



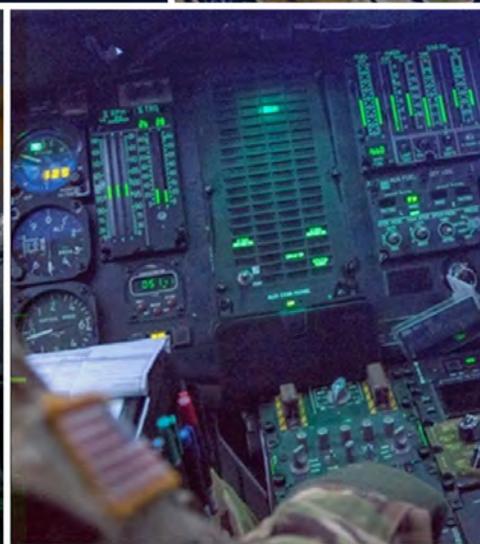
U.S. ARMY



## United States Army

Program Executive Office  
Aviation

# Forging the Future of Army Aviation



# Mission

Serve Soldiers and our Nation by designing, developing, delivering and supporting advanced aviation capabilities for operational commanders and our allies.

# Vision

Effective and efficient execution of the Aviation Portfolio to provide enhanced reach and reliability to combatant commanders.



# From the PEO



BG Robert Barrie, Jr.  
Program Executive  
Officer, Aviation

Since 1987, the Program Executive Office, Aviation (PEO Aviation) has served the U.S. Army and our Nation by designing, developing, delivering and supporting advanced aviation capabilities to reduce the burden on our Soldiers, empower operational commanders, and support our partner nations abroad.

We remain flexible and adaptive to meet evolving threats in the operating environment and will continue to transform and adapt for the future. We are well positioned as we support the Army's aviation modernization priorities to make Soldiers and units more lethal to deploy, fight, and win our Nation's wars. But we cannot and will not maintain the status quo.

Our strategic plan is integrated with and supports the Army modernization priorities and FY21 Defense Planning Guide that confirms our overall priorities: Defend the Nation, Take Care of People, Succeed through Teamwork. This plan explains how we are Forging the Future of Army Aviation. Our objectives are clear and I am confident that you have the knowledge and abilities to contribute to the successful achievement of our mission. As we focus on these priorities, I know that our team will develop and deliver the capabilities to bolster deterrence and expand our competitive advantage.



People have been, and will remain, the Department of the Army's greatest strength. As leaders, we will advance the readiness of the total person, from equipping and training service members to ensuring our work environments are free from discrimination, hate, sexual assault, self-harm, harassment, hazards, and fear. Our organization will always strive to support our people by protecting the safety, health and welfare of service members, their families, and our civilian employees.

We have three primary objectives as we execute our mission and deliver capability for the Soldier:

- (1) Build the Future Vertical Lift ecosystem (FARA, FLRAA, FUAS, and MOSA)
- (2) Ensure the readiness and relevance of the enduring aviation fleet
- (3) Build partner nation capacity

Future Vertical Lift (FVL) is one of the Army's top modernization priorities and the Future Attack Reconnaissance Aircraft (FARA), Future Long Range Assault Aircraft (FLRAA) and the Future Unmanned Aircraft System (FUAS) are essential for future Army Multi-Domain Operations. This is our highest priority along with implementing Modular Open Systems Approaches (MOSA). MOSA allows us to optimally apply new capabilities to the aviation fleet.

The Army's enduring fleet, consisting of over 15,300 manned and unmanned systems, will continue to serve well into the future. We continue targeted modernization of those platforms and systems in order to provide operational commanders with overmatch against near-peer competitors.

PEO Aviation builds partner nation capacity by equipping, modernizing and empowering allied nations with Program of Record (POR) and Non-Program of Record (NPOR) aircraft and equipment. Providing these capabilities ensures that our partners have the capacity to conduct counterterrorism, counterinsurgency, stability and military operations in advancing host nation and U.S. national security objectives.

In support of achieving our objectives, this strategic plan identifies five strategic initiatives that help us revise some of our organizational processes and tools to equip and empower our workforce in a modern digital environment. These changes are necessary as we find new ways to advance productivity in the distributed work environment that we now live.

As you review this plan, I ask that you consider your role in PEO Aviation. How does this plan apply to you?

Are there ways to improve your day to day business processes? Do you have the right tools, training, support and guidance to do your job? For PEO Aviation to be successful, each of us has to be willing to make adjustments where necessary and make meaningful contributions to meet our mission goals.

Giddyup -

Rob Barrie  
PEO Aviation



# The Ever-Evolving Threat Landscape

The U.S. Army must be prepared to deploy, fight and win decisively against any adversary, anytime and anywhere, in a joint, combined, multi-domain, high-intensity conflict, while simultaneously deterring others and maintaining its ability to conduct irregular warfare.

Today's political, economic, social, and technological changes are creating challenges and opportunities for maintaining the Army's rotary wing aviation dominance. Battlefields are expanding across all domains, geographic scale and types of actors, while decision cycles and reaction times continue to be compressed. Furthermore, our aviators will operate in congested air space under both persistent and uncertain surveillance and will encounter advanced threats such as cyber, counter-space, electronic warfare, robotics and artificial intelligence. Army Aviation faces increasingly lethal capabilities such as guided missiles, direct fire platforms, and enemy Unmanned Aircraft Systems (UAS) that could greatly improve adversaries Anti-Access – Area Denial capacity and hinder U.S. Army Aviation support to joint forces. These dynamics are changing the character of warfare for which the Army of 2028/2035 must be prepared to face global competitors, regional adversaries, and other threats.

PEO Aviation's central challenge is how to use finite resources to simultaneously develop and field the FVL capabilities while maintaining the enduring fleet's readiness and relevance to 'fight tonight'. We work to achieve this balance by ensuring that we have the optimal investments in emerging and breakthrough technologies in preparation for future operations and incremental improvements to the existing platforms and systems.

*"The battlefield is becoming faster; it is becoming more lethal; and it is becoming more distributed. Overmatch will belong to the side that can make better decisions faster. We are transforming to provide the Joint Force with the speed, range, and convergence of cutting-edge technologies to gain the decision dominance and overmatch we will need to win the next fight."*

~ GEN James McConville  
Chief of Staff of the Army



PEO Aviation and our predecessors have supported the Army, CCMDs and allies for nearly 80 years with the world's best talent, systems design and development. Aviation is the Army's largest portfolio, and an important element of the joint, inter-organizational, and multi-national team. We provide significant capabilities to maintain superiority over our adversaries. We are poised to support Army modernization goals with critical technologies to maintain overmatch over our adversaries – as the threat changes, we aggressively rise to conquer it.



