

Tactical Mesh Sensor System (TMS2)
(version 1.0)

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ICoE - Mil Intelligence School

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

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1.0 System Description

The Tactical Mesh Sensor System (TMS2) Information Systems (IS) Capability Development Document (CDD) defines specific Intelligence Warfighting Function (IWfF) capability requirements within an Information Technology Box (IT Box) construct. This construct creates latitude and flexibility in capability development and allows for rapid technological advances to be leveraged in order to meet emerging operational requirements. The TMS2 IS CDD will transition commercial off-the-shelf/government off-the-shelf (COTS/GOTS) solutions using the IT Box process to address gaps identified in the Network-enabled Mission Command (NeMC) Initial Capabilities Document (ICD), IWfF Capabilities Based Assessment (CBA), and United States Army Training and Doctrine Command (TRADOC) Capability Needs Assessment (CNA) FY16-20.

TMS2 is a geographically dispersed, meshed sensor array utilizing software-defined radios (SDR), software-defined sensors (SDS), and other wireless capabilities to collect, process, and relay data with minimal human interface. Sensors will be programmed remotely or at the platform to collect against a prioritized target list, process the collected data on-board, and disseminate processed information across the sensor array. Sensors within communication range automatically coalesce to create a larger integrated capability able to conduct synchronized, multi-node collaborative collection and geo-location, and tip and cue other sensors within the sensor array. Sensors can operate individually or linked together to provide the scalability and flexibility to meet mission demands. Each sensor's operational status and location will be remotely monitored to enable dynamic re-tasking and massing of intelligence, surveillance, and reconnaissance (ISR) and information collection capability in support of decisive action.

The Army's development, testing, acquisition, and fielding of SDRs, SDSs, and other wireless devices present an opportunity to gain efficiencies within ISR and information collection operations. With software enhancements and minor hardware adjustments, these capabilities will provide a single hardware solution combining advanced collection and communication functionalities. Robust on-board processing capacity will run the algorithms required to execute target detection, identification, direction finding, and tracking. The communication functionality will link and integrate sensors using information exchange standards under development within the all Computing Environments (CE) in accordance with Department of Defense (DoD) and Army Common Operating Environment (COE) guidance. The prevalence of SDRs within Army formations and across domains,

as well as their self-forming characteristics makes them an ideal capability for sensor integration, enhanced collection coverage, and rapid data delivery. The next generation SDR, cognitive radios (CR), will provide even greater spectrum sensing and processing capacity to assess the operational environment and dynamically reconfigure its own characteristics to optimize performance.

Initially, TMS2 will be employed on intelligence and force protection platforms. As capacity to support a larger sensor array increases, additional platforms could be equipped with TMS2 to expand coverage and enhance persistence. Technological advances in capability and capacity within commercial and government developmental programs will be incorporated and delivered through capability drops (CD) and capability sets (CS) aligned with the Agile Capabilities Life Cycle Process and in support of Army Force Generation (ARFORGEN).

The TMS2 IS CDD transitions COTS/GOTS capabilities with software enhancements into an ISR and information collection capability by implementing the IT Box construct. This strategy provides needed flexibility in the management of TMS2 capabilities within CDs and validates processes intended to keep pace with technological development and an adapting adversary.

TMS2 Capability Drop (CD) 1 will provide the initial software and COTS/GOTS hardware to conduct intelligence and information collection, management, and data relay. All three of these functions are essential in providing a collaborative and synchronized collection capability to support operations at the tactical edge and answer CCIRs. Military intelligence and force protection personnel will use TMS2 to provide detailed information and intelligence on the operational environment and support current and future operations. The TMS2 CD 1 will focus on a limited target set for collection and geo-location and expand these capabilities in later CDs. Data relay and sensor management capabilities are vital to delivering the collected data to users at all echelons. Sensor integration of legacy sensors will be limited and based on technical and financial feasibility.

Driven by technology development, operational requirements, and approved by the General Officer Steering Committee (GOSC), future capability drops will: 1) expand the target set for collection; 2) increase the accuracy of direction finding and geo-location; 3) provide improvements to sensor management and synchronization capabilities; 4) expand sensor array by integrating additional legacy sensors; 5) enhance automated tipping and cueing functionality; 6) increase sensor data relay throughput.

The TMS2 equipping strategy for Initial Operational Capability (IOC) consists of fielding to Multi-Functional Teams (MFTs), force protection towers (Ground-Based Operational Surveillance System (Expeditionary) (G-Boss-E)), and Aerial Persistent Surveillance Platforms, specifically the Persistent Surveillance System-Tethered (PSS-T) or like capability. TMS2 sensor suite/capability consists of a COTS/GOTS SDR and peripheral equipment such as antenna(s), cabling, and a small form factor modular receiver. The intended fielding strategy provides a mobile ad-hoc data relay, a signal collection capability, and collection management software. IOC consists of 15 TMS2 sensor suites to support a test configuration (testing, training, and sustainment) for one Brigade Combat Team (BCT) and one Special Operations Forces (SOF) Group. Full Operational Capability (FOC) uses an ARFORGEN model of one Corps, two Divisions, eight BCTs (1/2/8) and five SOF Groups. Since ARFORGEN is cyclical and requires unit equipping based on aiming points within the Train and Ready Pool, FOC would require additional TMS2 capability for eight follow-on BCTs to conduct ramp-up training and mission readiness exercises. PSS-T and G-BOSS (E) capabilities will remain in theater so duplicate TMS2 suites are not required. In FOC, TMS2 will be fielded to the BCT MFTs, and G-BOSS(E) and PSS-T platforms at corps, division, and brigade. Upon approval of current Expeditionary Military Intelligence Brigade (E-MIB) FDU and implementation, TMS2 will be fielded to the E-MIB. Each E-MIB will be augmented with one additional E-MI Bn with four MFTs to support Corps mission sets. The eight E-MIB MFTs will downward reinforce the eight BCTs within each ARFORGEN package with an additional MFT in support of the BCT four maneuver battalion structure.

Hosting Platform	Echelon	Number of Organizations / Operational Base	MFTs per Unit	Towers per base	Aerostats per base	Total capabilities per unit
Multi-Functional Teams	Corps (E-MIB)	2 (+1 E-MI Bn per E-MIB)	8	N/A	N/A	24
	Division	2	N/A	N/A	N/A	0
	Brigade (BCT)	16	3	N/A	N/A	48

G-BOSS(E)	Corps (E-MIB)	1	N/A	6	N/A	6
	Division	2	N/A	4	N/A	8
	Brigade (BCT)	8	N/A	2	N/A	16
PSS-T	Corps (E-MIB)	1	N/A	N/A	1	1
	Division	2	N/A	N/A	1	2
	Brigade (BCT)	8	N/A	N/A	1	8
SOF	Group	5	N/A	N/A	N/A	20
Institutional Training		1	N/A	N/A	N/A	2
Testing and Development		N/A	N/A	N/A	N/A	6
Spares (10%)		N/A	N/A	N/A	N/A	16
TMS2 Systems required for FOC						157

Basis of Issue (BOI)

IOC shall be achieved when the TMS2 capability is fielded and all phases of testing, training, and evaluation is complete for 15 TMS2 sensors (seven sensor suites for one BCT, five suites for SOF, and three sensor suites for continued testing and training development). IOC will include a science and technology effort to integrate legacy intelligence sensors into the TMS2 meshed sensor array. Integrating legacy sensors will expand the sensor array without additional acquisition costs. Additional sensors within the

array will provide improved collaborative collection, data relay, data sharing, tipping and cueing, and sensor synchronization at Corps and below.

QTR: 1 Fiscal Year: 2018

FOC shall be achieved when TMS2 is fielded to the identified components of the ARFORGEN set, and all phases of testing, training, and evaluation are complete. FOC will include the full integration of designated legacy intelligence sensors into the TMS2 meshed array. Since there is no current effort to integrate legacy sensors into the TMS2 meshed sensor array, costs and technical feasibility will determine the type and quantity of legacy sensors for integration.

QTR: 1 Fiscal Year: 2024

2.0 Target Audience

TARGET AUDIENCE

Category	Job	Area of Concentration (AOC) Military Occupational Specialty (MOS)
Operator		
Geospatial Intelligence Imagery Analyst, Human Intelligence Collector, Signals Intelligence Analyst, Cryptologic Linguist	Set-up/Tear-down, Data Relay, Collection Configuration	35G, 35M, 35N, 35P
Intelligence Analyst, ISR Synchronization Manager	Sensor Management	35F
Subject Matter Expert (SME)		
Supply		

Repairer

MI Systems Maintainer/Integrator	Level 1 Troubleshoot	35T
Radio Operator-Maintainer	Level 2 Network Mgmt	25C (25 Series)
Radio and Communications Security (COMSEC) Repairer, Computer/Detection Systems Repairer	Level 3 Radio Repair	94E/F (94 Series)
Trainer		

Since the TMS2 capability will utilize COTS/GOTS hardware, TMS2 shall be fielded within existing personnel limits, force structure and established Table of Organization (TOE). In order to employ, operate, and maintain the capability, the following breakdown identifies personnel implications and some of the expected tasks:

Pre-requisites to operate the TMS2 are:

Qualified in their respective MOS

Complete a favorable counterintelligence-scope (CI-scope) polygraph. Note: this requirement will be for any Soldier expected to access NSANET (typically MI Soldiers only, and only those conducting TMS2 operations)

Be proficient in basic DCGS-A operations. Note: DCGS-A training will be incorporated into all MI MOS and leadership courses at USAICoE (for MI personnel only)

3.0 Assumptions

- No additional training for 35T, 25- and 94- series maintenance personnel is expected. TMS2 will use peripheral capabilities already in the Army inventory
- Information Collection Planner will task and re-task TMS2
- There will be TMS2 on intelligence mobile assets (e.g., Tactical Intelligence Ground Station (TGS), Prophet, and Pursuit & Exploitation (P&E))
- MI personnel on intelligence mobile platforms have the ability to remote task and re-task TMS2 from point of access
- Force protection assets (TBD) will have TMS2 attached when supporting intelligence mobile assets during movement. Non-MI personnel will not have TMS2 tasking permissions
- TMS2's management and control will be through a Graphic User Interface (GUI) embedded in the DCGS-A software
- GUI training will be developed and integrated into DCGS-A New Equipment Training (NET) and TMS2 NET

4.0 Training Constraints

Constraint Type	Probable Impact	Mitigating Efforts
<i>Budgetary</i>		
TMS2 funding is not in Program Objective Memorandum (POM)	Training delayed	C-BA and architectures are being developed. ARCIC requirement document validation to follow. Tentative set to POM in17-21.
<i>Equipment</i>		
NA		
<i>Training Equipment</i>		
TADSS and other essential training assets not developed in time to support training at Combat Training Centers (CTCs).	Lack of training assets will negatively impact the effectiveness of system training	PM ensures training assets are available for training

Personnel		
No Program Manager (PM) has been identified for TMS2. PM funds planning, scheduling and resourcing for training.	Funding, planning, scheduling and resourcing is delayed for training.	Identification and assignment of PM.
Facilities		
NA		
Human Factors Engineering		
NA		
System Safety		
NA		

Doctrine

NA

Environmental

NA

Support Services

NA

Command Guidance

NA

Soldier Survivability

NA		
<i>Other</i>		
NA		
<i>Public Law</i>		
No collection on US personnel	Realism in training may be negatively impacted	Due to training difficulties of SIGINT collection in CONUS and other countries, TMS2 will use virtual systems and not live emissions.

