



PEO
STRI

PM TRADE Acquisition Transformation: Process / Product / Organization

AMITS Industry Day

Army Mobile Instrumented Training System (AMITS)

Mr. Rob Wolf

PM TRADE Strategic Requirements Integrator

9 October 2012

AMITS Industry Day Schedule



Day One: Tuesday

- 1300-1320: PM TRADE New Business Opportunities Update
- 1320-1600: Open Discussion of AMITS Functional Requirements & Path Forward
 - ✓ Questions and Discussion Encouraged

Day Two through Four: Room 320, 0800-1600

- One-On-One Sessions – *Prompt start and stop times*
 - ✓ Ask Questions – *Last opportunity before final Draft*
 - ✓ Identify Ambiguity, Clarity, and Documentation Errors
 - ✓ Recommend Acquisition Strategy and Contract Types
 - ✓ Address Your Concerns and Recommendations
 - ✓ Updated Documents will be Posted with Redlines

PM TRADE New Business Opportunities



PM TRADE TSIS Brief - COL Flanagan

AMITS Industry Day Agenda



1. Team Introductions
2. Program Overview
3. First Fielding, Fort Carson, CO
4. Key Requirement Discussions
5. Open Floor Discussion

**Ask Questions
at Anytime**

This Industry Day is a Continuation of Market Research

Contract Vehicle: TBD

Contract Type: TBD

These are draft documents and will be updated to reflect the Contract Type once determined.

AMITS Government Team



Project Director: Rob Wolf

Project Engineer: Peter Brig

Systems Engineer: Amir Helmy

Logistics Manager: Maureen Llerandi

Contracts Specialist: Cindy Wood

Combat Developer: Jim Gregory

PdM: LTC Worshim

DPdM: Russ Hinds

PCO: Lisa Parker

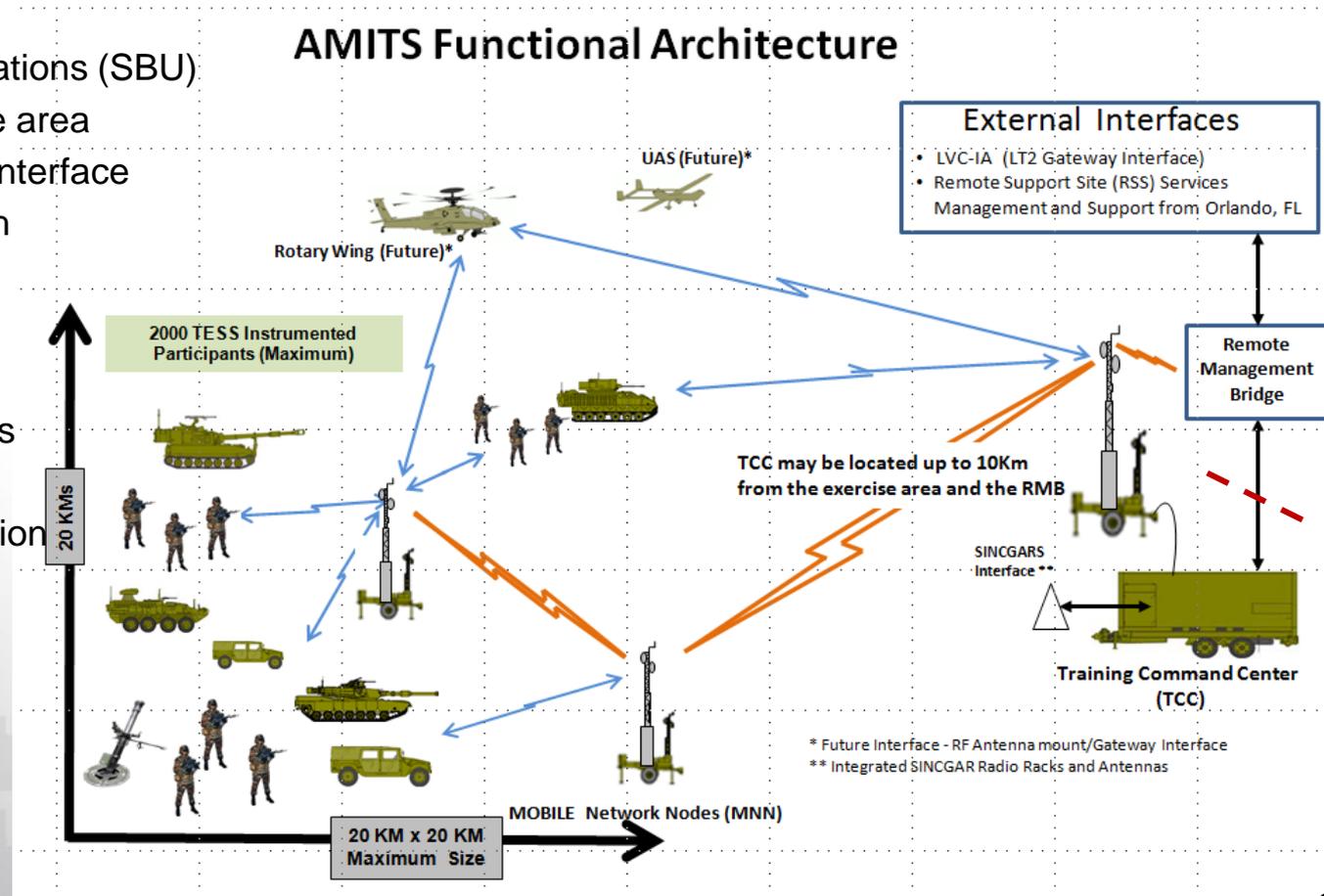
AMITS Program Summary



HomeStation Training

The System

- Mobile Shelter, 4 operator stations (SBU)
- Up to 20Km x 20Km exercise area
- Up to 2000 Radios w/TESS interface
- Architecture Supports Growth
 - ✓ Future TESS
 - ✓ OTA CM, Remote Support
 - Provided by CPM
- 19-31 CONUS/OCONUS sites
- NDI Solution
- Low Risk Fast Track Acquisition
 - ✓ Supports LVC-IA Fielding





