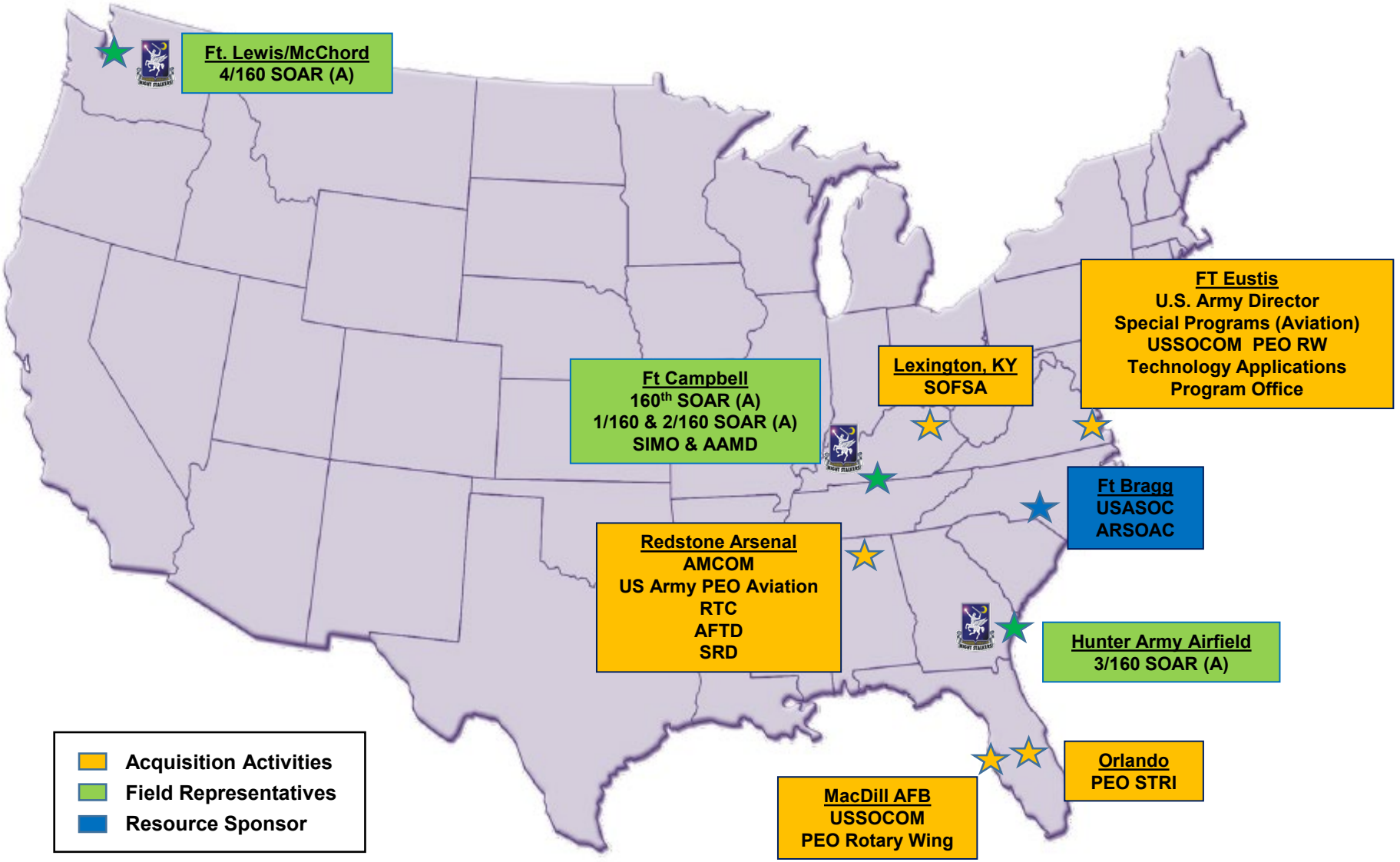
GLOBAL SOF:
THE ASYMMETRIC STRATEGIC OPTION FOR A VOLATILE WORLD

Dr. Steve Smith
PROGRAM EXECUTIVE OFFICER

PEO ROTARY WING OVERVIEW

SPECIAL OPERATIONS FORCES ACQUISITION, TECHNOLOGY, & LOGISTICS

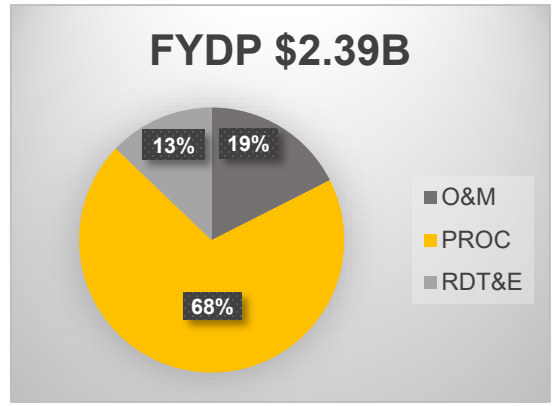
SPECIAL OPERATIONS AVIATION RW ENTERPRISE



