



DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY MANEUVER CENTER OF EXCELLENCE
1 KARKER STREET
FORT BENNING, GEORGIA 31905-5000

REPLY TO
ATTENTION OF

ATZK-TD

1 8 APR 2013

MEMORANDUM FOR RECORD

SUBJECT: Mounted Machine Gun Optic System Training Plan

1. References:

- a. TRADOC Regulation 350-70, Army Learning Policy and Systems, 6 December 2011.
- b. Mounted Machine Gun Optic Capability Production Document, November 2012.
- c. Army Regulation 350-1, Army Training and Leader Development, 18 December 2009.

2. I approve the Mounted Machine Gun Optic System Training Plan. A copy of the plan will be posted to the Central Army Registry within 30 days of the approval date.

3. Point of contact is Mr. Stephen Searles, Systems Training Branch, Training Development Division, Directorate of Training and Doctrine at DSN 835-8010, Commercial (706) 544-8010, or e-mail stephen.w.searles.ctr@mail.mil.


H. R. MCMASTER
Major General, USA
Commanding

Mounted Machine Gun Optic (MMO) (version 2.2)

Date: 2013-04-10
MCoE - Infantry & Armor School

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This System Training Plan (STRAP) is preliminary.
Front end analysis (mission, task, job) is ongoing. MCoE - Infantry & Armor School will amend and update this STRAP as details solidify.

MCoE - Infantry & Armor School is the proponent for this STRAP. Send comments and recommendations directly to: stephen searles

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1.0 System Description

a. The Mounted Machinegun Optic (MMO) is an initiative to acquire a Commercial Off the Shelf Non-Developmental Item (COTS NDI) day optic, to close the capability gap identified in the Small Arms -Capability Based Assessment (SA- CBA) to identify and engage man sized targets from 0 to 1200 meters with a vehicle mounted M2/M2A1 and M240B/H Machinegun. The inclusion of the MMO on an Mk19 Grenade Machinegun will remain an objective of the program. Medium and Heavy Machinegun optic variants may be required, with the objective of having one optic that fills both roles of the MMO.

b. Post-combat surveys and Operational Needs Statements indicate that Warfighters require a dual purpose optic for close combat and long range engagements with heavy and medium machineguns while performing vehicle mounted operations. Additionally, Rapid Equipment Fielding (REF) has equipped units in theater with 200 COTS mounted machinegun optics. A magnified optic will improve hit probability, increase survivability through standoff, and decrease fratricide through recognition. The MMO will aid the Warfighter to identify the enemy, facilitate transition firing at close ranges, and provide accurate fire out to the required effective range of the host weapon using a dot, chevron or milradian-graduated reticle (having adjustable intensity to control the amount of light being projected in the sight for optimum viewing).

c. The MMO is required to mount on the M2/M2A1 and the M240B/H via attachment to the Military Standard 1913 rail. Batteries currently in the Army inventory will be utilized to power the MMO. The MMO will incorporate laser filters to protect the Warfighter (operator) from enemy countermeasures. Objectively the MMO will be interoperable with existing systems or develop the ability to be viewed in the heads up display of the MMO. The MMO will include a soft camouflaged carrying case that will keep contents (to include the sight, operators manual, batteries, and cleaning materials) dry and protected from incidental damage and will be Modular Lightweight Load-carrying Equipment (MOLLE) compatible. Logistical support for the MMO will be limited to unit level field support (as provided by company armor). Potentially, higher level field support may be involved (but is highly undesirable due to increases in the maintenance workload of dedicated Army maintainers), with any necessary supplementary support being provided by sustainment level maintenance activities/organizations.

d. First Unit Equipped (FUE) Date: TBD

2.0 Target Audience

The MMO shall be issued to Heavy (HBCT), Infantry (IBCT) Stryker (SBCT) Brigade Combat Teams, one MMO per M2/M2A1, M240B and M240H. The MMO shall be issued to the USA Special Forces Command

(USASFC), Special Warfare Center (SWCS) and 75 th Ranger Regiment. Increment I MMO will be cascaded to Functional and Multi Function BDE's when replaced by Increment II in accordance with ARFORGEN cycles. This BOIP is to provide an initial organic capability to mounted forces that must detect, recognize, identify, and engage to the maximum range of their weapons.

	M2/M2A1	M240B
IBCT	6106	2881
SBCT	1813	735
HBCT	6136	2093
SOCOM	763	1729
Totals	14818	7438

Table-1. BOIP for Threshold weapons of the MMO

Note: This table does not include floats, schools or war-time reserve/pre-position stock.

3.0 Assumptions

a. Fielding of the MMO will increase both individual and collective training requirements as they currently exist within the generating, operating, and reserve operating force. In view of this and related assumptions, the MMO training development goals shall be to maximize the system capability but:

Minimize the net effect of training resource increases over predecessor systems. Accomplish MMO individual gunner and crew collective training requirements with an increased emphasis on interactive media instruction, virtual and live simulations and simulators. Minimize frequency, magnitude, and level of dependence on service and or training practice munitions over predecessor systems to evaluate readiness.

b. The Program Manager for Crew Served Weapons (PM-CSW) will develop, fund and field the MMO with all applicable Training Aids, Devices, Simulators, and Simulations (TADSS).

c. PM-CSW funds participants involved in all required system integrated process team (IPT), training support developments, New Equipment Training (NET), Technical Manual (TM) verification, training for user testing/ training development, and Instructor And Key Personnel Training (I&KPT).

