MVRsimulation has introduced a new portable fixed-wing Part Task Mission Trainer (PTMT), designed and built under an internal development program. The PTMT provides a low-cost, quick-deploy cockpit training solution to fill the gap in current in-use mission tactics training toolkits for military fixed-wing pilots. The system aims to maximize suspension of disbelief for trainee pilots as they practice mission tactics and coordination as part of joint training operations in networked environments. It can also operate as a standalone training solution.

Using notional aircraft hardware represented by touchscreens for conducting air-to-air or air-to-ground training scenarios, the PTMT can be configured for training for current 3rd and 4th generation combat aircraft currently used by NATO nations by easily changing the position of the specially-designed, patent-pending, flight control stick between side-stick and center-stick positions.

With this cost-effective, easy-to-assemble/break down modular plug-and-play system, pilots can practice to improve skillsets such as gun runs and strafes, building muscle memory without requiring the use of an actual airframe. A pilot in the PTMT can manage complex air-to-air scenarios – taking virtual control of any constructive player at any time, triggering scripted behaviors, and employing aircraft systems that directly mimic the capabilities of their real world counterparts, all while interacting with controls in the same manner as they would in an actual aircraft. The simulator is currently in service in the NATO Tactical Leadership Programme (TLP) at Los Llanos Air Base, Albacete, Spain.

Scenarios are run on Battlespace Simulations’ (BSI's) Modern Air Combat Environment (MACE) software and MVRsimulation’s Virtual Reality Scene Generator (VRSG®) software, 3D terrain, and models. VRSG provides the real-time 3D out-the-window and sensor views. BSI’s full suite of tools enables multi-mission virtual role playing in the air combat arena, to include tactical displays that are integrated with the HOTAS controls and emulate real world tactical systems. This coupling of MACE with VRSG provides the degree of immersion ideally suited to training, from solo part-task mission objectives to large-scale, distributed live-virtual-constructive (LVC) rehearsal of major combat operations.

To take advantage of the eye-tracking technology in Varjo headsets, MVRsimulation has developed the means to have VRSG visualize the gaze of the pilot. During a training mission, if a pilot in the PTMT is wearing a Varjo headset such as the Varjo XR-3, VRSG can track the pilot’s head position and orientation, track the gaze vector using
the Varjo device’s pupil tracking functionality, and then visualize the gaze of each eye independently as a color-coded 3D cone. VRSG can export this data via DIS as a PDU log, which makes the eye-tracking playback valuable for after-action visualization.

Shell enclosure
- Welded aluminum structure made in the USA; represents a subset of the fuselage from the aircraft nose to just behind the cockpit seat.
- Adjustable mount for the flight control joystick; can be easily repositioned for center-stick or side-stick controls (without the need for disassembly/reassembly).
- External dimensions: 76.24” length x 41.36” width x 34.62” height cockpit shell without OTW monitor.
- Overall height varies, based on location of OTW monitor.
- To calculate siting, add 2’ safety zone on all sides.
- Weight (without electronics) is 225 pounds.

PC hardware and accessories
- 1 computer running MACE cockpit controls and VRSG sensor pod.
- 1 computer running VRSG OTW view.
- 34” curved gaming monitor (3K resolution).
- 22” touch screen monitor.
- Varjo XR-3 mixed-reality system (with one-time, long-term buyout software maintenance).
- Adjustable mounted flight-control joystick for side- or center-stick positioning.
- Thrustmaster HOTAS Warthog.

Software
- MVRsimulation VRSG with 3D terrain and model libraries.
- BSI MACE EW with cockpit multi-function display (MFD).
- BSI VIPERS DIS radio.

Modular, reconfigurable, and transportable
- Can be configured to replicate the cockpit of any current 4.5-generation combat aircraft for customized training.
- Easy two-person lift into and out of a crate.
- Easy to move to alternative locations.
- Training scenarios can also be projected onto large screens in a domed configuration.
- Network capable for multiplayer distributed simulations.
- 10-Gigabit Ethernet switch for 3D content.
- Support for international configurations.

Low-cost commercial-off-the-shelf system
- Cost to U.S. delivery customers: $160,000.
- Cost includes shell enclosure, PC hardware and accessories, and all required software licenses.
- Cost excludes shipping, setup support, and onsite training.

Pricing in effect for 2022. Please send a request for quote to sales@mvrsimulation.com.