



NAWCTSD's demonstrated success with 3D gaming technologies for virtual environment military training applications has wide implications for the Navy and the Department of Defense. Such technologies are easily transferable across the air-land-sea platform spectrum, providing the Fleet with vast new opportunities to improve training performance, lower costs, reduce training time, and operational risks.

MULTIPURPOSE RECONFIGURABLE TRAINING SYSTEM (MRTS) 3D[®]

A family of trainers providing a virtual training environment simulating a variety of systems.

Each trainer consists of government-owned simulation software running on a stand-alone network of commercial-off-the-shelf (COTS) hardware and software components. A single MRTS 3D[®] hardware trainer can shift between the multiple software simulation applications within minutes. This capability enables a training command to use a single hardware device to give photo-realistic, virtual training on a variety of different systems. MRTS 3D[®] Trainers are used in both sailor pipeline courses and in pre-deployment team training. After the instructor sets up a training scenario, faults can be inserted at any stage. The student follows shipboard procedures, interacting with the simulation through multi-touch LCD monitors.

A single MRTS 3D[®] hardware trainer can shift between the multiple software simulation applications within minutes.

MRTS 3D[®] PROGRAMS

UNDERSEA	SURFACE	GROUND	AIR
 <ul style="list-style-type: none"> • VA Torpedo Room I/II, III, IV • VA 2nd Flight, 688i WLC • VA/FM EDG Ops & CPs • OHIO EDG OPs & CPs 	 <ul style="list-style-type: none"> • Journeyman Communications Course (2020) • SPY 1D (2020) • SLQ-32 (v)6 (2020) 	 <ul style="list-style-type: none"> • HIMARS (2021) • SMC/USA Vehicle Maint • C-RAM (2022) 	 <ul style="list-style-type: none"> • MEPP Ops & T/S • MQ-4C Triton Avionics Maint • EMALS Ops & Maint (2020) • AAG Ops & Maint (2020) • E-6B Mercury (2021)





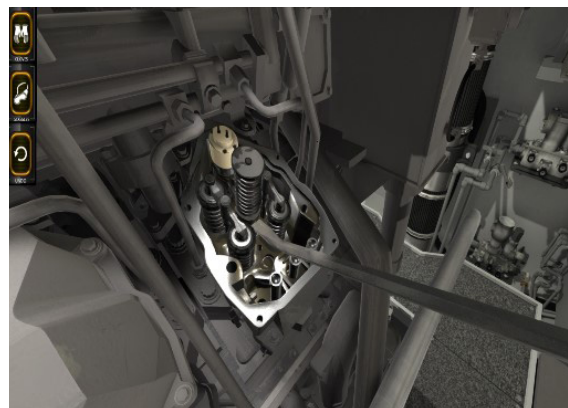
MRTS 3D® WEAPON LAUNCH CONSOLE TEAM TRAINER FOR VIRGINIA AND LOS ANGELES-CLASS SUBMARINES

Replicating the functionality of the U.S. Navy's Los Angeles-class Weapon Launch Console and Virginia-class submarine torpedo room down to the smallest detail, these systems represent a significant step forward in low-cost, high-fidelity simulation of tactical shipboard equipment which sets the standard for future trainers. Utilizing touch display panels, the simulator allows operators to carry out all the steps to load a torpedo or cruise missile, arm the weapon, and launch it in a realistic 3D environment. For instance, valves do more than simply turn "on and off." Each valve is programmed to emulate common, real-world characteristics such as "stuck," "easy to turn," "hard to turn," and "sticky."

The stunning 3D imagery and model interaction replicates a real world environment at an affordable cost, and can be delivered to the fleet at a fraction of the development time. Studies conducted by the Submarine Learning Center prove a significant decrease in training time and qualification time, resulting in increased student throughput, which ultimately keeps the Submarine Force mission ready.

MRTS 3D® ELECTROMAGNETIC AIRCRAFT LAUNCH SYSTEM (EMALS)

Utilizing the same MRTS 3D® hardware, EMALS will provide high-fidelity operator and maintenance catapult system training for the U.S. Navy Ford-class aircraft carriers which will replicate the control room, generator room and flight deck crew using avatars. The MRTS 3D® EMALS simulation is a low-cost solution that includes both a lab and classroom (totaling 20 simulators), and will be installed in a fleet concentrated location at the Center for Naval Aviation Technical Training Unit (CNATTU) in Norfolk, VA.



MRTS 3D® FAIRBANKS MORSE AND VIRGINIA EMERGENCY DIESEL GENERATOR (EDG)

Providing a software simulation of the entire 688(i) and Virginia-class auxiliary machinery room using advanced graphics with correct component locations. The system enables operator training on all operating and casualty procedures to start, run, and shutdown an EDG in a realistic shipboard environment.



MRTS 3D® MOBILE ELECTRIC POWER PLANT (MEPP)

A photo-realistic software simulation of the diesel powered electric cart A/M32A-108 for servicing, starting, and maintaining aircraft. The MRTS 3D® MEPP software allows for operation, fault localization and trouble shooting. Total development time for the trainer was less than 12 months from conception to delivery.

For further information on this exhibit, or on business opportunities with NAWCTSD, please contact our Business Support Team by telephone at (407) 380-4903, by e-mail at orlo_businesssupportteam@navy.mil, or by mail at Business Support Team, NAWCTSD, 12211 Science Drive, Orlando, FL 32826.