4.0 Training Constraints

Training constraints that have been identified for the MMO include the following:

- TADSS - PM must integrate the MMO into the Close Combat Tactical Trainer (CCTT) and the Reconfigurable Vehicle Tactical Trainer (RVTT). The capability to host simulations of MMO operations within the CCTT and RVTT modules would allow individual operator training. Multiple Integrated Laser Engagement System (MILES) for realistic force-on-force collective training

Note: This force-on-force training must be interoperable with current Instrumented Multiple Integrated Laser Engagement System MILES technologies.

5.0 System Training Concept

a. General. MMO training will consist of NET using the train-the-trainer method. BCTs will receive training first based on their deployment schedule. Generating force NET will be completed based on the Master Fielding Plan (MFP). Generating force locations will train initial entry Soldiers MMO on operation and will train leader courses on MMO capabilities and employment, as determined by the Branch Commandant.

b. Units scheduled for fielding of the MMO will receive all equipment, TADSS, and training materials prior to or during NET. Training after stay-behind packages are the responsibility of the PM and will remain with the unit by the NETT. Field Maintenance training will be conducted for MOS 91F (Small Arms/Towed Artillery Repairer). Sustainment Maintenance of the MMO will be completed using Contractor Logistics Support (CLS) contracts.

c. Training Developers (TNGDEV) must keep in mind that NET, Institutional training, Operating force / Force on Force, and the Self-Development training alone cannot provide the insight, intuition, imagination, and judgment needed in combat. Soldiers and leaders require comprehensive self-study and training. Self-development is continuous and should be emphasized in both Institutional training and Operating force / Force on Force assignments.

5.1 New Equipment Training Concept (NET)

a. New Equipment Training Plan (NETP):

(1). General. "Train-the-Trainer" will be the process for NET. Instructors from the Infantry Proponent,

will develop the Training Support Package (TSP). The NETT will visit Centers of Excellence (CoE) of the Combat Specialties and certify operating force Operators who will then sustain their operating forces. The training will consist of classroom instruction, practical exercise (PE), individual PE evaluation per Soldier and a written test. PM-CSW will ensure the equipment and resources arrive before training starts. All trainers will use the TSP that was validated during the OT for this piece of equipment.

(2). Maintenance training will be accomplished by the Material Developer and specific proponent schools with appropriate tool kit and resources provided by PM-CSW.

(3). NET Team Organization and Deployment. The NETT is contracted out by PM-CSW and will train the operational and maintenance TSP validated during OT pre-test training.

b. Institution training on employment of the Mounted Machinegun Optic Capability will be integrated into Infantry, Armor PME courses, and made available to Engineer, Artillery, Military Police, Transportation, and Chemical proponents for inclusion as they deem necessary.

c. NET will be scheduled to coincide with fielding of the MMO. NET will qualify users to safely operate and employ the MMO and train MOS 91F to perform limited maintenance at the unit level.

d. Instructor Key Personal Training (IKPT): The NET package validation will occur during the training phase of Initial Operational Test and Evaluation (IOT&E). The PM must enable IKPT (NET, TRADOC instructors, and other key personnel designated by the Government) to assist in the development of Institution training requirements and NET. The PM shall conduct system training for proponent school instructors and key personnel, at locations to be determined by both the PM and personnel receiving the training, for any specific tasks or roles.

5.2 Displaced Equipment Training (DET)

The MMO will replace all first generation day optic; displaced equipment will be cascaded at the direction of the Department of Army (G-8).

5.3 Doctrine and Tactics Training (DTT)

The training will support the requirements of the NET strategy and the NET POI will reflect the most current DTT documentation. DTT will be conducted by the PM during NET training. It will address all critical operators/ maintenance tasks using required data, tools, and support equipment with tailored TSPs to help leaders better understand what is required to employ the MMO.

5.4 Training Test Support Package (TTSP)

The Training Developer and the Training Development Division from USAIS coordinates all deliverables from the MD and submits the Training Test Support Package (TTSP) to the US Army Test & Evaluation Command IAW timelines provided by TRADOC Regulation 350-70. The TTSP will be validated during Initial Operational Test and Evaluation. The TTSP contains:

- Training schedule
- Program of Instruction (POI) for operator courses and Small Arms Repairer
- Training facility requirements
- Target audience description
- Draft Soldier training publications or changes
- Lesson plans
- Critical task list
- MMO STRAP

6.0 Institutional Training Domain

Generating force training will consist of operator, leader, and maintenance (MOS 91F) training. Individual tasks will be trained to both the active and reserve component. There will be no difference in the training content between active and reserve components.

6.1 Institutional Training Concept and Strategy

a. Training for the MMO in the institution will consist of programmed instruction, traditional training and small group instruction for operators, leaders, and repair personnel (MOS 91F). Both Initial Military Training (IMT) and professional development courses and unit level maintenance training will be conducted using a mix of conventional training methods. MMO capabilities and employment will be introduced in leader/professional development courses. The Material Developer will ensure that the initial transfer of knowledge from the contractor to school takes place. This will happen via Instructor and Key Personnel Training (IKPT) course using the tenets of TRADOC Reg 350-70. This course will take place at a mutually agreed upon sites. Maintenance training will be accomplished by the Material Developer and resources provided by PM-CSW. Training will be conducted at the Sustainment Center of Excellence (SCoE) in the 91F Course.

b. Institutional training will be conducted to train qualified Soldiers to employ the MMO. The MMO training must be implemented into the generating force within one year after FUE to familiarize all Institutional Instructors with the MMO. Proponents determine location of MOS specific training (institution or unit)

c. Maintenance Training. The Materiel Developer (MD) will assist the prime contractor on maintenance during the System Development and Demonstration (SDD) phase. The MD will use the maintenance materials provided by the contractor from I&KPT and knowledge gained from SDD as a baseline for developing TSP. After OT and prior to FUE, Combined Arms Support Command (CASCOM) will validate

and approve TSPs appropriate for the generating force.

