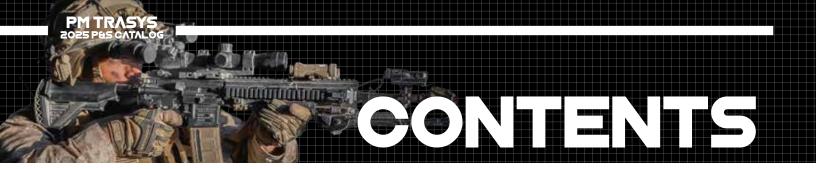
## Ľ Û PROGRAM MANAGE

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### **RANGE TRAINING SYSTEMS** 5

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### PROGRAM MANAGER TRAINING SYSTEMS (PM TRASYS)

Located in Orlando, Florida, PM TRASYS is Marine Corps Systems Command's executive agent assigned to manage acquisition and life-cycle support of Marine Corps ground training systems, devices, and training support services. PM TRASYS equips and sustains the Marine Corps with the most capable and cost-effective training systems for current and future expeditionary and crisis response operations. We provide various training products including simulators, mock weapons, range targets, range instrumentation, training technology research and development,

distributed learning capabilities, training observation capabilities, and after-action review systems. This is successfully accomplished by a staff of 180 including Marines, civilians and contractor personnel with professional expertise across the areas of program management, engineering, training facilities engineering, logistics, instructional systems design, procurement, contract management, cost estimation, budget and financial management, live, virtual, constructive integration, and business operations. PM TRASYS also supports customers, fielded training systems, and training support services with TRASYS Liaison Offices (TLOs) located across and outside the United States. At PM TRASYS we understand the Marine Corps' needs and vision. By providing training systems, training environments, and training support and sustainment, we support Marines with their overall mission.

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MANAGER TRA



Colonel Marcus J. Reynolds has served as Marine Corps Systems Command's Program Manager for Training Systems since April 2022.

Reynolds enlisted into the Marine Corps in 1993 and was commissioned in 1998. He has served overseas for 11 years including deployments throughout the Indo-Pacific area of responsibility as well as combat deployments to Kuwait as an individual augmentee with Coalition Forces Land Component Command in support of Operation Iraqi Freedom (OIF) as well as leading an embedded training

### **PROGRAM MANAGER**

team in Afghanistan during Operation Enduring Freedom (OEF). He was selected for the Secretary of Defense Executive Fellowship Program in 2020 and served a year as an Executive Fellow at Microsoft Corporation in Washington, D.C., upon completion of training at the Darden Business School in Charlottesville, Virginia.

His research papers on Mixed Reality have been published in the Marine Corps Gazette and in the U.S. Naval Institute's Proceedings.

He holds an Associate of Science in Drafting & Design Technology, a Bachelor of Science in Industrial **Technology from West Virginia** Institute of Technology and a Master of Science in Project **Management from Colorado Technical University. He** holds DAWIA Certifications in Program Management Level 3, Engineering Level 1, Facilities Engineering Level 1, has completed PMT 4010, and is a member of the Defense Acquisition Corps. He is a graduate of EWS, Command & Staff College, and Air War College.



The Product Manager for Range Training Systems (PdM RTS) provides U.S. Marine Corps bases and stations with live force-on-force, force-on-target tactical engagement training and dynamic capabilities for real time and post mission battle tracking and after action review. RTS directly impacts tactical training and the commander's ability to meet mandated pre-deployment training requirements, which ultimately affects force readiness. In addition to concentrating on live, interactive simulations and ranges, RTS also provides support to more than 1,400 range training areas (165 are instrumented) across the Marine Corps enterprise - working hand in hand with Naval Facilities Engineering Command on military construction projects on range modernization efforts that require site preparation and simulator buildings that will house our simulators.

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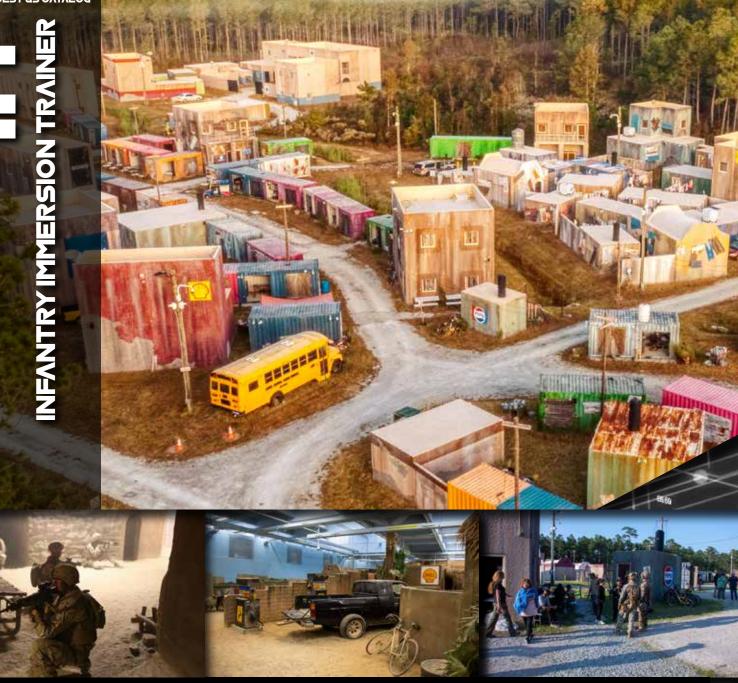
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### DESCRIPTION

