PEO Aviation Industry Day

In Conjunction With the Aviation & Missile Technology Consortium Collaboration Event AMTC-20-01

12 February 2020 – Approved For Public Release
Welcome and Agenda Review

Mr. Pat Mason
PEO Aviation

Mr. Jeremy Bolton
APEO, Strategic Initiatives Group
# Industry Day Agenda

<table>
<thead>
<tr>
<th>Start/Stop Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>0830-0840</td>
<td>Welcome and Agenda Review</td>
<td>Mr. Pat Mason, J. Bolton</td>
</tr>
<tr>
<td>0840-0910</td>
<td>AVN CDID MDO Perspective</td>
<td>COL Mike Best</td>
</tr>
<tr>
<td>0910-0940</td>
<td>FVL CFT Perspective</td>
<td>BG Walter Rugen</td>
</tr>
<tr>
<td>0940-1010</td>
<td>PEO AVN Objectives</td>
<td>COL Rob Barrie</td>
</tr>
<tr>
<td>1010-1030</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>1030-1045</td>
<td>PEO Aviation Roadmap</td>
<td>Leslie Hyatt</td>
</tr>
<tr>
<td>1045-1100</td>
<td>CAB Architecture Integration Lab</td>
<td>Al Abejon</td>
</tr>
<tr>
<td>1100-1115</td>
<td>Intro to Panels and Next Steps</td>
<td>J. Bolton, C. Brantley</td>
</tr>
<tr>
<td>1115-1230</td>
<td>Lunch and Networking Break</td>
<td></td>
</tr>
<tr>
<td>1230-1330</td>
<td>MDO Suitability &amp; Holistic Survivability Panel</td>
<td>Lars Ericsson</td>
</tr>
<tr>
<td>1330-1430</td>
<td>Interoperability &amp; Increased Aircrew Effectiveness Panel</td>
<td>Leslie Hyatt</td>
</tr>
<tr>
<td>1430-1500</td>
<td>Break and Area Re-configuration</td>
<td></td>
</tr>
<tr>
<td>1500-1700</td>
<td>One-on-One Sessions</td>
<td></td>
</tr>
</tbody>
</table>
Questions for Afternoon Panels

✓ Submit Questions for Panel Members:
  • Text Questions to (256) 391-4857 or
  • Use Swiftpolling.com and Enter 2217

✓ Questions Accepted Up to 1145
PEO Aviation

Mr. Pat Mason
PEO Aviation
Army Priorities

Must Balance Army Priorities to Achieve Both New FVL Solutions and Fielded Capabilities of the Enduring Fleet
Definition of Success for this Event

1. Industry leaves the event sufficiently informed of Aviation Enterprise’s needs for MDO.

2. Industry is motivated to provide relevant and compliant enhanced white papers to the AMTC consortium.

3. Mutually beneficial contract work is initiated in this fiscal year.
Aviation and MDO Perspective

COL Mike Best
Director, Army Futures Command
Capability Development and Integration Directorate (CDID)
Purpose

Provide Aviation CDID Overview on Multi-Domain Operations and Key Modernization Efforts

Agenda

• Multi-Domain Operations
  • Pacing Threats
  • Tenets
• Aviation in MDO – Concepts to Capabilities
• Artificial Intelligence Priorities
• DOTMLPF-P Developments
• Aviation Development Priorities
• Discussion/Questions
Executing MDO requires changing how the Army: postures the force physically with increased authorities; organizes its formations; and employs its new capabilities and emerging technologies.

**Calibrated Force Posture**
- Forward Presence Forces
- Expeditionary Capacity
- National-Level Capabilities
- Authorities

**Multi-Domain Formations**
- Conduct Independent Maneuver
- Employ Cross-Domain Fires
- Maximize Human Potential
- Echelons Above Brigade Formations

**Convergence**
- The rapid and continuous integration of capabilities in all domains through:
  - Cross-Domain Synergy
  - Redundant Kill Chains
  - Mission Command

Any Sensor…
Any Shooter…
Any C2 Node…
In near-real time.
**Central Idea**

Aviation formations optimized at echelon teaming enduring fleet and FVL with next generation UAS produce cross-domain synergy enabling the combined arms team to dominate advanced enemies and return to competition.