6.1.1 Product Lines

The Training Test Support Package (TTSP) will be developed by Training Developer. Initial Military Training and Professional Military Education courses will be supported by this TTSP and incorporated into the current curricula. The Training Developer will update appropriate training publications. Training Support Packages supporting individual tasks will be developed by USAIS and the MCoE DoTD Training Developer.

6.1.1.1 Training Information Infrastructure

TII will use Hardware, Software, and Communicating Systems and the Other Enabling Capabilities.

6.1.1.1.1 Hardware, Software, and Communications Systems

The following will be required:

- Training Development Capabilities (TDC)
- Central Army Registry (CAR)
- Warrior University

6.1.1.1.2 Storage, Retrieval, and Delivery

- Central Army Registry (CAR)
- Army Training Network (ATN)
- Army Modernization Training Automation System (AMTAS)

6.1.1.1.3 Management Capabilities

- Training Development Capabilities (TDC)
- Digital Training Management System (DTMS)
- Central Army Registry (CAR)

6.1.1.1.4 Other Enabling Capabilities

Not Applicable

6.1.1.2 Training Products

The PM-CSW will provide an Operators Manual that will provide the operator instructions on system operations and operator level maintenance of this system. The PM-CSW will ensure that a task analysis is conducted on the system to determine the tasks required.

A major part of this systems training is the TSP. It will contain the full complement of training support products as required by TRADOC Regulation 350-70, DTMS and CATS to support training. The PM-CSW will develop Multimedia training materials that will conform to Army design standards, and be Sharable Content Object Reference Model (SCORM) compliant.

6.1.1.2.1 Courseware

Training materials will be created by the Materiel Developer in conjunction with PM-CSW, USAIS and MCoE DOTD as part of the Training Support Package (TSP).

6.1.1.2.2 Courses

Institutional training of the MMO will be integrated into Advanced Leader Course, Basic Officer Leadership Course at the Infantry and Armor Schools.

6.1.1.2.3 Training Publications

Publications will include a technical manual, quick reference guide, TSP and Soldier training publications. The qualification strategy will be developed by the USAIS in coordination with MCoE DoTD and incorporated into the appropriate marksmanship field manual (3-23.9, 3-23.68, 3-23.10, 3-23-31, 3-22.65). Updated publications will be available from PM-CSW, the Central Army Registry. MCOE and CASCOM will maintain the TSPs, and post them on CAR.

6.1.1.2.4 Training Support Package (TSP)

TSPs will be developed in accordance with TRADOC Regulation 350-70, Army Learning Policies and Systems, dated 6 DEC 2011, using methods from the TRADCO Pam 525-8-2 w/Ch1 6 Jun 2011 (Army Learning Model). The TSP will be made available to other proponent Centers of Excellence for use in Branch specific training.

6.1.1.3 TADSS

TADSS will be developed as required in accordance with AR 350-1 and AR 350-38.

6.1.1.3.1 Training Aids

Graphic Training Aids (GTA) will include the following:

- Range Estimation Techniques.
- Use of stadia lines for engagement.
- MMO employment to Detect, Recognize, Identify specific targets.
- MMO specifications (technical).
- Adjusting the MMO reticule to optimize light conditions - Changing MMO batteries.

6.1.1.3.2 Training Devices

MMO will be fully compatible with the legacy and updated versions of MILES technology. No specific MILES equipment needs to be developed for the MMO, this will be addressed in the requirement document training strategy.

6.1.1.3.3 Simulators

The MMO will be compatible with the CCTT/RVTT and all future Simulators. The MMO must be compatible with simulations for area target engagements both moving and stationary out to 1200 meters.

6.1.1.3.4 Simulations

MMO will be integrated into the Integrated Training Environment (ITE) in each of the simulation environments Live, Virtual, Constructive and Gaming (LVC and G). PEO Soldiers systems will provide the data for requirement generation to TCM Gaming in order for replication of MMO in gaming products for battalion and below simulations, such as VBS2. The MMO will be integrated into all future simulations as they are developed.

6.1.1.3.5 Instrumentation

MMO is an optic and does not require instrumentation.

6.1.1.4 Training Facilities and Land

The MMO will utilize current training facilities and land that coincide with training requirements.

6.1.1.4.1 Ranges

The MMO will utilize current ranges that meet training requirements.

6.1.1.4.2 Maneuver Training Areas (MTA)

The MMO will utilize current Maneuver Training areas. The training requirements are met.

6.1.1.4.3 Classrooms

Additional classrooms will not be required with the fielding of MMO.

6.1.1.4.4 CTCs

The MMO will utilize current CTCs. The training requirements are met.

6.1.1.4.5 Logistics Support Areas

Additional Logistics Support Areas will not be required with the fielding of MMO.

6.1.1.4.6 Mission Command Training Centers (MCTC)

MMO will not have connectivity to the Mission Training Complexes.

6.1.1.5 Training Services

MMO will require training services as outlined below. Coordination of these services is the responsibility of the PM-CSW.

6.1.1.5.1 Management Support Services

- Information Management Service
- Courseware Management Service

- Devices Management Service

6.1.1.5.2 Acquisition Support Services

Development of all Interactive Multimedia Instruction (IMI) products and instructors for NET will require contract management services. The Management Decision Package for PM-CSW will provide funds for these efforts.

