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Col Ken Kuebler,

Program Executive Officer

FIXED WING

SPECIAL OPERATIONS FORCES ACQUISITION, TECHNOLOGY, & LOGISTICS

Campaigning with Partners for Integrated Deterrence

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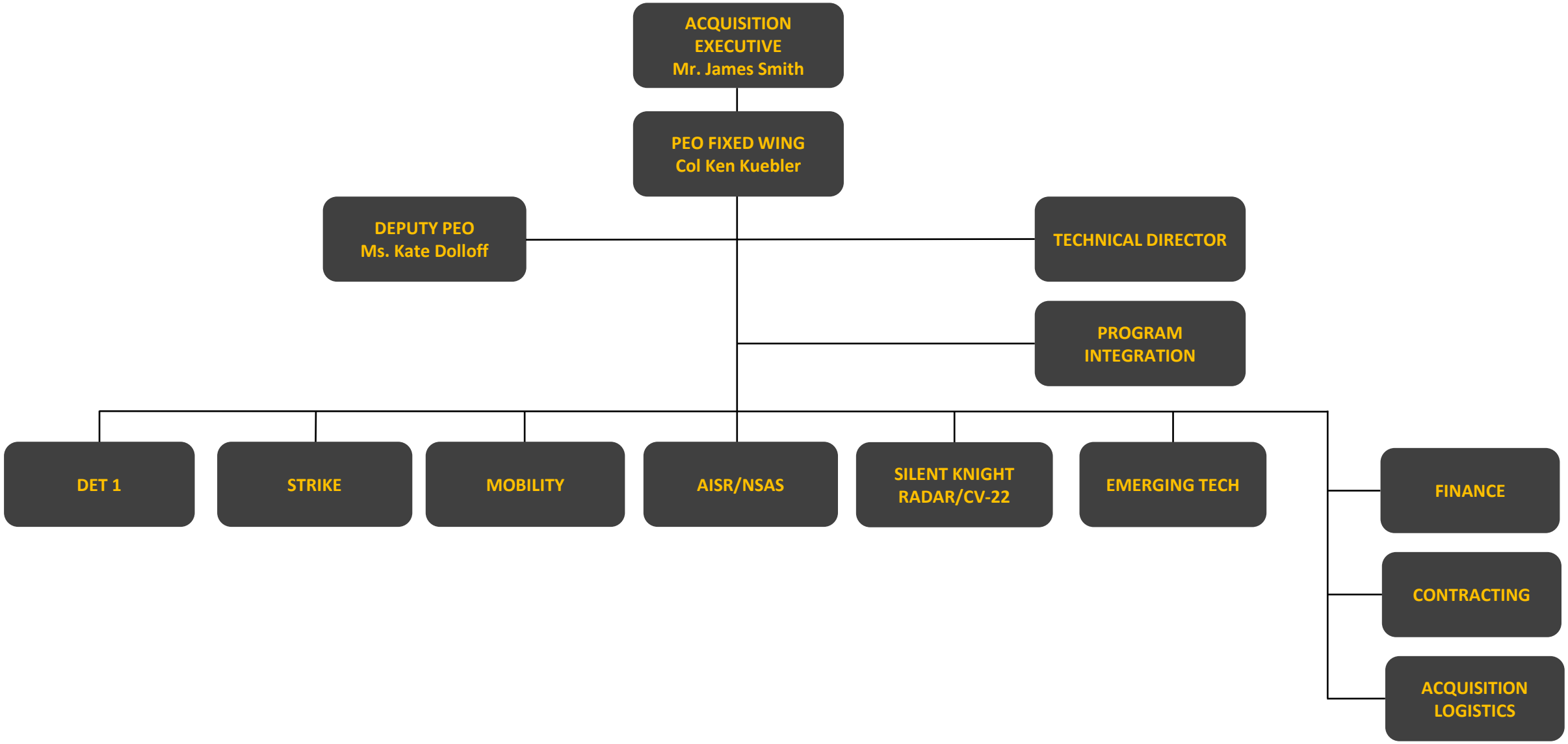
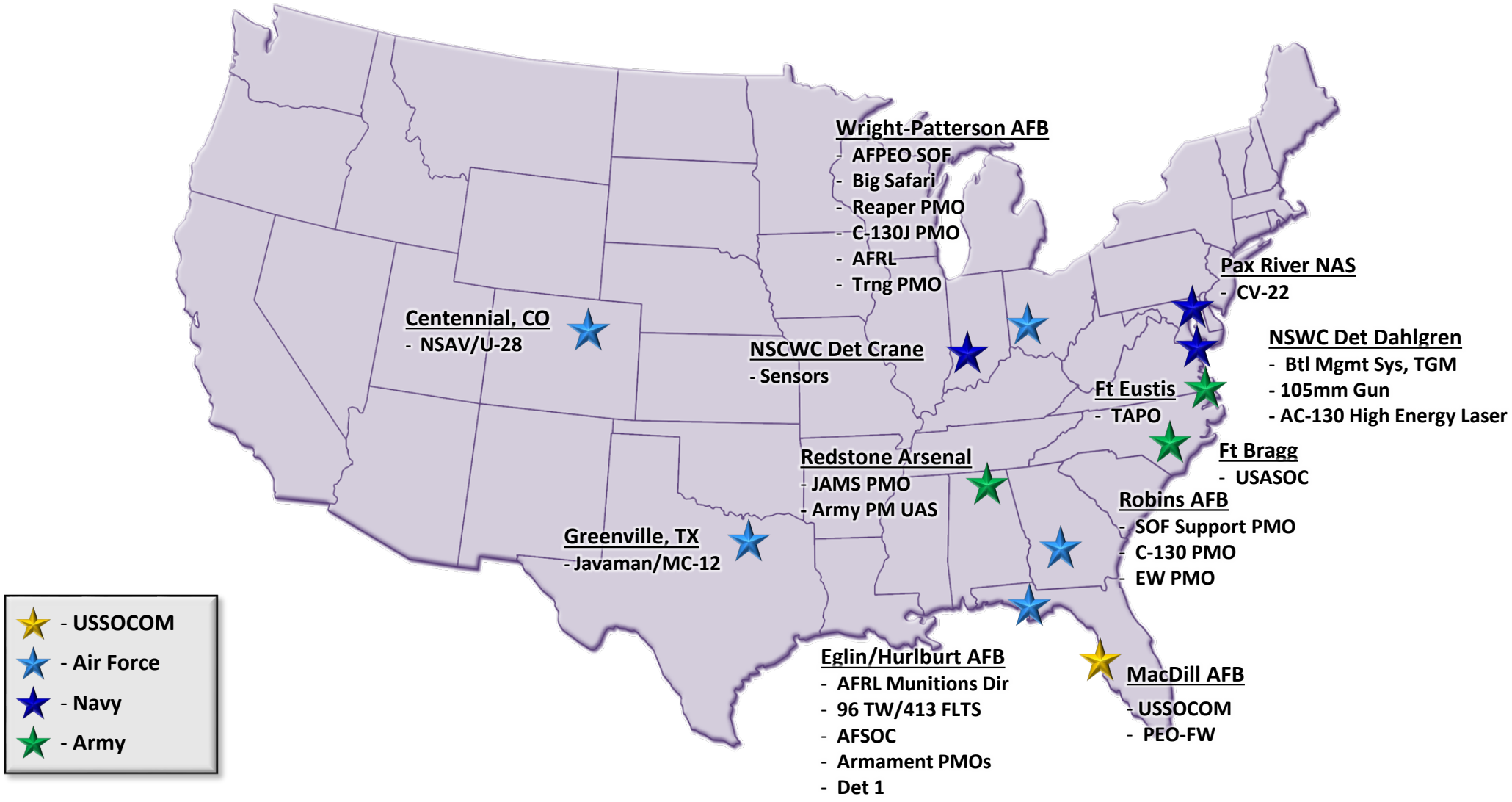
WHO WE ARE