ARMY SPECIAL OPERATIONS AVIATION ACQUISITION TEAM

- Customer Focus – Access to User
- Smaller Teams/Offices
- Multiple Engagements at All Levels
- High Risk Tolerance
- Decisions Pushed Down to Lowest Level
- Direct Access to MDA and AW Authority

US Army Special Operations Aviation Command
(Resource Sponsor)
FT Bragg, NC



160th SOAR

Systems Integration Management Office (SIMO)
& ARSOAC Aviation Maintenance Directorate (AAMD)
(User Rep / Requirements / Sustainment)
FT Campbell, KY

US Army
Aviation & Missile Command (AMCOM), Director, Special Programs (Aviation)
USSOCOM PEO-Rotary Wing,
(Milestone Decision Authority)
FT Eustis, VA

TAPO / PEO STRI
(Materiel Developer)
FT Eustis, VA / Orlando, FL

Daily / Continual coordination with dedicated user representative (SIMO), Component Resource Sponsor (ARSOAC), and Title 10 Headquarters (PEO-RW & PEO-FW @ USSOCOM)

PEO ROTARY WING KEY POSITIONS

- SOF Training Systems Product Manager
- Mission Equipment Product Manager
- Futures Product Director
- Product Spt Div Chief/USASOC FW PM
- MELB Product Manager
- MH-47G Product Manager
- MH-60M Product Manager
- Chief of Futures Rotary Wing
- TAPO Deputy Project Manager
- Chief Engineer
- Deputy PEO Rotary Wing
- TAPO Project Manager

PEO Rotary Wing / AMCOM Director, Special Programs

Dr. Steve Smith

PROGRAM EXECUTIVE OFFICE ROTARY WING (RW)

MOBILITY

A/MH-6 Light Attack/Assault

MH-60 Medium Attack/Assault

MH-47 Heavy Assault

Airframe Recapitalization

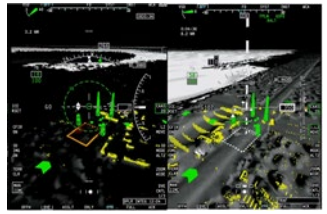
MISSION EQUIPMENT

Active Aircraft Survivability Equipment

Airborne Communications

Common Avionics Architecture System (CAAS) Avionics Management System (AMS)

Sensors



Common Hardware and Software

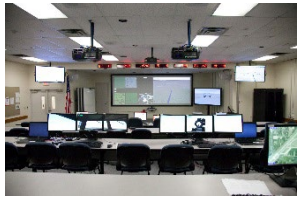
TRAINING SYSTEMS

A/MH-6M (Little Bird) CMS

MH-47G CMS

MH-60M CMS

Mission Rehearsal Exercise Training System (MRETS)



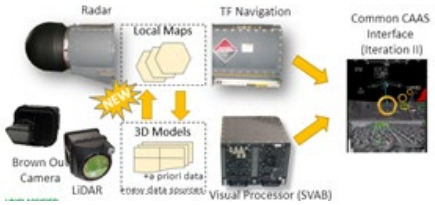
Stimulated vs Simulated

FUTURES EFFORTS

FLRAA

Launched Effects

Data Fusion



Future Investments

SOF ROTARY WING PLATFORM ROADMAP

Near Term (Prior to FY 27)		POM (Fiscal Years 27-31)					Extended Planning Period (Fiscal Years 32-42)										
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042

Light Attack/Assault
A/MH-6

Sustain / Divest

BLOCK 3.0

BLOCK 4.0

H-6 BLK 4.0

Attack/Assault
MH-60M

Improved Turbine Engine

Sustain / Divest

BLOCK 1.0

SOF FLRAA Design

SOF FLRAA

Army FLRAA FUE

SOF FLRAA FUE

Next Gen Counter Measures

Active Parallel Actuator System

Heavy Assault
MH-47G

BLOCK II

BLOCK III

A/MH-6 ACTIVITIES





What We Do: The A/MH-6 office manages two uniquely configured militarized commercial derivatives of the McDonnell Douglas 530 series helicopter. The AH-6M Little Bird is a highly modified light attack aircraft primarily employed in close air support of ground troops, target destruction raids and armed escort of other aircraft. The MH-6M Little Bird is a light utility helicopter that has been modified to externally transport several combat troops and their equipment. It is capable of conducting infiltration, exfiltration, combat assaults and reconnaissance over a wide variety of terrain and environmental conditions.