6.1.1.5.3 General Support Services

Distribution and replication service.

6.1.2 Architectures and Standards Component

The Institutional Architecture begins with the ADDIE process and ends with the NET TSP developed by the Training Developer in conjunction with the Program Manager. The NET TSP contains instruction on performing operator and maintainer tasks on the MMO, as well as any TTP developed by the institution's Combat Developer/Training Developer, associated with the employment of the MMO. The NET TSP is handed off to the institution where the Directorate of Training and Doctrine (DOTD) provides the package to their Training Development Division (TDD) for refinement and development of the training support systems used in the institution. The TDD will use the NET TSP to revise existing POIs. Soldier Training Publications (STP) will be developed, given to the Distributed Learning element for media formatting, and then made available for Self-Development training.

6.1.2.1 Operational View (OV)

Training of the MMO will require access to live-fire ranges, marksmanship trainers, ammunition, training areas, and training aids, all which require resourcing. The MMO may be used by Joint forces, but does not have a Joint training or operational role.

6.1.2.2 Systems View (SV)

MMO is an optic and does not exchange or transmit data.

6.1.2.3 Technical View (TV)

MMO is an optic and does not exchange or transmit data.

6.1.3 Management, Evaluation, and Resource (MER) Processes Component

The PM-CSW will maintain personnel under contract for MMO. This include site management, operations and operating force coordination, system instruction, support to after action reviews, systems maintenance and logistical support.

6.1.3.1 Management

Management of the MMO will remain the responsibility of the PM throughout its life cycle. Management of TSS products will transfer to MCoE DoTD upon completion of NET.

6.1.3.1.1 Strategic Planning

MMO will require a fielding plan and basis of issue plan to field to the generating force.

6.1.3.1.2 Concept Development and Experimentation (CD&E)

There is no concept development and experimentation associated with MMO.

6.1.3.1.3 Research and Studies

DOTMLPF analysis was conducted during the Joint Capabilities Integration and Development System (JCIDS) process.

6.1.3.1.4 Policy and Guidance

The following provide the direction for MMO implementation, maintenance, and sustainment.

- AR 350-1 - Army Training and Leader Development
- AR 350-38 - Training Device Policies and Management
- FM 3-22.65 - Browning Machine Gun, Caliber .50 HB, M2
- TRADOC Regulation 71-20 - Concept Development, Experimentation, and Requirements Determination
- TRADOC Regulation 350-70 - Systems Approach to Training Management Processes, and Products
- TRADOC Pam 350-8 - U.S. Army Training And Doctrine Command Training Devices for Armywide Use

- Command Guidance

6.1.3.1.5 Requirements Generation

- CPD
- STRAP

6.1.3.1.6 Synchronization

Material Fielding Plan (MFP) will serve as the single stand-alone document containing the detailed plans and actions the fielding and gaining unit commands will accomplish to successfully field and deploy the MMO. It is anticipated that initial fielding will be based on deployment schedule of receiving BCTs.

6.1.3.1.7 Joint Training Support

There is no joint training support requirement associated. Evaluation of the TSS processes necessary to develop, field, and train the MMO will be IAW applicable Army regulations, pamphlets, and guides.

6.1.3.2 Evaluation

- Equipment deficiency Report is available in the TM for Units to address deficiencies and/or make recommendations.
- Post combat surveys.
- MCoE will conduct periodic inspections of training conducted at fielding site to ensure effectiveness.

6.1.3.2.1 Quality Assurance (QA)

QA plans will be used IAW each installation's QA plan. Each QA Office (QAO) will use proven techniques to determine the quality of training provided by the institution. External evaluations will focus on the use of tasks trained, the proper application of those tasks, and identification of tasks not trained but needed. Internal evaluations will focus on the presentation of the tasks at the institution, the course content, and the presentation of material by the instructor.

6.1.3.2.2 Assessments

The MCoE will start assessing the MMO training program one year after training is implemented. The assessment will evaluate the effectiveness and efficiency of institutional training at the individual and unit levels; identify needed changes to increase unit training proficiency and combat mission capabilities; and identify, evaluate, and resolve operating and generating force standardization issues.

6.1.3.2.3 Customer Feedback

- Electronic media for surveys, help desks, collaboration
- Interviews/questionnaires
- Post Combat Surveys

NOTE: AR 350-1 para 6.6 this feedback is required.

6.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

MCoE DoTD will leverage the Center for Army Lessons Learned (CALL) database for new TTPs as well as conducting face to face interviews (AARs) with units/individuals returning from theater to ensure training programs and instruction remain current/relevant.

6.1.3.3 Resource

Item Resourced	FY15	FY16
Manpower- TD	IKPT, OT, Log Demos	FUE
Personnel	10	2
Trvl/Per Diem	\$70K	\$10K

Rationale: TNGDEVs are needed to develop and maintain the programs of instruction and other outputs of the SAT process. Military will be used in different areas within the training program. Travel/Per Diem represents cost to attend training and reviews, IKPT, Log Demos and OTs.

Table 1a: ROM/ Resourced Training Costs

Item Resourced New Equipment Team	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
Instructors	2	2	2	2	2
Salary	\$225K	\$225K	\$230K	\$230K	\$235K
Trvl/Per Diem	\$82K	\$82K	\$84K	\$84K	\$86K
Suppliers	\$28K	\$28K	\$30K	\$30K	\$32K

Rationale: Programmed NET for 5 Years.