5.0 System Training Concept

TMS2 training occurs primarily at home-station. Institutional training initially will be conducted at USAICoE in the Information Collection Planner Functional Course. A TMS2 system capability overview will be integrated in all MI Officer Education System (OES), Warrant Officer Education System (WOES), and Non-commissioned Officer Education System (NCOES) courses. New Equipment Training (NET) serves as the primary method for training the force and occurs during equipment fielding. TMS2 training includes Interactive Multimedia Instruction (IMI) for all functions, components, and system-level procedures on the set-up and tear-down, operation, and maintenance of its capability for sustainment and self-development.

5.1 New Equipment Training Concept (NET)

The PM will fund NET development and execution costs necessary to conduct required TMS2 systems training in the institutional, operational, and self-development training domains. The PM, with the training developer (TNGDEV), material developer (MATDEV), and capability developer (CAPDEV), shall establish and integrate all TMS2 systems-related training development activities and training aids, devices, simulators, simulations (TADSS) requirements across the institutional, operational, and self-development training domains. New Systems Training and Integration Directorate (NSTID) will develop DTT to be presented during NET. NSTID will submit to the MATDEV identification of requirements and the concept for DTT for inclusion in the New Equipment Training Plan (NETP). All training material developed will be IAW current TRADOC Regulations (TRs) and will be validated by the USAICoE TNGDEV. This will include:

- Developing the TMS2 Gross Task List (GTL)
- Developing the TMS2 Training Support Package (TSP)
- Developing a NETP for each new, improved, or modified version of TMS2
- Conducting NET and Instructor/Key Personnel Training (I/KPT)
- Integrating an embedded training (ET) capability using the PM-developed TMS2 Target Signature Array (TSA) stimulated by the Intelligence Electronic Warfare Tactical Proficiency Training (IEWTPT) to support system critical task skills training and sustainment
- Developing and integrating on-board system help that trains tasks of operating, set-up and tear-down, and trouble shooting of the TMS2 (e.g., IMI)

5.2 Displaced Equipment Training (DET)

TMS2 will consist of new equipment; no displacement of equipment will occur .

5.3 Doctrine and Tactics Training (DTT)

USAICoE TNGDEV will develop DTT to be presented during NET. DTT will be incorporated in leader and staff training at home station using the TSP. USAICoE TNGDEV will submit to the MATDEV identification of requirements and the concept for DTT for inclusion in the NETP.

DTT is a combination of the TSP coupled with the USAICoE TNGDEV input. Input includes scenarios that prompt the user to utilize the system while the PM's NETT walks the student through the steps associated with the required action. NET ingrains into the student how to accomplish the task on the new system, DTT enforces why they are doing the task and the expected outcome. Practical exercises will be introduced requiring the student to work independently through actions that identify their ability to use the system during the conduct of their mission. DTT is developed from lessons gathered during initial system testing that result in tactics, techniques, and procedures (TTP) development. The DTT is threaded throughout the entire NET requiring a coordinated presentation from both the PM's NET personnel and USAICoE's DTT instructor.

Elements of the DTT will be used to inform commanders and leaders of the capabilities of the system, how it's doctrinally deployed, missions it supports, and how receiving the system affects the unit (e.g., logistics, manning, and training).

5.4 Training Test Support Package (TTSP)

The TTSP will meet current requirements established in TR 350-70, 8-3b. USAICoE TNGDEV will develop, approve, and provide the TTSP to the Army operational tester for use in the evaluation of TMS2 new system training. The TTSP outlines the method and procedures to evaluate and certify individual and collective pre-assessment training (i.e., who, where, and how training is to be certified). The TTSP includes the training for system operation, current and emerging doctrine, and maintenance. Both an initial and final TTSP are required.

(1) Final TTSP preparation follows IKPT and receipt of the NET TSP from the MATDEV. The TTSP is revised before each operational test unless USAICoE determines that the TTSP is not required.

(2) USAICoE TNGDEV will prepare initial and final TTSP submissions and obtain approval from the commander or commandant or his or her designated O-6 representative.

TTSP submission requirements

(1) Initial - USAICoE TNGDEV will provide to the test agency an initial TTSP nine months (270 days) before test as specified in outline assessment plan.

(2) Final - USAICoE TNGDEV will provide to the test agency the final TTSP at least 60 days before test player training or as specified in outline assessment plan (and to HQ TRADOC, DCS, G-3/5/7 (ATIC-SAIS)).

6.0 Institutional Training Domain

6.1 Institutional Training Concept and Strategy

Training at the institution occurs at USAICoE. TMS2 use and functionality will be trained during the Information Collection Planner Functional Course. The institution will have two TMS2 suites consisting of SDR, SDS, and peripheral equipment such as antenna(s), cabling, and a small form factor modular receiver.

System capability overview is trained during all MI OES, WOES, and NCOES courses.

TMS2 software is envisioned to be embedded in the DCGS-A software baseline. Eventual training on TMS2 software to personnel who utilize DCGS-A may occur. If that is determined, the courses will utilize the TMS2 TSP to develop their training material for integration into MOS producing courses, potentially 35F, 35G, 35M, 35N, 35P.

6.1.1 Product Lines

The product lines for the TMS2 include the TSP, courseware and technical manuals. Courseware will focus on the operator, maintainer, and Information Collection Planner. USAICoE provides IMT and PME course revisions to support the addition of the TMS2 in the current POI. The USAICoE TNGDEV will update and revise PM produced training publications.

6.1.1.1 Training Information Infrastructure

TMS2 training material will conform to Army architectures and standards to enable the development, storage, retrieval, delivery, and management of TSS products and information for use by individuals, units, and institutions worldwide. TSS products will be planned, prepared, and developed IAW Global Information Grid (GIG), ATIA, High Level Architecture (HLA) for simulations, and Common Training Instrumentation Architecture (CTIA). The TMS2 training software will leverage web-based technology to interface with the training infrastructure via the Tactical Internet (TI), a subnet of the TI or other secure networks. All training material developed by the MATDEV will be developed using the approved Army or Combined Arms Center (CAC)-approved automated development system, currently TDC . The MATDEV will have access to TDC database for product development. All IMI and TADSS products will be SCORM compliant.

6.1.1.1.1 Hardware, Software, and Communications Systems

Training Information Infrastructure (TII) includes an Army Learning Management System (ALMS) or an approved Learning Management System (LMS) that registers trainees and tracks their progress through a live feed. Registration is by uploading data from a cache that is stored locally when the trainee does not have connection to the server or main database. An effective ALMS or LMS provides an integrated platform for content, delivery, and management of learning via Web Based Training (WBT). The user interface may be through the internet connection or use of an intranet and other standard communications protocols. Training material will be available on identified websites, and through the approved Army or CAC-approved automated development system, currently TDC .

6.1.1.1.2 Storage, Retrieval, and Delivery

Digital information will be developed, maintained and stored in the approve Army or CAC-approved automated development system, currently TDC, and shared through the Central Army Registry (CAR) or other military training repositories as they evolve through the ATIA.

- The Army Training Network (ATN)
- After Action Review System (AARS)
- Center for Army Lessons Learned (CALL)
- Intelligence Knowledge Network (IKN)
- USAICoE NSTID Training Material Website

6.1.1.1.3 Management Capabilities

The ALMS and LMS are infrastructure platforms that will deliver and manage learning content. They should consist of a combination of hardware and software tools that perform a variety of functions related to online and offline training administration, as well as student and performance management. The ALMS or LMS should manage both the content and the users, and be flexible enough to expand with growth and maturity of the system and the organization it supports. The ALMS or LMS should provide the capability to author and manage courseware and content delivery.

They must work with Learning Content Management Systems (LCMS), using learning objects for re-use and syndication. The ALMS or LMS should track student progression through lessons, exercises, and evaluations. The ALMS will be capable of downloading student academic records, tracking student progression, and sending the data back. Other LMS may have access to other information repositories that track student academic progress.

TMS2 training will be managed by:

Army Training Requirements and Resources System (ATRRS)

- Learning Management System (LMS)
- Distributed Learning System (DLS)
- Automated Instructional Management System - Personal Computer (AIMS-PC)

6.1.1.1.4 Other Enabling Capabilities

Other TII Enabling Capabilities may include but are not limited to:

- Army Knowledge Network (AKO)
- Army Knowledge Network Secure (AKO-S)
- Joint Training Information Management System (JTIMS)
- Command, Control, Communication, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR)
- Internet Service Providers (ISP)

6.1.1.2 Training Products

The MATDEV will develop training products in coordination with USAICoE TNGDEV. TMS2 TSPs will provide a structured training program that supports Soldier, leader and staff training. The MATDEV will develop tasks using the approved Army or CAC-approved automated development system, currently TDC. Training materials will also be accessible through the USAICoE NSTID Training Materials website located on the Intelligence Knowledge Network (IKN). This will facilitate the production of training support products for delivery with the TSS and the ability to update rapidly tasks and their instructional products using digital systems.

6.1.1.2.1 Courseware

TMS2 TSPs will form the basis of courseware used for institutional training.

6.1.1.2.2 Courses

Course Name	Course Number																
Initial Military Training																	
Professional Military Education (PME)																	
<table border="0"> <tr> <td colspan="2" data-bbox="205 899 894 927">Advanced Leadership Course (ALC)</td> </tr> <tr> <td data-bbox="205 971 894 998">- Intelligence Analyst (35F)</td> <td data-bbox="894 971 1411 998">243-35F30-45</td> </tr> <tr> <td data-bbox="205 1042 894 1070">- Geospatial Intel Imagery Analyst (35G)</td> <td data-bbox="894 1042 1411 1070">242-35G30-C45</td> </tr> <tr> <td data-bbox="205 1114 894 1141">- Human Intelligence Collector (35M)</td> <td data-bbox="894 1114 1411 1141">241-35M30-C45</td> </tr> <tr> <td data-bbox="205 1185 894 1213">- Signal Intelligence Analyst (35N)</td> <td data-bbox="894 1185 1411 1213">232-35N30-C45</td> </tr> <tr> <td data-bbox="205 1256 894 1284">- Cryptologic Linguist (35P)</td> <td data-bbox="894 1256 1411 1284">231-35P30-C45</td> </tr> <tr> <td data-bbox="205 1328 894 1356">- MI Systems Maintainer/Integrator (35T)</td> <td data-bbox="894 1328 1411 1356">102-35T30-C45</td> </tr> <tr> <td data-bbox="205 1399 894 1427">Senior Leadership Course (SLC)</td> <td data-bbox="894 1399 1411 1427">2-35-C46</td> </tr> </table>		Advanced Leadership Course (ALC)		- Intelligence Analyst (35F)	243-35F30-45	- Geospatial Intel Imagery Analyst (35G)	242-35G30-C45	- Human Intelligence Collector (35M)	241-35M30-C45	- Signal Intelligence Analyst (35N)	232-35N30-C45	- Cryptologic Linguist (35P)	231-35P30-C45	- MI Systems Maintainer/Integrator (35T)	102-35T30-C45	Senior Leadership Course (SLC)	2-35-C46
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- MI Systems Maintainer/Integrator (35T)	102-35T30-C45																
Senior Leadership Course (SLC)	2-35-C46																

Warrant Officer Basic Course (WOBC)	
- All Source Intelligence Technician (350F)	3A-350F
- Imagery Intelligence Technician (350G)	3A-350G
Military Intelligence BOLC-Branch	3-30-C20B
Military Intelligence Captain Career Course	3-30-C22
Functional And ASI	
Information Collection Planner Course	3A-SI/ASIQ7/243-ASIQ7
Mobilization	

