MPAT Single Gunner/Single Pilot Training

Immersive Technology Brings New Dimension to Single Gunner/Single Pilot Training

Kratos' new Multi-Position Aircrew Trainer (MPAT) provides rotary-wing warfighters with a complete capability for single Gunner/single Pilot training in a reconfigurable modular system. The MPAT is designed to enable single gunner/single pilot to complete currency and proficiency training.

The MPAT employs mixed-reality (MR) technology that has proven highly successful in the Aircrew Combat Mission Trainer (ACMT) Kratos developed and placed in service with the U.S. Air Force Global Stike Command (AFGSC). The ACMT has significantly increased combat readiness rates for AFGSC. The MPAT includes a Gunner Station mounted in an MR Kratos 'Holodeck' enclosure; a Pilot Station; an Instructor Operator Station (IOS) and rack-mounted computational equipment.

The **Gunner Station** can be reconfigured, virtually and physically, to either a right or left gunner position. The flight engineer is able to train on M240 gun operations and emergency procedures without removing the head-mounted display (HMD). MPAT is currently delivered with a M240 simulated weapon but can be delivered with M134 or other simulated weapon system. MR technology allows gunner trainees to experience the real world tasks, like reading their checklist, conduct degrees of weapon readiness while interacting with virtual training scenarios. The ability to customize the MR enclosures for various platforms and training scenarios, coupled with the training benefits of immersive technology, can reduce life-cycle costs while increasing the value and effectiveness of training.

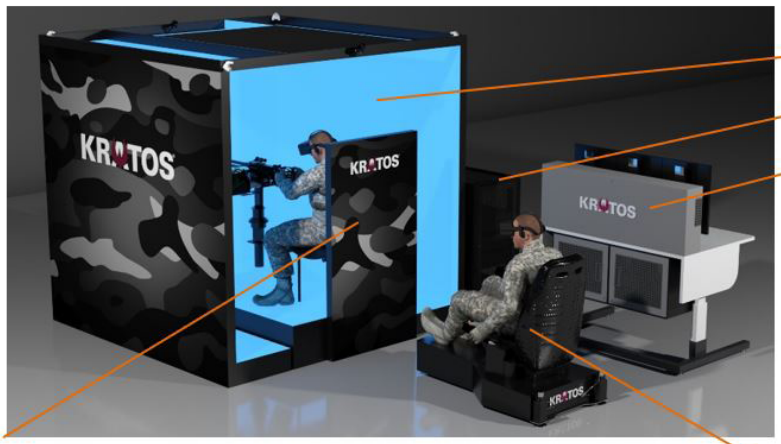
The **Pilot Station**, with a virtual reality (VR) HMD, is reconfigurable to either a Pilot or Copilot position depending on the desired training scenario. The cyclic and collective replicate helicopter physical controls including force trim function, collective friction control, control loading, and Heading/Speed Indicator (HSI). The modular components are readily configured to fit in a standard classroom through a standard door. The system operates on domestic power.

Enhance Training Efficiency

Many advanced, military training programs are employing immersive technologies –virtual reality (VR) augmented reality (AR), mixed reality (MR) and cross reality (XR) to create rich immersive training experiences. Immersive training environments that can enhance skill acquisition and retention.

8601 Transport Drive - Orlando, FL • Email: Training@KratosDefense.com • Web: www.KratosDefense.com

MPAT System Configuration



Mixed Reality (MR) Enclosure

Rack-Mount Computers

Instructor Operator Station (IOS)

- Height Adjustable Workstation
- IOS Computer
- Displays
- Keyboard and mouse
- Audio Headset with PTT buttons
- After Action Review (AAR) Recorder

Reconfigurable Gunner Station

- Gunner Platform
- Gunner seat with transmission wall
- M240 simulated weapon with mount
- ICS Cable and Push To Talk (PTT) button
- Ambient speaker
- After Action Review (AAR) camera
- Reconfigurable (from left to right) door frame
- MR Head Mounted Display (HMD) with head tracking

Reconfigurable Pilot Station

- Pilot Seat
- Virtual Reality (VR) helmet-mounted display
- Collective, cyclic, and pedals replicate helicopter controls
- Reconfigurable from left to right seat
- Includes Heading/Speed Indicator (HSI) knobs
- ICS Cable and PTT button
- Ambient speaker
- AAR camera