

Defense Communications and Army Transmission Systems

Defense Communications and Army Transmission Systems (DCATS) provides the communications backbone and modernizes IT network infrastructure for the globally engaged Army.





GENM-A









Project Manager DCATS COL Justin Shell







DCATS TEAM



COL Justin "Jay" Shell Project Manager



LTC Xkoshan Arnold Product Manager GENM-A





Thomas Dunaway Product Manager P2E



LTC Scott Davis Product Manager WESS









EJ Wasikowski Product Lead LMR



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PM DCATS Overview





Enabling information dominance from the tactical edge to the home station for the Army, Department of Defense, and international partners by acquiring, implementing and sustaining strategic satellite and terrestrial communication systems





Proposed Questions





1. As the acquisition center of excellence for enterprise network modernization, what is the current state of the enterprise network and what is the Army's plan for its modernization?

2. Currently, Army leadership is postured to make a decision on the viability of Enterprise IT as a Service (EITaaS) sometime in Q2, FY22. Assuming it's approved, where do you see EITaaS's future going?

3. Given the environment of decreasing resources, how can we gain efficiencies to maximize the effectiveness of the resources that we do have?







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Enabling information dominance from the tactical edge to the home station for the Army, Department of Defense, and international partners by acquiring, implementing and sustaining strategic satellite and terrestrial communication systems

GLOBAL ENTERPRISE NETWORK MODERNIZATION -AMERICAS (GENM-A)



Installation IT Modernization (CONUS)

- Voice Services •
- Data (NIPR/SIPR/other)
- Infrastructure (Fiber/Copper)
- Home Station **Mission Command** Centers
- Strategic Command ٠ Centers



Innovation / Technology Demonstration

- Best practices and technology demonstrations
- Resilient IT solutions and cloud services
- Commercial technology demonstrations at



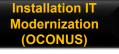
three (3) Army sites



GLOBAL ENTERPRISE

NETWORK MODERNIZATION -

OCONUS (GENM-O) Q2FY22



Voice Services

- Data (NIPR/SIPR/other)
- Infrastructure (Fiber/Copper)
- Strategic Command Centers



WIDEBAND

ENTERPRISE

SATELLITE SYATEMS



 DoD SATCOM **Gateway Ground** Terminals

 Baseband Systems •Modems Encryption •Routing/Switching Power & Timing

 Satellite Payload **Control Tools** •Planning Monitoring •Management





Base Support Communicat

 Computer Aided Dispatch (CAD)

 Enterprise Mass Warning and Notification (EMWN)

 Land Mobile Radio (LMR)

 Wireless – First **Responder Broadband** Network (FRBN)

 Next Generation 911 (NG-911)

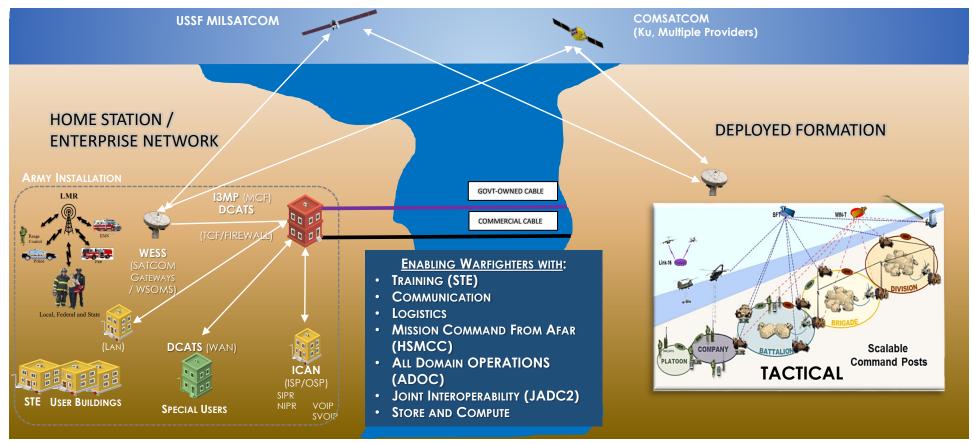


Installation Information Infrastructure Modernization





A UNIFIED NETWORK ENABLING TACTICAL EFFECTS



ACRONYMS

DCATS: Defense Communications and Army Transmission Systems ICAN: Installation Campus Area Network I3MP: Installation Information Infrastructure Modernization Program ISP: Inside Plant LAN: Local Area Network LMR: Land Mobile Radio MET: Modernization of Enterprise Terminals MCF: Main Communications Facility OSP: Outside Plant NIPR: Non-Secure Internet Protocol Router Network SIPR: Secret Internet Protocol Router Network STE: Synthetic Training Environment TCF: Technical Control Facility VOIP: Voice Over Internet Protocol SVOIP: Secure Voice Over Internet Protocol WESS: Wideband Enterprise Satellite Systems WSOMS: Wideband Satellite Operational Management Systems

