MetaVR providing image generators for Synthetic Training Environment (STE) Reconfigurable Virtual Cockpit Trainers (RVCT) delivered to U.S. Army PEO-STRI

The trainers have been delivered to U.S. Army PEO-STRI in Orlando for evaluation

Brookline, MA, September 26, 2019: MetaVR's Virtual Reality Scene Generator (VRSG) is providing the image generation for the Synthetic Training Environment (STE) Reconfigurable Virtual Cockpit Trainers (RVCT) delivered to the U.S. Army as part of an Other Transaction Authority (OTA 1) program.

The MetaVR VRSG-based simulators include multiple versions of mixed-reality rotorcraft reconfigurable cockpit systems as well as six virtual reality door gunner trainers.

Twenty-five VRSG licenses were purchased for the RVCTs, which have been delivered to U.S. Army PEO-STRI in Orlando by prime contractor, Bugeye Technologies, where they are being evaluated as part of the Army's STE program. Integrated by ZedaSoft, VRSG fulfills the image generation requirements for immersive virtual reality, augmented reality, sensor, and conventional out-the-window capabilities for both the side door gunnery trainer and the Apache sensor simulation.

The side door gunnery trainer takes advantage of VRSG's built-in support for the HTC VIVE Pro Head Mounted Display (HMD), providing high-resolution stereo rendering at 90 frames per second. VRSG also supports the SA Photonics SA-92S augmented reality HMD, and can render a cockpit mask model, which allows the trainee to see through the HMD into a physical cockpit model. Pixels not affected by the cockpit mask model are filled in with imagery from the virtual scene.

"This mixed-reality approach allows a trainee to benefit from the muscle memory training associated with interacting with actual physical cockpit controls," Garth Smith, President of MetaVR, said. "This approach offers the trainee a significant advantage, as they are training on replicas of the actual operational hardware augmented by a seamless see-through to the virtual reality scene, in order to heighten learning and maximize their training value."

MetaVR provided ZedaSoft with a VRSG plugin capable of decoding streaming H.264 video from a sensor channel, which is then rendered onto the video as an overlay to the out-the-window video in the HMD. This configuration is used to satisfy the sensor video requirements used by the actual Apache Integrated Helmet and Display Sight System (IHADSS) HMD. The sensor video displayed in the HMD can be provided by any H.264 stream on the network, such as an image generator channel simulating a sensor attached to the airframe of a remote aircraft or UAS sensor.

The program also includes technology supplied by Bihrle Applied Research (aircraft flight dynamics and systems model), RT-Dynamics (Blackhawk aircraft flight dynamics and systems model), PLEXSYS Interface Products (PLEXComm simulated radio and intercom software), SA Photonics (SA-92S HMD), and Acme Worldwide Enterprises (M240D Gun System Simulator).

This not an endorsement by the U.S. Army

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Image: The RVCT Apache cockpit showing MetaVR VRSG view on left hand side sensor (ZedaSoft image).

Video: Examples of the RVCT and door gunner systems can be found here:

RVCT video: https://youtu.be/xQRuu2g1pLw

Door Gunner: https://youtu.be/C4J4jxAboDw

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 (VRSG). 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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