

# United States Army

## Special Operations Aviation Command



### Technology Applications Program Office Overview for Special Operations Forces Industry Conference 2014

Briefer: COL Paul Howard  
PM TAPO

Date: 22-23 May 2014



"Deeds Not Words"

# TAPO Mission

Deliver Aviation capability to the USASOC/USASOAC, specifically the 160<sup>th</sup> SOAR(A), through new aircraft, systems, upgrades, and life cycle product support in order to maintain SOA comparative advantage; ensure good stewardship of resources; achieve maximum value for each dollar spent.



MH-47G



MH-60L/K/M DAP



MH-6M



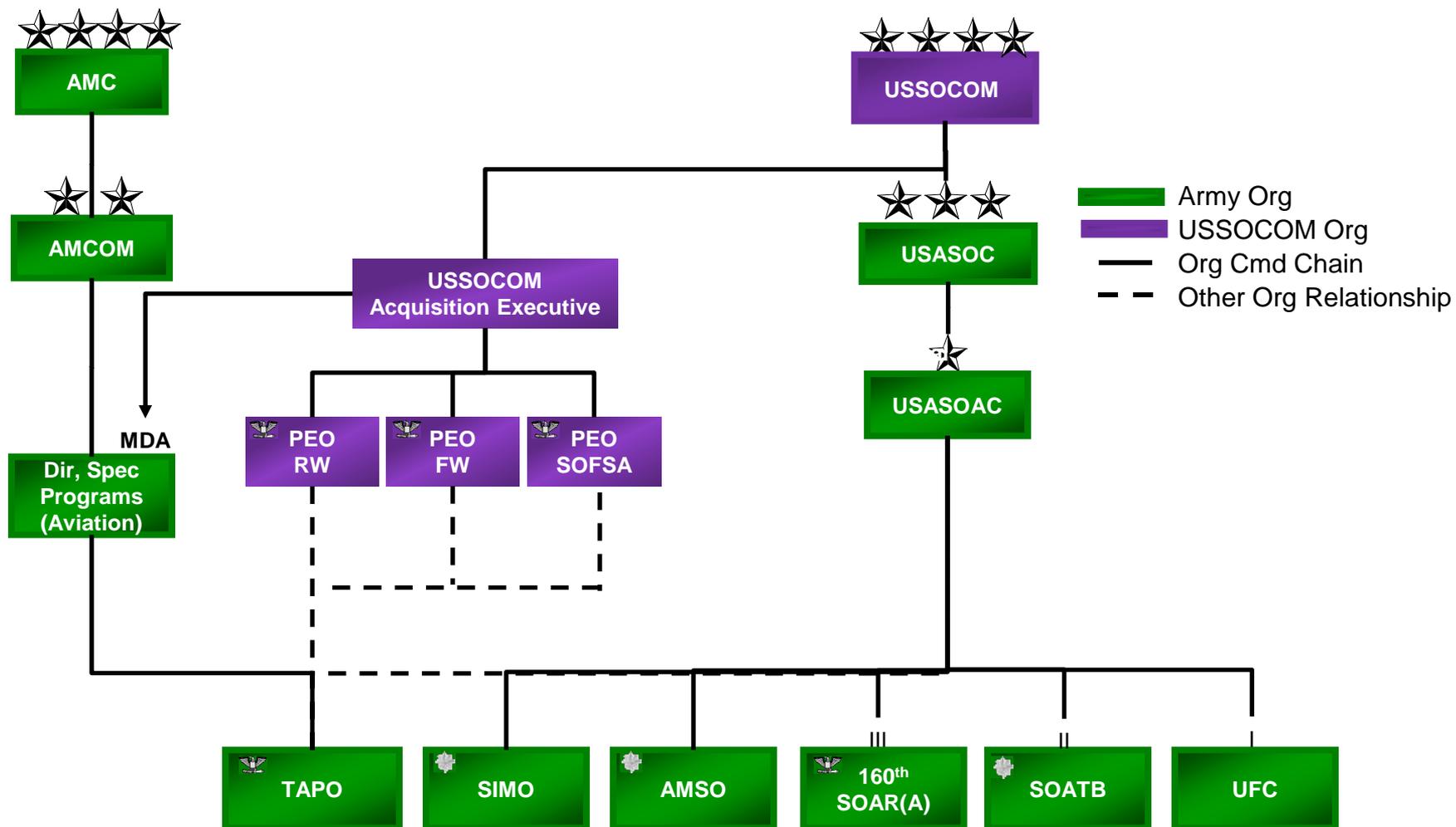
Mission Equipment



SOF Unique  
Fixed Wing / UAS

Right People + Customer Focus + Requirements + Funding + Technology = Materiel Capability