The Marine Corps Tactical Instrumentation System (MCTIS) provides realistic, non-live fire capabilities to perform Force on Force training using personnel devices as part of a suite of tactical engagement capabilities that enhance training around the world and across the range of military operations. The employment of MCTIS provides instant feedback and after-action capabilities which enhances both the realism and effectiveness of Force-on-Force training from small unitlevel to large-scale training exercises. In addition to tactical engagement adjudication, MCTIS provides an enhanced afteraction review (AAR) capability that can track performance from the unit-level down to the individual user at every point of the training event. MCTIS is broken into increments: increment 1 is the Personnel variant (MCTIS-P), which provides man-worn detectors, command and control devices, and vehicle base kits; increment 2 is Combat Vehicles (MCTIS-CV), which adds instrumentation for Amphibious Combat Vehicles (ACV) and Light Armored Vehicles; increment 3 is weapons surrogates, which will provide supporting weaponry to fill out a combat unit's table of equipment; and increment 4, which captures future requirements, such as the integration of camera feeds into the AAR capability or air-to-ground/ ground-to-air interaction.

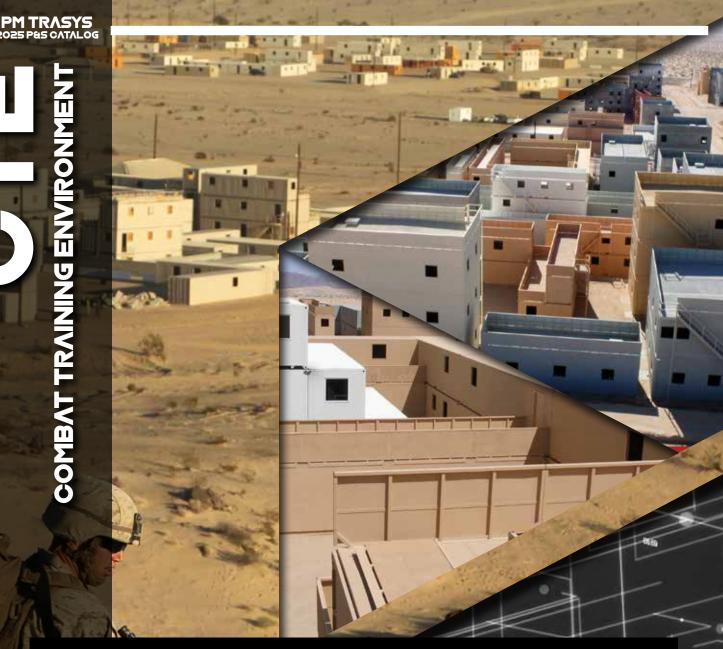
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Infantry Immersion Trainers are small-unit training ranges consisting of urban structures finished and decorated to replicate geo-specific locations. These training ranges are enhanced by the integration of direct fire training systems, virtual and special effects systems, role-players, and video instrumentation for use in after action reviews. Training in the IIT replicates current operational theaters and stresses small-unit actions on the smallunit leader's tactical, moral, and ethical decision making within the context of operational culture.

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### DESCRIPTION

Combat Training Environment incorporates "real-world" conditions, which replicate urban environments commonly encountered within the theater of operation. These training systems include a variety of technologies and configurations to target various training scenarios and objectives supporting a variety of training tasks related to the deployment and maneuver of Marines in urban settings. These training systems are comprised of non-permanent building structures constructed of various materials configured for training in both live fire and non-live fire environments. The structure, character, density, and features of each system are designed to reflect logical functions that are typical within the settings being replicated (e.g., residential, commercial, industrial, recreation, religious, etc.).

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### **DESCRIPTION**

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The Tactical Video Capture System provides video-based afteraction review (AAR) capabilities to support Marine Corps training. TVCS provides these capabilities utilizing a graphical user interface, configurable video-based alarms that combines multiple cameras into a single view. This view captures the Marine's urban warfare tactics and highlights strengths and weaknesses for use during both group and individual AAR evaluation sessions.