**Components of the Solution**

<table>
<thead>
<tr>
<th>Objective: Regain Overmatch in the future OE</th>
<th>Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Teaming</td>
<td></td>
</tr>
<tr>
<td>Dispersed Formations</td>
<td></td>
</tr>
<tr>
<td>Decentralized Execution</td>
<td></td>
</tr>
<tr>
<td>Degraded Environments Operations</td>
<td></td>
</tr>
<tr>
<td>Maritime Operations</td>
<td></td>
</tr>
<tr>
<td>Operations in Complex Airspace</td>
<td></td>
</tr>
<tr>
<td>Holistic Survivability Effort</td>
<td></td>
</tr>
<tr>
<td>Integrated and Networked ASE</td>
<td></td>
</tr>
<tr>
<td>Improved Aircraft Performance</td>
<td></td>
</tr>
<tr>
<td>Improved Weapon Options</td>
<td></td>
</tr>
<tr>
<td>Advanced Sensors and Fire Control</td>
<td></td>
</tr>
<tr>
<td>Artificial Intelligence (Supervised Autonomy)</td>
<td></td>
</tr>
<tr>
<td>Scalable Effects</td>
<td></td>
</tr>
<tr>
<td>Prognostic Maintenance</td>
<td></td>
</tr>
<tr>
<td>Mobility</td>
<td></td>
</tr>
<tr>
<td>Prognostic Supply</td>
<td></td>
</tr>
</tbody>
</table>

**End-state:**

Army Aviation equipped with multi-functional sensors and payloads that can fly and fight in any environment.

Army Aviation teamed with Future UAS and Air Launched Effects that are purpose-built for multi-domain reconnaissance and effects.

Air-Ground communications that seamlessly connect aviation platforms with intelligence, maneuver, and fires networks.

Affordable, and rapidly tailorable mission equipment packages via open systems architectures.
**Compete**
- Enable defeat of information and unconventional warfare
- Conduct intelligence & counter adversary reconnaissance
- Demonstrate credible deterrent
- Forward presence or rotational forces to provide credible deterrent
- Aerial resupply to dispersed, forward positioned forces
- Rapidly reposition maneuver forces to counter threat actions
- Recon, Counter-recon to gain SA, destroy/repel enemy recon elements

**Penetrate**
- Neutralize long-range systems
- Contest enemy maneuver forces
- Maneuver from operational and strategic distances
- Advanced team to penetrate/disintegrate threat IADS
- Assault entry forces across operational distances
- Attack Aviation to attrit enemy forces and fires

**Dis-Integrate**
- Defeat long-range systems
- Neutralize mid-range systems
- Conduct independent operational maneuver
- Conduct deception
- Refine target locations
- Stimulate, see, and strike key enemy components and systems
- Provide post-strike battle damage assessment to other members of combined arms team
- Conduct independent operational maneuver

**Exploit**
- Defeat mid-range systems
- Neutralize short-range systems
- Maneuver to isolate and defeat enemy land forces
- Advanced team providing stand-in targeting
- Attack Aviation strike enemy formations/high value systems
- Air-ground operations supporting cross-domain maneuver
- AASLT maneuver forces across operational distances

**Diplomatic**
- Enable defeat of information and unconventional warfare
- Conduct intelligence & counter adversary reconnaissance
- Demonstrate credible deterrent

**Economic**
- Forward presence or rotational forces to provide credible deterrent
- Aerial resupply to dispersed, forward positioned forces
- Rapidly reposition maneuver forces to counter threat actions
- Recon, Counter-recon to gain SA, destroy/repel enemy recon elements

