 Simulator for Electronic Combat Training, a classified system which also uses VRSG; followed by training on the T-6A Texan II trainer aircraft.

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Image: MetaVR VRSG real-time rendering of a T-1A entity in flight over geospecific 3D terrain of Pensacola, Florida.

About MetaVR

MetaVR, founded in 1997, 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. MetaVR'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. MetaVR 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.metavr.com.

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