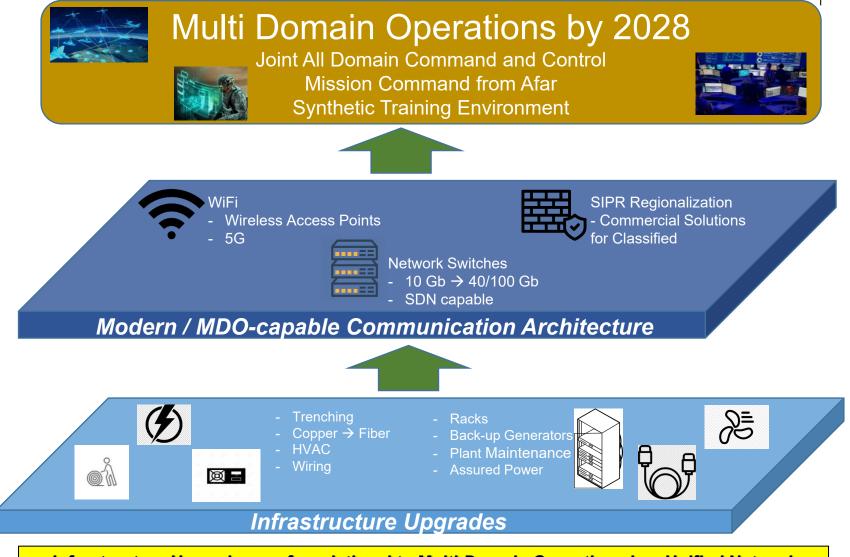
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Network Modernization







Infrastructure Upgrades are foundational to Multi-Domain Operations in a Unified Network



DCATS Upcoming Opportunities/ Needs from Industry



- Digital Satellite Modem
- Enterprise Computer Aided Dispatch (CAD)
- Enterprise Mass Warning & Notification (EMWN) System
- Infrastructure Modernization
 Capability Sets (CAPSET)
- SIPR Modernization

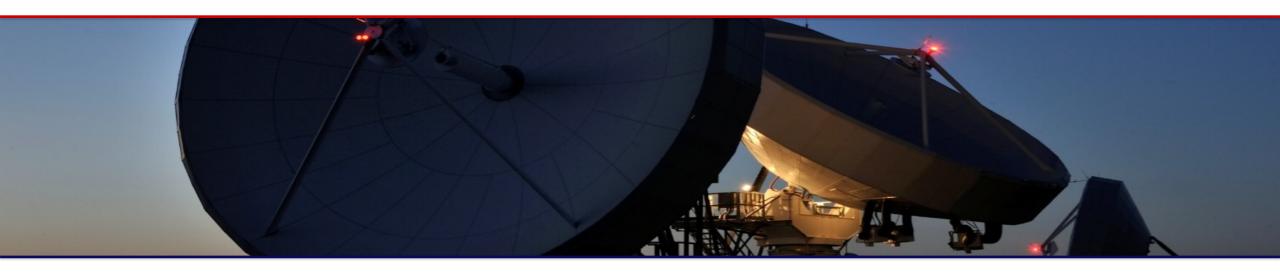
BEHAVIORS NEEDED

- Be Innovative
- Be A Participant, Get In The Game
- Integrate With Each Other
- Provide Metrics That Demonstrate Your Value
- Be Flexible
- Schedule Efficiencies
- Business Best Practices

CAPABILITIES NEEDED

- VOIP
- Software Defined Networking
- Commercial Solutions for Classified
- LMR/FirstNet Integration
- Enterprise Mass Warning Systems
- Computer Aided Dispatch Systems





PdM WESS AFCEA Belvoir Industry Days

Product Manager: LTC Scott Davis







PdM WESS Product Orientation





PdM WESS MISSION

Acquire, deliver, and sustain superior enterprise (strategic) military satellite communications and payload control capabilities for the US Army, DoD and the Joint Warfighting Community



Satellite Terminal

- > Large and medium aperture antennas operating in Military X and Military Ka frequency bands
- > Latest generation is MET, currently in production and fielding
- Senior National Leadership Communications



Satellite Baseband Systems

- > IT based equipment racks supporting the connection and signal processing between terrestrial and satellite nodes. Provides interaction to the Defense Information Systems Network / DoD Information Network
- > Consists of satellite modems, switches, routers, precision timing distribution, power distribution and encryption devices. Predominantly Commercial Off The Shelf products.



- Wideband Control Systems
- > Wideband SATCOM Operational Management System (WSOMS) provides the tools and systems enabling US Army Space and Missile Defense Command to operate and manage the Wideband Global SATCOM constellation for the Department of Defense.
- > Software intensive System of Systems that enables planning and control of satellite vehicles and payloads; monitoring of spectrum (threat and interference); trend analysis and anomaly management. Operates over dedicated closed restricted network connecting.
 - > Consists of COTS servers, routers/switches, modems, and mix of COTS and developmental software

PdM WESS VISION

The Department of Defense choice for world class enterprise satellite communication systems that increases efficiency and enhances responsiveness to warfighter needs



PdM WESS Upcoming Opportunities/ Needs from Industry





- Additional COTS/GOTS Terminals
- Enterprise Management and Control
- Solid State Power Amplifier
- Digital Intermediate Frequency Modem
- Baseband serial-to-IP solutions to
 - replace legacy systems
- Payload Control Network
 Modernization
- Payload Spectrum Monitoring
- Microservice Environment

BEHAVIORS NEEDED

- Be Innovative
- Commercial items, non-developmental
- Interoperable, open architecture
- Industry collaboration for standards
- Business Best Practices
- Scalable solutions

CAPABILITIES NEEDED

- Terminal / Modem Remote monitoring
 (potential for remote control)
- Terminal amplifier power increase and reliability
- Reduced maintenance
- Digital Multi-carrier FDMA modem
- Wideband Signal Processors (WSP)
- Digital IF Conversion Subsystem (DCS)