# TAPO Organizational Relationships

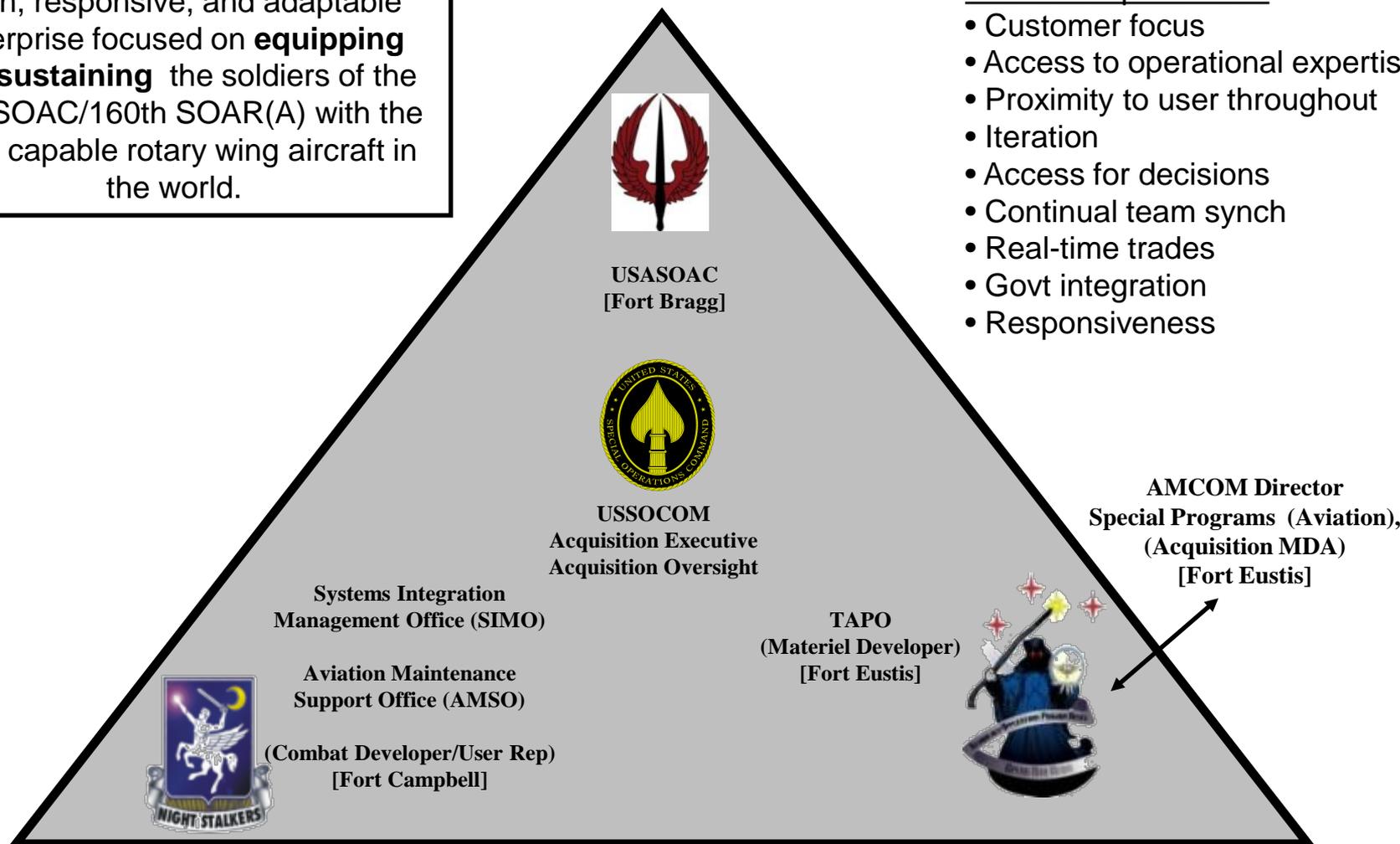


# ARSOA Acquisition Triad

Lean, responsive, and adaptable enterprise focused on **equipping and sustaining** the soldiers of the USASOAC/160th SOAR(A) with the most capable rotary wing aircraft in the world.

## Relationship Enables:

- Customer focus
- Access to operational expertise
- Proximity to user throughout
- Iteration
- Access for decisions
- Continual team synch
- Real-time trades
- Govt integration
- Responsiveness





# TAPO Key Processes & Functions

---