6.1.1.2.3 Training Publications

Publications	Publication Date
Field Manuals	
ADP 2-0 Intelligence	August 2012
ADP 3-0 Unified Land Operations	October 2011
ADP 5-0 The Operations Process	May 2012
ADP 6-0 Mission Command	May 2012
ADP 7-0 Training Units and Developing Leaders	August 2012
FM 2-0 Intelligence	March 2010
FM 2-19.4 Brigade Combat Team Intelligence Operations	November 2008
FM 2-91.4 Intelligence Support to Urban Operations	March 2008

FM 2-91.6 Soldier Surveillance and Recon: Fundamentals of Tactical Information Collection	October 2007
FM 3-55 Information Collection	May 2013
Technical Manuals	
Soldier Training Publications	
STP 34-35F14-SM-TG	March 2012
STP 34-35G14-SM-TG	September 2008
STP 34-35T14-SM-TG	May 2012

Special Texts	

6.1.1.2.4 Training Support Package (TSP)

The MATDEV is responsible for the development of the TMS2 TSP for validation from the USAICoE TNGDEV. The TSP is a complete, exportable package integrating training and education products and materials necessary to train more than one lesson plan. The TMS2 TSP will provide a structured training program that supports Soldier, leader and staff training. The TSP will be loaded into the approved Army or CAC-approved automated development system, currently TDC. The TSP will contain operational software, operator Level 3 IMI in CD-ROM format, and the TMS2 Handbook. The MATDEV will provide a complete library of available TMS2 related manuals, to include all COTS and GOTS related software and hardware components references as well as MATDEV training materials and manuals.

6.1.1.3 TADSS

The MATDEV is responsible for the development, implementation, and updating of any TADSS that are used. IMI software developed will allow an individual to perform individual operator and maintainer tasks on a typical computer. Embedded training (ET) developed for TMS2 will cover component and operation set-up, user functions, and recovery procedures.

6.1.1.3.1 Training Aids

A job aid in the form of a checklist, procedural guide, quick-setup-guide, or technical manual will be developed and updated to incorporate future systems.

6.1.1.3.2 Training Devices

TADSS are developed based on the TMS2's critical tasks and analysis performed by the USAICoE TNGDEV in collaboration with the PM. TADSS support TMS2 training and assist in creating a virtual training environment using realistic data and information, making that data available to TMS2 software applications. TADSS need to be compliant with appropriate DA requirements for the LVC ITE/IA and support interface to the Joint Land Component Constructive Training Capability (JLCCTC). The Target Signature Array (TSA), aligned with the IEWTPT requirement, is the primary training device. It will include the system's intelligence capabilities that support both a stand-alone ET and networked training. The TSA interfaces with the IEWTPT's Technical Control Cell (TCC) developed by PM IEWTPT, PEO STRI. In support of institutional training, the TSA capability creates the virtual data environment that depicts realistic, relevant, and operationally focused multi-INT scenario for practical exercises and CAPSTONE events. The TSA enables system training within the classroom or in an exercise area that includes Decisive Action Training Environment (DATE) scenarios and vignettes. It will include the ability to generate the exercise data and information that represents "real-world" operational data and associated sensor and collection characteristics. It will present this data to the system interface(s), record and playback scenarios, and provide an AAR capability. Each developed TSA leverages previous and existing TSA development within the overarching IEWTPT program. The PM is responsible for the development and fielding of the system's TSA capability.

The TSA and the IEWTPT TCC support requirements to train system critical tasks within the institutional training environment using simulations. USAICoE provides requirements to the IEWTPT program to develop and refine training simulation capabilities and tools within the TCC (e.g., SIGINT EXCON, NTNG, HUMINT Control Cell (HCC)). The PM will develop specific training simulations for the TSA that interfaces with the overall IEWTPT system and JLCCTC capabilities. Specifically, this capability will be High Level Architecture (HLA) and Distributive Interactive Simulation (DIS) compliant.

6.1.1.3.3 Simulators

Not required

6.1.1.3.4 Simulations

The TMS2 will include IMI for all functions, components, and system-level procedures on the set-up and tear-down, operation, and maintenance of its capability.

6.1.1.3.5 Instrumentation

Identification of specific instrumentation has not been determined at this time.

6.1.1.4 Training Facilities and Land

TMS2 will use existing facilities, ranges, and land. Digital Training Facilities (DTF) are available for use in training TMS2 using IMI.

6.1.1.4.1 Ranges

Not required

6.1.1.4.2 Maneuver Training Areas (MTA)

Not required

6.1.1.4.3 Classrooms

Classrooms must have adequate spacing for students and equipment. Classroom equipment must be IMI capable. Classroom facilities are required to support institutional operator, maintainer, and leader training. Digital Training Facilities (DTF) are available for use in training TMS2 using IMI.

6.1.1.4.4 CTCs

Not required

6.1.1.4.5 Logistics Support Areas

Physical security of all classified material and equipment must be IAW AR 190-13, Physical Security Program.

6.1.1.4.6 Mission Command Training Centers (MCTC)

Not required

New name: Mission Training Complex (MTC)

6.1.1.5 Training Services

Life Cycle Support will include, but not be limited to, training software and distributed learning (DL) products which are designed and developed in a reusable and maintainable format, such as Defense Information Infrastructure Common Operating Environment (DII_COE) and Shareable Courseware Object Reference Model (SCORM).

6.1.1.5.1 Management Support Services

PM will be the primary manager for TMS2 systems. The USAICoE Requirements Determination Directorate (RDD) provides TMS2 oversight as the User Representative. Institutions training TMS2 have access to TMS2 tasks via the approved Army or CAC-approved automated development system, currently TDC.

6.1.1.5.2 Acquisition Support Services

The TMS2 PM will utilize appropriate contract support services to ensure all training products are developed and delivered.

6.1.1.5.3 General Support Services

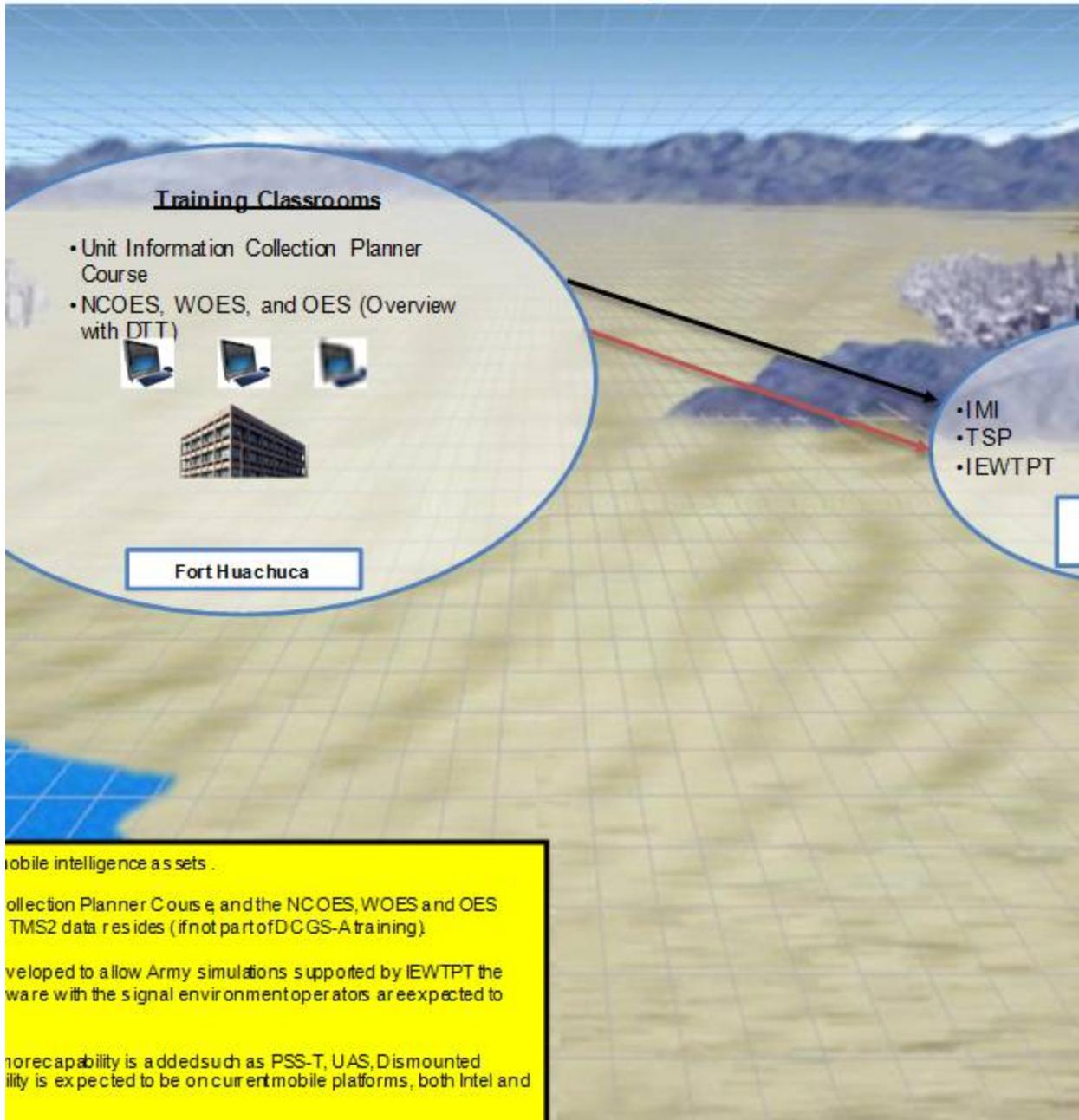
General support services will be required for:

- Distribution and replication services of training material
- TADSS development, procurement, distribution, and sustainment

6.1.2 Architectures and Standards Component

6.1.2.1 Operational View (OV)

Tactical Mesh Sensor System (TMS2) Institutional Training Domain



6.1.2.2 Systems View (SV)

To be completed

6.1.2.3 Technical View (TV)

To be completed.

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

6.1.3.1 Management

TMS2 will use existing facilities and support infrastructure. The staff training estimate in support of TMS2 will focus on the most efficient use of existing resources and precisely identify and quantify any expected shortfalls. Training development will focus on producing products that are capable of being used in both the institution and operational training domain focusing on combat critical tasks.

6.1.3.1.1 Strategic Planning

Institutional training supports the capabilities document requirements to ensure Soldiers effectively employ each system throughout the force.

Future training capabilities must follow the force design and training concepts identified within the documents below:

- Multiple Operational Needs Statements

- The Information Systems (IS) Capability Development Document (CDD) for (U) Tactical Mesh Sensor System (TMS2), Draft v.1.1, generated on 12/23/2013

- Military Intelligence Rebalance Decision

- TRADOC Commander's Training Guidance

- USAICoE Commander's Training Guidance

6.1.3.1.2 Concept Development and Experimentation (CD&E)

The Information Systems (IS) Capability Development Document (CDD) for Tactical Mesh Sensor System (TMS2), Draft v.1.1, generated on 12/23/2013 is used to address all identified DoD capability gaps that pertain to performing TMS2 tasks in various operating environments.