# Our Strategy

Today, our Army is challenged with maintaining combat overmatch in a multi-domain battlefield against threats that are rapidly adapting in both scale and complexity. The nature of our adversaries and their evolving and wide-ranging capabilities, demand that we accelerate innovation and state-of-the-art solutions to address current and future threats.

To deal with these challenges, the 2018 U.S. Army Modernization Strategy Report to Congress introduced the Army's six materiel modernization priorities to make Soldiers and units more lethal to deploy, fight, and win our Nation's wars. One of those priorities is FVL.

In coordination with the FVL Cross-Functional Team (CFT), PEO Aviation continues to execute this Army priority while concurrently improving the capabilities and capacities of the enduring fleet deployed in our Combat Aviation Brigades (CABs).

In addition, we continue to equip, modernize, and empower our partner nations with rotary wing aircraft capabilities that increase interoperability and build capacity to respond to shared challenges.

Integral to optimizing our modernization efforts is the shift to transform our materiel life cycle by applying MOSA principles. MOSA is the unifying concept that collaboratively bridges our three objectives together and allows for optimization across both the enduring and future fleets.

MOSA facilitates actions that transform our current platform architectures and interfaces into a modular, open systems framework. Our goal across the portfolio is to invest in a capability once and leverage its applications/interfaces across the fleet.

## Three Primary Objectives



Optimizing **Reach, Protection, Lethality,** and **Mission Command**  
for Both the *Enduring* and  
*Future Fleets*

# Build the FVL Ecosystem

One of the Army's greatest strengths is the capability to project combat power across a battlefield and deliver lethal effects anytime and anywhere. However, our Nation's adversaries have modernized their capabilities to chip away at the Army's overmatch and may be able to deny our forces access to key terrain or objectives in the next conflict.

To restore that overmatch, the Army's vision for aviation in Multi-Domain Operations (MDO) requires revolutionary advances in maneuverability, agility, lethality, reach, survivability and sustainment to operate on the highly contested battlefield of the future as part of the Joint Force. As a result, FVL is one of the Army's top modernization priorities.

FVL platforms and technologies include manned, unmanned, and optionally manned platforms that can execute attack, lift and reconnaissance missions on the modern battlefield with greater range, altitude and payload. They will be more maneuverable, lethal and survivable than enduring Army aircraft. These capabilities will increase our competitive advantage to penetrate contested airspace and support independent maneuver from greater distances. Developing these new capabilities requires careful selection of incremental technology improvements and identifying and advancing leap-ahead technologies.

PEO Aviation has been partnered with the FVL CFT since October 2017. Together we are refining requirements and specifications, identifying risks, and building a strategy that will reduce risk and successfully cross the proverbial acquisition valley of death -

transitioning technology demonstrated in Science and Technology efforts to become a program of record.

We are preparing for future Large Scale Combat Operations by developing capabilities that will ensure an MDO-ready fleet. FLRAA, FARA and FUAS will enable MDO, providing the CAB with new capabilities to compete, fight, win, and return in a heavily contested battle space with a near-peer competitor.

To achieve this objective, PEO Aviation changed its culture from working on individual programs to using an integrated approach to design, develop and field systems that work and blend seamlessly across multiple platforms. The new equipment and programs will also significantly impact life cycle affordability for the future fleet.

This life cycle affordability is critical to successfully fielding FVL platforms. Long-term readiness, sustainability and affordability are foundational pillars to our FVL programs. Addressing sustainability and maintainability early in the programs, experienced product support managers and logisticians are providing critical inputs to system design, acquisition approach and discussions with industry.

PEO Aviation is applying an adaptive acquisition framework that delivers advanced capability at rapid speed.

This is a team effort. The key to achieving these goals is unity of effort and seamless work across the entire Army Aviation enterprise and alignment with our Aviation Branch Chief, the FVL CFT, Aviation and Missile Command and Department of the Army Management Office - Aviation.

## Future Force



# Ensure Readiness and Relevance of the Enduring Aviation Fleet

The Army Modernization Strategy directs the Army to have a MDO-ready fleet by 2028 and an MDO-capable force by 2035. PEO Aviation is responsible for ensuring the readiness and relevancy of the enduring fleet that is operating today even as we work on developing the FVL ecosystem. We remain focused on ensuring that the enduring fleet is ready for any Large Scale Combat Operation (LSCO) and supports the Army's transformation to an MDO-ready and capable force.

Currently, PEO Aviation is responsible for more than 15,300 enduring systems that support U.S. forces and allies around the world. The Apache, Black Hawk and Chinook helicopters will remain in the future fight for many years to come. They along with assets like Gray Eagle and Shadow are mission critical now and will be critical to Army aviation well into the future.

Maintaining the relevance of the enduring fleet is critical to the success of future operations. The PEO Aviation team is working on appropriate, targeted modernization of the enduring aircraft fleet. This focused modernization effort not only maintains overmatch capabilities for our commanders, but contributes significantly to the development of our next generation, FVL platforms by informing requirements and reducing risk.

Affordably executing targeted modernization of the enduring fleet requires change to the old paradigm of completing platform-unique upgrades. Instead, we now pursue an integrated aviation portfolio perspective that delivers full CAB warfighting solutions. It is an integrated approach where we look at systems that work across all of the platforms and integrate seamlessly into the future fleet so they have what they need to execute, fight, win and return. With this holistic approach, we avoid individualized, stove-piped solutions that do not optimize the investments across our portfolio.

Accomplishing this objective requires a cohesive portfolio management alignment across the Aviation enterprise as we methodically balance investments between our current portfolio of capabilities and those of the future. Through this effort we will achieve targeted modernization of our enduring systems while delivering enhanced lethality, survivability and mobility across the battlefield.

## Enduring Fleet



# Build Partner Nation Capacity

Wars are not fought or won alone. Throughout history, America’s victories have been a direct result of our ability to partner with our allies. Responding to future challenges will depend on new levels of joint and global integration between U.S. Forces, our allies and partners. We support our friends and allies across the full spectrum of conflict including intelligence, surveillance and reconnaissance, special operations, medevac, disaster relief, kinetic strikes and logistics.

PEO Aviation supports international partnerships by providing military rotary-wing solutions to our allies. APEO International works across the staff to provide standard U.S. Army aircraft for attack, utility, and heavy lift missions.

MASPO directly supports strategic competition by building relationships with the many allies that have combatant command endorsed rotary-wing requirements yet do not have standard U.S. helicopters in their acquisition strategy. The MASPO mission is to develop, deliver and support non-program of record rotary wing aircraft for the DoD, allied countries or as directed by the Office of the Secretary of Defense.