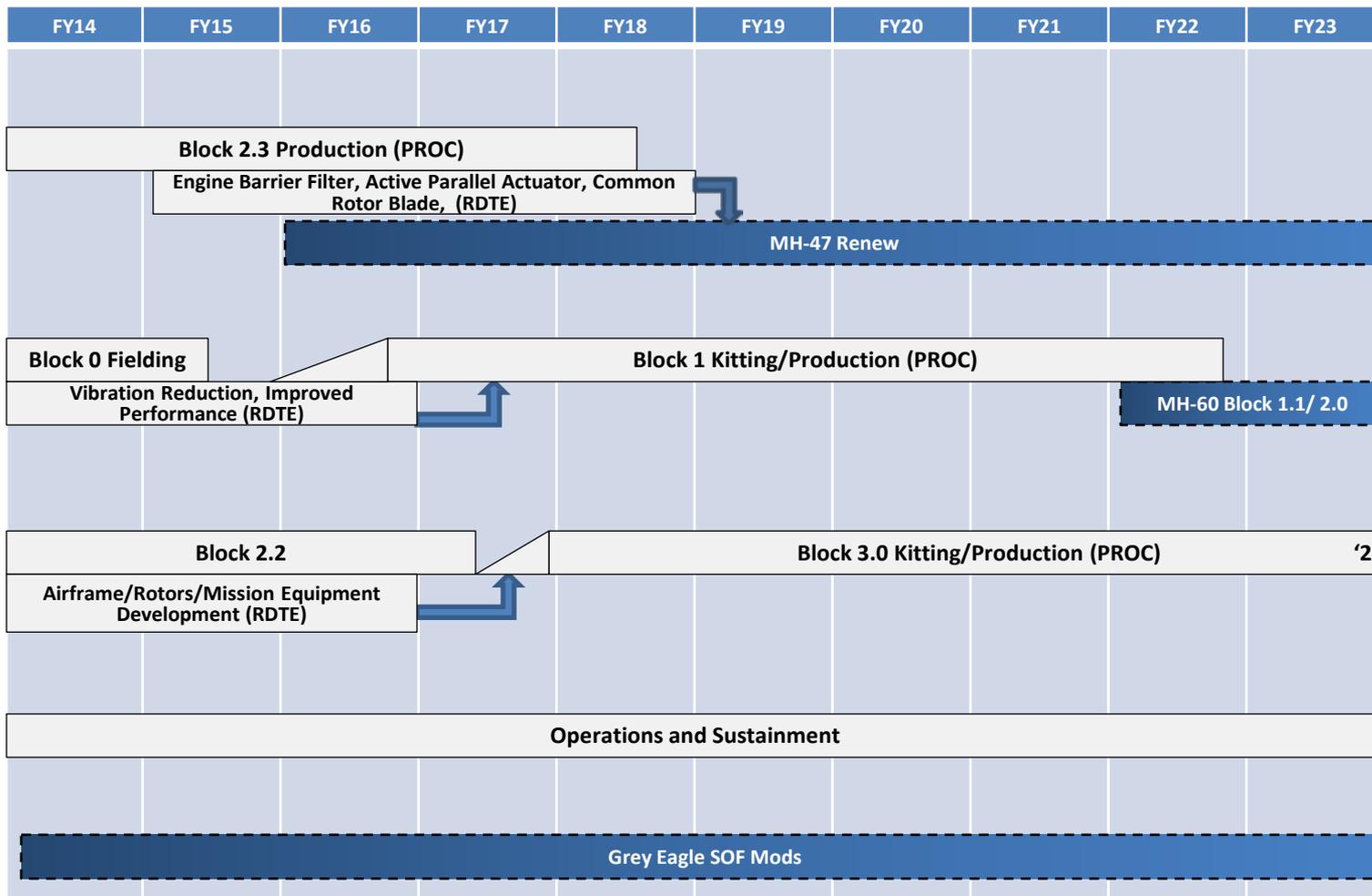
- Materiel Development
- Contracting (through the Technology Applications Contracting Office)
- Systems Engineering
- Systems Integration
- Developmental Test and Evaluation
- Configuration Management and Control
- System Safety
- Risk Management & Acceptance Process
- Obtain Airworthiness Release
- Facilitate System Initial Training
- Publications
- Program Protection
- Obtain Fielding & Deployment Release, or Conditional Release
- Life Cycle Sustainment / Logistics
- Contractor Performance Assessment Reporting