AMITS Funding Currently In the 14-18 HITS POM

OPA FY 13 – 18: ~ \$143M Army Funds allocated to AMITS

**RDT&E FY 14-18: ~ \$5M Army Funds allocated to AMITS (not part of base)
~ \$98M Service/Customer Funds anticipated for AMITS
\$246M +/- Anticipated Funding on Contract**

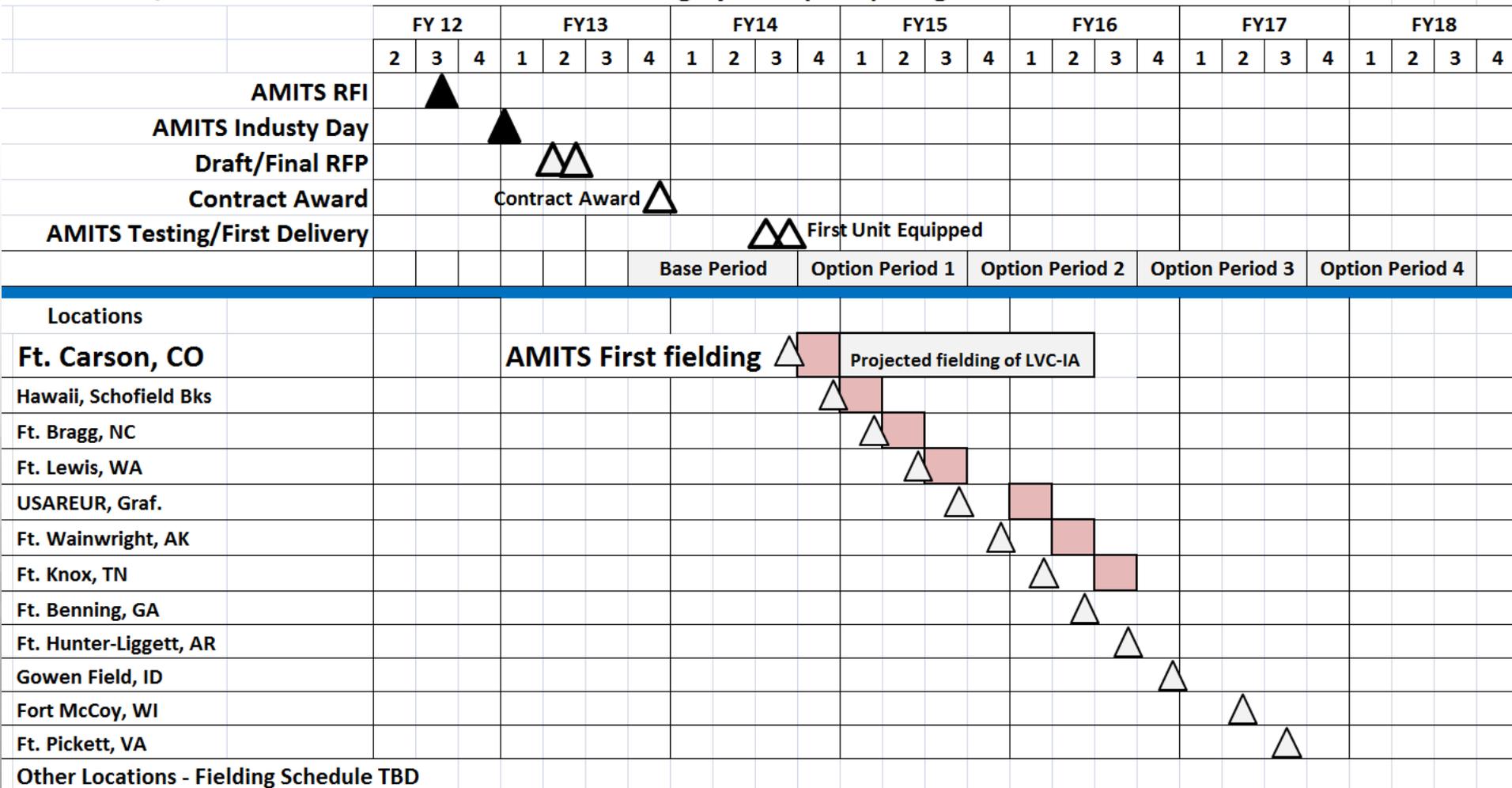
- **Late FY13 or early FY14 Base Award ~ (1 Site – Fort Carson, CO – 3Qtr, 2014)**
- **FY14 ~ (4 Sites) & (~1 Customer Sites)**
- **FY15 ~ (4 Sites) & (~2 Customer Sites)**
- **FY16 ~ (4 Sites) & (~3 Customer Sites)**
- **FY17 ~ (4 Sites) & (~3 Customer Sites)**
- **FY18 ~ (2 Sites) & (~4 Customer Sites)**

- **Fielding Rate ~ 1-2 per quarter**
- **19-21 Homestations depending on funding**
- **~ 10 Customer Sites 100% dependent on funding**

AMITS Time Lines



AMITS / Home Station Instrumentation Training System (HITS) Program Schedule (as of 12 Jul 12)