The second and third order effects of these relationships have operational and strategic impacts in their regions and for MDO. The building and supporting of sufficiently armed and trained allies serves as a deterrent to conflict. Additionally, allies organized, trained and equipped with affordable U.S. industry-based aviation assets significantly increases strategic aviation alliances and increasingly surrounds and isolates peer and near-peer competitors.

Providing such technological advantages to our allies serves multiple purposes. International partnerships create complex dilemmas for our adversaries to solve, giving U.S. and allied forces the opportunity to seize the initiative, ensure dominance and be successful. It provides the capabilities for our allies to quickly seize the initiative thus setting the conditions for follow on forces. Throughout the process of providing airframe and equipment upgrades, relationships are built and solidified on a global level. While upgrades and modifications enhance the aviation reach, protection, lethality, sustainment and interoperability, they also bolster the strategic function of building rapport between nations.

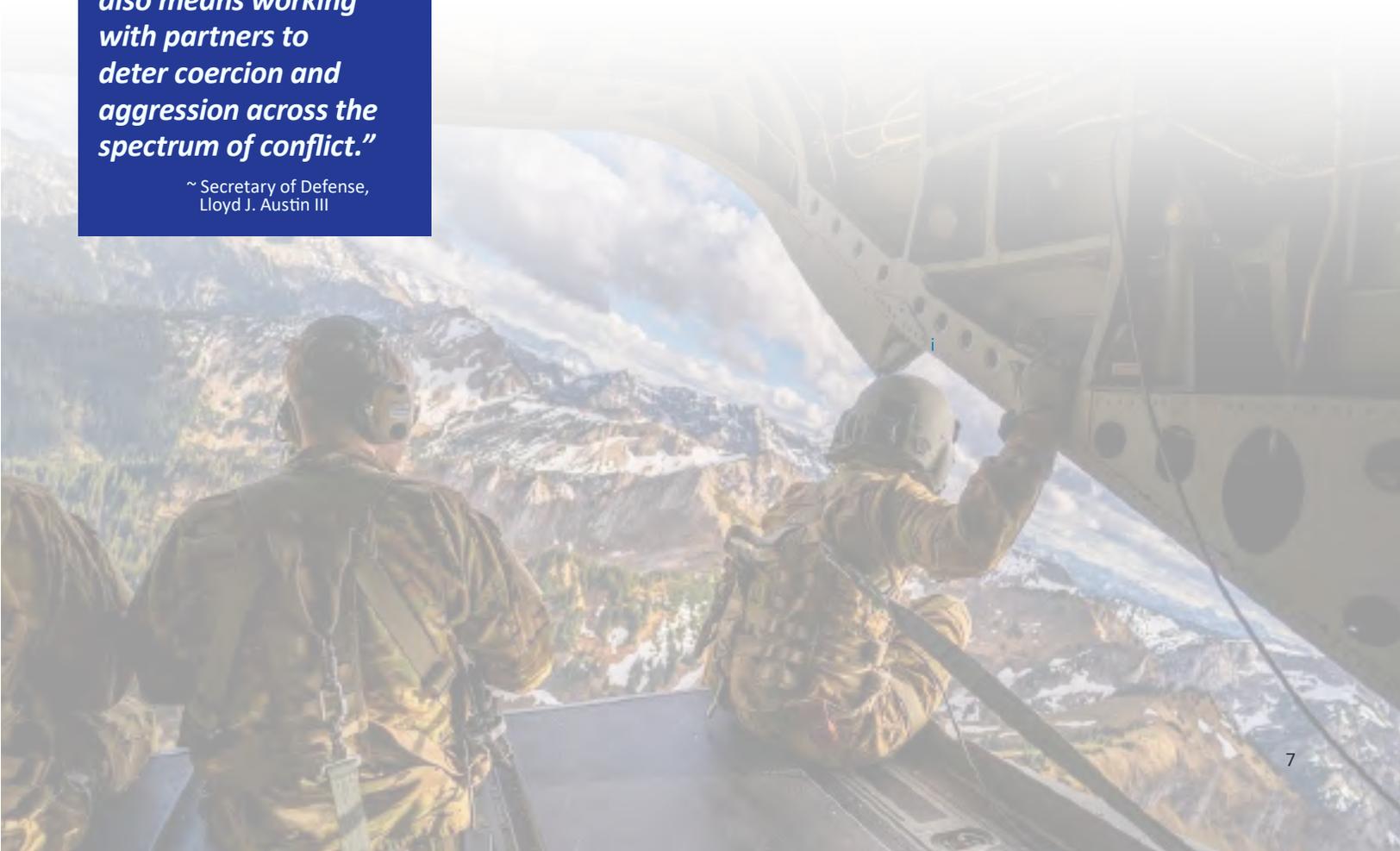
***"Alliances and partnerships are one of the Nation's greatest strategic assets."***

FY21 Defense Planning Guide

***"Integrated deterrence also means working with partners to deter coercion and aggression across the spectrum of conflict."***

~ Secretary of Defense,  
Lloyd J. Austin III

PEO Aviation’s international involvement provides deterrence forward, sets the conditions for the fight, augments U.S. forces, and supports and safeguards U.S. interests abroad.



# Aviation Enablers

PEO Aviation is investing in and prioritizing aviation enablers to ensure the aviation fleet of the future is ready. We continue moving away from individual, stove-piped solutions, in favor of portfolio-targeted solutions that better optimize Army investments across the total aviation force. These enablers will improve interoperability across various platforms and ensure that both our enduring and future fleets are affordable, sustainable, and upgradeable as the threats they encounter change and evolve.



# Implementing MOSA

The key to common enablers is our aggressive adoption of a MOSA across all of our platforms and systems. MOSA is a DoD priority, codified in policy and the 2021 National Defense Authorization Act (the same authority funding the DoD by Congress). The MDO/Joint All-Domain Operations (JADO) competition to conflict strategy requires the ability to respond rapidly and integrate new weapons and technology. MOSA is a combination of prudent program management, rigorous business practices, engineering, contracting, and life cycle sustainment with a focus on more effectively and efficiently acquiring Aviation capabilities critical to the operational commander's priorities.

## What is it?

MOSA is an integrated technical and business strategy for managing and sustaining: a system, a family of systems, or a fleet of systems, that employs modular and open principles and is tailored to meet a particular set of objectives or address challenges with existing architectures and acquisitions.