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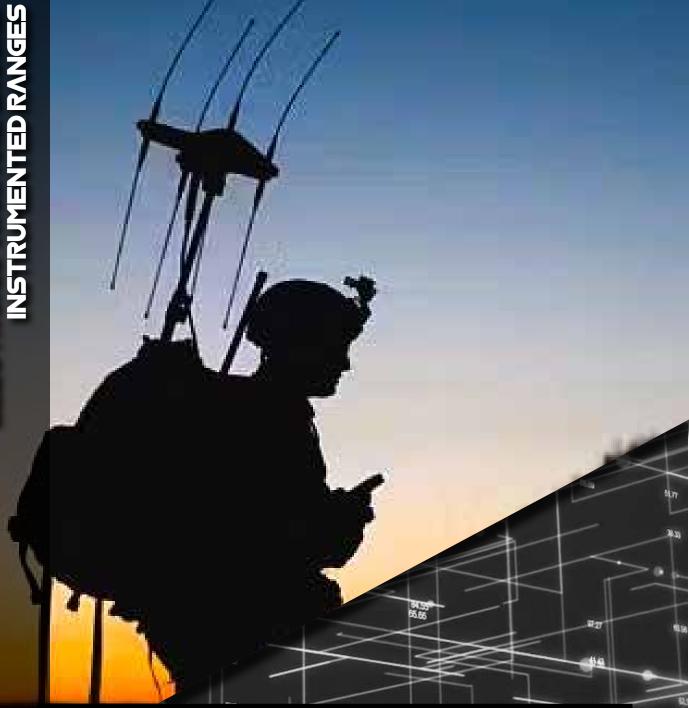
LFTS will procure, field, install, and sustain the equipment needed to operate live fire ranges not previously fielded under the Range Training Aids Portfolio. The LFTS program will provision individual, and crew served, small arms weapon ground target systems for the following newly constructed, military construction ranges.

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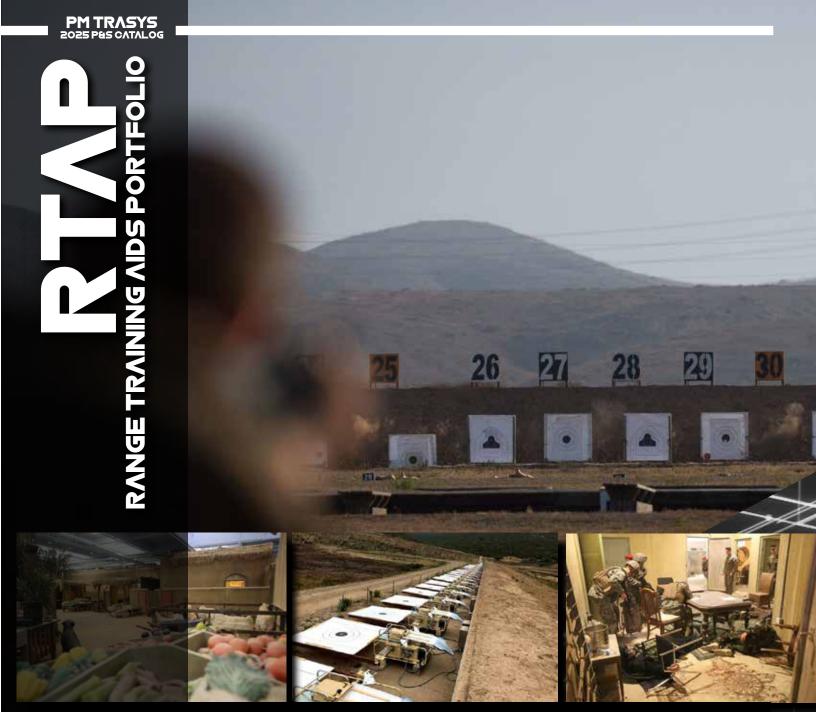
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The EWGIR is intended to be integrated into existing Ground and MOUT Ranges in order to provide a realistic RF jammed and/or GPS spoofed training environment which will enhance small unit tactics and the ability to engage nearpeer adversaries.