Ongoing Efforts: Sustainment and modernization of the A/MH-6M focused on aircraft safety enhancements and mission equipment upgrades.

Future Efforts: The A/MH-6M is entering a Block Modification, designated the A/MH6-R model, to address aging airframe issues, increased performance capability, and enhanced navigation and situation awareness.


AH-6


MH-6

A/MH-6 ACTIVITIES

COCKPIT UPGRADE

Avionics Management System (AMS)

- Primary Flight Display
- Flight Management
- Moving Map

Advanced Airborne Tactical Mission Suite (AATMS)

- Improved Electro Optical Sensor
- Situational Awareness Improvements
- Communication Suite Update

Other Platform Improvements

- Engine Inlet Barrier Filter
- Heated Clothing
- Heater Duct Modification
- Lithium-Ion Batteries
- Light Weight Weapons Controller

Light weight Weapons Controller

Displays

PRC-167

DAIRCM

SD Encoder

Fast Rope Cameras

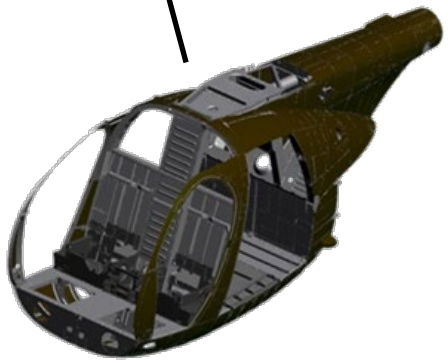
Tactical Data Processor

MX-10

PRC-161

E-Net to 1553 converter

Advanced Airborne Tactical Mission Suite (AATMS)



Airframe Structural Improvements (Zero-Time Fuselage)

Lightweight Initiatives

- Main and Aux Fuel Tank Weight Reduction
- Lightweight Attack Planks

MH-60M ACTIVITIES





What We Do: The MH-60M office manages two uniquely configured variants of the UH-60M helicopter for the 160th Special Operations Aviation Regiment (Airborne). The MH-60M conducts infiltration, exfiltration, combat assaults, and Close Air Support over a wide variety of terrain and environmental conditions. The Defensive Armed Penetrator (DAP) is an armed version of the MH-60M with the primary mission of armed escort and fire support. Secondary missions of the MH-60 include external load, combat search and rescue, and medical evacuation operations.

Ongoing Advancements: MH-60M Block 1 increased operational capability and accommodated technology insertions for mission equipment including Aircraft Survivability Equipment (ASE), Degraded Visual Environment (DVE), Airborne Mission Networking, and other sustainment improvements.

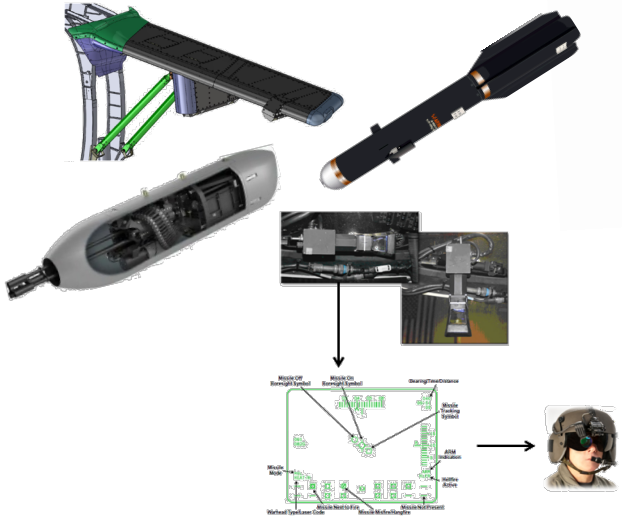
Future Efforts: Improved communications equipment, platform sustainment, and YT706 engine life improvement/cost reduction.

MH-60M ACTIVITIES

Launched Effects

WEAPONS UPGRADES

- Joint Air to Ground Missile (JAGM)
- Conformal Lightweight Armament Wing (CLAW)
- M-230 Recoil Dampers
- GAU-19 Gun Pod (GP-19)
- Helmet Display Tracking System



Upturned Exhaust Suppressor (UES) II
Engine Inlet Barrier Filter
GE T901 Improved Turbine Engine (Army Common)

MAGNA

Common Fill Port

AN/APQ-187 Silent Knight Radar (SKR) + Nose door re-config

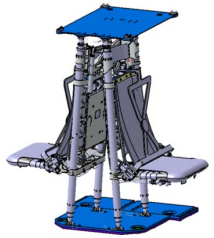
DVE

IRES

Performance Restoration / Weight Reduction

- Lower Anti-Collision Light
- Crew Chief Split Window

Improved Crew Chief Seat



Next Generation Tactical Communications (NGTC)