6.1.3.1.3 Research and Studies

The studies and analysis addressed in the Information Systems (IS) Capability Development Document (CDD) for Tactical Mesh Sensor System (TMS2), Draft v.1.1, generated on 12/23/2013 and listed below identify the need to develop and employ a synchronized, collaborative advanced collection capability to meet the Army's current and future operational requirements.

- Battle Command (Mission Command) CBA
- IWfF CBA
- N-SE ISR AROC
- TRADOC CNA FY15-19

6.1.3.1.4 Policy and Guidance

The following publications describe the policies regulating the implementation of the Training Support System (TSS) for TMS2:

Publication	Title	Date
AR 350-1	Army Training and Leader Development	18 Dec 2009
AR 350-38	Policies and Management for Training Aids, Devices, Simulators and Simulations	28 Mar 2013
AR 380-10	United States Army Intelligence Activities	3 May 2007
TR 350-70	Army Learning Policies and Systems	6 Dec 2011
TP 350-70-10	Systems Approach to Training Course and Courseware Validation	29 Mar 2004
TP 350-70-12	The Army Distributed Learning (DL) Guide	3 May 2013
TP 350-37	Objective Force Embedded Training (OFET) User's Functional Description	9 June 2003
TP 525-3-1	The United States Army Operating Concept 2016-2028	19 Aug 2010
TP 525-8-2w/C1	The United States Army Learning Concept for 2015	6 Jun 2011

6.1.3.1.5 Requirements Generation

This STRAP supports the Information Systems (IS) Capability Development Document (CDD) for Tactical Mesh Sensor System (TMS2), Draft -v.1.1, generated on 12/23/2013.

6.1.3.1.6 Synchronization

USAICoE TNGDEV will coordinate with other institutional training centers to develop training in order for commanders to leverage TMS2 capabilities.

6.1.3.1.7 Joint Training Support

Not required

6.1.3.2 Evaluation

6.1.3.2.1 Quality Assurance (QA)

The USAICoE QAO must solicit and receive feedback from the users to ensure the training products produced and the students trained meet the user's needs. Feedback will assist USAICoE TNGDEV in correcting training deficiencies, and will provide information that may affect the next generation of equipment or production improvements. Field training exercises results and/or operational exercises from the users will be used in addition to institutional training evaluation data.

6.1.3.2.2 Assessments

Performance assessment includes a performance task, a learner response, and a predetermined rubric or grading system. The USAICoE QAO performs assessments of institutional course by individual surveys, special surveys, and classroom monitoring. Survey results are provided to the USAICoE Deputy Commander of Training (DCT) and all relevant command sections and cadre.

6.1.3.2.3 Customer Feedback

The QAO will conduct surveys targeted at users on the effectiveness of ET. Surveys will be developed for both the Soldier and the supervisor. Results of the survey will be distributed to the USAICoE TNGDEV and the PM. Users will also have access to a forum set up for feedback and lessons learned which will be available for monitoring by QAO, PM, and the TNGDEV.

6.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

The QAO, USAICoE TNGDEV, and PM will solicit lessons learned from the users throughout the life of the program and maintain the results at a program supported website.

6.1.3.3 Resource

The introduction of the TMS2 capability shall not require an increase in the overall number of personnel, military or civilian, to employ, operate, and maintain the capability.

The employment, operation, and maintenance of the TMS2 capability shall not require additional aptitudes, skills, or capabilities beyond those currently present in the user population.

The instruction and resources required to train the users and maintainers on the tasks related to the knowledge, skills, and abilities necessary to employ, operate and maintain the TMS2 capability and the associated systems shall not significantly increase due to the introduction of TMS2.

The PM is required to provide all funding to develop and evaluate initial institutional training. PM will provide funds to support USAICoE participation in training development, supportability strategy meetings, in-progress reviews, IKPT, contractor training for developmental and operational test training, and test certification. The PM will provide all equipment required to support institutional training of systems fielded.

NOTE: Costs are assumed. PM has not been identified at time of STRAP development. Costs will be adjusted as TMS2 matures.

Item	FY15	FY16	FY17	FY18	FY19	FY20
Resourced	Yrs or \$K					
<u>Manpower - TD</u>						

Contractor	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY
Civilian	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY
Enlisted	0.2MY	0.2MY	0.2MY	0.2MY	0.2MY	0.2MY
Warrant						
Officer						
Contract/Spt	\$320K	\$320K	\$320K	\$320K	\$160K	\$160K
Civ Pay	\$260K	\$260K	\$260K	\$260K	\$130K	\$130K
Trvl/Per Diem	\$12K	\$12K	\$12K	\$12K	\$12K	\$12K

Rationale: TNGDEVs are needed to develop and maintain the TSP and other outputs of the ADDIE process. For purpose of this STRAP information is repeated for each domain.

Item Resourced	FY15	FY16	FY17	FY18	FY19	FY20
	Yrs or \$K					

<u>Training Products</u>						
Training Pubs	0.2MY	0.2MY	0.2MY	0.1MY	0.1MY	0.1MY
TSP	0.4MY	0.2MY	0.2MY	0.1MY	0.1MY	0.1MY
IMI	0.4MY	0.2MY	0.2MY	0.1MY	0.1MY	0.1MY
ETM	\$200K	\$200K	\$200K	\$100K	\$100K	\$100K
STP						
IETM	\$40K	\$40K	\$40K	\$40K	\$40K	\$40K
ARTEP/MTP	0.1MY	0.1MY	0.1MY	0.1MY	0.1MY	0.1MY
Printing	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K
Distribution	\$0.2K	\$0.2K	\$0.2K	\$0.2K	\$0.2K	\$0.2K

Rationale: Cost to develop, revise, maintain, and distribute training products used in all training domains. For purpose of this STRAP information is repeated for each domain.

Item Resourced	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K	FY20 Yrs or \$K
<u>TADSS</u>						
Training Aids (GTA)	\$0.5K	\$0.2K	\$0.2K	\$0.2K	\$0.2K	\$0.2K
Simulations (Embedded)	\$1.0M	\$1.0M	\$0.5M	\$0.25M	\$0.25M	\$0.25M
System training device/TSA	\$1.5M	\$1.5M	\$1.5M	\$1.5M	\$1.5M	\$1.5M
Printing	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K
Shipment	\$1K	\$1K	\$1K	\$1K	\$1K	\$1K
Sustainment	\$5K	\$5K	\$5K	\$5K	\$5K	\$5K

Rationale: Cost to procure and sustain TADSS for all training domains. For purpose of this STRAP they are repeated in each domain. Cost associated with software include 2 Senior level II Software Engineers for simulation and software

development. Subsequently 1 Level II Software Engineer would be required for software integration and maintenance across various systems. Software Engineer description covers conducting or participating in multidisciplinary research and collaboration with equipment designers and/or hardware engineers in the design, development, and utilization of electronic data processing systems software.

Item Resourced	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K	FY20 Yrs or \$K
<u>Training Services/TII</u>						
LMS	\$0.6K	\$0.6K	\$0.8K	\$0.8K	\$0.4K	\$0.4K
Services	\$0.1K	\$0.1K	\$0.1K	\$0.1K	\$0.1K	\$0.1K
Servers						
Licenses						
IT Support	\$1K	\$1K	\$0.5K	\$0.5K	\$0.5K	\$0.5K

Rationale: The program will not require cost estimates for software license since the Army will own the software. However, IT support is required.

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Item	FY15	FY16	FY17	FY18	FY19	FY20
Resourced	Yrs or \$K					
<u>Eval/OA</u>						
Contractor	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY
Civilian	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY
Enlisted	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY
Warrant						
Officer						
Contract/Spt	\$200K	\$200K	\$200K	\$200K	\$200K	\$200K
Civ Pay	\$200K	\$200K	\$200K	\$200K	\$200K	\$200K
Trvl/Per Diem	\$40K	\$40K	\$40K	\$40K	\$40K	\$40K
Equipment	\$200K	\$200K	\$200K	\$200K	\$200K	\$200K
	\$1K	\$1K	\$1K	\$1K	\$1K	\$1K

Printing						
TEA	\$100K	\$100K	\$50K	\$25K	\$25K	\$25K
PFTEA	\$200K	\$200K	\$100K	\$50K	\$50K	\$50K

Rationale: Evaluations and Q/A are used to validate all phases of training and training development.

7.0 Operational Training Domain

7.1 Operational Training Concept and Strategy

NET : PM will conduct NET during equipment fielding to MI Soldiers on mobile platforms and unit ISR managers. NET will leverage IMI and IEWTPT to support Decisive Action Training Environment (DATE) based scenarios. DTT is required to support leader and staff training.

SUSTAINMENT Training : The unit is responsible for sustainment training on TMS2 tasks. They will use the embedded training on TMS2 and TSPs from the NETT. PM-provided IMI and TSA/IEWTPT will provide tools for units to conduct sustainment training. Training developers and unit commanders will ensure sustainment training requirements for TMS2 are integrated into the unit's Combined Arms Training Strategy (CATS).

7.1.1 Product Lines

TMS2 training content will be identical for both AA and RC. USAICoE must use the Army or CAC-approved automated development system, currently TDC, to develop and deliver all training and education products to the operating force through the Digital Training Management System (DTMS). The DTMS CATS Web site, <https://dtms.army.mil> .

7.1.1.1 Training Information Infrastructure

TMS2 training material will conform to Army architectures and standards to enable the development, storage, retrieval, delivery, and management of TSS products and information for use by individuals, units, and institutions worldwide. TSS products will be planned, prepared, and developed IAW GIG, ATIA, HLA for simulations, and CTIA. The TMS2 training software will leverage web-based technology to interface with the training infrastructure via the TI, a subnet of the TI or other secure networks. All training material developed by the MATDEV will be developed using the approved Army or CAC-approved automated development system, currently TDC . The MATDEV will have access to TDC database for product development. All IMI and TADSS products will be SCORM compliant.

7.1.1.1.1 Hardware, Software, and Communications Systems

Units will use multimedia disks and other training materials left from NET for use in follow-on operational and sustainment training.

7.1.1.1.2 Storage, Retrieval, and Delivery

Digital information will be developed, maintained and stored in the approve Army or CAC-approved automated development system, currently TDC, shared through the CAR or other military training repositories as they evolve through the ATIA. Below are examples of repositories:

- The Army Training Network (ATN)
- After Action Review System (AARS)
- Center for Army Lessons Learned (CALL)
- Intelligence Knowledge Network (IKN)
- USAICoE NSTID Training Material Website

7.1.1.1.3 Management Capabilities

The DTMS, <https://dtms.army.mil> , is a web based CAC-approved automated development system with a relational database that provides the ability to plan, resource and manage unit and individual training at all levels. Brigade, battalion and company levels use DTMS. Other management capabilities may include:

The Army Training Network (ATN) <https://atn.army.mil>

Learning Management System (LMS)

AIMSS-PC

7.1.1.1.4 Other Enabling Capabilities

No other enabling capabilities.

7.1.1.2 Training Products

The MATDEV will develop training products in coordination with USAICoE TNGDEV. Training products will consist largely of the TSPs developed to support individual as well as collective training in units. TMS2 TSPs provide a structured training program that supports Soldier, leader and staff training. The MATDEV will develop tasks using the approved Army or CAC-approved automated development system, currently TDC . Training materials will also be accessible through the USAICoE NSTID Training Materials website located on IKN. This will facilitate the production of training support products for delivery with the TSS and the ability to update rapidly tasks and their instructional products using digital systems.

7.1.1.2.1 Courseware

TMS2 TSPs will form the basis of courseware used for NET and Level 3 IMI.