PdM WESS Business Opportunities





Procurement Type	Description	Vehicle Contract or Method	Projected Quarter FY of Solicitation	Contracting Office	
Supply	Enterprise SATCOM Gateway Modem (ESGM)	GSA VETS 2	Q1 2022	ACC Rock Island	
Supply	Maintenance Servers	CHESS	Q1 2022	ACC Rock Island	
Supply	Small Fit-form Pluggables	CHESS	Q1 & Q2 2022	ACC Rock Island	
Supply	GEM-One Software	CHESS	Q1 2022	ACC Rock Island	
Supply	Veritas 200 Software	CHESS	Q1 2022	ACC Rock Island	
Supply	Serial Interface Patching System (SIPS)	CHESS/GSA	Q1 2022	ACC Rock Island	
Supply	Wideband Satellite Communications (SATCOM) Trend Analysis and Anomaly Resolution Subsystem (WSTARS) Hardware Spares	CHESS	Q1 2022	ACC Rock Island	
Supply	Wideband Subsystem Merge Hardware Spares	CHESS	Q2 2022	ACC Rock Island	



PdM WESS Business Opportunities





Procurement Type	Description	Vehicle Contract or Method	Projected Quarter FY of Solicitation	Contracting Office	
Supply	Microsoft Licenses	CHESS	Q2 2022	ACC Rock Island	
Supply/Service	Wideband Satellite Communications (SATCOM) Trend Analysis and Anomaly Resolution Subsystem (WSTARS) System/Support	Fair Opportunity	Q1 2022	DISA DITCO	
Service	Global Satellite Configuration Control Element (GSCCE) Engineering Services	Fair Opportunity	Q2 2022	DISA DITCO	
Supply	SolarWinds Licenses	CHESS	Q2 2022	ACC Rock Island	
Supply	Red Hat Licenses	DoD ESI BPA	Q2 & Q3 2022	ACC Rock Island	
Supply	PostGres Licenses	NASA SEWP	Q3 2022	ACC Rock Island	
Supply	Grafana Licenses	CHESS	Q4 2022	ACC Rock Island	
Supply	SL - Graphical Modeling System (SL-GMS) Licenses	CHESS	Q4 2022	ACC Rock Island	
Service/Supply	Enterprise Digital Intermediate Frequency Multi-Carrier (EDIM) Modem	Full and Open	Q2 2022	ACC Rock Island	



Product Lead Base Emergency Communications System



O POS



AIABORA

EJ WASIKOWSKI Capability Update Brief FY2022



PUBLIC SAFETY COMMUNICATIONS EVOLUTION





TWO-WAY LAND MOBILE RADIO (LMR)

Two-way Wireless Communication System

- Highly reliable
- Limited interconnectivity with other systems
- Mission-critical voice services
- Basic data transmission
- Public safety enhanced features e.g., Push To Talk (PTT)
- Limited transmission range
- Enhanced performance enabled by Project 25 (P25)

NATIONWIDE PUBLIC SAFETY BROADBAND NETWORK

Public safety-grade data network

- Mission-critical voice over LTE
- Single integrated device (voice & data) for certain user class
- Dedicated network built to public safety requirements using dedicated and allocated 700 MHz spectrum

EXISTING PRIVATE / COMMERCIAL MOBILE DATA

Other data-enabling infrastructure

- Available to augment mission critical voice communications
- May include wireline, cellular mesh, microwave, satellite, wireless local area (e.g. Wi-Fi), paging, HF Radio, and/or unlicensed wireless networks
- Sufficiency for public safety communications based on specific user group needs

EMERGING TECHNOLOGIES

Device-to-device (D2D) Communication

- Devices communicate directly with each other without routing the data paths through a network infrastructure
- Proximity services
- Resiliency options

INTEGRATED TECHNOLOGIES



Base Emergency Communications Systems (BECS)

- Computer Aided Dispatch (CAD)
- Enterprise Mass Warning & Notification (EMWN)
- First Responder Broadband Network (FRBN)
- Land Mobile Radio (LMR)

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Voice

Data

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Next Generation 9-1-1 (NG 9-1-1)

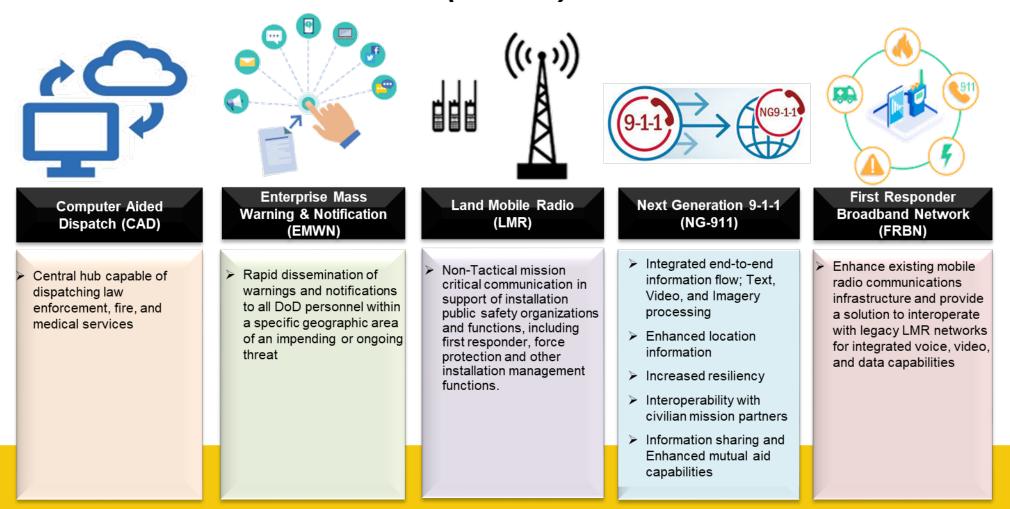


PdM BECS Overview



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BASE EMERGENCY COMMUNICATIONS SYSTEMS (BECS)