# TAPO Roadmap

Programs



MH-47



Programmed

TBD

# TAPO Focus

**Deliver Capability to the Customer Now -  
On Time, On Budget**

**Modernize Logistics & Affordably  
Sustain the Fleet**

**Build & Adjust Affordable Program Plans for the  
Future (Global SOF Network, ARSOF 2022)**

***Develop/improve people, facilities and  
processes to meet tomorrow's needs.***

Maintain SOA  
Materiel  
Comparative  
Advantage



# MH-47 Program



# MH-47G Configuration

Legacy Airframe  
Structure (New  
Elect. Wires/ Hyd Lines  
and cockpit)

Standardized Aircraft  
Max Gross Wt (54,000 lbs)

Enhanced  
Air Transportability  
Provisions

CMWS & SIRFC ASE

Digital Auto Flt Control System  
(DAFCS)

Side Facing Gunner's  
Seat (Blk 2.3)

CAAS Cockpit

Cockpit Structure  
New Build

Expanded Left-FWD  
Gunner's Window

Vibration Reduction  
(Airframe Stiffening)

Left-Aft Gunner's  
Window

Refueling Probe

Standardized Engines  
With IES-47 Suppression

New FLIR

Multi-Mode Radar

Dual Mode Searchlight  
(IR & White Light)

Standardized Extended  
Range (Fat Tank)  
Configuration

Component  
Recapitalization

Improved Bilge Paint  
& Corrosion Protection

Digital ICS  
(Blk 2.3)

Note: system improvements depicted are not all inclusive

**Legend:**  
CH-47F Common  
SOF Provided



# MH-47G Activities

- Block 2.3 execution
- +8 New Build execution
- Sustainment cost drivers
- Development Efforts
  - Advanced Parallel Actuator System (APAS)
  - Engine Barrier Filter
  - Engine Compressor Blade Coating