**Information Warfare, Unconventional Warfare**
- IRBMs/SRBMs, Cruise Missiles, Cyber, Long-Range SAMs
- Neutralize long-range systems
- Contest enemy maneuver forces
- Maneuver from operational and strategic distances
- Advanced team to penetrate/disintegrate threat IADS
- Assault entry forces across operational distances
- Attack Aviation to attrit enemy forces and fires

**SRBMs, Mid-Range SAMs, Long-Range Multiple Rocket Launchers**
- Multiple Rocket Launchers, Cannon Artillery
- Defeat long-range systems
- Neutralize mid-range systems
- Conduct independent operational maneuver
- Conduct deception
- Refine target locations
- Stimulate, see, and strike key enemy components and systems
- Provide post-strike battle damage assessment to other members of combined arms team
- Conduct independent operational maneuver

**Maneuver, Short-Range Air Defense, Electronic Warfare, Counter-PNT, Cyber**
- Defeat mid-range systems
- Neutralize short-range systems
- Maneuver to isolate and defeat enemy land forces
- Advanced team providing stand-in targeting
- Attack Aviation strike enemy formations/high value systems
- Air-ground operations supporting cross-domain maneuver
- AASLT maneuver forces across operational distances

**Whole of Government**
- Forward presence or rotational forces to provide credible deterrent
- Aerial resupply to dispersed, forward positioned forces
- Rapidly reposition maneuver forces to counter threat actions
- Recon, Counter-recon to gain SA, destroy/repel enemy recon elements

**National- & District-Level Forces**
- Neutralize long-range systems
- Contest enemy maneuver forces
- Maneuver from operational and strategic distances
- Advanced team to penetrate/disintegrate threat IADS
- Assault entry forces across operational distances
- Attack Aviation to attrit enemy forces and fires

**Conventional Forces**
- Defeat long-range systems
- Neutralize mid-range systems
- Conduct independent operational maneuver
- Conduct deception
- Refine target locations
- Stimulate, see, and strike key enemy components and systems
- Provide post-strike battle damage assessment to other members of combined arms team
- Conduct independent operational maneuver

**Diplomatic**
- Enable defeat of information and unconventional warfare
- Conduct intelligence & counter adversary reconnaissance
- Demonstrate credible deterrent

**Economic**
- Forward presence or rotational forces to provide credible deterrent
- Aerial resupply to dispersed, forward positioned forces
- Rapidly reposition maneuver forces to counter threat actions
- Recon, Counter-recon to gain SA, destroy/repel enemy recon elements

**Information Warfare, Unconventional Warfare**
- IRBMs/SRBMs, Cruise Missiles, Cyber, Long-Range SAMs
- Neutralize long-range systems
- Contest enemy maneuver forces
- Maneuver from operational and strategic distances
- Advanced team to penetrate/disintegrate threat IADS
- Assault entry forces across operational distances
- Attack Aviation to attrit enemy forces and fires

**SRBMs, Mid-Range SAMs, Long-Range Multiple Rocket Launchers**
- Multiple Rocket Launchers, Cannon Artillery
- Defeat long-range systems
- Neutralize mid-range systems
- Conduct independent operational maneuver
- Conduct deception
- Refine target locations
- Stimulate, see, and strike key enemy components and systems
- Provide post-strike battle damage assessment to other members of combined arms team
- Conduct independent operational maneuver

**Maneuver, Short-Range Air Defense, Electronic Warfare, Counter-PNT, Cyber**
- Defeat mid-range systems
- Neutralize short-range systems
- Maneuver to isolate and defeat enemy land forces
- Advanced team providing stand-in targeting
- Attack Aviation strike enemy formations/high value systems
- Air-ground operations supporting cross-domain maneuver
- AASLT maneuver forces across operational distances