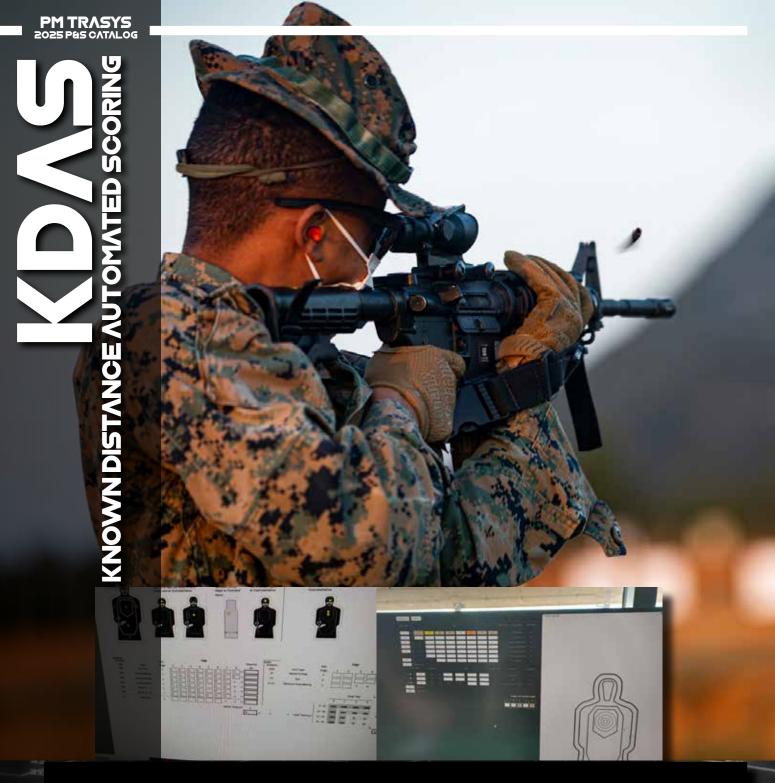


The Range Training Aids Portfolio includes atmospherics, battlefield effects simulators, and targets. These ranges enable rifle and pistol qualification, familiarization fire, live fire and maneuver, and escalation of force training. Targets are a subset under the overarching RTAP program, a program of record that is maintaining Marine Corps live fire training capabilities and include fielding and installation of all types of automated stationary and moving infantry and vehicle targets as well as automated scoring systems for traditional ranges and military operations on urban terrain (MOUT) facilities.

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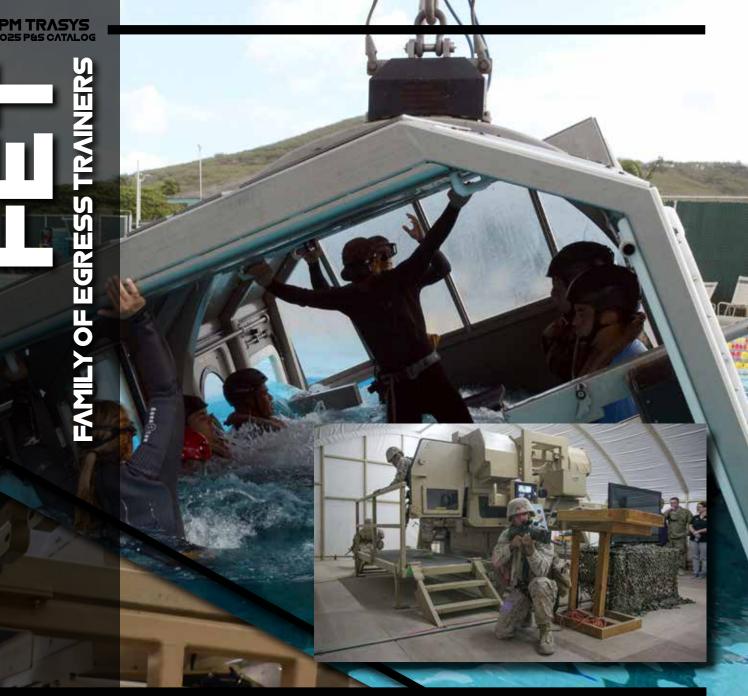
Known Distance Automated Scoring system provides real time target scoring by detecting and reporting the location of a bullet impacts on the target to within 5-12mm accuracy. These capabilities expedite annual rifle marksmanship qualifications by reducing time spent in the pits, providing rapid and accurate feedback to the shooters, and minimizing delays due to human error.

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The Product Manager for Synthetic Training Systems (PdM STS) provides training systems that leverage technology to provide immersive, cost-effective, and more accessible training to echelons from individual Marines through Marine Air-Ground Task Force staffs. The training systems support individual and collective synthetic training needs for occupational requirements, operational planning, and global readiness in an increasingly joint and partnered global security environment. Ongoing modernization efforts are advancing capabilities to familiarize, qualify, and sustain competency with weapon platforms and command and control tools to enhance training relevance, operational performance, and the overall lethality of the force.