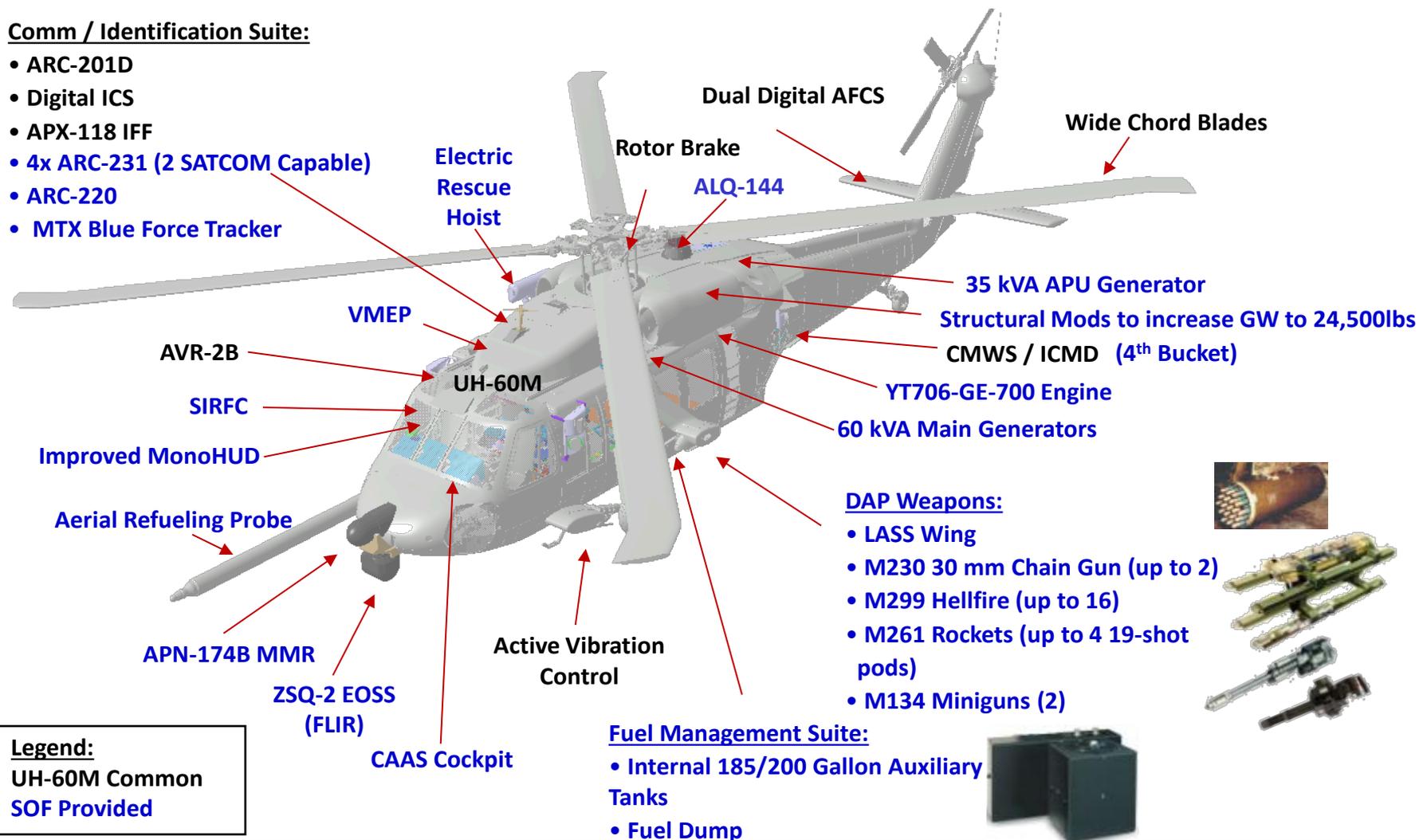
# MH-60 Program



# MH-60M Configuration

## Comm / Identification Suite:

- ARC-201D
- Digital ICS
- APX-118 IFF
- 4x ARC-231 (2 SATCOM Capable)
- ARC-220
- MTX Blue Force Tracker