## Why do it?

Applying MOSA fosters the PMs' collaboration across the enterprise and supports the enterprise-wide objectives: increased readiness, improved life cycle affordability, reduced schedule pressure and supply chain risk, and enhanced capabilities. MOSA establishes consistent engineering design principles across weapon systems to make components more easily removable, upgradeable and interoperable.

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## How is it implemented?

Our MOSA implementation plan is being accomplished in an incremental manner, and will continue to rely on input from industry, government stakeholders and academia. We are proceeding with the establishment of a disciplined set of processes and decision points aligned with the larger Aviation enterprise. PEO Aviation will institutionalize MOSA in United States Government (USG) contracts with prime contractors and sub-contract clauses. MOSA will be a required element for transition of Science and Technology and Research and Development programs into formal, enduring programs.



# Mission Systems

To win on current and future battlefields, Army aircraft from across the enterprise must be able to achieve and maintain technological advantage in a unified networked environment.

This is the mission of the Aviation Mission Systems and Architecture (AMSA) Project Office. AMSA provides key enabling technologies to the Army Aviation fleet with 53 distinct product lines in areas including Tactical Communications/Networking, Mission Command (planning, processing and execution), Assured Position, Navigation and Timing (APNT), Aircraft Ground Support Equipment (AGSE), and Air Traffic Control (ATC).

PM AMSA supports a unified networked environment by providing cross-cutting capabilities such as modernized network communications, assured Position, Navigation and Timing, General and Mission Systems Processing and establishing a government-owned MOSA architecture.

As Army Aviation spans the breadth and depth of the battlefield AMSA products serve as the crucial network communications node in support of Joint All-Domain Command and Control (JADC2) providing the ability to correlate and disseminate disparate information and generate a real-time, dynamic common operating picture (COP).

Additionally, their architecture will provide the growth to meet future cutting-edge processing requirements, enable sensor fusion, and provide a scalable operating environment that facilitates the rapid on-boarding of mission systems in response to emerging threats. As these capabilities are developed and initially integrated in the Enduring Fleet, risk is reduced for the Future Fleet as FVL requirements continue to mature.

PM AMSA serves as the primary PEO Aviation touchpoint to the APNT CFT, Network CFT, JADC2 CFT, the Mission Command Technical Advisory Board, General Officer Steering Committee, and the National Airspace Inter-Agency Working Group. Managing efforts of network communications enabled by the Air-to-Ground Networking Radio and the multi-core processor-driven Aviation Mission Common Server, AMSA designs, develops and delivers the robust infrastructure of key enablers to the Aviation enterprise.

In addition to mission critical capabilities on board aircraft, PM AMSA develops and deploys a number of off platform communications, test, and support tools that are used for on-going maintenance and fielded fleet support to include ATC and AGSE.

## AMSA Modernization



## Operational Benefits

Reduced SWaP-C Allows for More Weight and Power Margin to Go Toward New Mission Equipment

Enhanced Air-Ground Communications Enables Persistent Connectivity Throughout the MDO Battlefield

Common Solutions Across Platforms Reduces Life-cycle Costs and Training Burden for Soldiers

New Architectures Enable More Rapid Insertion of New Technology Against Advancing Threats

# Airborne Power and Propulsion

PM Aviation Turbine Engine (ATE) Project Office supports the currently fielded T55 and T700 engines to ensure that existing enduring fleet is always ready to 'fight tonight'. In addition to supporting the enduring engines, PM ATE is leading the way with the development of the new T901 turbine engine that is key to the FVL tenets of extending reach and lethality for Apache, Black Hawk, and FARA aircraft.

Since the Vietnam conflict, turbine engines have remained the pumping heart of our rotary and fixed wing platforms. The ability to simply and reliably deliver power and propulsion makes turbine technology the logical choice for most militaries. Although the physics have remained the same over the years, the technology and materials used today could not be more different than those used in yesteryears. Improvements in alloys, ceramics, and micro-processing have allowed smaller and lighter engines to deliver greater performance with less maintenance.

As we move towards the next decade, materials such as carbon-fiber will be introduced into fan blade assemblies and rotors, while fiber-optics will be used instead of wires to provide real-time engine diagnostics and performance data. Furthermore, hybrid and electric propulsion technologies will be increasingly used to expand range, speed, lift and stealth capabilities. The trend towards the miniaturization of turbine technology will continue as we adopt more autonomous capabilities for intelligence, surveillance and reconnaissance. Requisite research into quieter and colder exhaust diffusers will help our next generation air platforms to be even more stealthy with an even lower signature.



## The T901 Engine Delivers

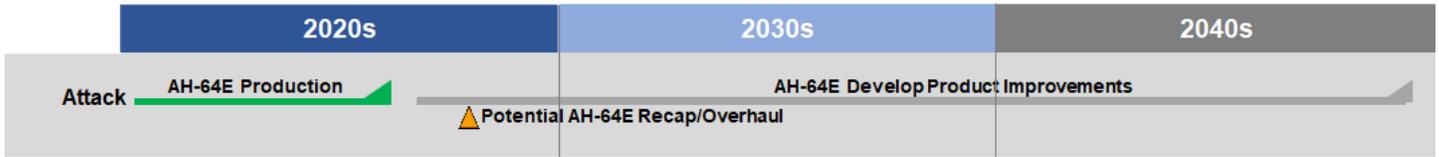
50% More Power

25% Reduced Fuel Consumption

20% Longer Life

# Mission Set Capabilities

## Attack/Reconnaissance



The Apache AH-64 is the Army’s attack helicopter. It is designed to support brigade combat teams across the full spectrum of warfare and it is capable of destroying armor, personnel and materiel targets in all battlefield conditions.

The Apache will continue to serve for the foreseeable future. It provides security to ground forces and aerial escort; conducts reconnaissance; and, the Apache continues to conduct deep attacks on strategic targets, setting the conditions for ground operations.

The AH-64E is the most current evolution of the Apache. It is designed and equipped with an open systems architecture to incorporate the latest communications, navigation, sensor and weapon systems. The E-model has multiple upgrades including the improved Modernized Target Acquisition Designation Sight/Pilot Night Vision System. This system includes a new integrated infrared laser that allows for easier target designation and enhanced infrared imagery which blends both infrared and night vision capabilities. The E-model also has an updated Small Tactical Terminal radio that includes the LINK 16 capability required to communicate in a joint environment.

The Apache’s updated Fire Control Radar has the ability to operate in a maritime environments. The Manned-Unmanned Teaming ability of the E-model fleet provides Level of Interoperability 4 to Apache crews which provides Apache crewmembers with the ability to receive UAS video in the Apache cockpit, control UAS sensors and direct the flight path of the UAS.