Table 1b: ROM/ Resourced Training Costs

Item Resourced, Training Products	FY15 \$K	FY16 \$K	FY17 \$K	FY18 \$K	FY19 \$K
FM (Appendix)	0	0	0	0	0
TSP	0	0	0	0	0
TM	\$200K	\$200K	0	0	0
IMI	\$200K	\$200K	0	0	0

Rationale: Only Cost is the TM. Once validated changes (if any) will be provided by TACOM with no cost. TSP will be developed by SMEs (instructors) who participated in the IKPT and who will train the Soldiers for the OT.

Table 1c: ROM/ Resourced Training Costs

Item	Resourced	Prior	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
Facilities/Land							
Facilities			TBD	TBD	TBD	TBD	TBD
Land			TBD	TBD	TBD	TBD	TBD
Site Surveys			TBD	TBD	TBD	TBD	TBD
Concrete Pad			TBD	TBD	TBD	TBD	TBD
AC/DC Power			TBD	TBD	TBD	TBD	TBD
Equipment			TBD	TBD	TBD	TBD	TBD
Maintenance			TBD	TBD	TBD	TBD	TBD
Other			TBD	TBD	TBD	TBD	TBD

Rationale: The above training facility chart has been placed in the STRAP with TBD for amount as a place holder so that IF any adjustments to ranges are later identified the associated costs may be captured here and updated on the production of a new STRAP to support the CPD.

Table 1d: ROM/ Resourced Training Costs

NOTE: funding estimate for RC training and funding is TBD

7.0 Operational Training Domain

a. Concept: The MMO system skills learned during initial training will be sustained in the operating force by using live-fire training programs and selected TADSS. Commanders continue to employ the principles of Army training to train mission-essential tasks. Operating force training will be hands-on and standards based. The intent will be to provide leaders and Soldiers with a realistic, operationally relevant training environment that replicates the full spectrum of potential operations. Operating force leaders will continue to train Soldiers on operation and function, marksmanship fundamentals.

b. Strategy:

Operational unit training will be responsible for sustaining individual and collective proficiency in MMO tasks, as well as the training new MMO operators. MMO operators will serve as unit trainers and advisors to commanders on employment, sustainment, and training of MMO. They will be trained during NET. Unit training will be based on the TSP and TADSS fielded during Unit Set Fielding to assist in

sustainment training. Operating forces will maintain individual and collective proficiency by scheduling MMO training and training events in accordance with Digital Training Management System (DTMS) and Combined Arms Training Strategy (CATS).

7.1 Operational Training Concept and Strategy

The NET team will leave MMO TSPs with the unit following NET. The unit is responsible for sustaining individual and collective proficiency with the MMO, as well as the training of new MMO operators. The unit is responsible for sustaining individual and collective proficiency with the MMO via maneuver training rotations and home station training, as well as the training of new MMO operators. TSPs will be maintained by MCOE and available via Central Army Registry, Distributed Learning (DL).

7.1.1 Product Lines

- Soldier Training Publications
- TSP for individual training

7.1.1.1 Training Information Infrastructure

The contractor will develop a TM in the LOGSA IETM format and a hard copy will be provided with each MMO system. The Training Support Package will be stored in Training Development Capability (TDC) and the Central Army Registry (CAR).

7.1.1.1.1 Hardware, Software, and Communications Systems

- Training Development Capability (TDC) database.
- Central Army Registry (CAR)

7.1.1.1.2 Storage, Retrieval, and Delivery

- Training Development Capability - POI and lesson plan.
- Central Army Registry - Training class, Practical Exercise (PE), PE evaluation and written test.
- Army Modernization Training Automation System - NET Plan.
- Center for Army Lessons Learned Repository - Update training to address lessons learned.

7.1.1.1.3 Management Capabilities

- Army Training Network (ATN)
- Digital Training Management System (DTMS)
- Central Army Registry (CAR)

7.1.1.1.4 Other Enabling Capabilities

Not Applicable

7.1.1.2 Training Products

Training products (individual and collective tasks, drills, and TSP's) and stored CAR and delivered via ATN.

Note: All training products will be developed, maintained, and stored in the approved automated system.

7.1.1.2.1 Courseware

Training materials will be created by the Materiel Developer in conjunction with USAIS and MCoE DOTD as part of the Training Support Package (TSP).

7.1.1.2.2 Courses

Operational Army will include pre-deployment, sustainment training as related to courses.

7.1.1.2.3 Training Publications

Publications will include a technical manual, interactive training CD, quick reference guide, TSP and Soldier training publications. The qualification strategy has already been implemented into the appropriate marksmanship field manuals (3-23.9, 3-23.68, 3-23.10, 3-23-31, 3-22.65). Updated publications will be available, the Central Army Registry, AKO, Warrior Information Network and the TRADOC publications website. MCOE and CASCOM will maintain the TSPs to support the Operating Forces.

7.1.1.2.4 TSP

TSPs will be developed in accordance with TRADOC Regulation 350-70, Army Learning Policies and Systems, dated 6 DEC 2011, using strategies and methods from TRADOC Pam 525-8-2 w/Ch1, dated 6 JUN 2011. The TSP will be made available to other proponent Centers of Excellence for use in Branch specific training.

7.1.1.3 TADSS

TADSS will be developed as required in accordance with AR 350-1 and 350-38.

7.1.1.3.1 Training Aids

Graphic Training Aids (GTA)

7.1.1.3.2 Training Devices

MMO will be fully compatible with the legacy and updated versions of MILES technology. No specific MILES equipment needs to be developed for the MMO, this will be addressed in the requirement document training strategy.