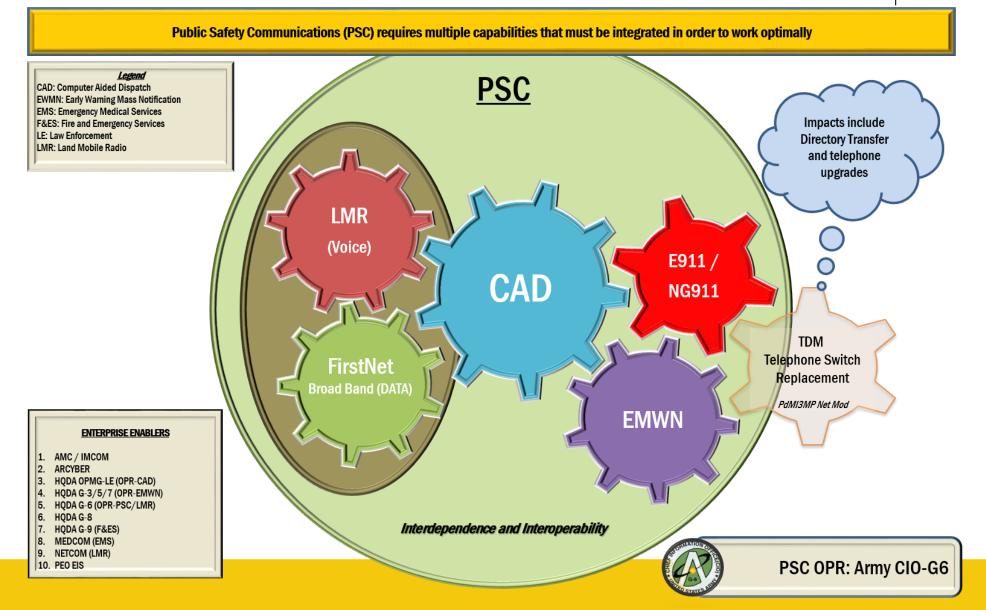




PSC Construct









Contracting Opportunities





Enterprise Land Mobile Radio (LMR)	 CONUS: Modernize, Integrate and Enterprise Army CONUS LMR subsystems to the ACE Cores Award 2 new sites (Sill/Letterkenny) OCONUS: Modernize, Integrate and Enterprise 60 plus sites in Europe
Computer Aided Dispatch (CAD)	 Enterprise Computer Aided Dispatch at Tier I Public Safety Access Point (PSAP) locations (3-5 Sites from 1-N List) Starting w/ APG, Campbell, Irwin, Knox and Leaven Worth
Enterprise Mass Warning & Notification (EMWN)	These programs are tied to the Base Emergency Communications Systems, Capabilities Development Document which is in staffing at the Army Capability Manager for Network and Services who will
Wireless Broadband (LTE/5G)	validate and turn these efforts into programs of record. PEO EIS currently is the Office of Primary Responsibility for these efforts and looks forward to identifying a material solution for each system of record in the coming year or two.

Next Generation	9-1-1
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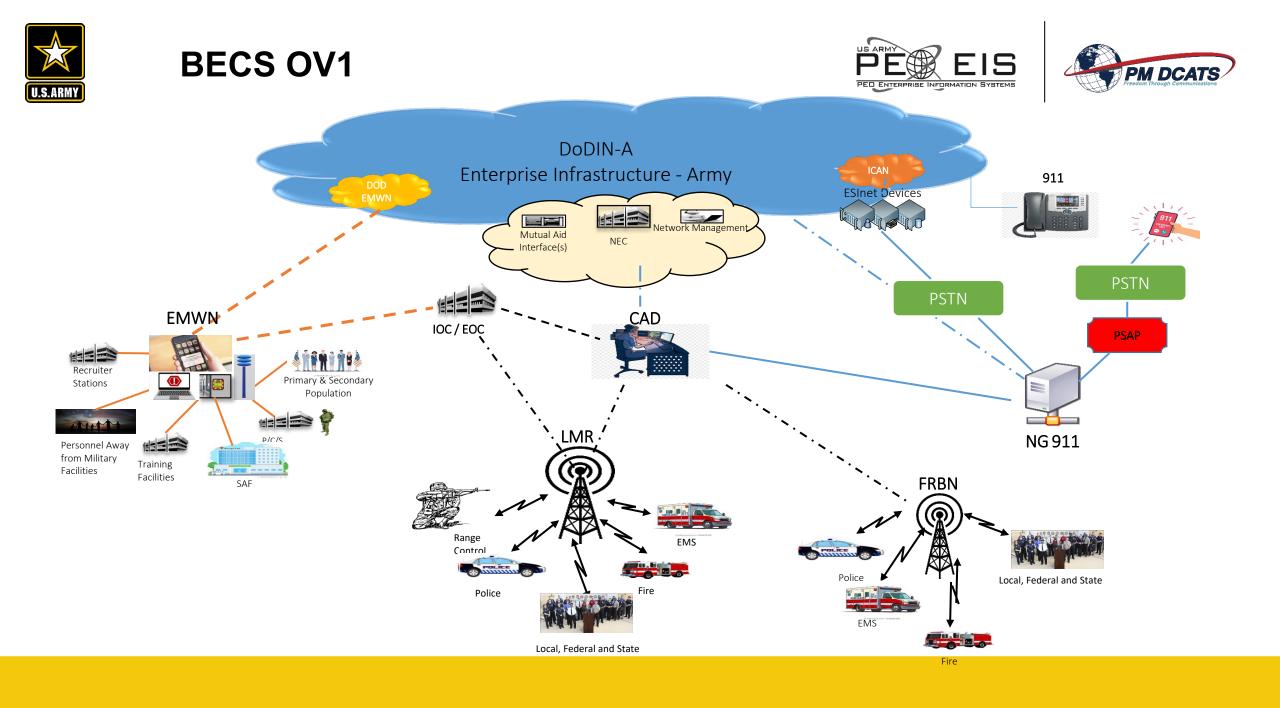
Description	Contract Office	Vehicle Contract/ Method	FY of Solicitation	Est. Award	Est. Contract Value	Small Business Set aside?
ARMY CONUS ENTERPRISE LAND MOBILE RADIO (ACE LMR)	ACC-RI	ANC 8 (a)	FY22	MAR 2022	\$6.5M	YES
ARMY EUROPEAN ENTERPRISE LAND MOBILE RADIO (EELMR)	ACC-RI	ANC 8 (a)	FY22	SEP 2022	\$7-10M	YES
COMPUTER AIDED DISTPATCH (CAD)	ACC-RI	FULL & OPEN	FY22	JUL 2022	\$3 - 3.5M	TBD
ENTERPRISE MASS WARNING & NOTIFICATION (EMWN)	ACC-RI	FULL & OPEN	FY22	SEP 2022	TBD	TBD