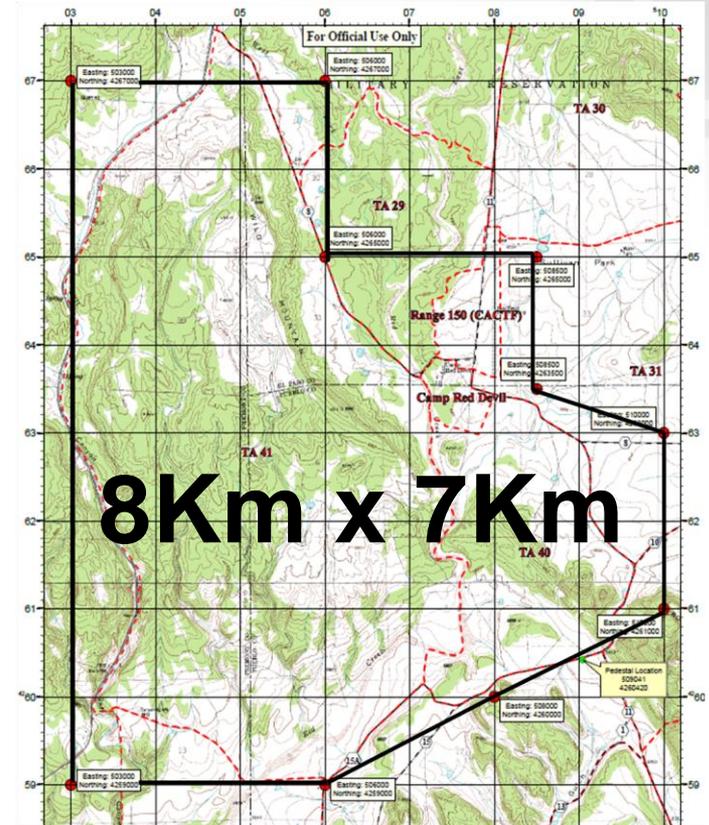
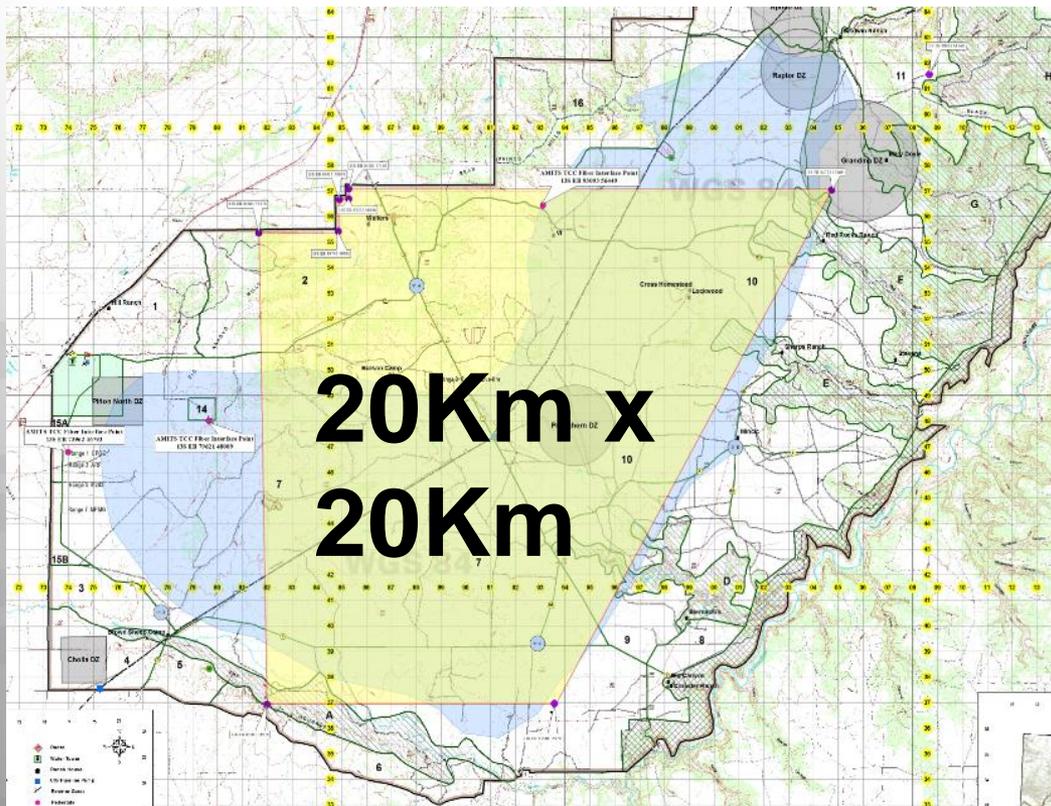
1st Fielding Site Fort Carson, CO 3rdQtr14



