MISSION:
Provide affordable, world class Sensor and Electronic Warfare capabilities enabling rapid situational understanding and decisive action.

VISION:
A team of dedicated professionals driving innovation and exceptional value in understanding and shaping the Battlespace.

intelligence + electronic warfare + sensors = situational understanding
PM ARES

Airborne Platform EO/IR

PM AERIAL SENSORS

PM NCSP

TENCAP

CTIS/PNT/MATIC

PM TERRESTRIAL SENSORS

PM NV/RSTA

Radars From RUS

HQ APG

- 2 PdM’s (MARSS, ISR Radars)
- 3 PD’s (ODIN, TSP, TENCAP)
- Technology Focus: SIGINT, RADAR, LIDAR, FOPEN, Hyperspectral
- Platform Focus: Fixed Wing and UAS

HQ Ft. Belvoir

- 2 PdM’s (Ground Sensors, EO/IR)
- 4 PD’s (IBD, CTIS, PSS-T, PNT)
- Technology Focus: EO/IR, WAMI, Acoustics, PNT
- Platform Focus: Vehicles, Aerostats, Towers & Fixed Platforms
PEO IEW&S Locations

Los Angeles
- PM NCSP

Huntsville & Surrounding AL Area
- PM ASE

Fort Gordon, Georgia
- LNO SIGNAL CENTER

APG & Surrounding MD Area
- PEO IEW&S HQ
- PM DCGS-A
- PM ARES
- PM EW
- PM NCSP
- PM NV/RSTA

Fort Belvoir & Surrounding VA Area
- PM DCGS-A
- PM NCSP
- PM NV/RSTA
Aberdeen Proving Ground Enterprise

Aerial Layer ISR
- Lakehurst
- RAID Tower
- EMARSS
- PTDS

Intelligence
- National Systems
- DCGS-A
- NSA

Terrestrial Layer ISR
- Fort Dix/ Aberdeen Test Center
- Electronic Proving Ground
- Vigilant
- Ground Vehicles
- Stryker
- Prophet

Processing, Exploitation, Dissemination
- APG Enterprise
- I2WD/CERDEC

Open Range Testing
- Yuma Proving Ground
- DUKE

Sensors
- Ft. Belvoir Labs, NVESD
- BETSS-C
- Boomerang

Network Integration Exercise
- White Sand Missile Range
Joint Test Integration Facility (JTIF)

- Facilitates Collaboration Between PMs, PEOs, ASA (ALT), TRADOC, ATEC, CECOM, RDECOM and Industry Through Defense Research and Development Network (DREN)
- Provides Risk Reduction of Sensor Integration
- Provides Central Location With Complete Sensor to Soldier Capability With “End-To-End” Processing, Exploitation, and Dissemination (PED)
- Allows for Rapid Prototyping and Development
- Support Assessment of Future Network Integrated Evaluation (NIE) Through the APG Enterprise
- Provides Opportunity to Share Resources With Industry Thru Cooperative Research and Development Agreement (CRADA)
Army's COE Implementation Strategy is ..
not only to support interoperability within the force, but also accounts for critical strategic level goals as well.

- Achieve agility on how we deliver capabilities to the Warfighter faster  
  *(Vice Chief of Staff, 14 April 2011)*

- Reduce the life cycle cost of development and sustainment of our IT systems  
  *(DoD Efficiencies Initiative, 16 Aug 2010)*

- Promote an Open Architecture that is standards based, which leverages industries’ best practices and products while reserving government purpose rights  
  *(Imp Directive for Better Buying Power, 3 Nov 2010)*

- Build on a foundation that is cyber-hardened and secure  
  *(ARCyber Command)*
Sensor Interoperability
COMMON OPERATING ENVIRONMENT
Mobile Hh CE – Nett Warrior (Core)
Mounted CE – JBC-P (Core)
Command Post CE – DCGS-A (Core)
Cloud/DC CE – EIS (Core)
RTSCE – VICTORY/FACE (Core)

Sensor System View

Consumer View

* Processing, Exploitation and Dissemination

Share, Manage, and Provide Critical Situation Awareness Data/Product at All Echelons and All Networks

Challenging!
OPS Intel Convergence

Provide a common approach towards command post client and server software and hardware, as well as common services (e.g., network management, collaboration, synchronization, planning, analysis) that will enable PM’s to employ unified mission command capabilities (CP CE).