BACK UP

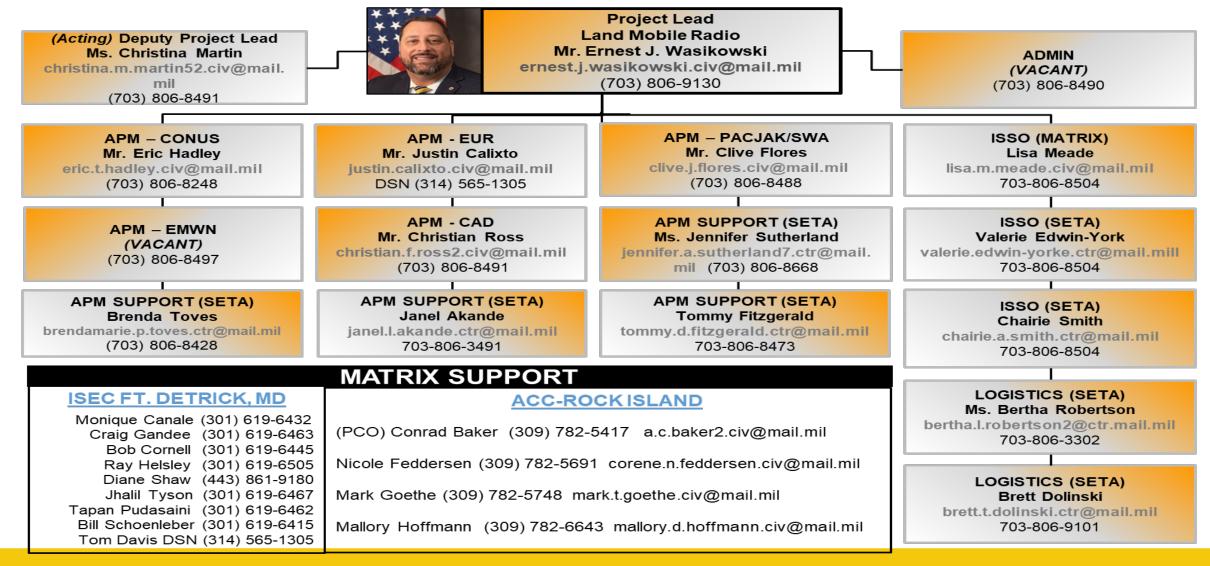




Organizational Structure













PdM Global Enterprise Network Modernization – Americas (GENM-A)

PdM Power Projection Enablers (PdM P2E)

AFCEA Belvoir Industry Day 04 November 2021

> Overall Classification of the Briefing Is: CUI



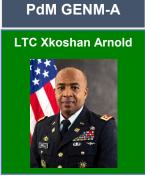
PdM GENM-A Leadership Team





Military Civilian





Mr. Michael Van Buskirk Deputy Product Manager



NOTIONAL OPERATING MODEL

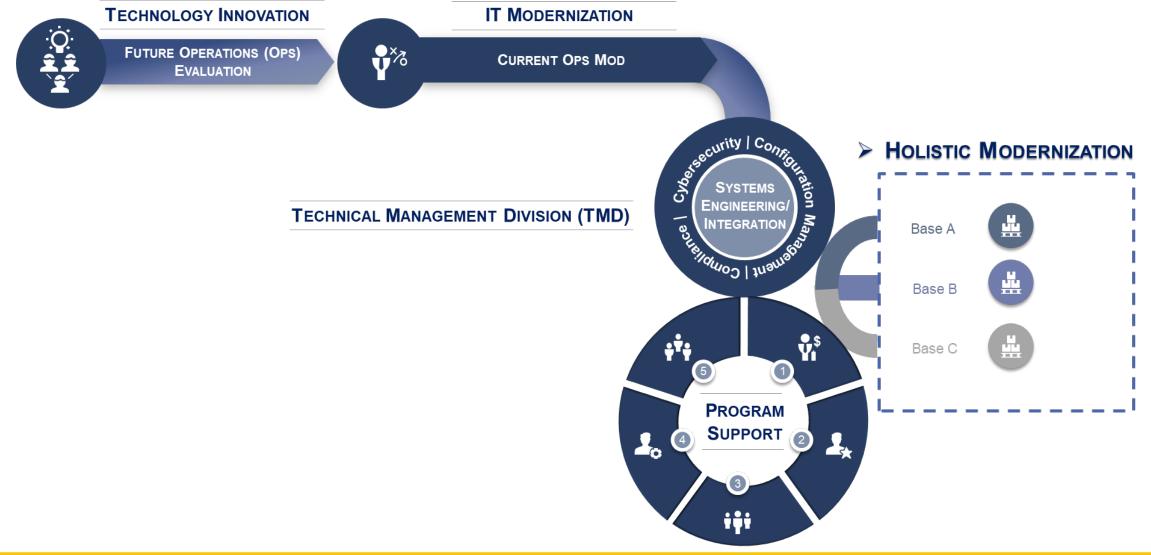
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TECHNOLOGY INNOVATION	IT MODERNIZATION	TECHNICAL MANAGEMENT DIVISION (TMD)	PROGRAM SUPPORT
FUTURE OPS	CURRENT OPS	SYSTEMS ENGINEERING/INTEGRATION	BUSINESS OPERATIONS & MANAGEMENT