Organizations can utilize the Tasks and LPs from the TSP to build unit-training sustainment programs.

7.1.1.2.2 Courses

Course Name	Course Number
Initial Military Training	
Professional Military Education (PME)	
Functional And ASI	
Information Collection Planner Course (MI NCO's and Officers determined by unit)	

Mobilization	

7.1.1.2.3 Training Publications

Publications	Publication Date
Field Manuals	
ADP 2-0 Intelligence	August 2012
ADP 3-0 Unified Land Operations	October 2011
ADP 5-0 The Operations Process	May 2012
ADP 6-0 Mission Command	May 2012
ADP 7-0 Training Units and Developing Leaders	August 2012
FM 2-0 Intelligence	March 2010
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FM 2-91.4 Intelligence Support to Urban Operations	March 2008

FM 91.6 Soldier Surveillance and Recon: Fundamentals of Tactical Information Collection	October 2007
FM 3-55 Information Collection	May 2013
Technical Manuals	
Soldier Training Publications	
STP 34-35F14-SM-TG	March 2012
STP 34-35G14-SM-TG	September 2008
STP 34-35T14-SM-TG	May 2012

Special Texts	

7.1.1.2.4 TSP

The TMS2 TSP contains necessary LPs, Level 3 IMI in CD-ROM format, TMs, IETMs, and TMS2 Handbooks. The MATDEV is responsible for the development of TMS2 TSPs for validation by USAICoE TNGDEV. TMS2 TSPs are complete, exportable packages integrating training products necessary to train one or more critical individual and leader tasks. TMS2 TSPs provide a structured training program that supports Soldier, leader and staff training. TMS2 TSPs are integrated into a training and management exercise development system. All validated TSPs will be loaded into the approved Army or CAC-approved automated development system, currently TDC . The MATDEV will provide a complete library of available TMS2 related manuals, to include all COTS and GOTS related software and hardware components references as well as developers training materials and manuals.

7.1.1.3 TADSS

The MATDEV is responsible for the development, implementation, and updating of any TADSS that are used. Interactive Multimedia Instruction (IMI) software developed will allow an individual to perform individual operator and maintainer tasks on a typical computer. Embedded training (ET) developed for TMS2 will cover component and operation set-up, user functions, and recovery procedures.

7.1.1.3.1 Training Aids

The TMS2 Handbook will be developed and updated to incorporate future systems.

7.1.1.3.2 Training Devices

TADSS are developed based on the system's critical tasks and analysis performed by the USAICoE TNGDEV in collaboration with the TMS2 PM. TADSS support system training and assist in creating a virtual training environment using realistic data and information and making that data available to the system software applications. TADSS need to be compliant with appropriate DA requirements for the LVC ITE/IA and support interface to the JLCCTC

The TSA, aligned with the IEWTPT requirement, is the primary training device. It will include the system's intelligence capabilities that support both stand-alone ET and networked training. The TSA interfaces with the IEWTPT's TCC developed by PM IEWTPT, PEO STRI.

The IEWTPT is a key enabler for MI home-station operational readiness training. The TSA component of IEWTPT, resourced by the PM, provides the foundation for both ET and networked exercises. It supports both stand-alone systems training as well as the LVC-ITE at home-station. It uses and interfaces with the JLCCTC federation(s) and local and regional training databases (e.g. Training Brain Operations Center (TBOC) Central Training Database) for networked training exercises. In stand-alone mode, the TMS2 TSA will have the capability to record and re-play portions of the exercise for local unit training of individual and crew tasks. Using the TMS2 TSA, the system is intended to work as it does operationally, with the only difference being connectivity to the training database and simulations environment instead of real world databases and live emissions. The IEWTPT enables an AAR capability for training evaluation and provides for an assessment of performance.

7.1.1.3.3 Simulators

Not required

7.1.1.3.4 Simulations

The TMS2 includes IMI for all functions, components, and system-level procedures on the set-up/tear-down, operation, and maintenance of its capability.

7.1.1.3.5 Instrumentation

TMS2 training will be compatible with the instrumentation used in the operational training.

7.1.1.4 Training Facilities and Land

TMS2 operational training is conducted at the unit's training area on their respective installation. TMS2 training will require the use of land, as well as facilities to conduct live and virtual training in the operational environment. Mission Training Complex (MTC) or Combat Training Center (CTC) can be used to incorporate TMS2 into scenarios.

7.1.1.4.1 Ranges

Not required

7.1.1.4.2 Maneuver Training Areas (MTA)

Not required

7.1.1.4.3 Classrooms

There are 217 Active Component and USAR Digital Training Facilities (DTFs) at 89 installations in the United States, Germany, Belgium, Italy, and Korea to utilize for TMS2 CD-ROM, Video-Tele-Training (VTT)-based TMS2 training.

7.1.1.4.4 CTCs

Units with TMS2 will incorporate use of the systems in training exercises at CTCs. Combat training centers (CTCs) play a critical role in unit training cycles and should reinforce critical TMS2 skills and tasks. Units should take the opportunity to test and refine their TMS2 Standing Operating Procedures (SOPs) and TTPs, to ensure these procedures are effective and thorough. Combat Training Centers (CTCs) offer the best ability to validate unit SOPs to ensure TMS2 considerations have been included during operations.

Simulations at the CTCs will require updating to add the TMS2 capability. Once a PM is established, the PM TMS2 and PM IEWTPT must coordinate to determine needs for the CTCs.

7.1.1.4.5 Logistics Support Areas

The TMS2 must be secured on all assigned platforms IAW the AR 190-13, Physical Security Program.

7.1.1.4.6 Mission Command Training Centers (MCTC)

Mission Training Complexes (MTC) support Home Station Training by providing Commanders and staffs the capability to sustain individual digital mission command network and system skills, conduct delta training, and unit Mission Command (MC) collective training in order to maintain Warfighting functional competencies. The MTC offers a toolkit of Virtual, Constructive, and Gaming training enablers set in a replicated Operational Environment and provides the capability of integrating these enablers within the Live training environment.

MTC can be an ideal venue to reinforce TMS2 skills at homestation. Unit should plan to include TMS2 tasks in training and exercises supported by MTC in the operational training environment. IEWTPT is the means to enable TMS2 training at the MTC. The IEWTPT Basis of Issue (BOI) identifies 24 of the 32 MTC for fielding. TMS2 training products are accessible by the MTC via TSP.

7.1.1.5 Training Services

All management, acquisition, and general support services related to training will be provided by the PM with validation by the USAICoE TNGDEV.

7.1.1.5.1 Management Support Services

The PM is responsible for the TMS2 systems and incorporates a support strategy using Contractor Logistics Support (CLS).

7.1.1.5.2 Acquisition Support Services

The PM provides Acquisition Support.

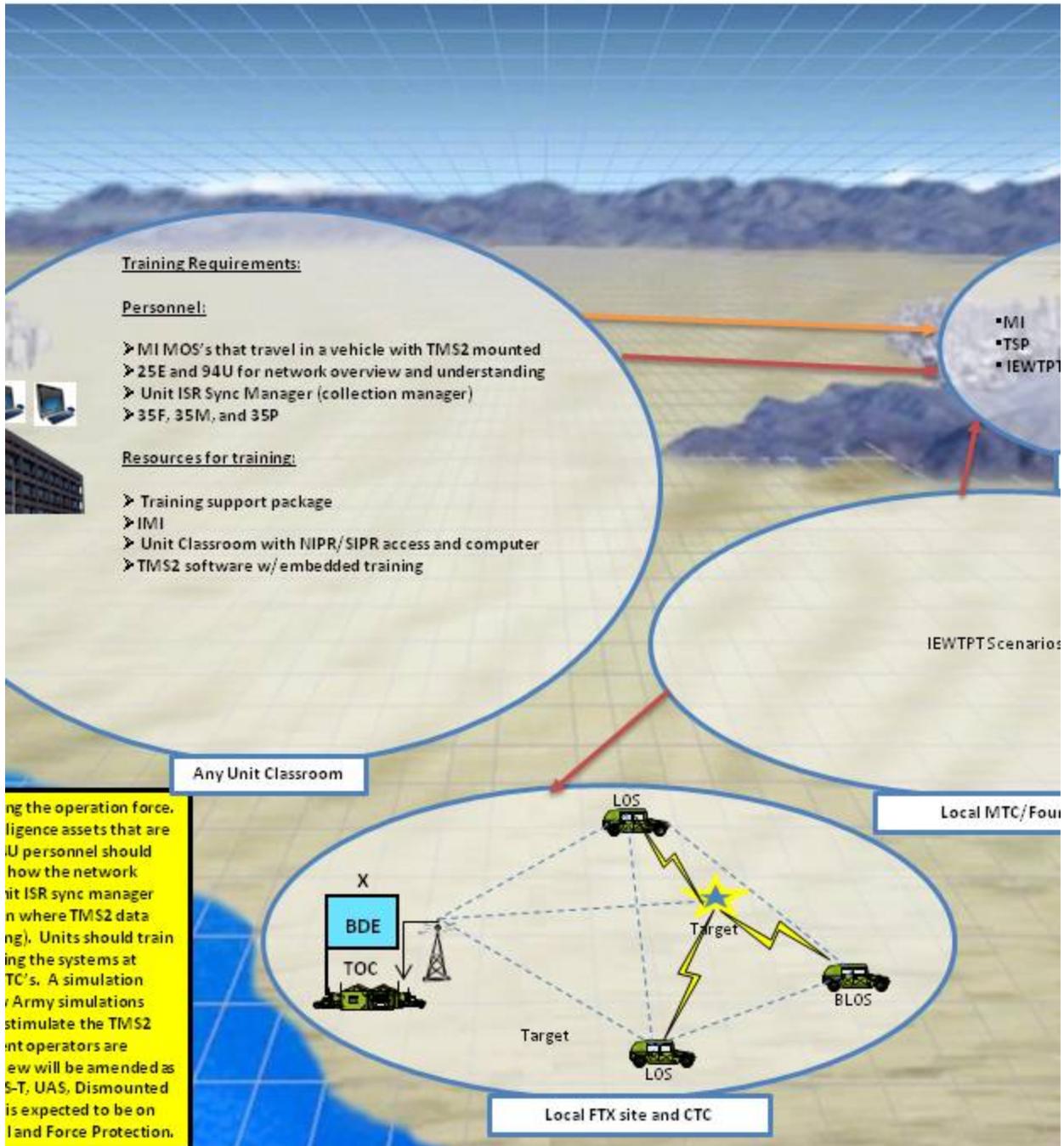
7.1.1.5.3 General Support Services

The PM provides General Support Service.

7.1.2 Architectures and Standards Component

7.1.2.1 Operational View (OV)

actical Mesh Sensor System (TMS2) Operational Training Domain



ng the operation force,
 ligence assets that are
 U personnel should
 how the network
 it ISR sync manager
 n where TMS2 data
 ng). Units should train
 ing the systems at
 TC's. A simulation
 / Army simulations
 stimulate the TMS2
 nt operators are
 ew will be amended as
 S-T, UAS. Dismounted
 is expected to be on
 Land Force Protection.

7.1.2.2 Systems View (SV)

To be completed.

7.1.2.3 Technical View (TV)

To be completed.

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

7.1.3.1 Management

TMS2 will use existing facilities and support infrastructure. The staff-training estimate in support of TMS2 will focus on the most efficient use of existing resources and precisely identify and quantify any expected shortfalls. Training development will focus on producing products that are capable of being used in the institutional and operational training domain, focusing on combat critical tasks.