PEO Aviation continues to improve and update the Apache to further prepare it for Multi-Domain Operations through the development of solutions that improve maneuverability, reliability, safety, and interoperability. Specific efforts include the qualification of an improved tail rotor drive system and tail rotor blade, integration of the T901 engine, and development of a common software baseline for the AH-64E fleet.



The Apache (AH-64E) is the world’s most advanced multi-role combat helicopter

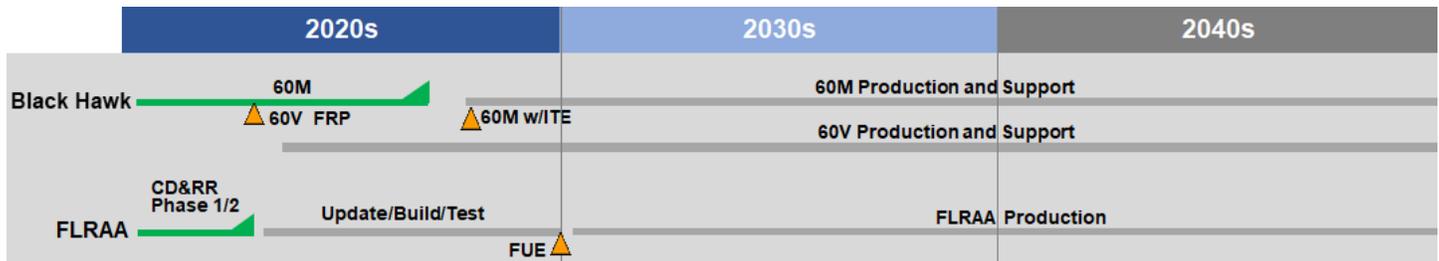
Since the retirement of the OH-58 Kiowa, the U.S. Army has lacked a dedicated reconnaissance helicopter capability. To fill that capability gap, PEO Aviation is the lead for an Army initiative to design, develop, and deliver the pre-eminent attack reconnaissance aircraft for the Army. FARA will be a next generation aircraft capable of achieving and sustaining over-match against potential competitors and defeating asymmetric threats by closing or mitigating gaps in Army Aviation attack reconnaissance operations.

The FARA weapon system is being designed to restore attack reconnaissance dominance with sweeping improvements in lethality, agility, reach, survivability, and sustainability to provide capability and flexibility to future commanders. FARA will mitigate enemy long-range capabilities through increased reach allowing the commander to fight and operate from relative sanctuary while delivering lethal effects outside enemy sensor/weapons range. FARA will be able to operate in complex and dense urban, mountainous, desert, jungle and maritime environments. It is Army Aviation’s #1 modernization priority.



FARA is a critical component of the U.S. Army’s efforts to modernize and build a next-generation FVL Capability

# Tactical Assault/MEDEVAC



Tactical assault aircraft provide commanders with operational reach, rapid response capabilities and cross-domain maneuver making them suitable for a variety of missions, including air assault, aerial resupply, aero-medical evacuation/casualty evacuation and transport missions.

The UH-60 Black Hawk is the Army’s enduring, multi-role, medium-lift utility transport and air assault aircraft fulfilling these missions. It is a modernized version of the legacy Black Hawk helicopter designed to be joint forces capable and execute missions 24 hours a day under all-weather conditions. The M model Black Hawk has multiple upgrades over its predecessors including multi-mission capabilities and advanced digital avionics.



The Black Hawk is a versatile vehicle capable of supporting several missions including troop transport, search and rescue, and armed escorts

The UH-72 A/B Lakota performs Initial Entry Rotary Wing/Instrument/Basic Warfighting Skills Training, Air Movement, Civil Command and Control, Aerial Sustainment, Surveillance, Search and Rescue, Homeland Security, Casualty Evacuation, Counterdrug Operations, Medical Evacuation (MEDEVAC), and General Support.



The UH-72B Lakota possesses a variety of mission essential and training capabilities.

PEO Aviation will continue incremental modernization of the existing Black Hawk systems in order to improve its readiness and relevancy, providing uninterrupted support to CABs and other units in order to field an MDO-ready force. Targeted Black Hawk modernization maintains overmatch capabilities on future battlefields, informing requirements and reduces risk for FLRAA by testing and integrating common capabilities.

In preparation for Joint Force, multi-domain operations in a renewed era of great power competition, PEO Aviation is developing the next generation utility transport and air assault aircraft through the FLRAA Program. The FLRAA technological advances

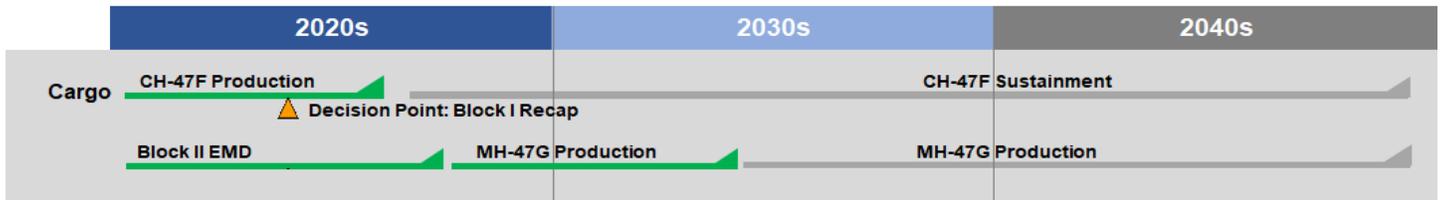
will increase the maneuverability, endurance, lethality, and survivability of Army aircraft, increasing their operational reach and effectiveness against near-peer competitors.

This new system is designed with the latest advancements in artificial intelligence and quantum computing, intelligent sensors, counter electronic warfare, and improved interoperability, providing commanders the capabilities necessary to complete the mission. With its speed, range, and endurance, FLRAA will provide a new level of support and maneuverability beyond and around the reach of key enemy threat systems and formations to achieve positional advantage.



FLRAA will provide theater commanders with options to conduct critical air assaults, lift, and medical evacuations to help sustain the force.

# Cargo/Heavy Lift



Since its first flight in 1961, the Chinook helicopter has supported the Army in various missions around the globe. It tactically transports forces and associated equipment and provides routine aerial sustainment of maneuver forces. Other CH-47 missions include; medical evacuation, search and rescue, parachute drops, disaster relief and aircraft recovery. Over the years, the Chinook has been modernized and updated to meet expanding mission requirements and to provide commanders with increased capabilities.