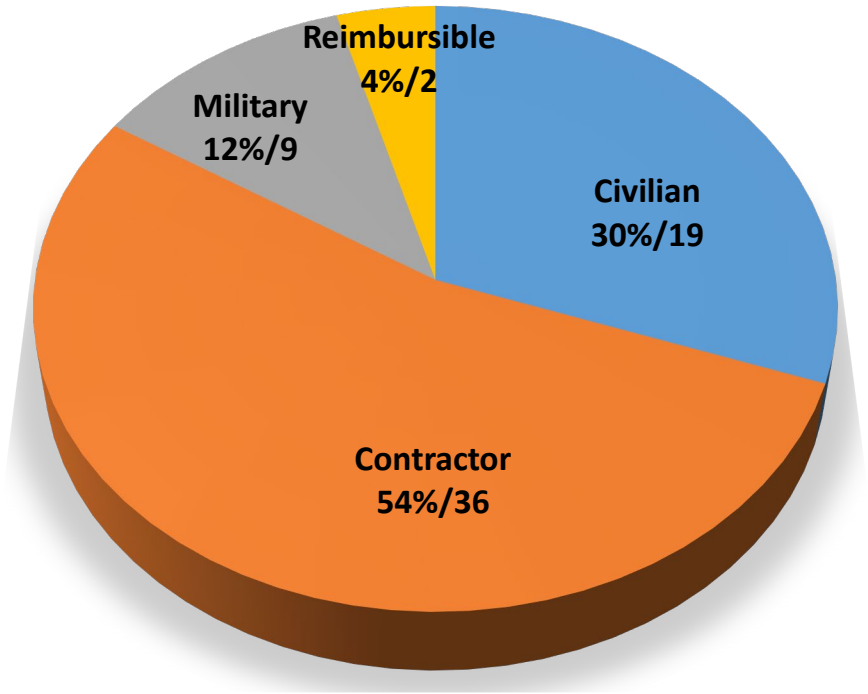

ACQUISITION EXECUTIVE
Mr. James Smith
PEO FIXED WING
Col Ken Kuebler
DEPUTY PEO
Ms. Kate Dolloff
TECHNICAL DIRECTOR
PROGRAM INTEGRATION
DET 1
STRIKE
MOBILITY
AISR/NSAS
SILENT KNIGHT RADAR/CV-22
EMERGING TECH
FINANCE
CONTRACTING
ACQUISITION LOGISTICS

ACQUISITION SUPPORT ENTERPRISE

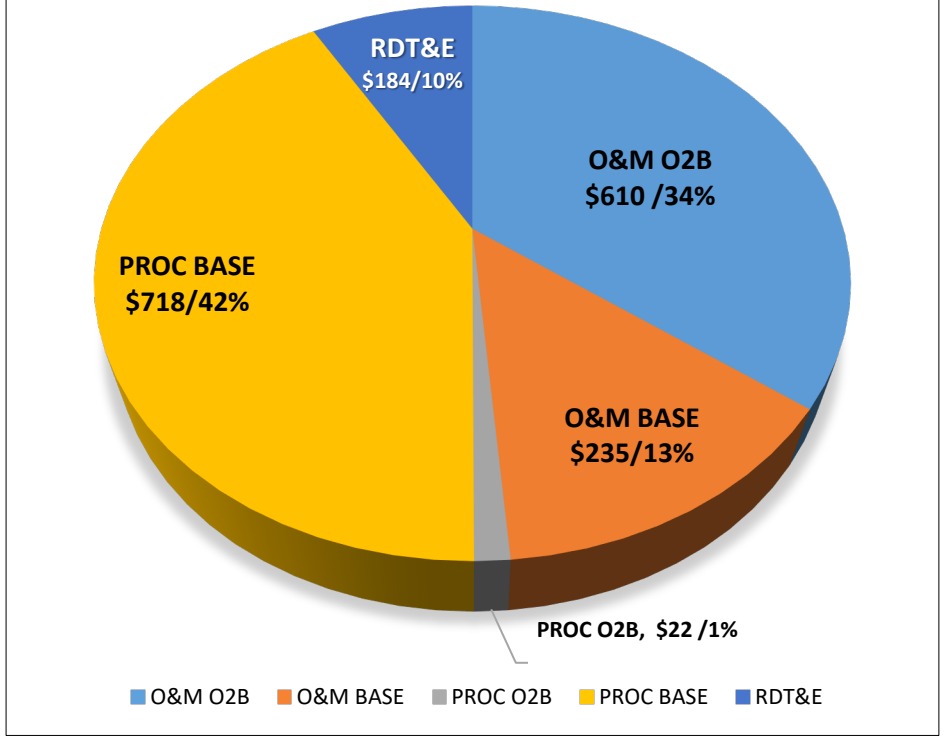


PEO FW PEOPLE AND RESOURCES

FIXED WING PERSONNEL: 66



FW FY22 TOA $1,768M



BY THE NUMBERS

# of Programs/Projects:
54

# of Contractor/Vendor Partners:
76

# of Contracts/Delivery Orders:
106

***FW Detachment 1 (DET 1): 55 Personnel**
*** Temporarily Assigned GHOSTS: 12 Personnel**

PROGRAM EXECUTIVE OFFICE FIXED WING (FW)