GENM-A Operating Model (Notional)





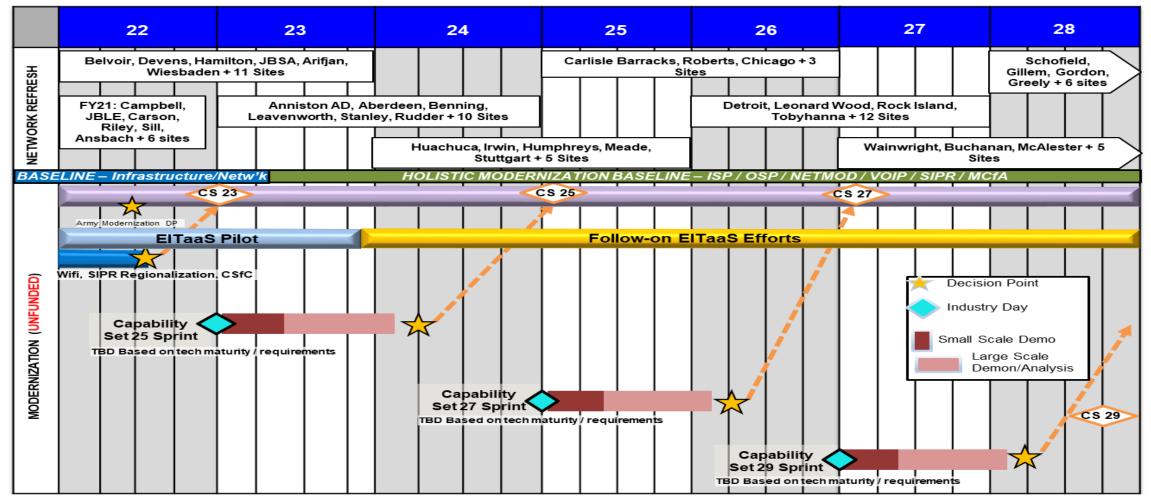




Integrated Enterprise Network Technology Innovation









GENM-A Capabilities





NETWORK CAPABILITIES

OUTSIDE PLANT (OSP) MODERNIZATION:

Trenching, digging, laying conduit, and installing fiber and copper to connect network devices on a P/C/S. (LCR Cycle 20 years)

INSIDE PLANT (ISP) UPGRADES:

Installation/upgrade of Power, UPS, Generators, HVAC, Communications Shelters, in support of OSP capabilities. (LCR Cycle 20 years)

NETWORK SERVICES: Installation and configuration of network switches to provide NIPR and SIPR capabilities to Army P/C/S. (LCR Cycle 7 years)

VOICE SERVICES: Modernizing P/C/S voice infrastructure to an over Internet Protocol (IP) technology. Divestiture of legacy technology. (LCR Cycle 7 years)

TECH CONTROL FACILITIES (TCFs): Serves as the conduit between the DISN WAN and the ICAN. It also hosts DISA POPs, JRSS, NEC JB-CE, legacy TLAs and commercial POP.

COMMAND CENTERS

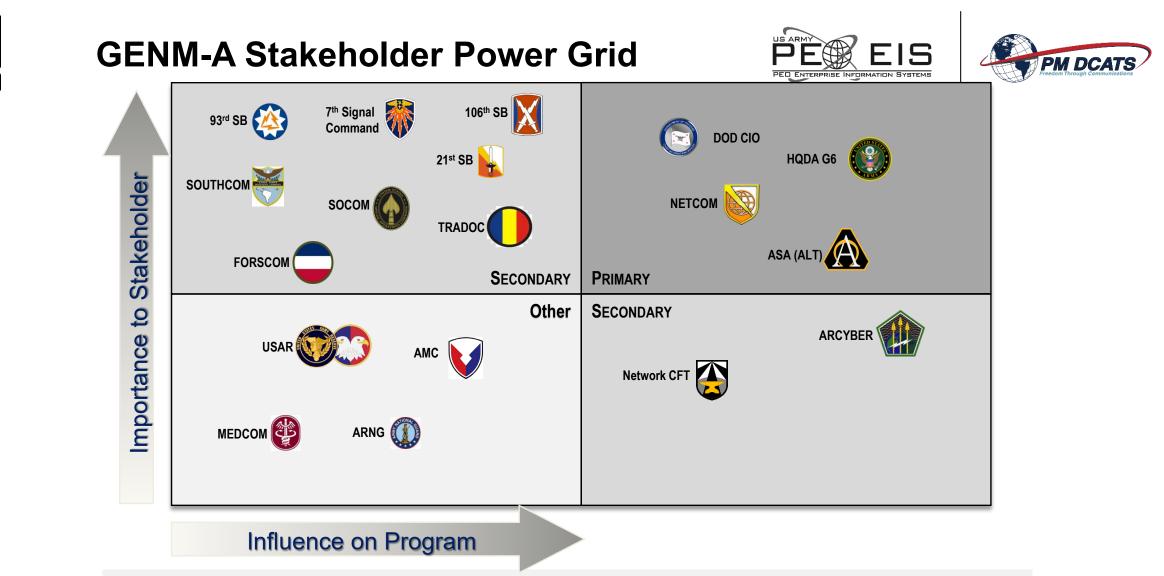
HOME STATION MISSION COMMAND CENTER (HSMCC): A suite of standardized capabilities utilized at Corps, Division and Theater Headquarters that allows expeditionary mission command during all operational phases.