The Family of Egress Trainers (FET) is a collection of mature technology training devices that expose Marines and other service members to adverse conditions encountered during tactical vehicle or aircraft rollover situations. The FET devices include Dry Rollover Egress Trainers (DRET) and Underwater Egress Trainers (UET). The FET devices are operated in a safe, controlled, simulated training environment and can be employed in individual or combined scenarios. This training system is required to fulfill critical training needs, offering each trainee the opportunity to rehearse the skills necessary to safely egress the vehicle/aircraft in a rollover or submerged condition.



The Underwater Egress Trainer (UET) program consists of classroom instruction and familiarization of the training methodology – knowledge-based training followed by performance-based training in the "dunker" devices.

The Modular Amphibious Egress Trainer (MAET) uses a generic fuselage section representing rotary aircraft, amphibious vehicles, cockpits, and cabin emergency escape exits. The MAET trainer acts as a "dunker,' which functions closely to the general characteristics of a 'ditched' aircraft. During a training exercise, the MAET is lowered into a pool, and turned up to a 180-degree rotation on its longitudinal axis. MAET lifting systems (hoists and gantries) provide, at a minimum, a two-speed rate of descent retract. Students can practice under-water egress from the MAET in the upright position (zero-degree rotation), an inverted position (180-degree rotation), or in any position between zero and 180 degrees. Current systems are able to simulate CH-46, CH-53, and MV-22 configurations and are adaptable to future platforms.

The submerged Vehicle Egress Trainer (SVET) has the same modular core and rotational capabilities as the MAET but dedicated for ground vehicle simulation. It is equipped with modules for the High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) and a generic amphibious track platform. The SVET will be replaced with the Multi-Use Egress Trainer (MUET) in the future to simulate egress from the Amphibious Combat Vehicle (ACV) and Joint Light Tactical Vehicle (JLTV). The Shallow Water Egress Trainer (SWET) is an individual seat-type device used prior to and in conjunction with MAET and SVET. It is used to introduce water submersion and the proper use of current supplemental emergency breathing devices such as the intermediate passenger helicopter aircrew breathing device and survival egress air.



The High Mobility Multi-Purpose Wheeled Vehicle Egress Assistance Trainer (HEAT) provides a realistic and relevant training environment for Marines to train tactical vehicle egress procedures in various degrees of vehicle rollover. Marines experience the real effects of a vehicle rollover, practice egress through cab doors and turret opening, receive reinforcement of the importance of wearing a seat belt and learn the procedures and effort levels required to execute vehicle egress. The Mine-Resistant Ambush-Protected Egress Trainer (MET) is used to train Marine crews and passengers to safely egress a roll-over situation through the repetitive use of emergency egress drills. The MET consists of a vehicle cab suspended over a raised platform by two rotating wheels. MET variants currently fielded by the Marine Corps are the Cougar and Buffalo.

The Joint Light Tactical Vehicle Egress Trainer (JET) is similar to the high-mobility multipurpose wheeled vehicle assistance trainer with seating for four and a gunner compartment. The JET is a variant of the Mine-Resistant Ambush-Protected Egress Trainer (MET) modified by removing the MET variant capsule replacing it with a joint light tactical vehicle (JLTV) cab. The JET is capable of continuous or intermittent rotation allowing for the simulation of safety and survival procedures during a JLTV rollover. The JLTV cab interfaces with the existing mounting structure and tube weldments of the vehicle cage assembly.



The High Mobility Multi-Purpose Wheeled Vehicle Egress Assistance Trainer (HEAT) provides a realistic and relevant training environment for Marines to train tactical vehicle egress procedures in various degrees of vehicle rollover. Marines experience the real effects of a vehicle rollover, practice egress through cab doors and turret opening, receive reinforcement of the importance of wearing a seat belt and learn the procedures and effort levels required to execute vehicle egress.

# MINE-RESISTANT AMBUSH PROTECTED (MRAP) EGRESS TRAINER

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### **DESCRIPTION**

The Mine-Resistant Ambush-Protected Egress Trainer (MET) is used to train Marine crews and passengers to safely egress a roll-over situation through the repetitive use of emergency egress drills. The MET consists of a vehicle cab suspended over a raised platform by two rotating wheels. MET variants currently fielded by the Marine Corps are the Cougar and Buffalo.