AISR / NSAS

MQ-1C Gray Eagle

MQ-9 Reaper

MC-12W

JAVAMAN

C-146A Wolfhound

U-28A/PC-12

C-145A Skytruck

LEA

STAMP / DCH-8

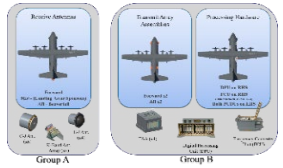
C-27

MOBILITY

EC-130J Commando Solo

MC-130H Talon II

MC-130J Commando II

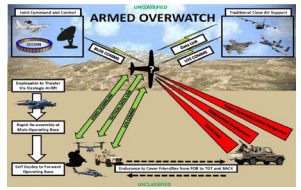


Radio Frequency Counter Measures

STRIKE

AC-130J Ghostrider

AC-130W Stinger II



Armed Overwatch

Stand Off Precision Guided Munitions (SOPGM)

SKR / CV-22B

Silent Knight Radar

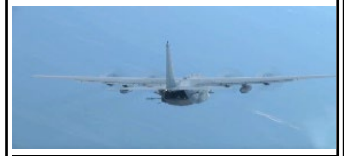
CV-22B Osprey

EMERGING TECHNOLOGY

MAC

HSVTOL

AHEL

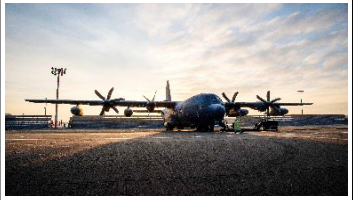

Remote Gunship

Det 1

Pathfinder Events

Rapid Acquisition & Testing

SOPGM


AC/MC-130 Test

TECHNOLOGY FOCUS

Advanced Sensors | Position, Navigation & Timing | Mission Automation | Survivability | Open Architecture | Precision Strike

TRAINING SYSTEMS

AISR – Airborne Intel, Surveillance, & Reconnaissance
NSAS – Non-Standard Aviation Systems
SKR – Silent Knight Radar
LEA – Long Endurance Aircraft
MAC – MC-130J Amphibious Capability
AHEL – Advanced High Energy Laser
HSVTOL – High Speed Vertical Takeoff and Landing

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Airborne Intelligence, Surveillance and Reconnaissance / Non-Standard Aviation Systems

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MEDIUM ALTITUDE LONG ENDURANCE TACTICAL

MQ-1C and MQ-9

- **Capability Description:** Provides weaponized tactical Intelligence, Surveillance, and Reconnaissance
- **On-Going Efforts:** GPS hardening, enhanced sensors, increased weapons capacity
- **Future:** Airborne mission networking, increased autonomy, multi-aircraft control, increased survivability, multi-domain operations, survivable payloads

Long Endurance Aircraft

- **Capability Description:** Provides low-cost, long-endurance Intelligence, Surveillance, and Reconnaissance
- **On-Going Efforts:** Increased endurance, increased payload capacity
- **Future:** Enhanced sensors, increased speed, GPS hardening

MANNED INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE

Manned ISR

- **Capability Description:** Provides Manned Tactical Airborne Intelligence, Surveillance, and Reconnaissance
- **On-Going Efforts:** Sensor upgrades, Alternate Precision, Navigation, & Timing
- **Future:** Increased comms bandwidth / data transport, conduct operations in adverse weather, and target coverage (clouds or heavy foliage)

NON-STANDARD AVIATION SYSTEMS

NSAv

- **Capability Description:** Non-Standard Aviation (NSAv) supports worldwide Special Operations Force Tactical/Strategic missions, Short field insertion and Casualty Evacuation.
- **On-Going Efforts:** Aircraft maintenance, iterative operational upgrades, cybersecurity accreditation
- **Future:** Pacing obsolescence, and supporting emerging operational requirements

AVFID

- **Capability Description:** Aviation Foreign Internal Defense (AvFID) provides Combat Aviation Advisor (CAA) proficiency in preparation for Partner Nation training in Special Operations Force Techniques, Tactics & Procedures (TTP)
- **On-Going Efforts:** Platform upgrades and munitions testing
- **Future:** Maintain capacity for foreign internal defense mission