7.1.1.3.3 Simulators

The MMO will be compatible with the CCTT/RVTT and all future Simulators. The MMO must be compatible with simulations for area target engagements both moving and stationary out to 1200 meters.

7.1.1.3.4 Simulations

MMO will be integrated into the Integrated Training Environment (ITE) in each of the simulation environments Live, Virtual, Constructive and Gaming (LVC and G). PEO Soldiers systems will provide the data for requirement generation to TCM Gaming in order for replication of MMO in gaming products for battalion and below simulations, such as VBS2. The MMO will be integrated into all future simulations as they are developed.

7.1.1.3.5 Instrumentation

MMO is an optic and does not require instrumentation.

7.1.1.4 Training Facilities and Land

The MMO will utilize current training facilities and land that meet all training requirements.

7.1.1.4.1 Ranges

The MMO will utilize current ranges the training requirements have met.

7.1.1.4.2 Maneuver Training Areas (MTA)

The MMO will utilize current Maneuver Training areas. The training requirements are met.

7.1.1.4.3 Classrooms

Additional classrooms will not be required with the fielding of MMO.

7.1.1.4.4 CTCs

The MMO will utilize current CTCs. The training requirements are met.

7.1.1.4.5 Logistics Support Areas

Additional Logistics Support Areas will not be required with the fielding of MMO.

7.1.1.4.6 Mission Command Training Centers (MCTC)

MMO will not have connectivity to the Mission Training Complexes.

7.1.1.5 Training Services

MMO will require training services as outlined below.

7.1.1.5.1 Management Support Services

- Information Management Service
- Courseware Management Service
- Devices Management Service

7.1.1.5.2 Acquisition Support Services

Development of all Interactive Multimedia Instruction (IMI) products and instructors for NET will require contract management services. The Management Decision Package for PM-CSW will provide funds for these efforts.

7.1.1.5.3 General Support Services

Distribution and replication service.

7.1.2 Architectures and Standards Component

The Institutional Architecture begins with the NET TSP developed by the Training Developer in conjunction with the Program Manager. The NET TSP contains instruction on performing operator and maintainer tasks on the MMO, as well as any TTP developed by the institution's Combat Developer/Training Developer, associated with the employment of the MMO. The NET TSP is handed off to the institution where the Directorate of Training and Doctrine (DOTD) provides the package to their Training Development Division (TDD) for refinement and development of the training support systems used in the institution. The TDD will use the NET TSP to revise existing POIs. Soldier Training Products will be developed, given to the Distributed Learning element for media formatting, and then made available for Self-Development training. Collective Training products will be developed or updated incorporating TTPs. Doctrine writers will incorporate the developed TTPs in the updates to doctrinal manuals.

7.1.2.1 Operational View (OV)

Training of the MMO will require access to live-fire ranges, marksmanship trainers, ammunition, training areas, and training aids, all which require resourcing. The MMO may be used by Joint forces, but does not have a Joint training or operational role.

7.1.2.2 Systems View (SV)

MMO is an optic and does not exchange or transmit data.

7.1.2.3 Technical View (TV)

MMO is an optic and does not exchange or transmit data.

7.1.3 Management, Evaluation, and Resource (MER) Processes Component

MMO will be maintained by CLS personnel under contract to the PM-CSW. CLS will include site management, operations and operating force coordination, system instruction, support to after action reviews, systems maintenance and logistical support.

7.1.3.1 Management

Management of the MMO will remain the responsibility of the PM throughout its life cycle. Management of TSS products will transfer to MCoE DOTD upon completion of NET.

7.1.3.1.1 Strategic Planning

MMO will require a fielding plan and basis of issue plan to field to the operating force.

7.1.3.1.2 Concept Development and Experimentation (CD&E)

There is no concept development and experimentation associated with MMO.

7.1.3.1.3 Research and Studies

DOTMLPF analysis was conducted during the Joint Capabilities Integration and Development System (JCIDS) process.

7.1.3.1.4 Policy and Guidance

- AR 350-1 Army Training and Leader Development
- TRADOC Regulation 350-70 Army Learning Policies and Systems

7.1.3.1.5 Requirements Generation

- CPD
- STRAP

7.1.3.1.6 Synchronization

Material Fielding Plan (MFP) will serve as the single stand-alone document containing the detailed plans and actions the fielding and gaining unit commands will accomplish to successfully field and employ the MMO. It is anticipated that initial fielding will be based on deployment schedule of receiving BCTs.

7.1.3.1.7 Joint Training Support

There is no joint training support requirement associated. Evaluation of the TSS processes necessary to develop, field, and train the MMO will be IAW applicable Army regulations, pamphlets, and guides.

7.1.3.2 Evaluation

- Equipment deficiency Report is available in the TM for Units to address deficiencies and/or make recommendations.
- Post combat surveys.
- MCoE will conduct periodic inspections of training conducted at fielding site to ensure effectiveness.

7.1.3.2.1 Quality Assurance (QA)

QA plans will be used IAW each installation's QA plan and administer core surveys. Each QA Office (QAO) will use proven techniques to determine the quality of training provided by the institution. External evaluations will focus on the use of tasks trained, the proper application of those tasks, and identification of tasks not trained but needed. Internal evaluations will focus on the presentation of the tasks at the institution, the course content, and the presentation of material by the instructor.

7.1.3.2.2 Assessments

The MCoE DoTD will start assessing the MMO training program one year after training is implemented. The assessment will evaluate the effectiveness and efficiency at all Centers of Excellence. Identify changes to increase unit training proficiency and resolve Generating and Operating force standardization issues.