**Whole of Government**
- Forward presence or rotational forces to provide credible deterrent
- Aerial resupply to dispersed, forward positioned forces
- Rapidly reposition maneuver forces to counter threat actions
- Recon, Counter-recon to gain SA, destroy/repel enemy recon elements

**National- & District-Level Forces**
- Neutralize long-range systems
- Contest enemy maneuver forces
- Maneuver from operational and strategic distances
- Advanced team to penetrate/disintegrate threat IADS
- Assault entry forces across operational distances
- Attack Aviation to attrit enemy forces and fires

**Conventional Forces**
- Defeat long-range systems
- Neutralize mid-range systems
- Conduct independent operational maneuver
- Conduct deception
- Refine target locations
- Stimulate, see, and strike key enemy components and systems
- Provide post-strike battle damage assessment to other members of combined arms team
- Conduct independent operational maneuver

**Diplomatic**
- Enable defeat of information and unconventional warfare
- Conduct intelligence & counter adversary reconnaissance
- Demonstrate credible deterrent

**Economic**
- Forward presence or rotational forces to provide credible deterrent
- Aerial resupply to dispersed, forward positioned forces
- Rapidly reposition maneuver forces to counter threat actions
- Recon, Counter-recon to gain SA, destroy/repel enemy recon elements

**Information Warfare, Unconventional Warfare**
- IRBMs/SRBMs, Cruise Missiles, Cyber, Long-Range SAMs
- Neutralize long-range systems
- Contest enemy maneuver forces
- Maneuver from operational and strategic distances
- Advanced team to penetrate/disintegrate threat IADS
- Assault entry forces across operational distances
- Attack Aviation to attrit enemy forces and fires

**SRBMs, Mid-Range SAMs, Long-Range Multiple Rocket Launchers**
- Multiple Rocket Launchers, Cannon Artillery
- Defeat long-range systems
- Neutralize mid-range systems
- Conduct independent operational maneuver
- Conduct deception
- Refine target locations
- Stimulate, see, and strike key enemy components and systems
- Provide post-strike battle damage assessment to other members of combined arms team
- Conduct independent operational maneuver

**Maneuver, Short-Range Air Defense, Electronic Warfare, Counter-PNT, Cyber**
- Defeat mid-range systems
- Neutralize short-range systems
- Maneuver to isolate and defeat enemy land forces
- Advanced team providing stand-in targeting
- Attack Aviation strike enemy formations/high value systems
- Air-ground operations supporting cross-domain maneuver
- AASLT maneuver forces across operational distances

**Whole of Government**
- Forward presence or rotational forces to provide credible deterrent
- Aerial resupply to dispersed, forward positioned forces
- Rapidly reposition maneuver forces to counter threat actions
- Recon, Counter-recon to gain SA, destroy/repel enemy recon elements

**National- & District-Level Forces**
- Neutralize long-range systems
- Contest enemy maneuver forces
- Maneuver from operational and strategic distances
- Advanced team to penetrate/disintegrate threat IADS
- Assault entry forces across operational distances
- Attack Aviation to attrit enemy forces and fires

**Conventional Forces**
- Defeat long-range systems
- Neutralize mid-range systems
- Conduct independent operational maneuver
- Conduct deception
- Refine target locations
- Stimulate, see, and strike key enemy components and systems
- Provide post-strike battle damage assessment to other members of combined arms team
- Conduct independent operational maneuver

**Diplomatic**
- Enable defeat of information and unconventional warfare
- Conduct intelligence & counter adversary reconnaissance
- Demonstrate credible deterrent

**Economic**
- Forward presence or rotational forces to provide credible deterrent
- Aerial resupply to dispersed, forward positioned forces
- Rapidly reposition maneuver forces to counter threat actions
- Recon, Counter-recon to gain SA, destroy/repel enemy recon elements