Pinion Canyon
Larger Exercise Area
Flatter Earth

~2 hour drive
Between Exercise Areas
Hwy. and Improved Roads

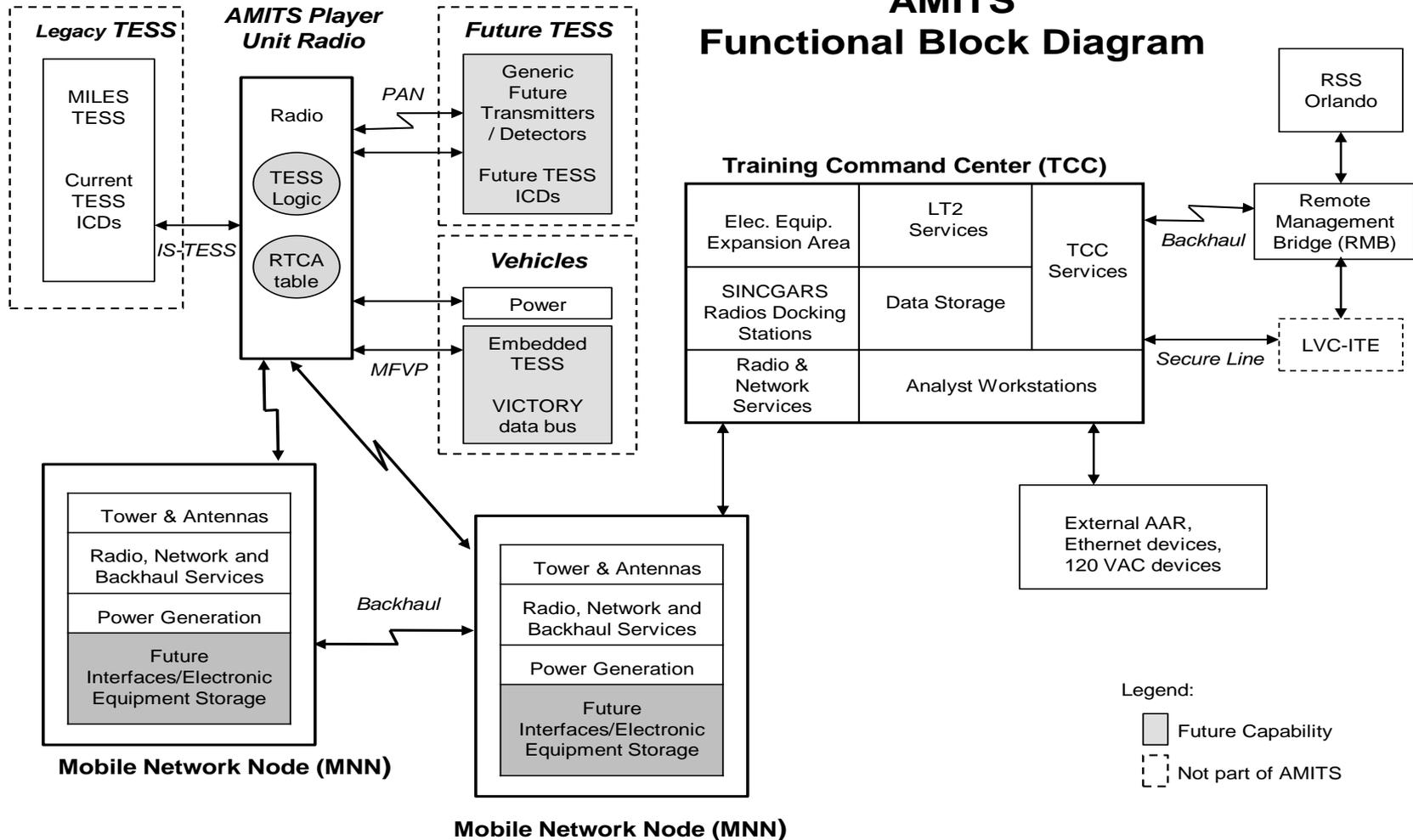
Training Area (TA) 41
Smaller Exercise Area
Aggressive Terrain



AMITS - Functional Block Diagram



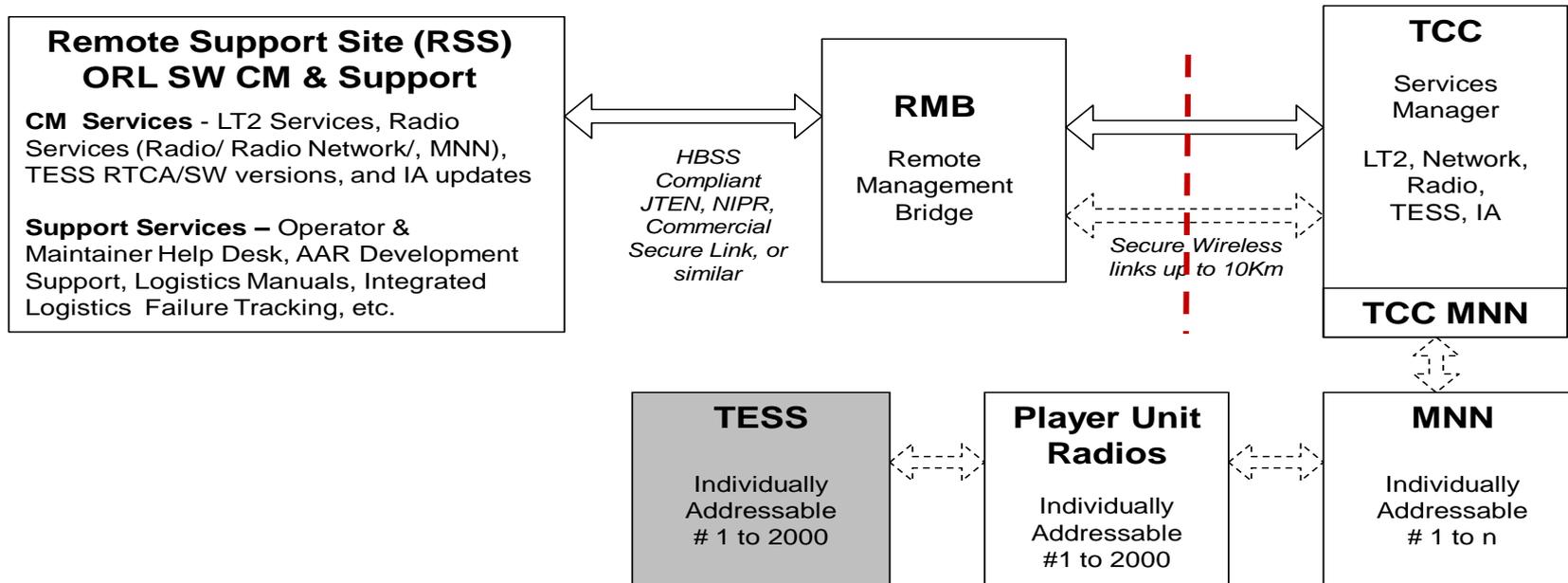
Integrated End-to-End System



AMITS - Remote Services Functional Diag.