7.1.3.1.1 Strategic Planning

Operational training supports the capabilities document requirements to ensure Soldiers effectively employ each system throughout the force.

Future training capabilities must follow the force design and training concepts identified within the documents below:

- Multiple Operational Needs Statements

- The Information Systems (IS) Capability Development Document (CDD) for (U) Tactical Mesh Sensor System (TMS2), Draft - v.1.1, generated on 12/23/2013

- Military Intelligence Rebalance Decision

- TRADOC Commander's Training Guidance

- USAICoE Commander's Training Guidance

7.1.3.1.2 Concept Development and Experimentation (CD&E)

The Information Systems (IS) Capability Development Document (CDD) for Tactical Mesh Sensor System (TMS2), Draft - v.1.1, generated on 12/23/2013 was used to address all identified DoD capability gaps that pertain to performing TMS2 tasks in various operating environments.

7.1.3.1.3 Research and Studies

The studies and analysis addressed in the Information Systems (IS) Capability Development Document (CDD) for (U) Tactical Mesh Sensor System (TMS2), Draft - v.1.1.1, generated on 12/23/2013 and listed below identify the need to develop and employ a synchronized, collaborative advanced collection capability to meet the Army's current and future operational requirements:

- Battle Command (Mission Command) CBA
- IWfF CBA
- N-SE ISR AROC
- TRADOC CNA FY15-19

7.1.3.1.4 Policy and Guidance

The following publications describe the policies regulating the implementation of the TSS for TMS2:

Publication	Title	Date
AR 350-1	Army Training and Leader Development	18 Dec 2009
AR 350-38	Policies and Management for Training Aids, Devices, Simulators and Simulations	28 Mar 2013
AR 380-10	United States Army Intelligence Activities	3 May 2007
TR 350-70	Army Learning Policies and Systems	6 Dec 2011
TP 350-70-10	Systems Approach to Training Course and Course Validation	29 Mar 2004
TP 350-70-12	The Army Distributed Learning (DL) Guide	3 May 2013
TP 350-37	Objective Force Embedded Training (OFET) User's Functional Description	9 Jun 2003
TP 525-3-1	The United States Army Operating Concept 2016-2028	19 Aug 2010
TP 525-8-2, w/C1	The United States Army Learning Concept for 2015	6 Jun 2011

7.1.3.1.5 Requirements Generation

This STRAP supports the Information Systems (IS) Capability Development Document (CDD) for Tactical Mesh Sensor System (TMS2), Draft - v.1.1, generated on 12/23/2013.

7.1.3.1.6 Synchronization

USAICoE TNGDEV will coordinate with the operational force to develop TTPs for training in order for commanders to leverage TMS2 capabilities.

7.1.3.1.7 Joint Training Support

Not required.

7.1.3.2 Evaluation

A PFTEA ensures training capabilities trains Soldiers, leaders, and units to standard. The PM will fund and USAICoE will conduct a PFTEA approximately 1-year following First Unit Equipped (FUE). The effectiveness of the NET and the ET will be determined by observation of the trainees performing hands-on practical exercises of all tasks. ET which will support sustainment training will be used at NET. The IMI will be evaluated for effectiveness in both sustainment and first look scenarios. Practical exercises with actual systems will be used after both sustainment and first look. After Action Reviews (AARs) will be used to provide feedback and the IMI will be adjusted as required.

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7.1.3.2.1 Quality Assurance (QA)

USAICoE TNGDEV will use AARs conducted during and at the conclusion of NET/DTT to ensure quality and content of the training satisfies unit requirements. USAICoE TNGDEV will use responses to make immediate modifications and/or supplementations to the NET/DTT if needed. One year after fielding, the USAICoE TNGDEV will solicit feedback from the unit to determine long term effectiveness of NET/DTT and sustainment training. Feedback will assist USAICoE TNGDEV in correcting training deficiencies and will provide information that may affect the next generation of equipment or product improvements.

7.1.3.2.2 Assessments

USAICoE TNGDEV monitor, evaluate, and validate NET/DTT at fielded units. USAICoE TNGDEV conduct AARs, and recommends changes to the training materials as required. New Equipment Training Team (NETT) uses an STX at the conclusion of training to evaluate Soldier proficiency and provides retraining as required.

7.1.3.2.3 Customer Feedback

Customer feedback comes from the CALL repository. The USAICoE TNGDEV develops, distributes, and collects AAR/feedback from NET participants. Feedback is reviewed for training needs and passed on to the PM.

The USAICoE NSTID training materials web site located on IKN also provides training support to units. The site will provide a digital library with up-to-date training materials and feedback forms. The site will contain a listing of all local TMS2 representatives to include, USAICoE TNGDEVs.

7.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

Continuing development of training materials and instructor performance improvement relies on the use of AARs.

USAICoE Lessons Learned Team and the CALL collect and analyze data from a variety of current and historical sources, including Army operations and training events. CALL disseminates this information and other related research materials to Soldiers through a variety of print and electronic media. Command-driven AARs conducted after training events and deployments provide feedback that can improve training at the institution. The USAICoE NSTID Training Materials website will provide Lessons Learned/AAR comments to the field.

7.1.3.3 Resource Processes

The PM is required to provide all funding to develop, conduct, maintain, and evaluate operational and NET training. USAICoE TNGDEVs will require access to all system equipment to validate NET.

Item	FY15	FY16	FY17	FY18	FY19	FY20
Resourced	Yrs or \$K					
<u>Manpower - TD</u>						
Contractor	1.0 MY					
Civilian	1.0 MY					
Enlisted	0.2 MY					
Warrant						
Officer						
Contract/Spt	\$320K	\$320K	\$320K	\$320K	\$160K	\$160K
Civ Pay	\$260K	\$260K	\$260K	\$260K	\$130K	\$130K

Printing						
Civilian	1.0MY	1.0MY	1.0MY	1.0MY	0.5MY	0.5MY
Enlisted	0.2MY	0.2MY	0.2MY	0.2MY	0.2MY	0.2MY

Rationale: NETT consists of one civilian, 3 enlisted and 14 contractors.
Equipment is provided at the home station for training. Equipment costs include system refresh (Capability Drops) and replacement.

Item Resourced	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K	FY20 Yrs or \$K
<u>Training Products</u>						
Training Pubs	0.2MY	0.2MY	0.2MY	0.1MY	0.1MY	0.1MY
TSP	0.4MY	0.2MY	0.2MY	0.1MY	0.1MY	0.1MY
IMI	0.4MY	0.2MY	0.2MY	0.1MY	0.1MY	0.1MY
ETM	\$200K	\$200K	\$200K	\$100K	\$100K	\$100K

STP						
IETM	\$40K	\$40K	\$40K	\$40K	\$40K	\$40K
ARTEP/MTP	0.1MY	0.1MY	0.1MY	0.1MY	0.1MY	0.1MY
Printing	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K
Distribution	\$0.2K	\$0.2K	\$0.2K	\$0.2K	\$0.2K	\$0.2K

Rationale: Cost to develop, revise, maintain, and distribute training products. This includes cost to develop TSP that will be used for NET, institutional, operational and self-development domains.

Item Resourced	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K	FY20 Yrs or \$K
<u>TADSS</u>						
Training Aids(GTA)	\$0.5K	\$0.2K	\$0.2K	\$0.2K	\$0.2K	\$0.2K
Simulations (Embedded)	\$1.0M	\$1.0M	\$0.5M	\$0.25M	\$0.25M	\$0.25M

System Training device/TSA	\$1.5M	\$1.5M	\$1.5M	\$1.5M	\$1.5M	\$1.5M
Printing	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K
Shipment	\$1K	\$1K	\$1K	\$1K	\$1K	\$1K
Sustainment	\$5K	\$5K	\$5K	\$5K	\$5K	\$5K

Rationale: Cost to procure and sustain TADSS. Cost associated with software include 2 Senior Level II S/W Engineers for simulation and s/w development. Subsequently 1 Level II S/W Engineer would be required for s/w integration and maintenance across various systems. S/W Engineer description covers conducting or participating in multidisciplinary research and collaborates with equipment designers and/or H/W Engineers in the design, development, and utilization of electronic data processing systems software.

Item Resourced	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K	FY20 Yrs or \$K
<u>Training Services/TII</u>						
LMS	\$0.6K	\$0.6K	\$0.6K	\$0.6K	\$0.4K	\$0.4K

Services	\$0.1K	\$0.1K	\$0.1K	\$0.1K	\$0.1K	\$0.1K
Servers						
Licenses						
IT Support	\$1K	\$1K	\$0.5K	\$0.5K	\$0.5K	\$0.5K

Rationale: The program will not require cost estimates for software license since the Army will own the software. However, IT support is required.

Item Resourced	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K	FY20 Yrs or \$K
<u>Eval/OA</u>						
Contractor	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY
Civilian	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY
Enlisted	0.2MY	0.2MY	0.2MY	0.2MY	0.2MY	0.2MY

Warrant						
Officer						
Contract/Spt	\$320K	\$320K	\$320K	\$320K	\$160K	\$160K
Civ Pay	\$260K	\$260K	\$260K	\$260K	\$130K	\$130K
Trvl/Per Diem	\$12K	\$12K	\$12K	\$12K	\$12K	\$12K
Equipment	\$200K	\$200K	\$200K	\$200K	\$200K	\$200K
Printing	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K
TEA	\$100K	\$100K	\$50K	\$25K	\$25K	\$25K
PFTEA	\$200K	\$200K	\$100K	\$50K	\$50K	\$50K

Rationale: Evaluations and Q/A are used to validate all phases of training and training development

8.0 Self-Development Training Domain

Training repositories will be reachable from the classrooms, remote locations, hardware platforms, barracks and homes. Learning management systems will be available that provide the capability to determine future training requirements and track training. This will allow Soldiers to monitor their progress and assess areas of strengths and weaknesses. Personnel can also pull the TSP from the identified repositories. Either the PM or USAICoE TNGDEV will upload and keep the data current. Personnel who wish to access the secure networks will require a Secret clearance. Below are examples of repositories that may be used.

- Army Training Network (ATN)
- Army Learning Management System (ALMS)
- The Central Army Registry (CAR)
- Center for Army Lessons Learned (CALL) Repository
- After Action Review System (AARS)
- Army Knowledge Online (AKO)
- Army Knowledge Online Secure (AKO-S)
- Intelligence Knowledge Network (IKN)
- Intelligence Knowledge Network Secure (IKN-S)

8.1 Self-Development Training Concept and Strategy

PM will develop IMI that allows for self-development training to be available from any location where network connectivity exists. The MATDEV will provide upgrades to the product lines for unit sustainment training. Repositories will have training material downloaded for self-development training. ALMS or LMS will allow for leaders monitor a Soldier's progress. TMS2 training includes IMI for all functions, components, and system-level procedures on the set-up and tear-down, operation, and maintenance of its capability.

8.1.1 Product Lines

The product lines for TMS2 include the TSP, courseware and technical manuals. The TSP will be CD-ROM based, and will include student training guides and instructor lesson plans. The operator and maintenance TM's must follow the standard military design using a two-level maintenance system. ETM's are required.