**Information Warfare, Unconventional Warfare**
- IRBMs/SRBMs, Cruise Missiles, Cyber, Long-Range SAMs
- Neutralize long-range systems
- Contest enemy maneuver forces
- Maneuver from operational and strategic distances
- Advanced team to penetrate/disintegrate threat IADS
- Assault entry forces across operational distances
- Attack Aviation to attrit enemy forces and fires

**SRBMs, Mid-Range SAMs, Long-Range Multiple Rocket Launchers**
- Multiple Rocket Launchers, Cannon Artillery
- Defeat long-range systems
- Neutralize mid-range systems
- Conduct independent operational maneuver
- Conduct deception
- Refine target locations
- Stimulate, see, and strike key enemy components and systems
- Provide post-strike battle damage assessment to other members of combined arms team
- Conduct independent operational maneuver

**Maneuver, Short-Range Air Defense, Electronic Warfare, Counter-PNT, Cyber**
- Defeat mid-range systems
- Neutralize short-range systems
- Maneuver to isolate and defeat enemy land forces
- Advanced team providing stand-in targeting
- Attack Aviation strike enemy formations/high value systems
- Air-ground operations supporting cross-domain maneuver
- AASLT maneuver forces across operational distances
**Interdependencies**

- **Sensors:** Threat Detection
- **Network:** Link Future Vertical Lift (FVL) to Sensors and LRPF

**Long Range Precision Fires (LRPF):** Penetrate/Dis-Integrate Enemy Integrated Air Missile Defense (IAMD)


**Exploit**
- Isolate and Defeat Enemy Land Maneuver Forces
- Consolidate Gains

**Penetrate**
- Stimulate / JAM Enemy C2 / IAMDS
- Conduct Lethal SEAD
- Find, Fix, Finish Enemy Maneuver, IADS and Fires Threats

**Decoy**
- EW JAM
- Strike

**Self Deploy**
- FAR/A/FLRAA

**Advance Teaming**
- FAR/A/FAAS/Fires
- Targeting Data/Video

**Compete**
- Self-Deploy
- Add to Deterrence
- Reconnaissance and Security

**Widen Penetration**
- Self-Deploy
- Add to Deterrence
- Reconnaissance and Security

**Dis-Integrate**
- Destruction of Enemy Maneuver, IAMDS & Fires
- Air Assault Ground Maneuver to Position of Advantage
Airspace Common Operating Picture

- Increase situational awareness to improve aerial maneuverability based on planned and real-time operations in the low-level flight regime.
- Maximize real-time simultaneous employment of fires, aviation, UAS/ALE, kinetic and non-kinetic weapons and joint enablers in restricted volumes of complex airspace.

Human Systems Integration

- Architecture, Automation, Autonomy, and Interfaces (A3I) to reduce cognitive workload on operators/crews enabling management of multiple aircraft (or ALE) conducting independent missions.
- Supervised autonomy – selectable level of automation and human control of unmanned/optionally manned systems based on mission demands.

Targeting

- Improve situational understanding by converging Army and Joint capabilities to enable target prioritization, cooperative engagements and Network Enabled Weapons.
- Accelerate target servicing with greater than 80% confidence in positive identification through Aided Target Recognition processes

Predictive Maintenance

- Conditions based maintenance (CBM) and Predictive maintenance (PMx) initiatives to enable fleet monitoring for operational availability forecasting.
- Augmented reality for maintainers by displaying step-by-step instructions and automatically updating write-ups to create a common maintenance picture across the fleet.
Requirement Development Priorities

- FARA
- FLRAA
- Long Range Precision Munitions
- Sensors
- Scalable Control Interface
- Future Tactical UAS
- Modular Open Systems Approach
- Degraded Visual Environment
- Air Launched Effects
- Radio Strategy
FVL studies identified need for in-depth analysis of infrastructure (facilities, airfields, hangars, etc.) based on future aircraft designs

The Force Structure results will inform requirements and subsequent funding necessary to support the new aircraft fielding.
Future Vertical Lift
CFT Perspective