## DAP Weapons:

- LASS Wing
- M230 30 mm Chain Gun (up to 2)
- M299 Hellfire (up to 16)
- M261 Rockets (up to 4 19-shot pods)
- M134 Miniguns (2)

## Fuel Management Suite:

- Internal 185/200 Gallon Auxiliary Tanks
- Fuel Dump

## Legend:

UH-60M Common  
SOF Provided



# MH-60 Activities

- MH-60M production execution
- MH-60K divestiture execution
- Sustainment cost drivers
- Performance increases





# A/MH-6M



AH-6M

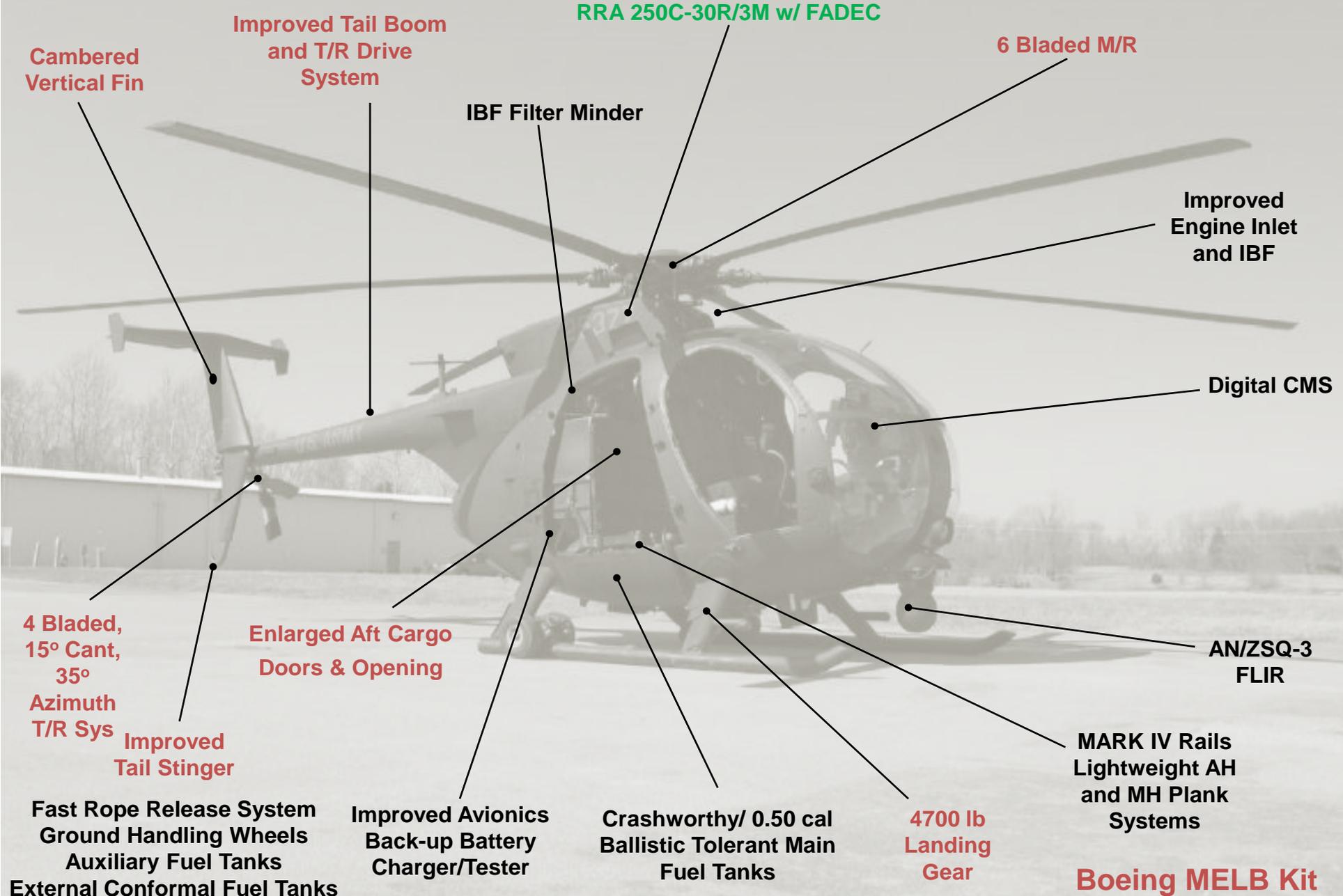


MH-6M

**Army Common Equipment**  
AN/ARC-231 Radio  
AN/APX-123 IFF

# A/MH-6M

**SOF Developed Equipment**



**Cambered Vertical Fin**

**Improved Tail Boom and T/R Drive System**

**RRA 250C-30R/3M w/ FADEC**

**6 Bladed M/R**

**IBF Filter Minder**

**Improved Engine Inlet and IBF**

**Digital CMS**

**4 Bladed, 15° Cant, 35° Azimuth T/R Sys**

**Enlarged Aft Cargo Doors & Opening**

**AN/ZSQ-3 FLIR**

**Improved Tail Stinger**

**MARK IV Rails  
Lightweight AH and MH Plank Systems**

**Fast Rope Release System  
Ground Handling Wheels  
Auxiliary Fuel Tanks  
External Conformal Fuel Tanks**

**Improved Avionics  
Back-up Battery  
Charger/Tester**

**Crashworthy/ 0.50 cal  
Ballistic Tolerant Main  
Fuel Tanks**

**4700 lb  
Landing  
Gear**

**Boeing MELB Kit**



# A/MH-6 Activities

- Block 2.2 upgrade execution
- Block 3.0 upgrade planning
- Sustainment cost drivers





# Fixed Wing and UAS Activities

## C-27J Focus:

- Establishment of Program Office Acquisition Support