STRATEGIC COMMAND CENTERS (SCC): Provides core Command, Control, Communications, and Computers (C4) infrastructure for Joint, Coalition and Interagency C4 capabilities at Army and Army supported command centers (SOUTHCOM, AOC, ANMCC & JSOC)

OTHERS

ENTERPRISE IT AS A SERVICE (EITAAS) PILOT:

A targeted pilot to explore and evaluate a variety of commercial solutions, Process improvement to enhance speed of delivery, Assessment of cost drivers and financial feasibility at pilot sites.



- Continual engagement with all Stakeholders in multiple recurring working groups and forums (annual, semi-annual, and quarterly)
- Additionally, we have more in-depth working groups, IPTs, and status reviews at the APM / Action Officer level on a monthly or weekly basis



PdM P2E **Leadership Team**



PdM P2E (CSL) Mr. Tom Dunaway

Product Manager

US ARM EIS PED ENTERPRISE INFORMATION SYSTEMS

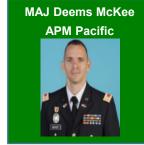








Mr. Tim Green Director



South West Asia **Project Office**

Mr. Scott Ervin





Acquisition Management Directorate

Ms. Toni Freeland Deputy Product Manager

Mr. Mark Broughton





Program Management Directorate

Mr. Mark Smith







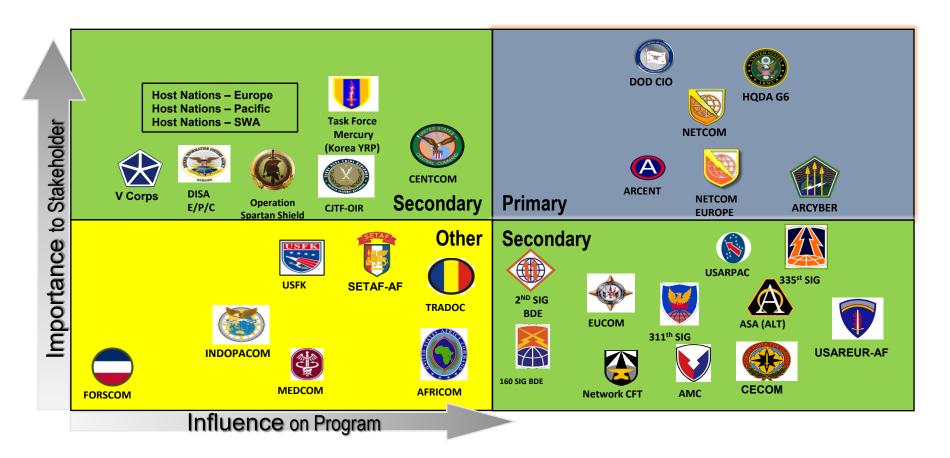




P2E Stakeholder Power Grid







- Continual engagement with all Stakeholders in multiple recurring Theater Deep Dives, Theater Synchronization Reviews (TSR), Theater Requirements Validation Boards (TRVB), TSR Integration Board (TIB) (annual, semi-annual, and quarterly)
- Additionally, we have more in-depth working groups, IPTs, and status reviews at the APM / Action Officer level on a monthly or weekly basis.



P2E Capabilities





Capability	Result				
SIPR/NIPR ICAN	Communications backbone for installation: Upgrade network capacity from 1 to 10/40/100 GB Edge Access Switches, Area Core Switches, Area Distribution Switches, Collection Routers, Layer 2 Bridging Switches				
Commercial Solutions for Classified (CSfC) / Virtual Desktop Infrastructure (VDI) / Multiple Independent Levels of Security (MILS)	Agile access to classified networks: Reduce cybersecurity attack surface for classified networks; Divest of High Assurance Internet Protocol Encryptor (HAIPE) devices; Remove/Reduce legacy technologies that introduce constraints and points of failure for large segments of the current network				
Inside Plant	Required upgrades inside buildings: HVAC, Power/Grounding, Racks, Building Fiber Wiring, UPS, Comms Shelters, Generators				
Outside Plant	Connecting buildings to main nodes: Fiber, Copper, Duct, Maintenance Holes, Wireless Access Points, Antennas				
Voice Modernization	Soft Client + Hard Client / TDM Decommissioning Estimate ~80% soft clients on computers; ~20% hard clients for base services/VIP; de- commission TDM's; implement critical infrastructure for base services				
*Capabilities Enable Secure A/V Systems, Integration of Command Operations Systems, Secure Video Teleconference					