Modifications driven by restoration of payload and center of gravity

SOF FUTURE LONG RANGE ASSAULT AIRCRAFT (SOF FLRAA)

What We Do: The SOF FLRAA significantly increases range, speed, payload, survivability, reliability, and maintainability of vertical lift aircraft to meet emerging mission requirements. The USSOCOM is participating in the service-common development of a joint FLRAA aircraft by injecting SO-p requirements and equities into the development and design efforts to minimize SO-p modifications to the common aircraft. Additionally, SOF development will maximize the interoperability of the future and enduring fleet's Mission Equipment Packages (MEP) and integration. The SOF FLRAA aircraft provides long-range, high speed, all weather, infiltration (infil), exfiltration (exfil), and resupply of SOF teams in hostile, denied, and politically sensitive areas.

Ongoing Activities: Conducting engineering design in conjunction with the Army Program offices to investigate:

- **FLRAA:** Air/Sea Transport, Electro-Optical/Infrared sensor, Terrain Following Terrain Avoidance radar, Degraded Visual Environment system, Advanced Aircraft Survivability Equipment, Nose structure commonality.
- **MOSA:** ARSOA MOSA enabled Common Cockpit Analysis, MOSA Cyber Security Analysis.
- **Mission Equipment Package:** Advanced Avionics, Advanced Mission Equipment.

Future Activities: Continue engineering work to reduce design and production risk for SOA unique capability and prepare for SOF development programs.

MH-47G ACTIVITIES





What We Do: The MH-47 Chinook helicopter conducts infiltration, exfiltration, air assault, resupply, and sling-load operations over a wide range of environmental conditions. The aircraft can perform a variety of other missions including shipboard, platform, urban, water, parachute, forward arming and refueling point, mass casualty, and combat search and rescue operations. Using special mission equipment and night vision devices, MH-47 aircrews can operate in hostile mission environments over all types of terrain at low altitudes during periods of low visibility and low ambient lighting conditions with pinpoint navigation accuracy.

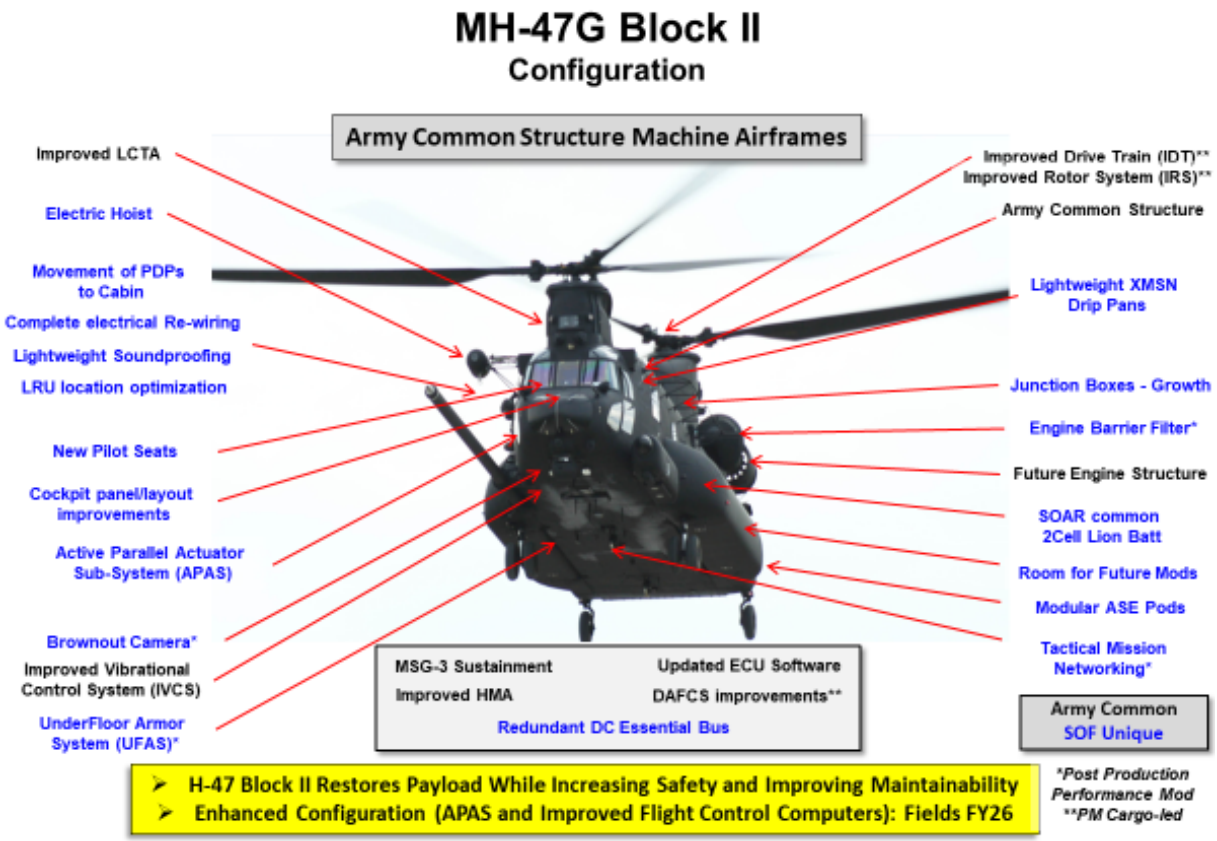
Ongoing Advancements: Integrating advanced flight controls through Active Parallel Actuator Subsystem (APAS) – a form/fit replacement of the existing MH-47G flight control pallets – which augments manned flight by providing tactile cueing to prevent the pilot from exceeding an aircraft performance limit resulting in increased safety and operational usage while reducing pilot workload during the most critical stages of flight operations.