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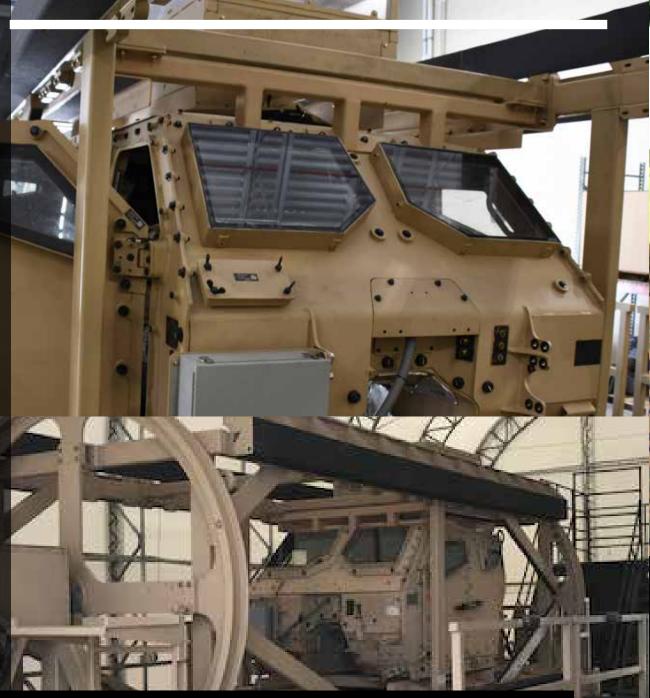
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### **DESCRIPTION**

The Joint Light Tactical Vehicle Egress Trainer (JET) is similar to the high-mobility multipurpose wheeled vehicle assistance trainer with seating for four and a gunner compartment. The JET is a variant of the Mine-Resistant Ambush-Protected Egress Trainer (MET) modified by removing the MET variant capsule replacing it with a joint light tactical vehicle (JLTV) cab. The JET is capable of continuous or intermittent rotation allowing for the simulation of safety and survival procedures during a JLTV rollover. The JLTV cab interfaces with the existing mounting structure and tube weldments of the vehicle cage assembly.

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Combat Vehicle Training Systems (CVTS) is a high-fidelity computer-based, interactive simulator that provides individual, crew, section and platoon training in precision gunnery and mission tactical skills to the light armored reconnaissance (LAR) and assault amphibian communities. CVTS trains Marines in vehicle operation skills, target acquisition and identification, tactical decision-making, maneuvering, and engagement using fire control systems and sighting equipment against mobile and stationary threats in a realistic battlefield environment. The LAR requirements are satisfied by the Light Armored Vehicle-25 (LAV-25) Advanced Gunnery Training Systems (AGTS). The AGTS variants include the relocatable AGTS (RAGTS), mobile AGTS (MAGTS), deployable AGTS (DAGTS) and table-top AGTS (TAGTS). The assault amphibian requirement is satisfied by the Assault Amphibious Vehicle Turret Trainer (AAV-TT). CVTSs are a gate-to-live-fire, and used to hone combat skills and improve readiness.

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### **DESCRIPTION**

Combat Convoy Simulator is an immersive training environment for convoy operations. CCS provides training for vehicle operators, passengers, and command elements. CCS supports versatile training in vehicle operations, crew-served weapons utilization, supporting arms integration, command and control procedures, and responses to enemy attacks and countermeasures. CCS is an exceptional tool for small unit tactics development, standard operating procedures rehearsal, and teambuilding.



### **DESCRIPTION**

The USMC Operator-Driver Simulator (ODS) complements existing driver courses, driver training, and licensing requirements and is reconfigurable to operate and train for USMC tactical wheeled variants. It is comprised of four major components: a generic tactical vehicle cab with simulated armor panels, interchangeable dash panels, a visual system, and an Instructor Operator Station (IOS). The ODS provides a realistic training environment that simulates the visual, aural/ audio, and haptic cues for the driver of a tactical wheeled vehicle. Moreover, it sufficiently reproduces the behavior of a vehicle in motion under varied road surfaces, passenger and cargo configurations, weather conditions, and stages of daytime and nighttime illumination.

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The Indoor Simulated Marksmanship Trainer uses simulation to instill and sustain Marines and Sailors in marksmanship fundamentals, mortars, and crew served weapons employment, call for fire and tactical decision-making. A standalone ISMTG can support up to five firing points while simulating known and unknown distance ranges or eight assigned weapons while executing tactical scenarios within Virtual Battlespace (VBS). When three ISMTs are networked together to form an Infantry Squad Trainer (IST), the system can support up 15 firing points while simulating known and unknown distance ranges, or up to 24 assigned weapons while executing tactical scenarios within VBS. Marksmanship fundamentals are instilled and sustained through simulated qualification tables of fire which provide real time and after action review feedback of the shooter's line of sight, point of aim, and trigger pull for the entire engagement.

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### **DESCRIPTION**

Advanced Small Arms Lethality Trainer provides an enhanced simulated capability that directly supports infantry Marines' weapons proficiency training to include updated scoring for basic/advanced marksmanship and team/squad drills. ASALT provides detailed feedback that measures overall human performance to include shot lethality. ASALT allow Marines to increase their cognitive decision-making and confidence in a dynamic environment - multiple targets, limited exposure targets, and shooting on the move. ASALT enhances live-fire performance, combat readiness, and overall lethality of the force.