7.1.3.2.3 Customer Feedback

- Electronic media for surveys, help desks, collaboration
- Interviews
- Questionnaires

- Post Combat Surveys

7.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

MCoE DoTD will leverage the Center for Army Lessons Learned (CALL) database for new TTPs as well as conducting face to face interviews with units/individuals returning from theater to ensure training programs and instruction remain current/relevant.

7.1.3.3 Resource Processes

Item Resourced	FY15	FY16
Manpower-TD	IKPT, OT, Log Demos	FUE
Personnel	10	2
Trvl/Per Diem	\$70K	\$10K

Rationale: TNGDEVs are needed to develop and maintain the programs of instruction and other outputs of the SAT process. Military will be used in different areas within the training program. Travel/Per Diem represents cost to attend training and reviews, IKPT, Log Demos and OTs.

Table 1a: ROM/ Resourced Training Costs

Item Resourced	FY15	FY16	FY17	FY18	FY19
New Equipment Team	Yrs or \$K				
Instructors	2	2	2	2	2
Salary	\$225K	\$225K	\$230K	\$230K	\$235K
Trvl/Per Diem	\$82K	\$82K	\$84K	\$84K	\$86K
Suppliers	\$28K	\$28K	\$30K	\$30K	\$32K

Rationale: Programmed NET for 5 Years.

Table 1b: ROM/ Resourced Training Costs

Item Resourced, Training Products	FY15 \$K	FY16 \$K	FY17 \$K	FY18 \$K	FY19 \$K
FM (Appendix)	0	0	0	0	0
TSP	0	0	0	0	0
TM	\$200K	\$200K	0	0	0
IMI	\$200K	\$200K	0	0	0

Rationale: Only Cost is the TM. Once validated changes (if any) will be provided by TACOM with no cost. TSP will be developed by SMEs (instructors) who participated in the IKPT and who will train the Soldiers for the OT.

Table 1c: ROM/ Resourced Training Costs

Item Resourced	Prior	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K
Facilities/Land						
Facilities		TBD	TBD	TBD	TBD	TBD
Land		TBD	TBD	TBD	TBD	TBD
Site Surveys		TBD	TBD	TBD	TBD	TBD
Concrete Pad		TBD	TBD	TBD	TBD	TBD

AC/DC Power		TBD	TBD	TBD	TBD	TBD
Equipment		TBD	TBD	TBD	TBD	TBD
Maintenance		TBD	TBD	TBD	TBD	TBD
Other		TBD	TBD	TBD	TBD	TBD

Rationale: The above training facility chart has been placed in the STRAP with TBD for amount as a place holder so that IF any adjustments to ranges are later identified the associated costs may be captured here and updated on the production of a new STRAP to support the CPD.

Table 1d: ROM/ Resourced Training Costs

8.0 Self-Development Training Domain

The TM and TSP will be left with the unit and will be available on line via the Central Army Registry. These products combine to provide the Soldier with all the tools necessary to support self-development.

8.1 Self-Development Training Concept and Strategy

Training Concept for the development and execution of a self-development action plan for the MMO will include NET, Institutional training, operating force, sustainment, and the self-development training for the operator and maintainer and will support the Combined Arms Training Strategy (CATS). This will provide a clear plan for achieving developmental goals as follows:

- Immediate goals are remedial and focus on correcting weaknesses that adversely impact on the individual's performance in the current duty assignment.
- Near-term goals focus on attaining and refining the skills, knowledge, and experience needed for the next operational assignment.
- Long-range goals focus on preparing the individual for career-long service. Goals are supported by progressive and sequential actions to improve performance and achieve growth and potential.

8.1.1 Product Lines

Soldier Training Publications
TSP for individual training - via the Central Army Registry

8.1.1.2 Training Products

All training support manuals, training literature publications, and other training products will be provided during NET, it is the unit's responsibility to make these materials available to individual Soldiers for self development. The training materials will also be available on the Central Army Registry.

8.1.1.2.1 Courseware

MCoE DOTD and USAIS will assist in the development and ensure Operational training requirements are met. Once the training strategy is proven out it will be made available to Soldiers via the Central Army Registry.

A Milestone Annex

Training Development Milestone Schedule – Sheet A		Page 1 of 2 pages		Requirements Control Symbol	
System MMO		ACAT III		TRADOC Symbol	
				As of Date 8 Apr 2013	
Proponency		Agency		Office Symbol	
Telephone					
Materiel Command		Program Executive Office-Crew served Weapons		SFAE	
(973) 724-7861					
TRADOC Proponent		United States Army Infantry School		ATSH	
(706) 545-5796					
System Manager		N/A			
Combat Developer:		Soldier Division, Capabilities Development & Integration Directorate (Mr. Robert Jones)		ATZB-CIS	
(706) 545-4867					
Training Developer:		Systems Training Branch, Directorate of Training & Doctrine		ATZK-TDT	
(706) 545-8010					
Supporting Proponents:					
Item	Date	Responsible Agency/POC	Office Symbol	Telephone	
MNS:		SD, CDID	ATZB-CIS	(706) 545-4867	
SMMP:					
CPD:		SD, CDID	ATZB-CIS	(706) 545-4867	
ILSMP:					
TTSP:		STB, DOTD	ATZK-TDT	(706) 545-8010	
QQPRI:					
BOIP:		Office of Infantry Proponency	ATZB-CIC	(706) 545-3311	
NETP:		SD, CDID	ATZB-CIS	(706) 545-4867	
STRAP		STB, DOTD	ATZK-TDT	(706) 545-8010	
COMMENTS: (Continue on reverse side if necessary)					

B References

AR 70-1, Army Acquisition Policy, 31 December 2003.