Future Efforts: Active Parallel Actuator Subsystem (APAS) fielding, Improved Communications, and Improved Drive Train/Improved Rotor System (IDT/IRS [Army led]).

MH-47G ACTIVITIES

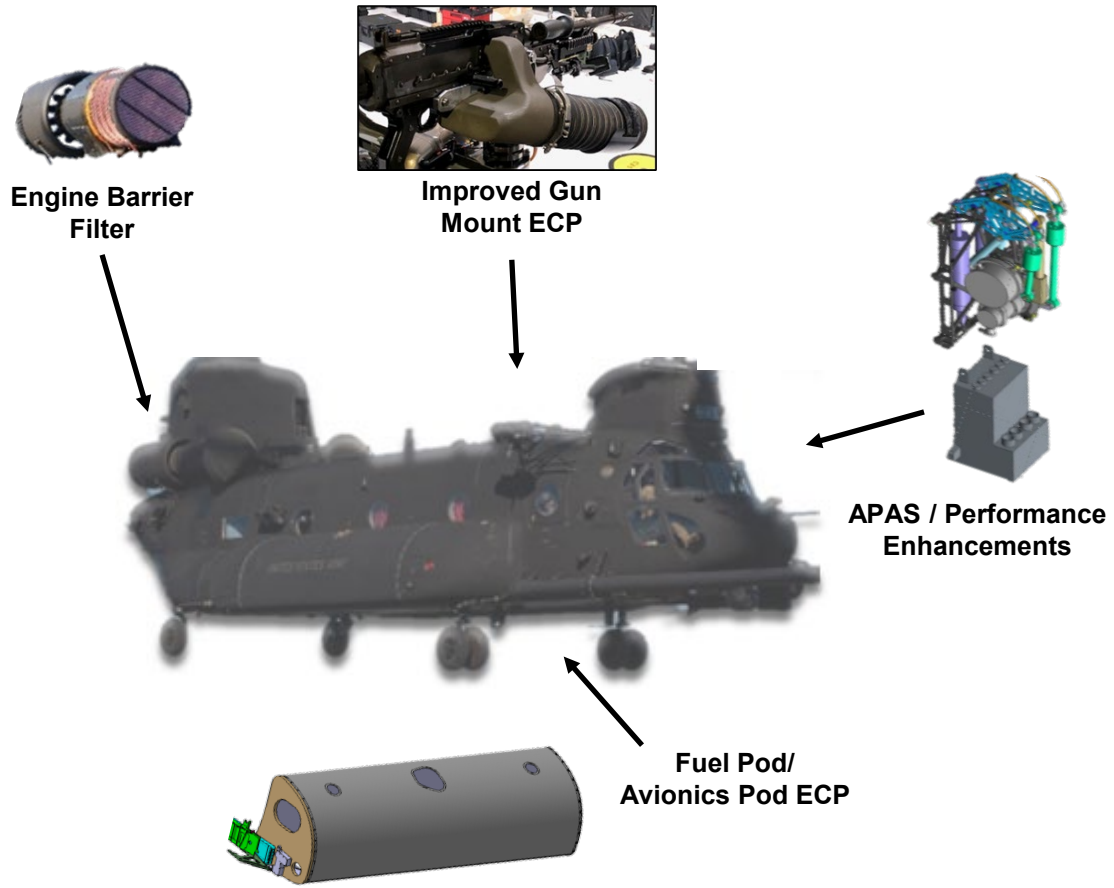
BLOCK II RENEW

- Modernization and Recap program for the remaining legacy airframes
- Executed in collaboration with the Army