The Product Manager for Warrior Training Support (PdM WTS) PdM WTS provides a geographically aligned mechanism for PM TRASYS to conduct contract surveillance and increase awareness of regional resources, relationships, and Marine Corps priorities linked to fielding and sustaining training systems. Emphasizing the warfighterfocused mission of PM TRASYS, WTS awards and manages contract actions which enable globally deployed Marines to take advantage of training systems supported by contracted logistics partners, software sustainment, knowledge-based service support, and other range training products and services that enable mission readiness.

RFIGHTE

38 35 PdM WTS manages a network of forward-positioned personnel who represent PM TRASYS at major Marine Corps installations across the globe. Training Liaison Officers (TLOs) provide on-site representation for the program office to ensure training programs remain supported throughout their

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acquisition lifecycle. Key responsibilities of TLOs include program management support, logistics coordination, contract surveillance, key stakeholder engagement, incident management, and a wide array of risk-related reporting criteria.

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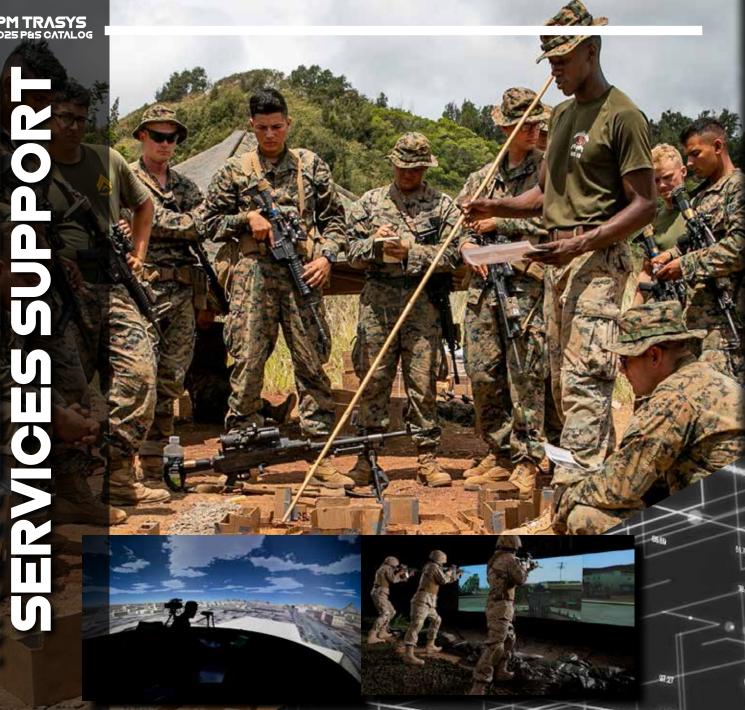
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PdM WTS manages Electronics and Communications Services & Support for PM TRASYS through its homegrown Electronics and Communications Services (ECS) Multiple Award Contract (MAC) and cooperative use of other agencies' contract vehicles. PdM WTS personnel coordinates with other product management teams to ensure best-possible contract support is obtained for a wide array of digital training needs, to include post deployment software support, software modifications, and cybersecurity support.



PdM WTS manages Knowledge-Based Services Support for PM TRASYS through its homegrown Marine Air-Ground Task Force Training Systems Support (MTSS) Multiple Award Contract (MAC) and cooperative use of other agencies' contract vehicles. PdM WTS coordinates with customers to ensure best-possible contract support is obtained for a wide array of training needs which require application of detailed technical knowledge. PdM WTS specializes in managing contracts that bring high-quality military training to life through warfighter interaction with training technologies, programs of instruction, quality instruction, and other training resources offered by contracted support.



PdM WTS manages Contracted Operations and Logistics Support for PM TRASYS through its homegrown Equipment Relates Services - Systems (ERS-S) Multiple Award Contract (MAC), regionally aligned Ground Training Systems Support (GTSS) contracts, and cooperative use of other agencies' contract vehicles. PdM WTS coordinates with customers to ensure best-possible contract support is obtained for a wide array of operations, maintenance, logistics, and other training needs. PdM WTS specializes in managing contracts that maintain training ranges and provide training simulator operations support that promote operational realism, training readiness, and warfighters' training safety.