The newest variant, the CH-47F, was first fielded in 2006. It has a suite of improved features such as an upgraded digital cockpit featuring the Common Avionics Architecture System, a new monolithic airframe with vibration reduction and the Digital Automatic Flight Control System which provides coupled controllability for operations in adverse environments (i.e. reduced visibility, brown out and high winds). The CH-47F's common cockpit enables multi-service digital compatibility and interoperability for improved situational awareness, mission performance and survivability, as well as future growth potential.

PEO Aviation will continue targeted modernization of the Chinook. The CH-47F Block II will provide an increased payload and operational reach beyond the existing CH-47F capability. The CH-47F Block II program provides additional capability to the field with greater reach, increased payload capacity and an increase in maximum gross weight to 54,000 pounds. The Block II will increase the Army's rapid response capability for forcible and early entry contingency missions as well as tactical and operational missions.

Although the Chinook will remain the Army's heavy lift helicopter for the foreseeable future, it is certain that it will be called upon to perform in ways that extend the mission envelope.



The Chinook is the workhorse of the Army and will continue to support a variety of missions.



# Unmanned Aircraft Systems: Attack and Reconnaissance



	2020s	2030s	2040s
Gray Eagle	GE ER Field Upgrades Payload Upgrades		Support/Sustain Fielded Gray Eagle
Tactical UAS	Shadow v2 Block III Update	Support/Sustain Block III in CAB	
ALE	Evaluation FUE ▲ Proto/Evaluation	Inc. 1 Fielding FUE ▲ Inc. 2 Fielding	Field and Support FTUAS
SCI	Min Prod Prod Release FUE ▲	MVCR Fielded Cap Set Upgrades	Support and Enhance SCI

UAS remain critical in support of the Army’s mission to maintain the decisive edge and always emerge victorious in conflicts. The multiple classes of unmanned aircraft are deployed across the Combatant Commands to ensure that we can defeat, deter, disrupt and defend our Nation’s interest around the globe. These platforms provide Soldiers and leaders important intelligence, reconnaissance and surveillance capabilities and in some cases, electronic and lethal effects. With these capabilities, leaders can conduct forward-postured reception, staging, and onward movement with the intent of shaping the operational environment – not just reacting to an environment.

PEO Aviation continues to develop and deploy innovative solutions to continue to adapt unmanned aircraft for the future. Some enduring UAS will undergo targeted modernization while new UAS systems will deliver new capabilities for future operations.

## Enduring Force



The MQ-1C Gray Eagle Endurance UAS provides a long-endurance, armed, unmanned aircraft system that offers range, altitude and payload flexibility at the division level and above. It is powered by a heavy fuel engine, a common fuel on the battlefield, providing high performance, fuel efficiency and a longer service life. The Gray Eagle remains on the battlefield and will receive targeted modernization as it continues to serve for the foreseeable future.

The FTUAS will replace the currently fielded RQ-7B Shadow in the ground maneuver brigade combat teams. The FTUAS will provide the same war fighting support capabilities while adding runway independence, improved transportability with a reduced acoustic signature and integrating MOSA for interchangeable payloads.



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*“With Future Tactical UAS, Air Launched Effects, and a Scalable-Control Interface employing advanced teaming, Army Aviation will find, fix, and finish our high payoff threats.”*

~ MG Walter Rugen





The Soldier UAS is comprised of three unmanned aircraft platforms; the legacy RQ-11B Raven, the Medium Range Reconnaissance RQ-11 (MRR) and the Short Range Reconnaissance (SRR). They are battalion and lower echelon organic assets, which provide reconnaissance, surveillance, target acquisition and enable force protection during day and night operations. SUAS are runway-independent, hand-launched systems deployed by maneuver forces to establish an immediate aerial vantage perspective with real-time imagery.

The MRR will be a modified and modernized RQ-11B with a U.S. Government owned spec M1,2,5 radio module, flight control system and a government owned open architecture ground controller.

PEO Aviation is designing the SRR to provide units at the platoon level with real time imagery and battlespace situational awareness. This asset will provide reconnaissance and surveillance to help optimize small unit leader's decision making in the immediate



sphere of influence. The SRR is designed to be an immediate launch asset with minimal logistics burden to the operator.

In conjunction with the tenets of the FVL CFT, Air Launched Effects (ALE) are a family of systems consisting of an air vehicle, modular payload(s), mission system applications, and associated support equipment designed to autonomously or semi-autonomously deliver effects individually or as a member of a team. ALE will extend tactical and operational reach and lethality. They are attritable or optionally recoverable and will provide scalable effects to detect, decoy, disrupt, or deliver lethal/non-lethal effects against threats. PEO Aviation continues the design and development of ALE using MOSA for modularity and rapid integration of new technologies.

In addition to the unmanned aircraft systems themselves, PEO Aviation continues the development of two important technologies that support UAS and ALE. The Scalable Control Interface (SCI) enables one UAS to accomplish multiple missions for multiple authorized users. It provides one common interface for all UAS and uses the Integrated Tactical Network to expand tactical control of UAS and reducing the number of dedicated control devices. SCI is designed as a software program portable to many hardware platforms and leverages MOSA in its design and development.

The One System Remote Video Terminal (OSRVT) system is a self-contained tablet, transceiver, and antenna that provides the Soldier in the field with full motion video and situational awareness gained through data received from multiple manned and unmanned platforms. The OSRVT combines real-time payload imagery and metadata to provide the user with instant geographical relationships to points of interest within the area of operation.



# Transportation/SEMA



PEO Aviation manages the Army's Fixed Wing fleet that is mission critical to overall joint force operations. These platforms have a global footprint that provides troops, equipment/cargo, leadership and information with persistent presence, posture and access to theatres of operation around the world. Since the deployment of the Fixed Wing fleet in the 1980s, the Army's 200 + aircraft have cumulative flight time of over 6,000,000 hours and maintain a mission capable rate of over 90%.

The Fixed Wing fleet is divided into two groups. The first group is the International and Transport Aircraft (ITA) that transport troops, equipment/cargo and leadership. The second group is Special Electronic Mission Aircraft (SEMA), an intelligence and electronic warfare aircraft asset.



The ITA fleet provides timely movement of key personnel and equipment to critical locations throughout the theaters of operation and supports worldwide peacetime contingencies and humanitarian relief efforts.

The SEMA fleet partners with the Intelligence Command to deploy and support these mission critical assets for battlefield intelligence, reconnaissance and surveillance (ISR). These assets provide combatant commanders around the world with timely information that enables ISR inflection points with rapid and continuous convergence of capabilities to a target.