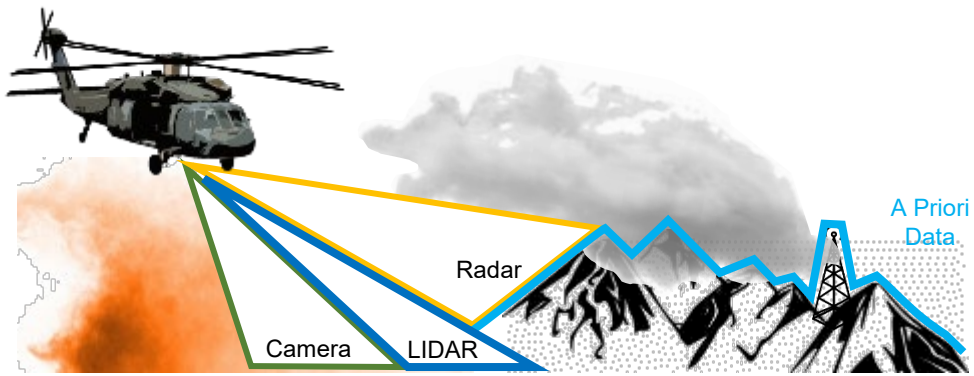


ENHANCEMENT EFFORTS

- Active Parallel Actuator Subsystem (APAS)
- Engine Barrier Filter (Engine Intake Filtration)
- Improved Gun Mount (Improved Functionality)

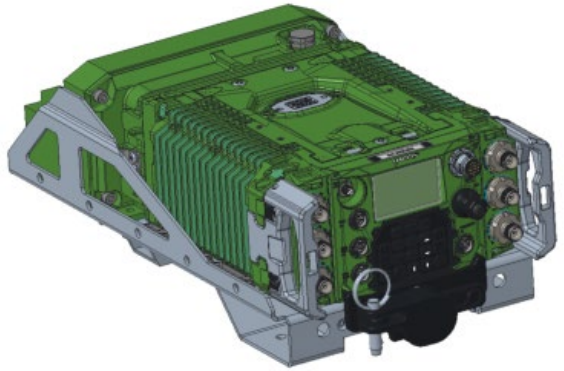


MISSION EQUIPMENT ACTIVITIES



What We Do: The Mission Equipment office manages navigation, communication and survivability across the Army Special Operations Aviation fleet. The Common Avionics Architecture System (CAAS) and Avionics Management System (AMS) cockpits efficiently pulls together flight data, capabilities and communications into an interactive display for our aircrews. Our Aircraft Survivability Equipment (ASE) office fields active and passive ASE for MH-47G, MH-60M and A/MH-6M/R aircraft. The Sensors office delivers advanced systems to provide our aircrew with a safe and reliable understanding of the surrounding area regardless of environmental conditions.

Ongoing Advancements: CAAS software update, ASE upgrades, integration of Degraded Visual Environment (DVE), Improved Rotary wing Electro-optical Sensor (IRES), Next Generation Tactical Communications and Sensor Data Fusion.



Future Efforts: Advanced ASE systems, and MOSA enabled Common Cockpit.

MISSION EQUIPMENT ACTIVITIES

AIRCRAFT SURVIVABILITY EQUIPMENT:

- IR Countermeasure Development
- RF Countermeasure Improvements

SENSORS:

- Improved RW Electro Optical Sensor (IRES)
- Terrain Following / Terrain Avoidance Capability
- Degraded Visual Environment Pilotage System (DVEPS)

AVIONICS:

- Tactical Mission Network Integration
- Mission Processor Upgrades

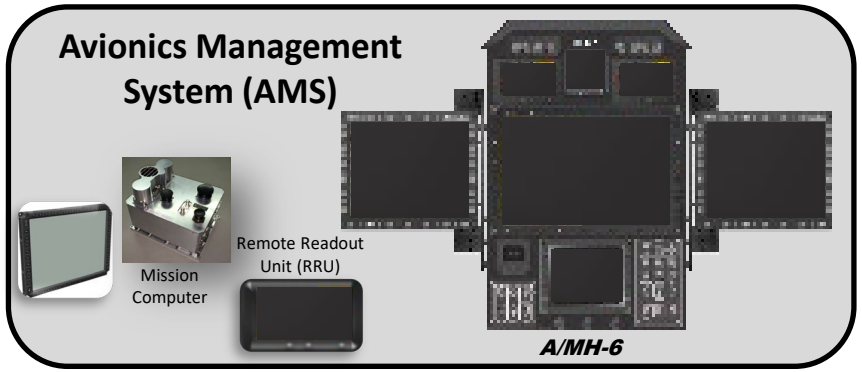
EO/IR AND RF SENSORS

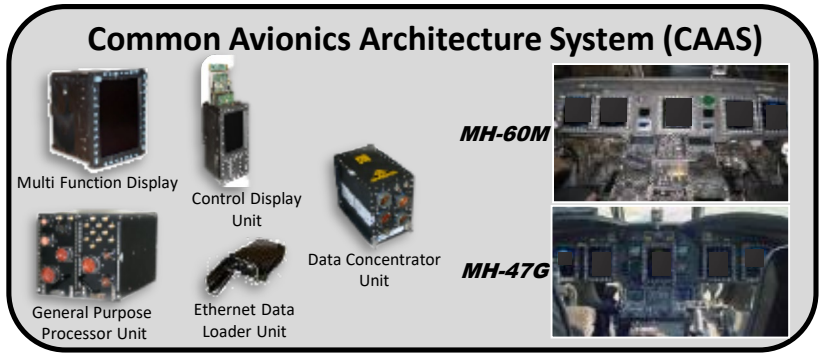
IRES

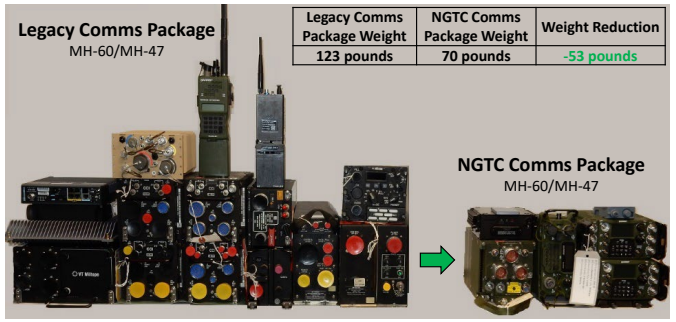

MX-10DR


MX-10D


MX-15D







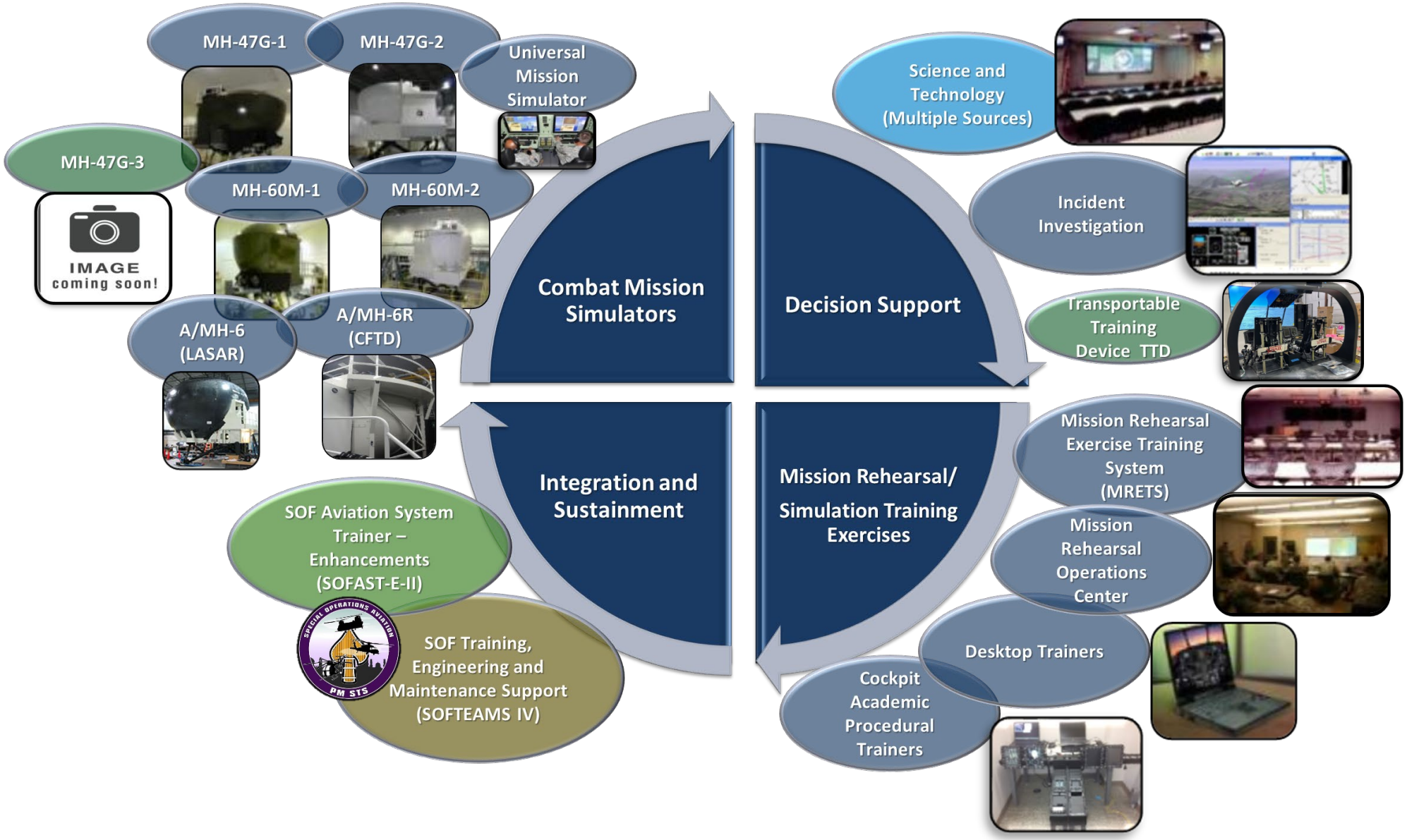
MISSION TRAINING ACTIVITIES

What We Do: The training products provided under the simulator program consist of combat mission simulators and academic and desk top task training aids. The combat mission simulators (CMS) utilize aircraft components to ensure the highest fidelity replication of aircraft systems and functions. The CMS can operate individually or in teams and can be linked to the Mission Rehearsal Exercise Training System (MRETS). This allows the CMS to support training from individual pilot skills up to full mission rehearsal against an opposing force. The CMS are used for incident investigation allowing flight data recorder information to be seen in a synthetic environment.

Ongoing Advancements: Delivery of second A/MH-6 CMS, Transportable Training Device, integrated Degraded Visual Environment (DVE), refresh MH-47G CMS to BLK 2 configuration, and procuring Non-Rated Crew Member (NRCM) training as a service.

Future Efforts: The program will procure a MH-47 BLK 2 Combat Flight Training Device (CFTD), will leverage technologies such as artificial intelligence to improve training and decision making from basic pilot skills to full mission teams. Key to this will be the expansion of the mission rehearsal and incident investigation tools to create an ability to prototype solutions prior to investing in the full development.

MISSION TRAINING ACTIVITIES



PEO ROTARY WING'S TECHNOLOGY INVESTMENTS

- **APNT**
  - Assured Position, Navigation, and Timing (APNT)
  - Sensor Fusion
  - Precision timing – atomic clocks
- **AIRCREW WORKLOAD**
  - Manage cognitive burden over long duration missions in complex environments
  - Fleet consistency – common MEP to facilitate mission requirements
- **DATA PROCESSING**
  - Processor refresh to allow future growth within the avionics suite
  - Networks – leverage data sensed by the platform post mission
  - Common Architectures – minimize vendor lock, enhance portability