BG Walter Rugen
Director, FVL CFT
The Future Vertical Lift Partnerships

Industry

- AeroVironment
- ARCTURUS UAV
- AREA-I-UAS
- AVL/L3
- BAE System
- Bell Helicopter
- Boeing
- Booz Allen Hamilton
- Collins Aerospace
- Dillion Aero
- DRS
- Eagle Pitcher
- Flight Seating Innovations
- General Dynamics
- Karem L3/Harris
- UAS
- Logos Technology
- Martin Mission SYS
- MSN SYS
- NAMMO
- Northrup
- PIASECKI
- Rafael Defense
- Rolls-Royce
- SAIC
- Sierra Nevada
- Sikorsky
- Boeing
- Spirit
- TEXTRON
- Uvision
- VIASAT

Academia

- Wichita State University
- University of Alabama
- Huntsville
- University of South Carolina
- Carnegie Mellon University
- Texas A&M University
- University of Tennessee
- Purdue University
- Maryland University
- Texas Tech University
- North Dakota State University
- University of Texas at Arlington
- Penn State University
- University of Maryland
- Iowa
- University of South Carolina
- Carnegie Mellon University
- Academia Texas A&M University
- US Army Aviation Center of Excellence and Fort Rucker
- US Army Medical Research and Development Command
- US Army Test and Evaluations Command
- USAREUR
- Air and Missile Defense
- ASAALT
- FCDD-AMV-E
- RedstoneTest Center
- TRAC
- PEOIEW&S

DoD

- Future Vertical Lift
  - Network
  - Next Generation Combat Vehicle
  - Office of the Secretary of the Army
  - Organization, Personnel and Force Design Directorate
  - PACOM
  - PEO FARA
  - PEO FLRAA
  - PEO UAS
  - Program Executive Office – Aviation
  - Research and Analysis Center
  - SOCOM
  - Soldier Lethality
  - Synthetic Training Environment
  - The Research and Analysis Center
  - TRADOC
  - US Army Aviation Center of Excellence and Fort Rucker
  - US Army Medical Research and Development Command
  - US Army Test and Evaluations Command
  - USAREUR
  - Air and Missile Defense
  - ASAALT
  - FCDD-AMV-E
  - RedstoneTest Center
  - TRAC
  - PEOIEW&S

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited as submitted under FVL CFT Release authority 2019-033
Future Vertical lift will develop next generation vertical lift aircraft to address current identified aviation capability gaps against peer/near peer competitors. The CFT will address these gaps by accelerating the following four (4) technologies:

**WHAT**: Future Attack Reconnaissance Aircraft (FARA)

**WHY**: Army Aviation requires revolutionary advances in maneuverability, agility, lethality, survivability, and sustainment to operate in a highly contested battlefield. CS1 system will fill a critical Armed Reconnaissance capability gap.

**HOW**: Increase responsiveness, reach, endurance, lethality; & initial prototype FY23

**WHAT**: Future Unmanned Aircraft Systems (FUAS)

**WHY**: Army Aviation requires both incremental and revolutionary advances in agility, maneuverability, lethality, reach, survivability, and sustainability to operate in a highly contested battlefield

**HOW**: Increase speed, operational reach, payload, runway independence, and endurance; and initial capability FY27

**WHAT**: Future Long Range Assault Aircraft (FLRAA)

**WHY**: Army Aviation requires revolutionary advances in maneuverability, agility, reach, survivability, and sustainment to operate in a highly contested battlefield. CS3 system will provide significantly enhanced Assault and MEDEVAC capabilities.