AMITS Integrated Software Configuration and Remote Support Services Functional Block Diagram



Legend:

_____ (solid line): Wired Connection

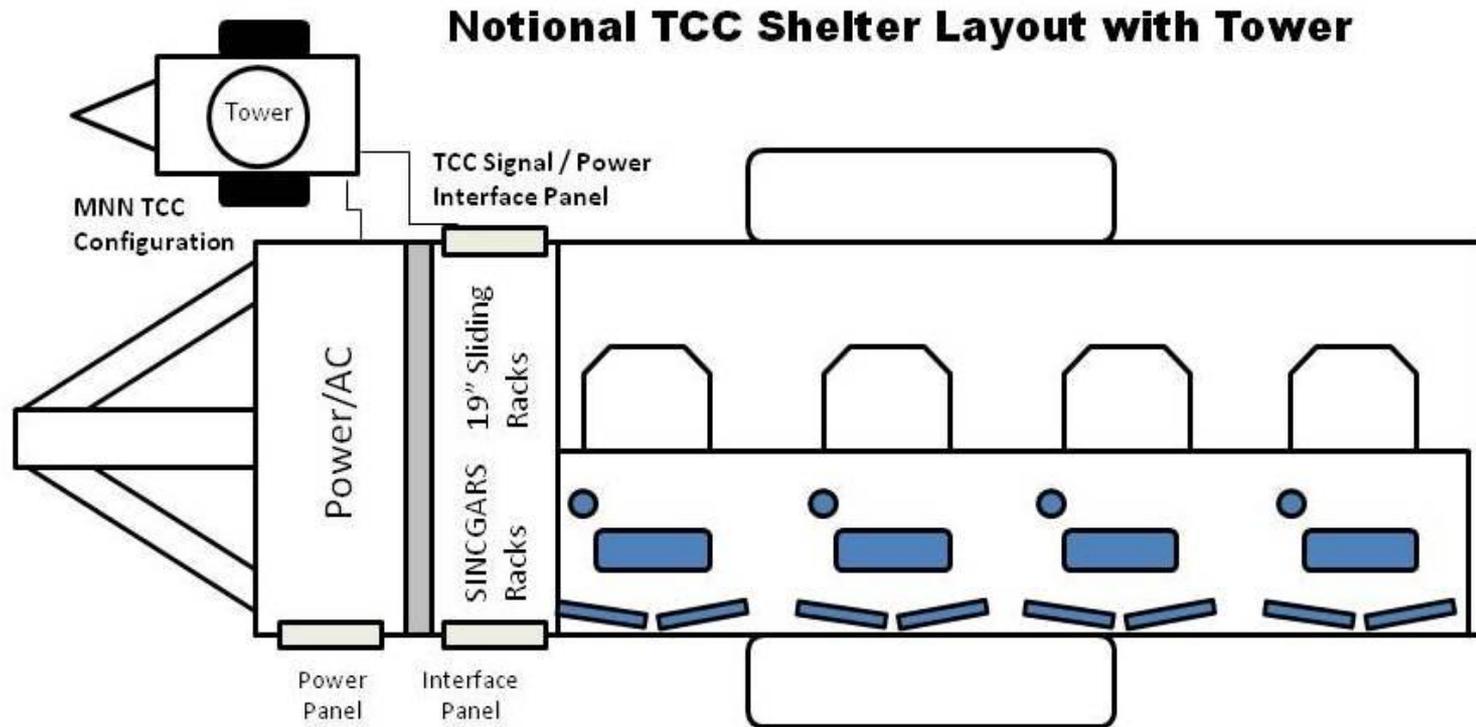
- - - - - (dotted line): Wireless Connection

▭ (shadow): Future service

Future TESS Logic & RTCA CM

Individual & Bulk Upgrades

AMITS – Training Control Center (TCC) Shelter



HITS is not a CTC

- ✓ Voice: O/C Net = SINCGARS (unit provided)
- ✓ Video: Hand held with manual download
- ✓ Data: TSPI & Event Information = PUR

Self-contained, insulated, environmentally conditioned, ruggedized, multi-axle, off/improved road ground clearance, auto/semi auto leveling, rack space for growth...

Training Control Center (TCC) Remote Support Site (RSS)