8.1.1.1 Training Information Infrastructure

TMS2 training material will conform to Army architectures and standards to enable the development, storage, retrieval, delivery, and management of TSS products and information for use by individuals, units, and institutions worldwide. TSS products will be planned, prepared, and developed IAW GIG, ATIA, HLA for simulations, and CTIA. The TMS2 training software will leverage web-based technology to interface with the training infrastructure via the Tactical Internet (TI), a subnet of the TI or other secure networks. All training material developed by the MATDEV will be developed using the approved Army and/or CAC-approved automated development system, currently TDC . The MATDEV will have access to TDC database for product development. All IMI and TADSS products will be SCORM compliant.

8.1.1.1.1 Hardware, Software, and Communications Systems

Units and Soldiers will use IMI, multimedia disks and other training materials left from NET for use in self-development training.

8.1.1.1.2 Storage, Retrieval, and Delivery

Digital information will be developed, maintained and stored in the approve Army or CAC-approved automated development system, currently TDC, and shared through the CAR or other military training repositories as they evolve through the ATIA. Below are examples of repositories:

- The Army Training Network (ATN)
- After Action Review System (AARS)
- Center for Army Lessons Learned (CALL)
- Intelligence Knowledge Network (IKN)
- USAICoE NSTID Training Material Website

8.1.1.1.3 Management Capabilities

TMS2 will utilize ALMS or LMS for learning content delivering and management. ALMS or LMS consist of a combination of hardware and software tools that perform a variety of functions related to online and offline training administration, as well as student and performance management. ALMS or LMS work with LCMS, using learning objects for reuse and syndication. The ALMS LMS will track student progression through lessons, exercises, and evaluations. The ALMS will be capable of downloading student academic records and tracking student progression.

8.1.1.1.4 Other Enabling Capabilities

No other enabling capabilities required.

8.1.1.2 Training Products

TMS2 will leverage IMI to train Soldiers. TMS2 TSPs will provide a structured training program that supports Soldier, leader and staff training. The MATDEV uses the approved Army or CAC-approved automated development system, currently TDC to complete task development. Training materials will also be accessible through the USAICoE NSTID Training Materials website located on IKN. This will facilitate the production of training support products for delivery with the TSS and the ability to update tasks and their instructional products using digital systems.

8.1.1.2.1 Courseware

TMS2 TSPs will form the basis of courseware used for Level 3 IMI. Units and Soldiers can utilize the Tasks and LPs from the TSP to build unit self-development training programs.

8.1.1.2.2 Courses

There are no formal courses anticipated at this time for self-development.

8.1.1.2.3 Training Publications

Publications	Publication Date
Field Manuals	
ADP 2-0 Intelligence	August 2012
ADP 3-0 Unified Land Operations	October 2011
ADP 5-0 The Operations Process	May 2012
ADP 6-0 Mission Command	May 2012
ADP 7-0 Training Units and Developing Leaders	August 2012
FM 2-0 Intelligence	March 2010
FM 2-19.4 Brigade Combat Team Intelligence Operations	November 2008
FM 2-91.4 Intelligence Support to Urban Operations	March 2008

FM 2-91.6 Soldier Surveillance and Recon: Fundamentals of Tactical Information Collection	October 2007
FM 3-55 Information Collection	May 2013
Technical Manuals	
Soldier Training Publications	
STP 34-35F14-SM-TG	March 2012
STP 34-35G14-SM-TG	September 2008
STP 34-35T14-SM-TG	May 2012

Special Texts	

8.1.1.2.4 Training Support Package (TSP)

The MATDEV is responsible for funding the development of system TSPs for validation by USAICoE TNGDEV. TMS2 TSPs will be complete, exportable packages integrating training products necessary to train one or more critical individual and leader tasks. TMS2 TSPs will provide a structured training program that supports Soldier and leader and staff training. TMS2 TSPs will be integrated into a training and management exercise development system. All validated TSPs will be loaded into the approved Army or CAC-approved automated development system, currently TDC. TSPs will contain operational software, operator Level 3 IMI, and the TMS2 Handbook. The MATDEV will provide a complete library of available TMS2 related manuals, to include all COTS and GOTS related software and hardware components references as well as MATDEV training materials and manuals.

8.1.1.3 Training Aids, Devices, Simulators and Simulations (TADSS)

The MATDEV is responsible for the development, implementation, and updating of any TADSS that are used. Interactive Multimedia Instruction (IMI) software developed will allow an individual to perform individual operator and maintainer tasks on a typical computer. Embedded training (ET) developed for TMS2 will cover component and operation set-up, user functions, and recovery procedures.

8.1.1.3.1 Training Aids

The PM will develop IMI for TMS2.

8.1.1.3.2 Training Devices

Extensive help screens in the user interface will support ET.

8.1.1.3.3 Simulators

Not required

8.1.1.3.4 Simulations

TMS2 training includes IMI for all functions, components, and system-level procedures on the set-up and tear-down, operation, and maintenance of its capability.

8.1.1.3.5 Instrumentation

TMS2 training will be compatible with the instrumentation used in the self-development training.

8.1.1.4 Training Facilities and Land

TMS2 will not require any new or modified facilities. Existing facilities, ranges, and land are sufficient. Digital Training Facilities (DTF) can be used for TMS2 training using IMI.

8.1.1.4.1 Ranges

Not required

8.1.1.4.2 Maneuver Training Areas (MTA)

Not required

8.1.1.4.3 Classrooms

There are 217 Active Component and USAR DTFs at 89 installations in the United States, Germany, Belgium, Italy, and Korea to utilize for TMS2 CD-ROM, Video-Tele-Training (VTT)-based TMS2 training.

8.1.1.4.4 CTCs

Not required

8.1.1.4.5 Logistics Support Areas

Not required

8.1.1.4.6 Mission Command Training Centers (MCTC)

Not required

New name: Mission Training Complex (MTC)

8.1.1.5 Training Services

All management, acquisition, and general support services related to training will be provided by the PM with validation by the USAICoE TNGDEV.

8.1.1.5.1 Management Support Services

The PM is responsible for the TMS2 systems and incorporates a support strategy using Contractor Logistics Support (CLS).

8.1.1.5.2 Acquisition Support Services

The PM provides Acquisition Support.

8.1.1.5.3 General Support Services

The PM provides General Support Services.

8.1.2 Architectures and Standards Component

8.1.2.1 Operational View (OV)

Tactical Mesh Sensor System (TMS2) Self Development Training Domain

Training Capabilities

- Training support package
- Embedded Training
- IMI



TMS2 Operator / Maintainer

Training
system-
ation,

OV-1

8.1.2.2 Systems View (SV)

To be completed.

8.1.2.3 Technical View (TV)

To be completed.

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

8.1.3.1 Management

USAICoE TNGDEV will develop requirements for and manage the training curricula with the support of the PM.

8.1.3.1.1 Strategic Planning

Self-development training supports the capabilities document requirements to ensure Soldiers effectively employ each system throughout the force.

Future training capabilities must follow the force design and training concepts identified within the documents below:

- Multiple Operational Needs Statements

- The Information Systems (IS) Capability Development Document (CDD) for (U) Tactical Mesh Sensor System (TMS2), Draft - v.1.1, generated on 12/23/2013

- Military Intelligence Rebalance Decision

- TRADOC Commander's Training Guidance

- USAICoE Commander's Training Guidance

8.1.3.1.2 Concept Development and Experimentation (CD&E)

The Information Systems (IS) Capability Development Document (CDD) for Tactical Mesh Sensor System (TMS2), Draft - v.1.1, generated on 12/23/2013 was used to address all identified DoD capability gaps that pertain to performing TMS2 tasks in various operating environments.

8.1.3.1.3 Research and Studies

The studies and analysis addressed in the Information Systems (IS) Capability Development Document (CDD) for Tactical Mesh Sensor System (TMS2), Draft - v.1.1.1, generated on 12/23/2013 and listed below identify the need to develop and employ a synchronized, collaborative advanced collection capability to meet the Army's current and future operational requirements. Other Army processes, like Capabilities Development and Rapid Transition (CDRT), ISR Non-Standard Equipment (N-SE) Army Requirements Oversight Council (AROC), and TRADOC Capabilities Needs Assessment (CNA) FY15-19, have identified advance collection capabilities for further investment, development, and employment. In addition, numerous validated Operational Needs Statements (ONS), and Joint Urgent Operational Need Statements (JUONS) as well as COCOM Integrated Priority Lists (IPLs) have led to the development and/or fielding of collection capabilities in support of current operations.

- Battle Command (Mission Command) CBA

- IWfF CBA

- N-SE ISR AROC

- TRADOC CNA FY15-19

8.1.3.1.4 Policy and Guidance

Publication	Title	Date
AR 350-1	Army Training and Leader Development	18 Dec 2009
AR 350-38	Policies and Management for Training Aids, Devices, Simulators and Simulations	28 Mar 2013
AR 380-10	United States Army Intelligence Activities	3 May 2007
TR 350-70	Army Learning Policies and Systems	6 Dec 2011
TP 350-70-10	Systems Approach to Training Course and Courseware Validation	29 Mar 2004
TP 350-70-12	The Army Distributed Learning (DL) Guide	3 May 2013
TP 350-37	Objective Force Embedded Training (OFET) User's Functional Description	9 Jun 2003
TP 525-3-1	The United States Army Operating Concept 2016-2028	19 Aug 2010
TP 525-8-2 w/C1	The United States Army Learning Concept for 2015	6 Jun 2011

8.1.3.1.5 Requirements Generation

This STRAP supports the Information Systems (IS) Capability Development Document (CDD) for Tactical Mesh Sensor System (TMS2), Draft - v.1.1, generated on 12/23/2013.

8.1.3.1.6 Synchronization

Not required

8.1.3.1.7 Joint Training Support

Not required

8.1.3.2 Evaluation

Not required

8.1.3.2.1 Quality Assurance (QA)

As the TSP is updated, USAICoE TNGDEV will ensure all on-line repositories are updated.

8.1.3.2.2 Assessments

USAICoE TNGDEV will reassess the self-development products annually to ensure changes to the system are reflected in training.

8.1.3.2.3 Customer Feedback

Customer feedback plays an important role in improving training development and future training. USAICoE TNGDEV develops, distributes, and collects AAR/feedback forms to/from participants. USAICoE TNGDEV reviews the forms and provides copies to the PM.

The USAICoE NSTID Training Material Web Site located on IKN will also provide support to the units. The site will provide a digital library with up-to-date technical manuals and quick reference guides. The site will contain a listing of all local area representatives, USAICoE TNGDEVs, and feedback forms.

8.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

Lessons learned for self-development training are gathered and used to update training materials and products on all training domains.

Online surveys can be taken at the conclusion of DL training to provide feedback for course improvement.

Rationale: TNGDEVs are needed to develop and maintain the TSP and other outputs of the ADDIE process.

Item Resourced	FY15	FY16	FY17	FY18	FY19	FY20
	Yrs or \$K					
<u>Training Products</u>						
Training Pubs	0.2MY	0.2MY	0.2MY	0.1MY	0.1MY	0.1MY
TSP	0.4MY	0.2MY	0.2MY	0.1MY	0.1MY	0.1MY
IMI	0.4MY	0.2MY	0.2MY	0.1MY	0.1MY	0.1MY
ETM	\$200K	\$200K	\$200K	\$100K	\$100K	\$100K
STP						
IETM	\$40K	\$40K	\$40K	\$40K	\$40K	\$40K
ARTEP/MTP	0.1MY	0.1MY	0.1MY	0.1MY	0.1MY	0.1MY

Printing	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K
Distribution	\$0.2K	\$0.2K	\$0.2K	\$0.2K	\$0.2K	\$0.2K

Rationale: Cost to develop, revise, maintain, and distribute training products. This includes cost to develop TSP.