- Training Support
- Airworthiness
- Sustainment



## UAS Focus:

- Establishment of Program Office Acquisition Support
- Synchronize with Army and SOCOM efforts
- Airworthiness



# Mission Equipment Program



# Mission Equipment (MH-47G/MH-60M)

## Requirements

### Survivability

**Multi-Spectral Threat  
Detect and Defeat**

### Penetration / Fires

**Navigation  
Terrain Avoidance  
Targeting**

### C4 / Mission Command

**Situational Awareness  
Digital Connectivity  
Data Management**

## Programs

*Radar (RF) - SIRFC  
Infrared (IR) - CMWS*

*Laser - AVR-2B  
Small Arms/RPG - HFIS  
Ballistic Protection - AOBPS*

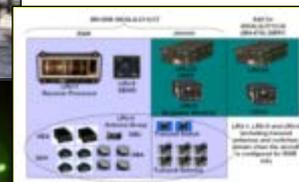
*Electro- Optical - Q2 V1/V2*

*Penetration - 174B / Silent Knight Radar  
Degraded Visual Environment - DVE*

*Common Avionics Architecture  
Real Time Video/Data (SRTV)*

*Mission Processor Modularity  
Network Radio*

## End State



**Common  
Integrated  
Advanced  
ASE**



**Common  
Sensor/  
Weapons**



**Common  
Cockpit**

# Mission Equipment (A/MH-6)

## Requirements

### Survivability

**Multi-Spectral Threat  
Detect and Defeat**

### Penetration / Fires

**Navigation  
Terrain Avoidance  
Targeting**

### C4 / Mission Command

**Situational Awareness  
Digital Connectivity  
Block 3.0 CAAS Light**  
-Moving Map  
-Reduced Size/Weight/Power

## Programs

LIRCM (IR)

AOBPS (Ballistic Protection)

Q3 V1 (Assault) and V2 (Attack)

Degraded Visual Environment (DVE)