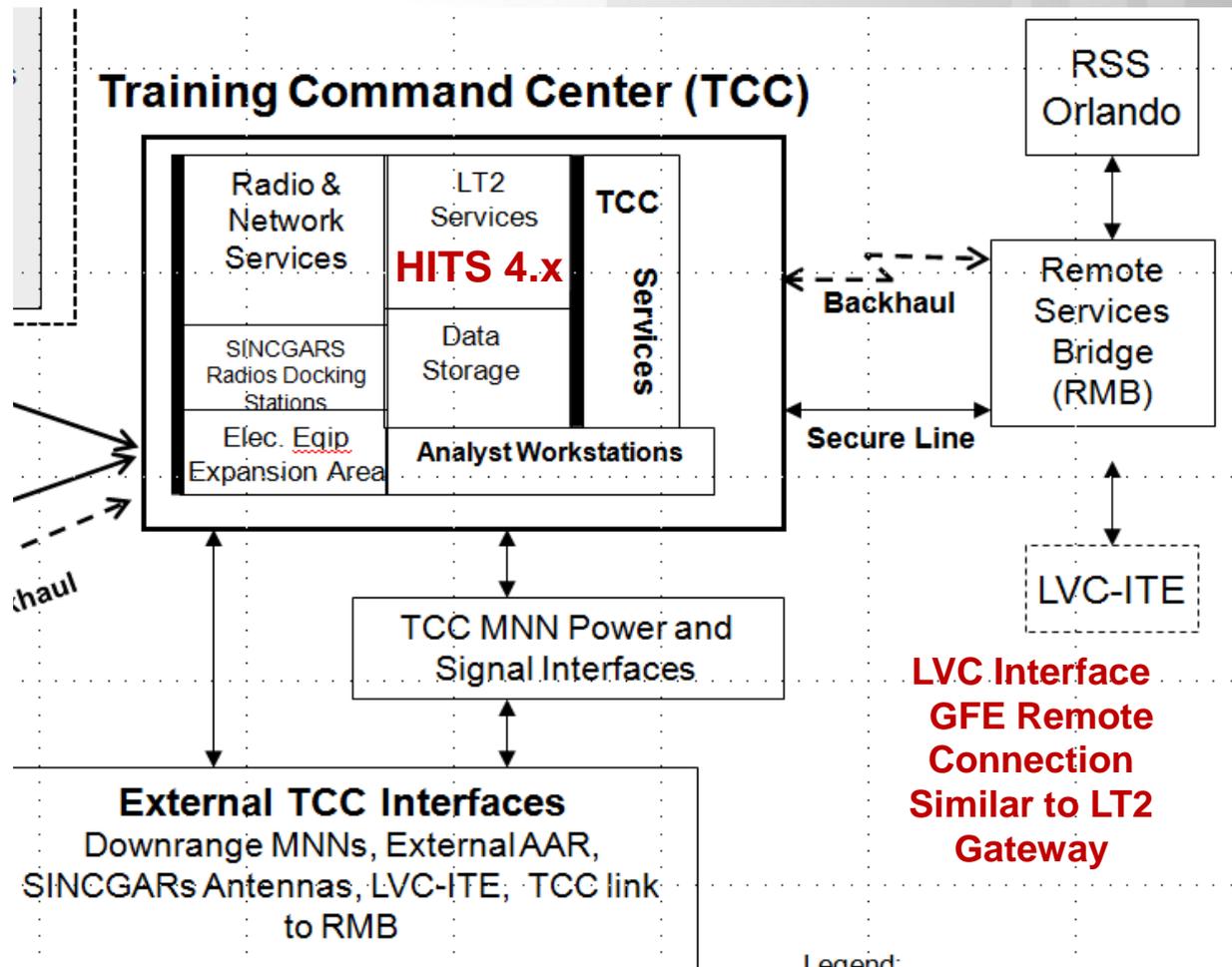


TCC Operates in a Stand Alone Mode and Receives Benefit of RS when Connected to RSS

TCC performs local CM functions:

- TCC
- MNN
- PUR
- TESS

RSS – HW & SW, not staffed by AMITS contractor (CPM) (exception may be Interim Support and Technical Reachback?)



HITS 2.X Functional Components



- ✓ HITS 2.X available on LT2 HITS Portal
- ✓ Includes HW and SW builds, Drawings, Interfaces
- ✓ AMITS Retains Component/Functionality

Data Processing Unit



VTM
4-channel
Interface



Operator Station



HITS 3.X- Virtualized Configuration in Development



- ✓ HITS 3.X new baseline will be available with Draft RFP
- ✓ New version is virtualized and requires a 64 bit OS (VMWare)
- ✓ Same Functionality as 2.x



The making of AMITS / HITS Version 4.x



AMITS Contractor Upgrades to the HITS 3.x and Communications Network will be the new AMITS Baseline HITS 4.x configuration and become the Training Data Management Subsystem (TDMS).

HITS 4.x

1. Encompasses Hardware changes/upgrades that consolidate AMITS/HITS 2.x/3.x functionality and ruggedization requirements.
2. Integrates Software changes to the HITS 3.x baseline that enable the Remote Services required capabilities (Help Desk and CM).
3. Baseline modifications must adhere to the LT2 governances.
4. The AMITS Contractor may not modify the core HITS exercise monitoring and AAR generation functionality. *(excluding the emergency alert notification and related RF network maintenance and monitoring functions)*

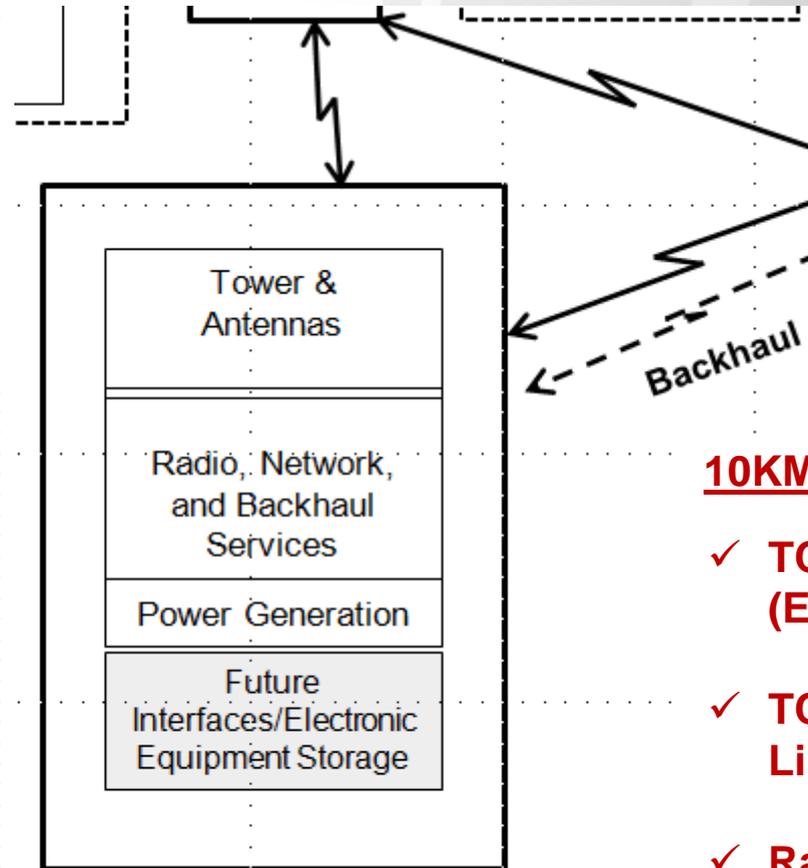
Note – The entire suite of systems in the AMITS shelter will be known as the Training Data Management Subsystem (TDMS)

Mobile Network Node (MNN) / Backhaul



TCC/MNN Configurations

1. TCC in Exercise Area: Direct Commutation with Player Unit Radio (PUR)
2. TCC at Remote location: Backhaul relays PUR Data



Mobile Network Node (MNN)

- ✓ TCC/MNN – Local: Power may be supplied by TCC generator when interfaced.
- ✓ Electronic storage area for growth (power and signal Interfaces)
- ✓ Input: Guy Wires and Wind Loading?