*Capabilities Enable Secure A/V Systems, Integration of Command Operations Systems, Secure Video Teleconference Systems, C4ISR Infrastructure, ERPs, STE, MPE, and other key warfighting functions



P2E Contracting Strategy





NAICS	Description	Directorate	Contracting Office	Vehicle Contract / Method	Estimated Award	Estimated Contract Value	Small Business Set Aside?
54130	Europe (EUR) Network & Infrastructure Modernization Capability Set	P2E Europe	ACC-RI	CHESS ITES 3S	3QFY22	\$300M	No
54130	Pacific (PAC) Network & Infrastructure Modernization Capability Set	P2E Pacific	ACC-RI	CHESS ITES 3S	3QFY22	\$300M	No
54130	South West Asia (SWA) Network & Infrastructure Modernization Capability Set	P2E SWA	ACC-RI	TBD	3QFY23	\$150M-\$250M	No



Path Forward





- Award flexible contracts that align to network lifecycle modernization strategy beginning in FY22
 - Agile scope that accounts for new Capability Set inserts
- Enterprise Information Technology as a Service (EITaaS)
- Voice Modernization IAW future Army Enterprise Solution
- Commercial Solutions for Classified (CSfC)
- FSA: Product Manager, Power Projection Enablers re-brands to Global Enterprise Network Modernization – OCONUS (GENM-O) ~2QFY22



Where Industry Can Help





- Role of OEM and Prime Contractor are defined properly
- How can we leverage emerging technologies?
- How can we optimize and integrate commercial technologies into the enterprise network?
- Deliver reliable, sustainable, and cost-effective capabilities to our Soldiers to win the next fight
 - "What got [us] here won't get us [there]"
 - > We owe it to them to deliver the best capability possible
- Your feedback on our RFIs is critical to improve our processes and the final solicitation
- Accurate timeline assessments for RFPs
- Understand how to operate in OCONUS locations (P2E)
- How can we be more innovative in terms of how we implement Network Modernization?





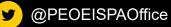
The Army relies on PEO EIS

Connecting the Army. Working for Soldiers.



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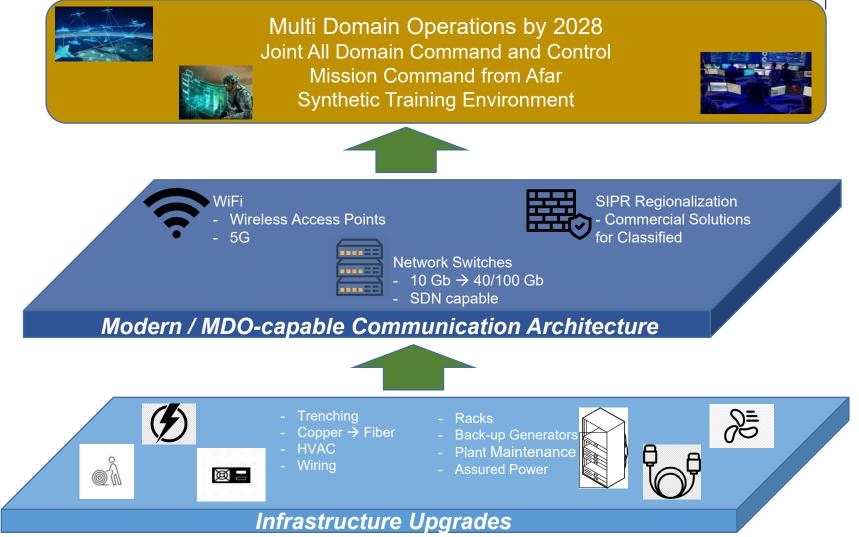
www.eis.army.mil



Network Modernization







Infrastructure Upgrades are foundational to Multi-Domain Operations in a Unified Network



Voice Modernization



<u>Direction</u>: Halt Voice Modernization (VMOD) pending the development of a holistic plan (FY 21 G6 Priorities Memo)

Intent: Do not continue status quo of 100% of hard phones on desks

Decisions:

- Decommission TDMs
- ✓ VoIP on all Army Bases
 - > Planning estimate:
 - 80% Soft Clients on computers
 - 20% Hard Clients for base services / VIPs

Requires:

- Architecture design with NETCOM / G6
- Soft client sustainment cost assumption (NETCOM)
- E911 Risk acceptance (NETCOM)
- Policy / regulation updates based on VMOD decision (G6 / NETCOM)

Running Estimates:

- Select soft client options
 - A365 Teams with Business Voice
 - Jabber (Cisco)
 - Avaya
- % and locations of hard clients

Assumptions:

- VOIP Regionalization
- Cloud services where feasible
- O&M costs higher for soft client
- Critical infrastructure receives phones for emergency and base services

PEO EIS READY TO RESTRUCTURE VMOD USING LESSONS LEARNED FROM SOFT-CLIENT EARLY ADOPTER SITES (LEE & JACKSON).



Proposed Questions





<u>WESS</u>

Given the Army's operational and tactical formations' continued leverage of data driven intelligence and tools, do you anticipate an expansion of the Wideband Global Satellite (WGS) constellation?

<u>LMR</u>

With the advent of FirstNet in selected military communities, the boundaries between military and civilian emergency services continue to blur. Is it possible to envision the management of the Public Safety Communications network being absorbed by a local municipality at some point?

<u>GENM-A</u>

Looking into your crystal ball, what do you see as the future for EITaaS initiatives?

<u>P2E</u>

What do you see as the hurdles that would preclude large telecomm providers from not wanting to pursue OCONUS EITaaS initiatives?