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Trackless Mobile Infantry Targets (TMITs) are semi-autonomous, humanlike, live fire robotic targets that provide realistic characteristics of a "thinking" opposing force. TMITs are all terrain, programmable, threedimensional targets that function as free-roaming (within geo-fenced areas), variable speed/variable acceleration movers that react to fire, and provide auditory and visual feedback. TMITs provide small unit leaders the ability to improve target recognition and discrimination, decisionmaking, and battlefield shooting proficiency. This training capability revolutionizes the way Marines train by providing tools which enable commanders to develop dynamic, combat-realistic training scenarios to increase unit lethality and the combat effectiveness of the individual Marine.

# ROLE PLAYER SUPPORT

### **DESCRIPTION**

PM TRASYS also centrally manages the Knowledge-Based Service (KBS) that allows the Marine Corps to employ human role players as training aids for home station training, Infantry Immersion Trainers (IITs) and other Subject Matter Expert (SME) interactions across the globe. These role players are contracted to act as foreign language specialists, civilians, insurgents, terrorists, and other personnel which are likely to be encountered in the applicable theater of operations. Role players are provided to amplify operational realism during training evolutions that prepare individual and collective training audiences for less-familiar cultural, political, and tactical environments where the U.S. Marine Corps will be deployed.

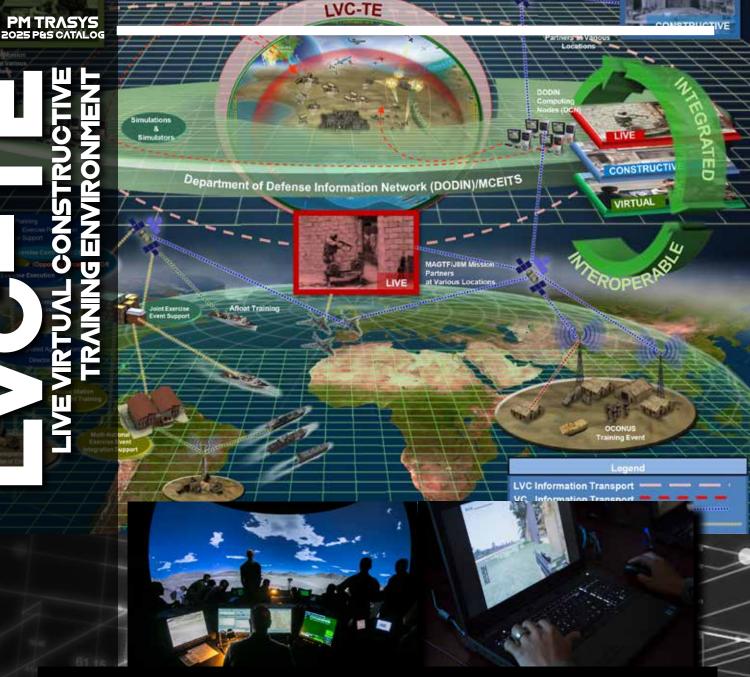
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# ADVANCED SMALL ARMS LETHALITY TRAINED

### **DESCRIPTION**

Advanced Small Arms Lethality Trainer is a contracted Knowledge-Based Service (KBS) that provides an enhanced simulated capability that directly supports infantry Marines' weapons proficiency training to include updated scoring for basic/advanced marksmanship and team/squad drills. ASALT provides detailed feedback that measures overall human performance to include shot lethality. ASALT allow Marines to increase their cognitive decision-making and confidence in a dynamic environment - multiple targets, limited exposure targets, and shooting on the move. ASALT enhances live-fire performance, combat readiness, and overall lethality of the force.





The Live Virtual Constructive Training Environment is being developed as a persistent, all-domain, all-echelon software-intensive system that incorporates constructive simulations from the Joint Staff J7's Virtual Constructive Federation to provide enhanced representation of all domains and of each service's capabilities. In addition, select legacy and new virtual reality and augmented reality technologies are integrated to support enhanced individual and small unit training as increased training opportunities for high-demand/ low-density assets. Ultimately, the LVC-TE is required by the Fleet Marine Force to support the future operating concepts envisioned in Force Design.

### **DESCRIPTION**

The Supporting Arms Virtual Trainer enhances operational readiness and tactical proficiency of digital terminal attack controllers, forward observers, and forward air controllers. The simulator provides Marines a virtual environment for training using scenarios that require the placement of tactical ordnance on selected targets using digital close air support and observed fire procedures. These scenarios allow for practical application of naval surface fire support, artillery and mortar fire, neutralization, suppression, illumination, interdiction, and harassment fire missions. SAVT may eventually become part of the Multi-Domain Fires Simulation (MDFS).

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### MARINE CORPS SYSTEM COMMAND PROGRAM MANAGER TRAINING SYSTEMS

BRINNANAGER TRAININGS

EMS

### pmtrasys@usmc.mil (407) 381-8762

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**12211 Science Drive** Orlando, FL 32826