As the battlespace pivots from a counter terrorism/counter insurgency environment to one of potential near-peer conflicts,

the technology to support these new type of operations must also change. For decades, manned aerial ISR (AISR) fixed wing aircraft have been twin engine, propeller-driven aircraft. The aircraft performed exceedingly well in most environments, but our near-peers now have technology comparable to ours. One need for this new near-peer environment is the ability to use AISR sensors from a greater stand-off distance, with more precision and providing real-time threat awareness and targeting across the battlespace to support JADO.

The Army Aerial Intelligence, Surveillance and Reconnaissance strategy emphasized the need for the rapid development of modernized sensor and enhanced platform capabilities necessary to provide commanders with globally responsive and highly capable aerial sensing solutions. Other requirements for the Multi-Domain Sensing System/Multi-Domain Operations were sufficient capacity to operate all of the sensor suites simultaneously, extended flight endurance and be self-sustainable airfields.

The first technology demonstrator for the AISR strategy is Airborne Reconnaissance Targeting Exploitation Mission-Intelligence System (ARTEMIS). The second technology demonstrator is the Airborne Reconnaissance and Electronic Warfare System (ARES). They represent two categories of jet engine business class aircraft, one larger than the other, and the data they provide will shape the future of the High Accuracy Detection and Exploitation System (HADES).



In addition to the enhanced capabilities a high altitude aircraft provides, both ARTEMIS and ARES, and ultimately HADES, will take advantage of the information-age and utilize open-architecture, software-definable mission equipment. Leveraging open architectures allows for more rapid tech-insertions and reduces weight/power constraints on the existing platforms.



# Synchronizing Innovation



## Focus on Our People

The most valuable asset in the in PEO Aviation organization is our people. Each service member, civilian, and contractor brings expertise and passion to our mission, enabling PEO Aviation to produce world class weapons systems, components and capabilities that allow the Army to retain overmatch against our near-peer adversaries. By focusing on improving our talent acquisition and retention efforts, and providing the best quality of life services possible, PEO Aviation will achieve our goals.

We will continue building a 21st century talent management-based personnel system that incorporates innovative policies, programs, and processes that recognize and capitalize on the unique knowledge, skills, and behaviors possessed by every member of the PEO Aviation team.

The COVID-19 pandemic underscored the need for PEO Aviation to be ready to respond to new challenges and ensure the Aviation community is supported. Building off previous years' Human Capital Strategy, PEO Aviation established an Adaptive Work Environment (AWE) Program that provides our workforce with flexibility for their work environment. The AWE is designed for a workforce that can work from anywhere but is empowered to work from where they are most productive, engaged, and efficient.



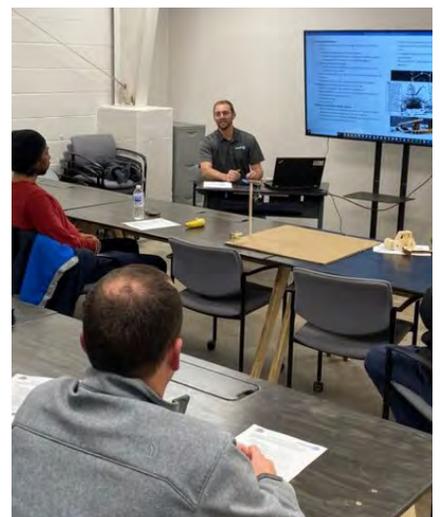
## Future of Work Guiding Principles

- 1. Build on what the pandemic has taught us.** Incorporate employee feedback in changes to the workplace to carry out the new normal
- 2. Value a diversity of work arrangements.** Create adaptive workplaces that support the notion that employees should work where they are most productive, engaged, and efficient
- 3. Embrace new ways to oversee and manage the workforce while prioritizing mission requirements.** Leading with confidence in a virtual and on-site environment calls for broadening the way people lead and motivate teams
- 4. Maximize technology and facilities.** Make the most out of collaboration tools, digital communication channels, and effective use of PEO Aviation facilities to support employee connectivity and productivity.

In addition to ensuring our workforce has the right physical environment to complete the mission requirements today, PEO Aviation is examining and deploying methods, like the following, to build and retain the workforce of tomorrow.

- Acquisition Functional Area Leads help advocate and assist our core workforce to best understand and achieve their career goals
- Talent Management gathers input/consensus to build the bench of people who can compete for and excel in Key Leader Positions across the enterprise
- Mentorship programs help facilitate an environment where people can grow their vocational abilities through engagement with seasoned employees who can offer a broader perspective
- Book clubs for participants to read and participate in discussion groups that promote growth, awareness, and opportunities expanding perspectives from others.
- Diversity and Inclusion Council with representation from across the PEO organization that gathers input and assesses how best the organization can both value our individuals and leverage our diversity to excel in achieving our aviation mission.

Aligned with the Army's People Strategy, PEO Aviation is developing a long-term roadmap to acquire the right people through better screening and assessments, better align individual knowledge and skills, as well as implementing new tools and methods for continuous educational opportunities.



# 2

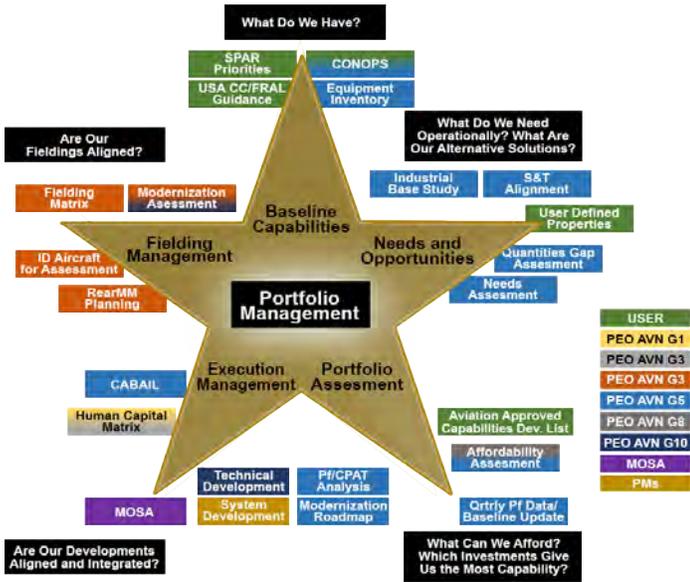
## Institute a Robust Portfolio Management Strategy

Moving forward, we are executing our mission with a holistic integrated Aviation portfolio approach that delivers full CAB warfighting solutions. The institution of Portfolio Management (PfM) enables PEO Aviation to have a comprehensive view of all programs and products to align funding and track progress. Led by our Futures group at PEO Aviation Headquarters, we instituted a regular battle rhythm of communication among stakeholders across the enterprise that synchronizes requirements and material solutions. This group uses analytic rigor to enable trade-off analysis and ensure any future reprogramming efforts are done efficiently and effectively.