**Mission Command (MC)**
- CPOF (SIPR)
- Command WB (SIPR)
- TIGR (SIPR)
- JBCP TOC Kit (SIPR)
- BCCS (SIPR)
- GCCS_A (SIPR)

**Intelligence**
- DCGS-A WS (SIPR), JWICS
- CHATS (SIPR)
- DCGS-A Server (SIPR, JWICS)
- Prophet Control (JWICS)
- CHARCS (SIPR)

**Fires**
- AFATDS WS (SIPR)
- AMPS (SIPR)
- JADOCS (SIPR)
- DCGS-A WS (SIPR)

**Protection**
- AMDWS (SIPR)
- TAIS (SIPR)
- ADSI (SIPR)
- FAAD (SIPR)
- RAID (SIPR)
- IBD Server (SIPR)
- IBD Console (SIPR)

**Sustainment**
- DCGS-A WS (SIPR), JWICS
- CHATS (SIPR)
- DCGS-A Server (SIPR, JWICS)
- Prophet Control (JWICS)
- CHARCS (SIPR)

**CRITICAL ENABLERS**
- Hardware Independence
- Rich Web Client
- Cloud Analytics

**Functional Services**
- MANEUVER
- INTEL
- ENGINEER
- FIRE SUPPORT
- AIR DEFENSE
- AIR PICTURE
- LOGISTICS
- CBRN

**Governed by PM/Other**
- MANEUVER
- INTEL
- ENGINEER
- FIRE SUPPORT
- AIR DEFENSE
- AIR PICTURE
- LOGISTICS
- CBRN

**Governed by COE**
- Shared Applications
- Data Services
- Run-Time Application Framework
- Infrastructure Services
- Core Physical Components

**Commodity**
- Common HW
## PM ARES
(Airborne Reconnaissance and Exploitation Systems)

### ENABLING THE AERIAL LAYER

<table>
<thead>
<tr>
<th>PdD Aerial Intelligence Surveillance and Reconnaissance (AISR)</th>
<th>PdM Observe, Detect, Identify (ODI)</th>
<th>PdM Tactical Signals Intelligence (SIGINT) Payload</th>
<th>PdM Medium Altitude Reconnaissance and Surveillance System (MARSS)</th>
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<tr>
<td>Emitter Detection / Location</td>
<td>Quick Reaction Capabilities</td>
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<td>Situational Awareness</td>
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</table>

- **Guardrail Common Sensor (GRCS)**
- **Airborne Reconnaissance Low (ARL)**
- **Medium Altitude Reconnaissance and Surveillance System (MARSS)**
- **Constant Hawk**
- **Highlighter**
- **Tactical SIGINT Payload (TSP)**
- **Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS)**
PM ASE
(Aircraft Survivability Equipment)

**PdM Sensors**

**PdM CounterMeasures**

**Detect / Warn / Decoy**
- CMWS
- RWR
- LDS

**Detect / Warn**
- LDS

**Detect / Jam**
- ATIRCM
- CIRCM
PM DCGS-A (Distributed Common Ground System - Army)

PROVIDES ACTIONABLE INTELLIGENCE TO SHAPE COMBAT OPERATIONS

- PdM DCGS-A SW Integration
- PD Machine Foreign Language Translation Systems (MFLTS)
- PD Counter Intelligence / Human Intelligence Automated Reporting and Collection System (CHARCS)
- PdD DCGS-A SW Development
- PD DCGS-A CLOUD

- Provides an organic net-centric ISR PED (SIGINT, HUMINT, IMINT, Geospatial and MLT) operations support to deployed Army Forces
- Manage Collapse of PORs to Common Integrated Framework
- Foreign speech and text translation capability into Army tactical systems to augment human linguistic resources across all echelons with a hardware agnostic implementation.
- Interactive analytical, report writing, and asset management tools that support the tactical collection of data for execution of CI and HUMINT operations
- Continuously Increasing Capabilities through Iterative Releases
- Allows analysts to explore massive amount of data in unique ways and very rapidly perform analysis
PM EW
(Electronic Warfare)
ELECTRONIC SUPPORT - ATTACK - PROTECT
PM NCSP
(Navigation Capabilities and Special Programs)
KNOW THE WAY

PdD Positioning, Navigation & Timing (PNT)

PD Combat Terrain Information Systems (CTIS)

PdM Meteorological and Target ID Capabilities (MATIC)

PD Tactical Exploitation of National Capabilities (TENCAP)

Positioning & Navigation
Recon and Survey Kits

Technology Enabler
Prototypes and QRC Support

Embedded GPS

Targeting Support
Target Area MET

Force Protection
ISR
PM NV/RSTA
(Night Vision Reconnaissance Surveillance & Target Acquisition)

Acoustic/Visual Surveillance

- 2GF
- NGF
- LRAS3
- DVE
- GDS
- AGDS
- FSSDS
- UTAMS
- VOSS
- E-UGS
- CF-UGS
- RAID
- Mobile Eagle Eye
- Mast
- Cerberus
- STARLite
- Lynx & Lynx II
- PSDS2
- VADER
- CSP
- AN/DAS-2
- MX Sensors
Challenges

• Ease of use - Soldier's need a less complex interface and a reduction on the reliance of FSR
• The Cloud: How do we use the Cloud to our advantage in a safe/secure method?
• How do we reduce sustainment costs?
• How does the Army work in the digital handheld world?
• IA & Cyber Security
SUMMARY

• Fielding *World Class Intelligence, Electronic Warfare, Force Protection Capabilities* to stay in front of a exceedingly agile threat

• Developing highly modular, scalable, and flexible sensing, processing, exploitation and enabling capabilities using a System of System approach to harness emerging technology

• Enhancing architectures to enable greater access to sensor data for dynamic correlation – fusion to achieve unparallel situation understanding for Mission Command decisions and actions