AR 70-38, Research, Development, Test and Evaluation of Materiel for Extreme Conditions, 1 August 1979.

AR 70-75, Survivability of Army Personnel and Materiel, 2 May 2005.

AR 71-9, Materiel Requirements, 30 April 1997.

AR 350-1, Army Training and Leader Development, 9 April 2003.

AR 750-1, Army Materiel Maintenance Policy, 20 September 2007.

CJCSM 3170.01B, Operation of JCIDS, 11 May 2005.

CJCSI 3170.01E, Joint Capabilities Integration and Development System (JCIDS), 11 May 2005.

CJCSI 6212.01C, Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS), dated 20 November 2003.

DODD 5000.1, Defense Acquisition System, 12 May 2003.

DODR 5000.2, Operation Defense Acquisition System, 12 May 2003.

TRADOC Regulation 350-70, Army Learning Policy and Systems, 6 December 2011.

TRADOC Pam 525-8-2 w/Ch1 6 Jun 2011 (Army Learning Model)

FCS Operational Requirement Document (Change 3), 2003.

CJCSM 3500.04C, Universal Joint Task List, 1 July 2002.

Army Universal task List, FM 7-15, 27 February 2009.

Ground Soldier CDD, System AROC validated 3 February 06.

JROCM 176-03, Subject: Approved Capstone Requirements Document, 3 September 03.

CPD, Mounted Machine Gun Optic, draft version 2.1, 30 November 12.

C Coordination Annex

Organization/POC (Date)	Summary of Comments Submitted (A/S/C)			Comments Accepted/ Rejected						Rationale for Non-Acceptance - S, C
				Accepted			Rejected			
	A	S	C	A	S	C	A	S	C	
v2.2 Army - USASOC 2013/03/06 - 2013/04/05	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - USAREUR 2013/03/06 - 2013/04/05	Document Accepted As Written			0	0	0	0	0	0	-
v2.2 Army - USAACE - Aviation School 2013/03/06 - 2013/04/05	Document Accepted As Written			0	0	0	0	0	0	-
v2.2 Army - TRADOC_ARCIC 2013/03/06 - 2013/04/05	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - TCM-SBCT 2013/03/06 - 2013/04/05	1	0	0	1	0	0	0	0	0	
v2.2 Army - TCM-Live 2013/03/06 - 2013/04/05	Document Accepted As Written			0	0	0	0	0	0	-
v2.2 Army - TCM-ABCT 2013/03/06 - 2013/04/05	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - TCM Intel Sensors 2013/03/06 - 2013/04/05	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - TCM Constructive 2013/03/06 - 2013/04/05	No Comments Submitted			0	0	0	0	0	0	-

v2.2 Army - SIGCoE - Signal School 2013/03/06 - 2013/04/05	1	0	0	1	0	0	0	0	0	
v2.2 Army - SCoE 2013/03/06 - 2013/04/05	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - PEO-STRI Customer Support Group 2013/03/06 - 2013/04/05	Document Accepted As Written			0	0	0	0	0	0	-
v2.2 Army - MSCoE - MANSCEN 2013/03/06 - 2013/04/05	8	2	1	7	1	1	1	1	0	
v2.2 Army - MCCoE 2013/03/06 - 2013/04/05	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - IMCOM 2013/03/06 - 2013/04/05	Document Accepted As Written			0	0	0	0	0	0	-
v2.2 Army - FCoE - Field Artillery 2013/03/06 - 2013/04/05	2	0	0	2	0	0	0	0	0	
v2.2 Army - Combined Arms Center 2013/03/06 - 2013/04/05	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - CAC-T; Training Management Dir 2013/03/06 - 2013/04/05	1	41	0	1	41	0	0	0	0	
v2.2 Army - Brigade Modernization Cmd (BMC) 2013/03/06 - 2013/04/05	No Comments Submitted			0	0	0	0	0	0	-

v2.2 Army - ATSC Fielded Devices 2013/03/06 - 2013/04/05	Document Accepted As Written	0	0	0	0	0	0	0	-
v2.2 Army - ATSC 2013/03/06 - 2013/04/05	Document Accepted As Written	0	0	0	0	0	0	0	-
v2.1 Peer - USASOC 2013/02/01 - 2013/03/03	No Comments Submitted	0	0	0	0	0	0	0	-
v2.1 Peer - Transportation School 2013/02/01 - 2013/03/03	No Comments Submitted	0	0	0	0	0	0	0	-
v2.1 Peer - TRADOC_ARCIC 2013/02/01 - 2013/03/03	No Comments Submitted	0	0	0	0	0	0	0	-
v2.1 Peer - TCM-SBCT 2013/02/01 - 2013/03/03	8	1	0	8	1	0	0	0	0
v2.1 Peer - SIGCoE - Signal School 2013/02/01 - 2013/03/03	0	1	0	0	1	0	0	0	0
v2.1 Peer - SCoE 2013/02/01 - 2013/03/03	0	3	1	0	3	1	0	0	0
v2.1 Peer - PM-HBCT 2013/02/01 - 2013/03/03	No Comments Submitted	0	0	0	0	0	0	0	-
v2.1 Peer - PEO-STRI Customer Support Group 2013/02/01 - 2013/03/03	1	1	0	1	1	0	0	0	0
v2.1 Peer - MSCoE - MANSCEN 2013/02/01 - 2013/03/03	2	6	1	2	6	1	0	0	0

Key
Completed Review with Comments
Completed Review, No Comments
Active Review Occurring