Implementation of PfM will enable PEO Aviation to achieve our key objectives and improve our ability to support the warfighter.

The PfM Strategy is composed of five iterative steps: 1) Baseline Capabilities 2) Needs and Opportunities, 3) Portfolio Assessment, 4) Execution Management, and 5) Fielding Management. This process is driven by critical activities, milestones, and decision points throughout the fiscal year which include, but are not limited to, the beginning of the Fiscal Year, Service/OSD Budgeting, OMB Budget Preparation, Mid-Year Review, POM Submittal, Army Planning (SPAR) Army Programming and Budgeting, and the President's Budget.

The image shown here represents the five-step PfM process at PEO Aviation, the questions Portfolio Managers ask at each step, and products which enable and/or drive PfM. This evolving methodology for managing the Army Aviation portfolio is the initial integrative approach for identifying stakeholders, roles and responsibilities, tools, and processes—all in an effort to develop inputs to support leadership in making key prioritization and trade-off decisions.



PEO Aviation has already begun implementation of the PfM process through the identification of synchronized CONOPS, user needs sets, and portfolio level priorities.

As this approach progresses, as shown below, PEO Aviation will mature to a steady state, fully integrated and synchronized portfolio that develops capabilities in alignment with the Regionally Aligned Readiness and Modernization Model (ReARMM). ReARMM provides a single, integrated Army-wide model for platform modernization, training, and deploying for commanders through predictability, stability, and synchronization. Our fully integrated and synchronized Portfolio Management approach—inclusive of MOSA and in alignment with ReARMM – positions our organization to both improve fielded capability and reduce overall life cycle costs with our future fighting capabilities.



# 3

## Build Business Transformation Strategy to Improve Business System Optimization

As part of our relentless drive to improve our team’s effectiveness and efficiency, we are focused on reviewing all aspects of our business operating systems to strengthen integration, automation, and utilization. Our recent experience with a dispersed, teleworking workforce, has only accelerated the need for improve the way our people and business systems integrate and operate. We coordinate the requirements definition for knowledge management and business system optimization in concert with our IT organization for information technology infrastructure. Our efforts result in an integrated, aligned data structure and modern office environment that is optimized for collaboration, knowledge management, data visualization and reporting.



PEO Aviation is aligned with a number of information systems used across the Army to help streamline the generation and reporting requirements. On-going efforts to deploy the Program Management Reporting Tool and Enterprise Task Management Software Solution (ETMS2) across the PEO organization are examples of moving forward with Army enterprise solutions that simplify our reporting and information sharing.

We continue to evaluate how we generate, track, and report our performance measurements across cost, schedule, and performance criteria and provide those results in regular and ad-hoc communications. These evaluations also include reviewing our organizational missions, roles, and functions in a structured review process. The goal of this effort is focus on risks and mitigation measures using modern business tools.

# 4

## Implement a Digital Ecosystem Strategy That Helps Us Win

One of the Army’s Campaign Objectives is Change – how do we position ourselves to more quickly adapt to changes in our environment, global factors, technology enablers, and the ever evolving threat landscape? To address these continuous changes, we always have to address our current business methods of communication, integration, and sustainment. We know that our driving factors are at the speed of innovation and relevance and that our internal processes and procedures have to be optimized to deliver in those same ways.



Proactively, PEO Aviation has aggressively implemented our Digital Engineering strategic roadmap to foster and implement digital transformation across all systems within the organization. All segments of our organization embrace these new practices that enable cohesion and support our integrated efforts across each program office. Key to this transformational effort for our engineering practices is moving from a paper-based process to a user-friendly digital ecosystem. Additionally, modern design environments that facilitate innovative approaches like Model Based Systems Engineering (MBSE) have recently been deployed to equip our technical staff with the latest design tools and methodologies. An aggressive training and standardization campaign is making MBSE the norm for the systems engineering of our weapon systems and enablers. These will help to contextualize requirements, highlight features, identify gaps, and inform decision makers throughout each product's lifecycle.

By deploying this digital ecosystem throughout our organization, we know that we can achieve a better defined, more rapidly developed and validated set of material solutions, and more effective fielded and supported capability for our warfighters. We believe that deploying this digital infrastructure in all we do will help us achieve the Army Strategy that reinforces the philosophy that 'winning matters'.



## Revolutionize Fleet Management Through Product Support

One of the top three priorities in the Army is to Defend the Nation – Always be ready to 'fight tonight' and have fielded platforms and capabilities to bolster deterrence and expand our competitive advantage.



Our team works in conjunction with other Army senior leaders to assess what it takes in terms of force structure, capabilities, concepts, and posture required to defeat aggression in a potential war fight now and into the future. PEO Aviation established a Director of Logistics Strategy to better align our fleet management and product support processes with the Army's fielding of enterprise logistics systems and cloud data migration.

Our G4 Logistics organization identifies actions to converge our processes and methodologies to align PEO Aviation with the future of fleet management. This new comprehensive Fleet Management Strategy includes a framework of an Aviation Data Architecture that is supported by ever-improving existing systems and a design for readiness in modernized systems. It assesses how to incorporate artificial intelligence, machine learning and the Army Cloud as enabling technologies. It evaluates the gap analysis required to identify Product Support Management strengths from the 'as-is' to the 'to-be' state and keeps the PEO organization focused on how we do our part to ensure readiness of our fielded fleet.



# PEO Aviation has a long history of Serving Our Nation and our *Soldiers.*

As we pursue our three objectives and implement our strategic initiatives we have to remember that the world is rapidly changing. The global security environment is at an inflection point. The methods and strengths that enabled U.S. land dominance for the past 100 years will not be the same as those required to prevent, shape, and win conflict for the next 100 years. Our Nation must transform its entire approach to national defense as our adversaries are rapidly adopting new technologies.

You are at the forefront of that transformation. Everything that you do to support the PEO Aviation mission is important. It is your knowledge, passion, and expertise that allows us to support the Soldiers in the field with new capabilities. I ask that you read and embrace our objectives and initiatives. Understanding and applying them will support PEO Aviation's mission success.

There are many changes ahead of us. If you need help, ask for it; if you are asked for help, provide it; and if you see a need, offer to help. Our organization and PEO Aviation family must transform, lead, and deliver. We must create irreversible momentum. The time is now.

BG Robert Barrie, Jr.

Program Executive Officer,  
Aviation

*"The ability to execute our mission of producing world class weapons systems, components and capabilities is derived from the expertise and passion of our workforce."*

~ BG Robert Barrie, Jr.



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