



**U.S.ARMY**



# Wideband Enterprise Satellite Systems AFCEA Industry Days



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# Wideband Enterprise Satellite Systems



## PdM WESS MISSION

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



**Satellite Terminal Systems**



**Baseband Systems**



**Wideband Control**



**Combat Service Support (SATCOM)**

## PdM WESS VISION

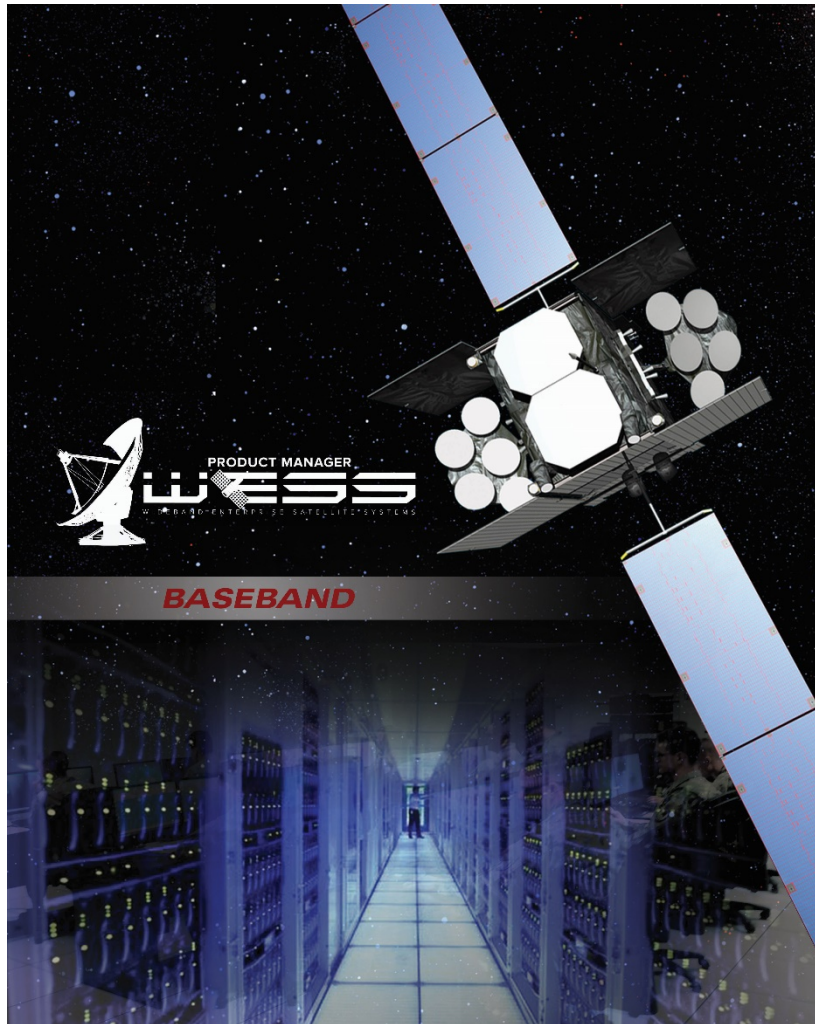
The Department of Defense choice for world class enterprise satellite communication systems that increase efficiency and enhance responsiveness to warfighter needs



# PdM WESS Product Offices



## Baseband Systems



- Acquisition Manager for the Army's Satellite Transport Systems to include: Satellite modems, routers, switches, multiplexers, power distribution systems, precision timing systems, and cryptographic equipment.
- Manages the Army Satellite Earth Terminal Station Relocation Projects at Satellite Gateways.

### Future Initiatives:

- Army Transport Convergence: Provides standardized SATCOM capability to fully upgrade Enterprise gateways with iDirect's KU-Band abilities. Supports Combat Service Support Very Small Aperture Terminal (CSS VSAT). Allows the Army to support its growing reliance on satellite resources while also leveraging underutilized Army Enterprise Gateways. Reduces the Army's dependence on commercial networks. Provides increased network security



# PdM WESS Product Offices (Continued)



## Satellite Terminals Systems



- Provides the DoD and National Command Leadership with secure, high-capacity satellite connectivity enabling reach back for voice, video, and data communications and transfer of intelligence information.
- Modernization of Enterprise Terminals (MET) program replacement of 100 Legacy terminals to be updated through 2025  
Nine variants of terminals
  - 17 of 37 terminals fielded for Army
  - 14 of 33 terminals fielded for Air Force
  - 9 of 15 terminals fielded for Navy
- Provides Senior National Leadership Communications (SNLC) Network between U.S. President and Russia/ Ukraine/ Belarus/ Kazakhstan leaders.
- Provides Global HEMP-protected SATCOM for forward-deployed missile tracking radar systems in support of Missile Defense



# PdM WESS Product Offices (Continued)



## Wideband Control



Provides for the management and control of the Defense Satellite Communications System (DSCS) and Wideband Global SATCOM (WGS) satellite program resources and earth terminal communications networks, which are required for rapid and efficient reaction to operational needs.

Portfolio Includes:

- Common Network Planning Software (CNPS)
- Remote Monitoring and Control Element (RMCE)
- Wideband Satellite Communications (SATCOM) Trend Analysis and Anomaly Resolution System/Wideband SATCOM Operational Management System (WSOMS) Mediated Interoperability Infrastructure (WSTARS/WMII)
- Wideband Training & Certification System (WTCS)
- Wideband Remote Monitoring Sensor System (WRMS)
- Joint Management and Operations Sensor (JMOS)



# PdM WESS Product Offices (Continued)



## Combat Support System - SATCOM



- Combat Service Support (CSS) Satellite Communication (SATCOM) provides a highly effective, easy to use, transportable Satellite Communication solution and wireless capability to the CSS community.