Future Cockpit

SRTV

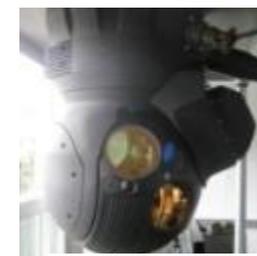
## End State



**Light Weight  
ASE**



**AN-ZSQ-3 (V2)  
LRF/LD  
Capability**



**Cockpit for  
Next  
Generation**

# Mission Equipment Activities

## Survivability:

- Hostile Fire Indicator DT/OT
- Lightweight IR Countermeasure Development

## Penetration/Fires:

- Degraded Visual Environment Development

## C4/Mission Command:

- Secure Real Time Video Integration
- A/MH-6 Block 3 Cockpit
- Tactical Airborne Network Integration

## Sustainment:

- Sustain operational availability
- Control sustainment costs of mission equipment

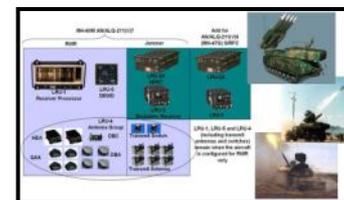
Direct Fire Threat  
(Detect and Locate)



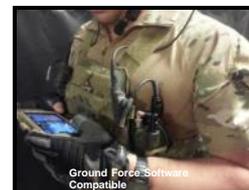
Radar Threat  
(Receive and Jam)



EO/IR Missile Threat  
(Detect and Decoy/Jam)



Degraded Visual Environment



Moving map with other Friendly icons shown





# Technology Interests

---

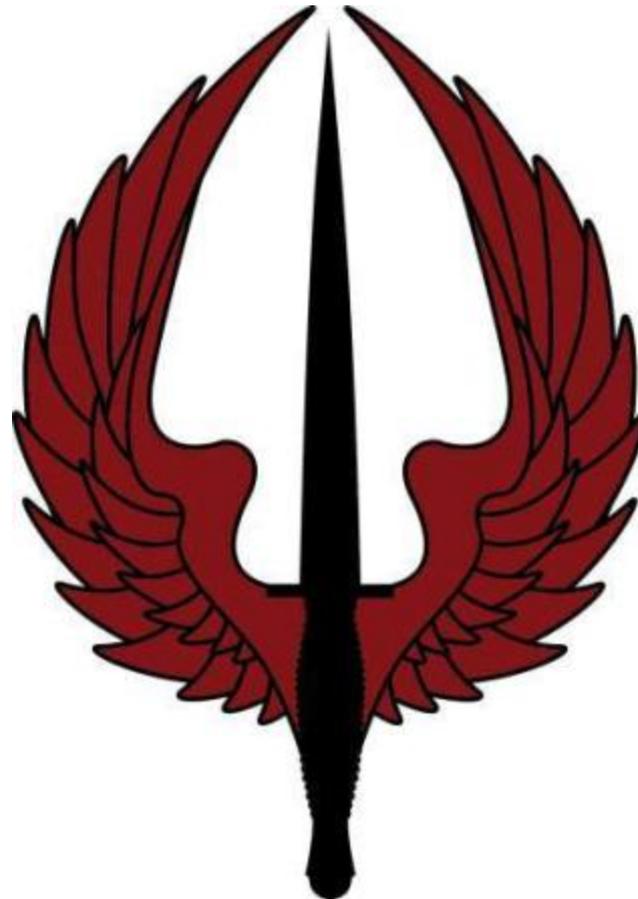
- Light weight fuel cell - maintaining ballistics and crashworthy characteristics
- Lighter weight cabin sound proofing/thermal protection
- Conformal multiband antennas
- Low volatility lithium battery
- Transparent, curved, light, ballistic materiel



# Competitive Acquisitions

---

- Planned future competitive acquisitions
  - A/MH-6 cockpit hardware
  - A/MH-6 light weight Infrared Countermeasures



***VOLARE OPTIMOS***