- **MOSA**
  - Successfully segregated communications from flight critical functions within CAAS
  - Low Probability of Intercept/Low Probability of Detection (LPI/LPD) Communications
  - 3rd party applications leveraging ARINC-661 is our vision for future MEP integration

PEO ROTARY WING'S WICKED PROBLEMS

- **REACH**
  - Lightweight materials, higher energy density fuels
  - Hybrid propulsion
  - Advanced coatings
  - Airworthy rapidly installed/removed auxiliary fuel cells

- **SITUATIONAL AWARENESS**
  - LPI/LPD waveforms – leverage existing hardware
  - Non-RF communications systems
  - High bandwidth, over the horizon comms – Persistent LEO
  - Receive only, hi-fidelity intel for enroute updates

- **LETHALITY**
  - Next Generation Sensors and Effectors – on and off board
  - Non-kinetic effects (NKE) will have an increasing role in shaping the battlespace
  - Ability to rapidly reconfigure Launched Effects payloads depending on mission requirements – must include backend integration to ensure new payload capability is recognized by the launch platform

GOVERNMENT FOCUS

- **Artificial Intelligence/Machine Learning (AI/ML) is going to revolutionize warfare**
  - Health monitoring
  - Targeting/Sensing
  - Navigation
  - Communication
  - Survivability

- **Consolidation of lines of effort**
  - Launched Effects/Uncrewed Systems
  - Aircraft Survivability Equipment
  - Avionics

- **Commonality across the enterprise and across services**

- **Enduring Fleets will be flying for decades**
  - Simultaneous modernization and transformation
  - Obsolescence

QUESTIONS

PEOPLE | WIN | TRANSFORM

DOING BUSINESS WITH SOCOM

SMALL BUSINESS HELP

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813.826.9475

SUBMITTING IDEAS AND CAPABILITIES

Engage SOF (eSOF) on Vulcan

Pathway to present SOF relevant capabilities to USSOCOM
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https://www.Vulcan-SOF.com

SOFWERX (Unclass, open forum partnering with industry to solve Warfighter problems)
https://www.sofwerx.org

TECHNICAL EXPERIMENTATION

https://www.socom.mil/SOF-ATL/Pages/technical-experimentation.aspx

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