10KM Backhaul

- ✓ TCC/MNN (Exercise Area)
- ✓ TCC to RBS (RS Link)
- ✓ Range Fiber Optic interface

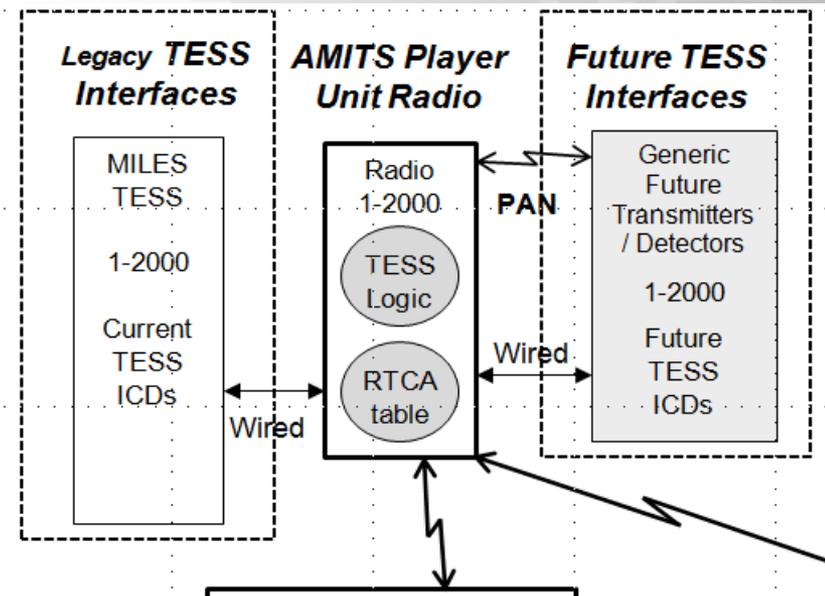
AMITS Player Unit Radio (PUR)

1. AMITS Radio Interfaces to Existing and Future TESS Devices

- ✓ Hardwire, TESS IS Std (Existing TESS)
- ✓ Wireless, Live PAN LT2 std (Future TESS)
- ✓ PAN wired/wireless interface, supports future TESS and other physical LAN interfaces
- ✓ PAN is a integrated part of the initial Radio

2. AMITS Radio Architecture to Host future TESS Logic/RTCA

- ✓ LTS workshops to develop component Standards for Detectors/SAT
- ✓ ACA with CPM to mature and host TESS LTEC & RTCA



3. AMITS Radio to operate in Tactical band 225-379Mhz on ≤ 25 Khz channels

- ✓ Army owns spectrum and can negotiate with Spectrum Mgr at each site for channel allocation
- ✓ BW Tunable within this band – more is better
- ✓ Capable of re-banding outside 255 to 379 MHz for use in OCONUS locations

AMITS PUR Use Environments



Vehicles



Combat Vehicle Tactical Engagement Simulation System (CV-TESS)



Tactical Vehicle System (TVS)



Independent Target System (ITS)



Wireless Independent Target System (WITS)

Soldiers



Individual Weapon System (IWS)

PAN enabled
Emergency Alert/Locator
Button



AMITS PUR Hosts Future TESS



Initial System Architecture Key to Future Growth and RS

1. Over-The-Air TESS configuration management (RTCA & TESS Logic)

- a) Automatic Recognition of CM issues and updates
- b) Local and consolidated (RSS) Failure Status and Tracking (TESS & AMITS)
- c) Enhanced/updated ICDs

2. Network Architecture supports future TESS indirect fire pairings to complete player Real Time casualty Assessment (RTCA) pairings and not the MILES laser.

DIACAP

- ❑ The entire solution from Radio to Reachback will all be included in a System Accreditation.
 - Will be the HITS 4.x baseline accreditation
 - Includes all components excluding TESS
 - CPM will continue to maintain the 2.x and 3.x baselines
 - Once accepted (Certified and Accredited) the HITS 4.x baseline will be maintained by CPM

- ❑ Contractor will execute the System Accreditation, to include but not limited to:
 - Integrate IA processes and milestones into the IMS
 - Develop master DIACAP package; ISP, HW/SW, COOP
 - Ensure all components are acquired IAW IA standards
 - Ensure system is configured to be IA compliant in support of System Certification prior to fielding



GIG Connectivity

- ❑ The reachback capability will need to utilize the NIPRNET as the common medium for connecting each post to Orlando, which creates additional requirements
 - Networkiness Certification
 - HBSS implementation
 - Interoperability and Supportability (NR-KPP) compliance (6212.01E)

NOTE: These requirements may change based on Government implementation of reach back connection to RSS.

Information Assurance - Encryption



Wireless Encryption

- ❑ All wireless connections must be protected with FIPS 140-2 Level 1 validated encryption
 - Can utilize available COTS solutions or already developed capabilities
 - Development of this Encryption capability must already be complete and proven out at the time of proposal
 - Government will not pay for the develop or certification of an encryption module
 - Can be a software based solution
 - Failure to achieve FIPS 140-2 validation of the encryption by the time of fielding will result in non-payment

AMITS Requirements Summary



1. **Ability to plan, monitor, control HomeStation Training exercises and develop AAR products.** Utilize LT2 common products, support up to 2000 participants (Bn), TESS interface, provide LVC-IA interface, network security.
2. **Remote Automatic Configuration Management** (CM) updates for the entire AMITS system to include LT2 products, Radio Network/Radio, Information Assurance (IA), TESS CM and RTCA battle damage assessment tables from the Remote Support Site (RSS) via both wire and wireless persistent secure connections.
3. Integrated tools to enable **remote site support help for the operators to trouble shoot** the entire system to include LT2 issues, communication network issues, configuration issues AAR development support, and general administrative support. *(Technical and administrative support for the 3 operators to minimize down time and travel costs. Enables a skeleton crew to setup and operate. Reduces total cost of ownership)*
4. **Over-the-Air CM reprogramming** of Radios and TESS and PAN software. *(Reduces the demand for support/maintenance staff by thousands of contact hours. Reduces total cost of ownership)*
5. Ability for the **AMITS radio to host and execute TESS behavior/ logic algorithms, RTCA tables, PAN std.** *(Enables TRADE A-TESS vision –Enables TESS components to be commoditized and acquired at lower costs in the future)*
6. Ability for the **AMITS radio/network to supplement laser TESS engagements for indirect fire and support decentralized processing.** *(enables TRADE A-TESS vision of higher fidelity/realism engagement simulations and eliminates the need for 100% centralized dependent solutions)*