Item Resourced	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K	FY20 Yrs or \$K
<u>TADSS</u>						
Training Aids (GTA)	\$0.5K	\$0.2K	\$0.2K	\$0.2K	\$0.2K	\$0.2K
Simulations (Embedded)	\$1.0M	\$1.0M	\$0.5M	\$0.25M	\$0.25M	\$0.25M
System Training device/TSA	\$1.5M	\$1.5M	\$1.5M	\$1.5M	\$1.5M	\$1.5M
Printing	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K	\$0.5K
	\$1K	\$1K	\$1K	\$1K	\$1K	\$1K

Shipment						
Sustainment	\$5K	\$5K	\$5K	\$5K	\$5k	\$5k

Rationale: Rationale: Cost to procure and sustain TADSS. Cost associated with software include 2 Senior Level II S/W Engineers for simulation and s/w development. Subsequently 1 Level II S/W Engineer would be required for s/w integration and maintenance across various systems. S/W Engineer description covers conducting or participating in multidisciplinary research and collaborates with equipment designers and/or H/W Engineers in the design, development, and utilization of electronic data processing systems software.

Item Resourced	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K	FY19 Yrs or \$K	FY20 Yrs or \$K
<u>Training Services/TII</u>						
LMS	\$0.6K	\$0.6K	\$0.6K	\$0.6K	\$0.4K	\$0.4K
Services	\$0.1K	\$0.1K	\$0.1K	\$0.1K	\$0.1K	\$0.1K
Servers						
Licenses						

IT Support	\$1K	\$1K	\$0.5K	\$0.5K	\$0.5K	\$0.5K
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Rationale: The program will not require cost estimates for software license since the Army will own the software. However, IT support will be required.

A Milestone Annex

TRAINING DEVELOPMENT MILESTONE SCHEDULE - SHEET A		PAGE OF PAGES	REQUIREMENTS CONTROL SY	
SYSTEM - TMS2	ACAT - III	OFFICE SYMBOL	AS OF DATE 23 Aug 2013	
POINTS OF CONTACT		NAME	OFFICE SYMBOL	TELEPHONE
MATERIEL COMMAND				
TRADOC PROPONENT				
TCM		TBD	TBD	TBD
CD:		Thomas McDermott	ATZS-CDI-RDD	520-538-1205
TD:		Janet Biscardi	ATZS-CDI-N	520-533-3662
ATSC:				
SUPPORTING PROPONENTS:				
ITEM	DATE	RESPONSIBLE AGENCY/POC		TELEPHONE
MNS:				

SMMP:				
MRD:		PM - TMS2		TBD
ILSMP:		PM - TMS2		TBD
TTSP:		NSTID	ATZS-CDI-N	520-533-3662
QQPRI:		TCM		TBD
BOIP:		PM - TMS2		TBD
NETP:		PM - TMS2		TBD

COMMENTS:

NOTE: Identify **TRAINING DEVELOPMENT MILESTONES** . TRADOC FORM 569-1-R-E provides training development products required to support system training integration

COMMENTS:

1. GTL completed: TBD
2. NETT IKPT completed: TBD
3. Tasks input into TDC: TBD
4. NET POI: TBD
5. NET V&V: TBD
6. DTT: TBD
7. TSP: TBD
8. Level 3 IMI: TBD
9. Identify Requirements: TBD
10. Submit Prospect: TBD
11. Identify Resources: TBD
12. Critical Design Review: TBD
13. Validation: TBD
14. Delivery: TBD

NOTE: The following table is optional; however, it is useful for populating SHEET B above and provides greater detail for each milestone. If not used, delete from this section before submitting for staffing.

	Individual Training Plan (Per each ITP)	
	Milestone:	Date
	1. Initial Individual Training Plan (ITP) submitted.	
	2. Annotated task list submitted.	
	3. Course Administrative Data (CAD) submitted.	
	4. Training	

	Program Worksheet (TPW) submitted.	
	5. ITP submitted.	
	6. POI submitted.	
	7. Digitized copy archived.	
	8. Resident course start date (NLT 12 months after FUE).	
	Army Correspondence Course Program	
	(Only as a DL portion of a TATS course)	
	Milestone:	Date
	1. Requirement identified and submitted for approval.	

	2. Requirement approved by HQ TRADOC.	
	3. Development initiated.	
	4. Advance breakdown sheet submitted.	
	5. Digitized camera-ready copy (CRC) submitted.	
	6. Subcourse material ready for replication/distribution.	
	Field Manuals (FMs)	
	Milestone:	Date

	1. Requirements identified.	
	2. Draft FM changes validated.	
	3. FM outlines approved.	
	4. FM coordinating draft completed.	
	5. Print/digitization request initiated.	
	6. Approved digitized CRC submitted.	
	7. Replication/distribution completed.	
	Army Training Literature	

	Note: Includes the Soldiers' Manual (SM), Trainers' Guide (TG), and Army Training and Evaluation Program (ARTEP) products.	
	Milestone:	Date
	1. Analysis completed.	
	2. Draft SM, ARTEP MTP, and TG.	
	3. ATSC staffing.	
	4. Digitized/CRC submitted.	
	5. Replication/distribution completed.	
	Interactive Multimedia	

	Instruction (IMI)/Distance Learning	
	Milestone:	Date
	1. Requirements identified and submitted for approval.	
	2. Requirements approved by ATSC and TRADOC.	
	3. Resources identified.	
	4. Courseware developed and validated.	
	5. Master materials to ATSC for replication and distribution.	
	6. Replication/distribution	

	completed.	
	Training Effectiveness Analysis (TEA)	
	(Conducted in-house, by contract, Training Development and Analysis Activity [TDAA], TRADOC Analysis Center [TRAC], or Program Manager [PM])	
	Milestone:	Date
	1. TEA during capabilities development.	
	2. TEA updated for Milestone Decision Review A.	
	3. TEA updated for Milestone Decision Review B.	
	4. TEA updated	

	for Milestone Decision Review C.	
	5. Post-Fielding TEA (PFTEA) planned.	
	Army Visual Information Production and Distribution Program (DAVIPDP)	
	Milestone:	Date
	1. High risk tasks and jobs identified.	
	2. Storyboards validated.	
	3. DAVIPDP requirements submitted to ATSC.	
	4. Requirements	

	approved by DA.	
	5. Production initiated.	
	6. Replication/distribution completed.	
	Training Aids, Devices, Simulators, and Simulations	
	(TADSS)	
	Milestone:	Date
	1. High risk, hard-to-train tasks identified.	
	2. Need for TADSS identified.	

	3. TADSS concept validated.	
	4. TADSS incorporated into the STRAP (part of the CATS).	
	5. Analytical justification using the TEA provided.	
	6. TSS CDD/ CPD developed, if required.	
	7. TADSS effectiveness validated.	
	8. TADSS incorporated into the ICD, CDD, CPD, STRAP	
	9. MOS-specific milestones/requirements for TADSS developed and incorporated in the integrated training strategy (ITS).	

	Training Facilities and Land	
	Milestone:	Date
	1. Range and facility requirements identified.	
	2. Identification of construction requirements completed.	
	3. Construction requirements submitted to MACOM.	
	4. Requirements validated and updated.	
	5. Supporting requirements identified and availability coordinated.	

	<p>6. Installation and other construction requirements submitted to</p> <p>MACOM.</p>	
	<p>7. Refined construction requirements and range criteria forwarded to MACOM, IMA, Chief of Engineers</p>	
	<p>8. Construction initiated.</p>	
	<p>Training Ammunition</p>	
	<p>Milestone:</p>	
	<p>1. Ammunition identified.</p>	

	<p>2. Initial ammunition requirements validated.</p>	
	<p>3. Requirements included in the ORD.</p>	
	<p>4. Ammunition item developed.</p>	
	<p>5. Validation and test completed.</p>	
	<p>6. Ammunition requirements identified in the ITP.</p>	
	<p>7. Requirements provided to installation/MACOM manager.</p>	
	<p>8. Requirements included in DA Pam 350-38.</p>	

	9. Production entered.	
	Training Equipment	
	Milestone	
	1.	
	2.	
	Training Services	
	Milestone	
	1. Contractor Logistic Support	
	2. Contractor NET Support	

	3. Contractor DET Support	
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B References

The Tactical Mesh Sensor System (TMS2) Information Systems (IS) Capability Development Document (CDD) (Draft), 07/17/2013.

Network-enabled Mission Command (NeMC) Initial Capabilities Document (ICD) (Final), 27/12/2011,

IWfF Capabilities Based Assessment (CBA). 05/2011.

United States Army Training and Doctrine Command (TRADOC) Capability Needs Assessment (CNA) FY 15-19.

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	
v0.2.2 Richard P Athanas 2014/01/30 - 2014/02/14	Document Accepted As Written			0	0	0	0	0	0	-
v0.2.1 Approvals - Doris M Cooksey 2014/01/30 - 2014/02/09	No Comments Submitted			0	0	0	0	0	0	-
v0.2.1 Approvals - Stephen J Burr 2014/01/30 - 2014/02/09	Document Accepted As Written			0	0	0	0	0	0	-
v0.2 Army - ICoE - Mil Intelligence School 2014/01/30 - 2014/01/31	Document Accepted As Written			0	0	0	0	0	0	-
v0.1 Peer - TRADOC_ARCIC 2013/10/03 - 2013/11/02	No Comments Submitted			0	0	0	0	0	0	-
v0.1 Peer - SIGCoE - Signal School 2013/10/03 - 2013/11/02	No Comments Submitted			0	0	0	0	0	0	-
v0.1 Peer - SCoE 2013/10/03 -	No Comments			0	0	0	0	0	0	-

v0.1 Peer - FORSCOM G2 2013/10/03 - 2013/11/02	No Comments Submitted			0	0	0	0	0	0	-
v0.1 Peer - FORSCOM 2013/10/03 - 2013/11/02	No Comments Submitted			0	0	0	0	0	0	-
v0.1 Peer - FCoE- ADA School 2013/10/03 - 2013/11/02	Document Accepted As Written			0	0	0	0	0	0	-
v0.1 Peer - FCoE - Field Artillery 2013/10/03 - 2013/11/02	2	1	0	2	1	0	0	0	0	
v0.1 Peer - ATSC 2013/10/03 - 2013/11/02	No Comments Submitted			0	0	0	0	0	0	-

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



DEPARTMENT OF THE ARMY
UNITED STATES ARMY INTELLIGENCE CENTER OF EXCELLENCE
1903 HATFIELD STREET
FORT HUACHUCA, ARIZONA 85613-7000

ATZS-DCT

29 Jan 2014

MEMORANDUM FOR Director, New Systems Training and Integration Directorate
(ATZS-CDI-N), 550 Cibique Street, Ft. Huachuca, AZ 85613-7017

SUBJECT: Approval of System Training Plan (STRAP) for the Tactical Mesh Sensor
System (TMS2)

1. The TMS2 STRAP is approved. Approved STRAP will be posted to the Central Army Registry (CAR) website: www.adtdl.army.mil.
2. Point of contact is Mr. Stephen McFarland, NSTID STRAP Manager DSN 821-5387, (520) 533-5387, stephen.j.mcfarland.civ@mail.mil.

A handwritten signature in cursive script that reads "Lisa K. Price".

LISA K. PRICE
COL, MI
Deputy Commander, Training