**HOW**: Increase speed, range, payload, and endurance; and initial prototype FY25

**WHAT**: Modular Open Systems Architecture (MOSA)

**WHY**: Army Aviation requires revolutionary advances in system architecture to enable rapid changes to digitally-enabled capabilities to operate in a highly-contested battlefield

**HOW**: Increase ability to rapidly and affordably evolve aircraft avionics and mission equipment through an open system architecture, prototype FY24, Mission System Architecture Demonstration (MSAD) Complete FY25
Projected Army Costs for Procuring Future Long-Range Assault Aircraft at Different Procurement Rates, 2019–2050

Billions of 2018 Dollars

**FVL CFT Comment**
Projected cost lines include the cost of procuring 30 FARAs per year in addition to the cost of 30 to 60 FLRAAs. With the additions, Army Aviation procurement costs still trend towards 2000-2009 average budgets—addressing affordability and simultaneity.

Source: Congressional Budget Office.

FLRAA = Future Long-Range Assault Aircraft.
• FVL assessed as Affordable. Cost Risk is in O&S, therefore the Army must aggressively manage O&S strategy ... particularly on FLRAA
• The Army has a pioneering acquisition strategy to develop, procure and field FARA and FLRAA in accelerated timelines
• This report characterizes and assess the Army’s approach to vertical lift modernization
• CSIS’s preliminary analysis found that both programs can be accommodated at historically viable levels of modernization funding
• The Army will need to manage cost risk through the prototyping efforts, particularly with respect to operating and support costs
PEO Aviation Objectives

COL Rob Barrie
Deputy, PEO Aviation
PEO Aviation

Requirements

- PEO
  - Mr. Patrick Mason
  - COL Rob Barrie
  - SGM Woody Sullivan
  - CWS Travis Dixon

Design, Develop, Deliver

- PEO SGM
  - COL Rob Barrie
  - SGM Woody Sullivan

- DPEO
  - COL Rob Barrie

- PEO CWO
  - CWS Travis Dixon

Enduring + Future

Platform Capabilities

Army Aviation

- FARA
- FLRAA
- FUAS
  - AUAS
  - FTUAS
  - ALE
  - SCI
- AH
  - 64 D/E
- CH/MH
  - 47 F/G
- UH
  - HH/MH
  - 60M
- UH
  - 60V
- FW Transport

ISR

- Gray Eagle ER
- FW ARL-E
- FW EMARSS
- FW Guardrail

Maneuver

- Short-range Recon
- Medium-range Recon
- Long-range Recon

Cross-cutting Capabilities

- A-PNT
- Network
- Operational Power
- MOSA

PEO Aviation Requirements

PM UH
- COL Calvin Lane

PM AH
- COL Tal Sheppard

PM CH
- COL Al Niles

PM FW
- COL James DeBoer

PM FARA
- COL Greg Fortier

PM FLRAA
- COL Dave Phillips

PM MASPO
- COL John Vannoy

PM AMSA
- COL John Frasier

PM ATE
- COL Roger Kuykendall

PM UAS
- COL Joseph Anderson

As of 16 JAN 2020

UNCLASSIFIED
PEO Aviation Modernization Challenges

Worldwide Responsibility: **11,405+ Platforms**

**Cargo Helicopters**

- **APO:** 538
  - CH-47F: 465
  - MH-47G: 73

- **UH APO:** 2,135
  - UH-60M: 1,375
  - UH-60V: 760
  - **UH-72A APO:** 477

**Apache Helicopters**

- **APO:** 791
  - AH-64E: 791

**Future Vertical Lift**

- **APO:** TBD
  - FLRAA
  - FARA

**Utility Helicopters**

- **CH-47F:** 465
- **UH-60M:** 1,375
- **UH-60V:** 760

**Unmanned Aircraft Systems**

- **APO:** 6,795*
  - MQ-1C: 204
  - RQ-7B: 115
  - LRR: 1,402
  - MRR: 2,485
  - SRR: 2,589

* UAS APO Shown is Number of Systems. Actual number of Aircraft > 17,500

**Fixed Wing**

- **APO/Systems:** 278
  - ARL-E, GRCS, QRC, C-12 Variants, C-23, C-26, UC-35, EMARSS