Request Industry Ideas – Discussion Areas



1. Interim Contractor Support - 1st Fielding and subsequent Fieldings

- Initial Delivery - 6 Months ICS to fully ring out system with gov't Operators/Maintainers
- Follow-on Deliveries – 30/45 day or 3 exercises to ensure successful handover

2. Orlando RS Configuration and CONOPS

- Given that CPM has overall RS and CM mission responsibility after acceptance....
- How do we ensure quick response technical reach back to support real-time operations after acceptance? RF nets, 4.x....?
- Is RSS in Orlando a SW only delivery or both HW & SW?

System Maturity Demonstration with Proposal



Ideas on how to structure Remote Services and Future TESS maturity demonstrations.

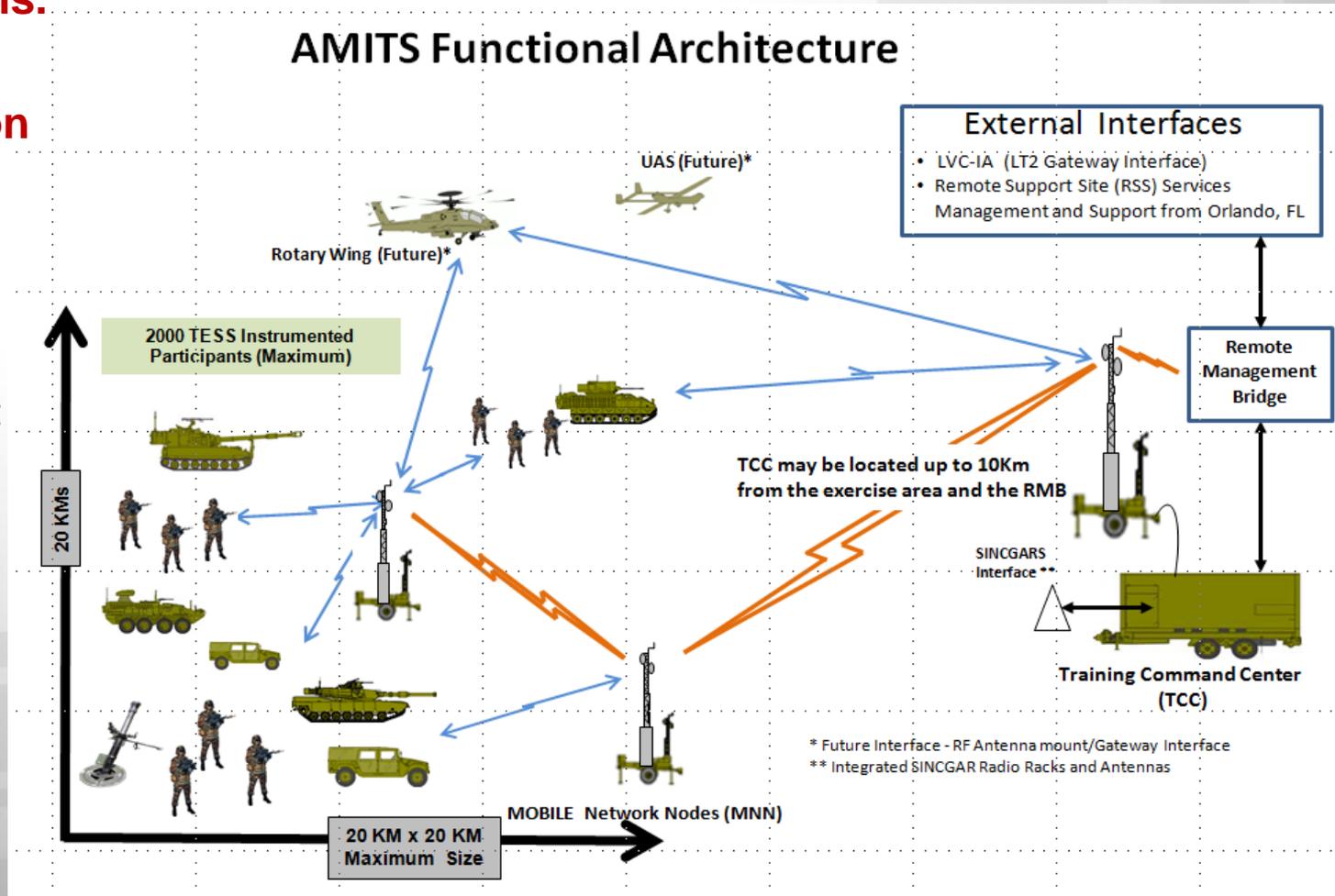
Risk Reduction

- Schedule
- Technical
- Cost

Concept:

Structured Event
Highlighting Key
Aspects of
Specification

Provide your
Thoughts During
1-on-1 Sessions



Questions? Open Floor



One-on-One Sessions



Full Schedule through Friday

Prime Contractors:

- Wednesday & Thursday 0800-1600, Room 320
- 50 Minute sessions - hard start and stop times

Sub-Contractors:

- Friday 0800-1130
- 25 Minute Sessions - hard start and stop times

Redline Documents Comments will be posted back to FedBizOpps early Nov.

Search Opportunity Number W900KK-12-R-AMITS