Composed of:

- Very Small Aperture Terminal (VSAT)
- CSS Automated Information System Interface (wireless)
- Data Communication Network (DCN) - Commercial network which includes 15 satellites and five regional teleport sites

Future Initiatives:

- Next Generation CSS VSAT / CAISI: Will provide a light weight expeditionary Satellite Communication capability to the CSS community.



# PdM WESS Stakeholders



POTUS  
WHCA  
SNLC



Dept of State  
SNLC



Dept of Defense  
DOD CIO



Joint Staff J6



USA  
CIO/G-6  
G-8



USN



USAF  
AFWET



USCENTCOM  
RSSC-East



USINDOPACOM  
RSSC-PAC



USEUCOM  
RSSC-EUR



USSOUTHCOM  
RSSC-EAST



USAFRICOM  
RSSC-EUR



USSTRATCOM  
RSSC-EAST  
RSSC-WEST



USSOCOM  
RSSC-EAST



USTRANSCOM  
RSSC-WEST



ARMY CYBER COE  
TCM N&S



AMC  
CECOM  
CERDEC



SMDC/ARSTRAT  
1st Space Brigade  
53rd Signal Bn



USNORTHCOM  
RSSC-West



USACE



DISA



MDA



ARCYBER



NETCOM  
2nd SIG BDE  
7th SIG CMD  
21st SIG BDE  
311th SIG CMD  
1st SIG BDE  
516th SIG BDE  
335th SIG CMD  
160th SIG BDE



Australia



International Partners  
Denmark  
Canada  
Netherlands  
New Zealand  
Luxembourg  
Czech Republic  
Norway



USSPACECOM



CASCOM



MEDCOM



# Research & Development Efforts



## Digital IF

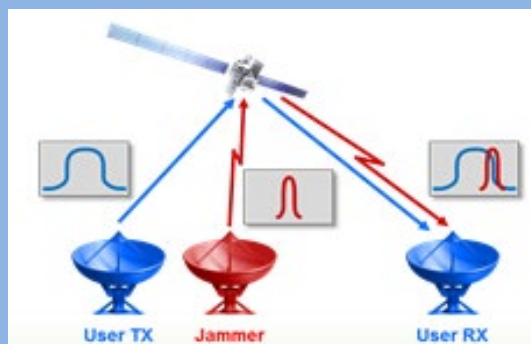


### Optimizes Services

- Enables Continuity of Operations (COOP)
- Provides Flexible Architecture
  - Geo-diversity via DISN/DoDIN
- Increases SATCOM Availability
  - Reduces the impact of weather, interference and loss of resources
- Potential for Growth

Anticipate procurement in FY22-FY23

## Interference Cancellation

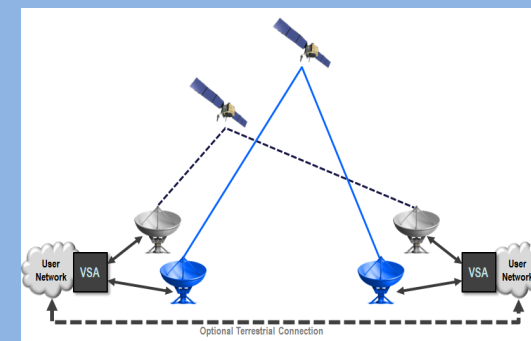


### SATCOM Protection

- Interfering signals are detected and characterized
- Algorithms will eliminate / reduce the impact of friendly and adversary interference sources.
- Stand-alone capability is available in the commercial market
- Various Vendor implementations were characterized at JSEC in FY17
- PdM WESS in partnership with CERDEC is currently reducing the Stand-alone/box-level commercial implementations to a software / firmware functions that can augment future SATCOM modems

Anticipate procurement in FY24-FY25

## SATCOM Diversity



### Connectivity Reliability

- User data from the network interface is divided and sent over multiple links. Redundancy and/or coding across multiple links is used to protect data.
- Total user data is reformed on the receive using available links.
- Will support flexible communications over multiple links on different satellites, bands, and frequencies as well as terrestrial links.
- Maintains end to end applications and supports maximum data rate achievable based on condition of links available.

Anticipate procurement in FY25-FY26

All PdM WESS RDTE efforts are focused on Gateway Resiliency





# WESS Business Opportunities



Procurement Type	Description	Vehicle Contract or Method	Projected Quarter FY of Solicitation	Contracting Office
Services	Modernization of Enterprise Terminals (MET) Sustainment Follow On	Full and Open	Q4 2019	ACC Rock Island
Services	Common Network Planning Software (CNPS) Follow On	GSA Alliant/Fair Opportunity	Q2 2019	ACC Rock Island
Services	Combat Service Support Communications (CSS COMMS) Systems Engineering Technical Assistance (SETA) Follow-on	PMSS3	Q3 2019	ACC Rock Island
Services	Team Track Follow-on	TBD	Q4 2019	ACC Rock Island
Services	GFE Hardware/VMWare Software – Wideband Remote Monitoring Sensor (WRMS) Follow-on	CHESS, GSA	Q2 2019	ACC Rock Island
Services	Wideband Control SETA Follow-on	RS3/Fair Opportunity	Q4 2019	ACC Rock Island
Services	Spectrum Migration (AWS-3) Ft. Rucker and Ft. Campbell	Full and Open	Q4 2019	ACC Rock Island
Services	Transport Convergence	TBD	Q2 2020	ACC Rock Island
Supply	Combat Support Service Very Small Aperture Terminal (VSAT) Modernization	Competitive	FY20-21	ACC Rock Island



Questions?



Thank you for attending!