**MASPO**

- **Aircraft/CLS/FSR:** 391
  - PC-12: 18 AC CLS, Mi-17: 95 AC CLS, MD-530: 78, Bell Huey II: 27, OH-58D: 124 CFSR, OH-58: 9 CLS, I-407: 30 CLS, Bell 206: 10 CLS

**PEO Aviation Supporting Our Forces and Our Allies Through Strength and Diversity Around the World**
Advancing the Enduring Fleet – Setting the Conditions for the Future

**ITEP**

- ITE Integrated
- Open Architecture
- Improved Protection
- Autonomy

**UH-60M**

- ITE Integrated
- Alternate Munitions
- Additional Survivability
- Enhanced Communications

**AH-64E V6**

- Improved Lift Aircraft Employed
- Additional Survivability
- Enhanced Situational Awareness

**CH-47F**

- Improved Range and Payload
- Near All Weather Capability
- Additional Support for Payloads/Munitions

**MQ-1C Gray Eagle (ER)**

- Improved Range and Payload
- Near All Weather Capability
- Additional Support for Payloads/Munitions

**ITE**

- ITEP

**Affordability**

- • World-wide Operations
- • Increases Range, Payload, Endurance
- • More Power With Greater Fuel Efficiency

**Reliability**

- • Improved Range and Payload
- • Near All Weather Capability
- • Additional Support for Payloads/Munitions

**Productibility**

- • ITEP

**Survivability**

- • Improved Lift Aircraft Employed
- • Additional Survivability
- • Enhanced Situational Awareness

UNCLASSIFIED
Continuous, Significant Improvements Across the Life Cycle Required for Army Aviation to Win in a Contested Multi-Domain Battle
Holistic Aircraft Survivability

Improved Protection

- Integrated Approach to Holistic Protection and Survivability
- Maintain Combat Overmatch Through Adaptable Systems
- Overarching Architecture Supporting Rapid Integration & Updates
- Increased Product Cycle Times; Evolving Faster than the Threat

Increase Army Aviation’s Asymmetric Advantage in a Contested Multi-Domain Battle
Interoperability
Leveraging OSA Across the Domains and Systems

Greater Interoperability Needed Among Communications, Munitions, Situation Awareness, Network Connectivity, and Manned/Unmanned Systems to Win in Simultaneous Domains

LEGEND
- Aviation Internal Comms
- Joint Tactical Air Support
- Air-Ground
- Unmanned Systems
- Mission Command Information Systems
- Command Post
- Aviation Information
- Unmanned Aerial Systems
- Supported/Supporting Units
- Fires
- PPLI/COP
- Mission Management
- Logistics and Maintenance
- Mission, Planning and Coordination
- Continuous & Seamless Air-Ground Linkages

Facilitates Continued Operations in Degraded or Denied Network Environment
Increasing Aircrew Effectiveness

Create a More Safe and Effective Operational Environment for Crews

Need to Increase Automation Across the Entire Dynamic Mission Profile

Opportunities for Improvement
- Accelerated Decision Making
- Inflight Automated PED (Processing, Exploiting, and Dissemination)
- Automated, Digitized Airspace Control Planning
- Rapid Receipt and Display of IFF Data
- Improve Flight Crew Workload
- Automated Response and Remediation in Emergency Situations
What does Industry Day Lead to?

**Definition of Success for This Event**

1. *Industry Leaves the Event Sufficiently Informed of PEO Aviation’s Needs for MDO*
2. *Industry Motivated to Provide Relevant and Compliant Enhanced White Papers to AMTC Consortium*
3. *Mutually Beneficial Contract Work Initiated This Fiscal Year*

**Selected Topics of Relevance Will Move Toward OTA Award This Fiscal Year**

- **7 Feb**: Draft ORD Release
- **19 Feb**: Formal RWP Release
- **11 Mar**: Enhanced White Papers Due
- **May/Jun ‘20**: Feedback on White Papers