C27J

- **Capability Description**: Paratroop currency and training capacity, aerial delivery training for USASOC forces
- **On-Going Efforts:** Cockpit Upgrade (National Airspace Compliance and avionics obsolescence), Landing Gear procurement
- **Future:** Continue multinational efforts for cockpit upgrade and obsolescence mitigation

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Mobility Systems

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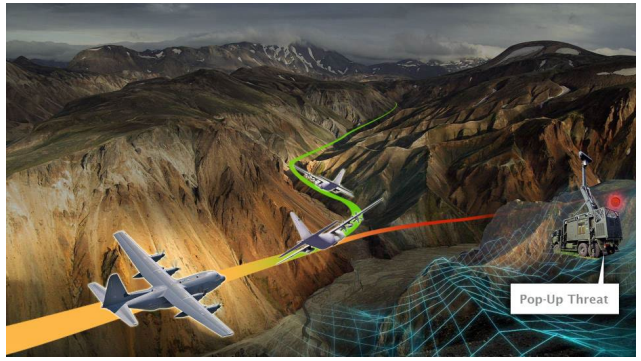
MC-130J RECAPITALIZATION

- **Capability Description**
  - Modify MC-130Js with SOF mission systems to perform networked low-level infil/exfil, airdrop, resupply and refueling in contested environments
- **On-Going Efforts**
  - Terrain Following Radar Integration
  - Airborne Mission Networking
  - Radio Frequency Countermeasures
  - Open Mission Systems (OMS) Integration
  - Special Mission Processor Tech Refresh
  - Tactical Flight Management System
  - Cloud-based Mission System Integration
- **Future**
  - Automated Mission Systems Functionality for Joint All-Domain Operations
  - Palletized munitions
  - AESA radar
  - Augmented Reality / Virtual Reality training



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Integrated Strike Program

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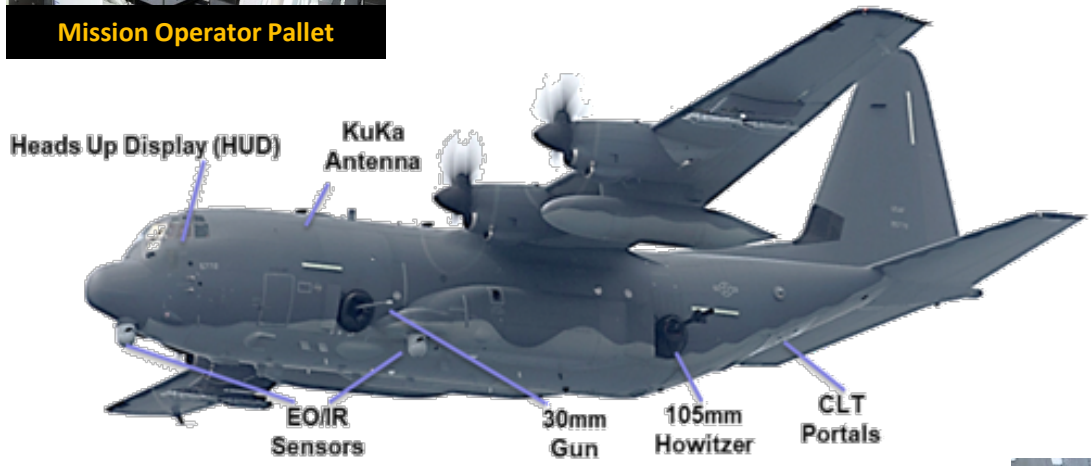
AC-130 GUNSHIP

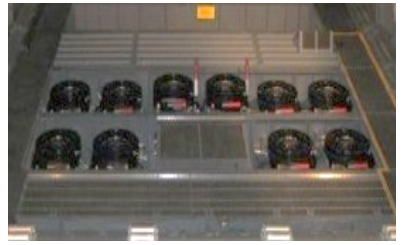
- **Capability Description**
  Integrates Precision Strike Package (PSP) and defensive systems on MC-130J aircraft to provide next generation ISR, targeting & precision effects
- **On-Going Efforts**
  - Sunset AC-130W fleet
  - Finish AC-130J Block 30 production
  - Retrofit Block 20+ AC-130Js to Block 30
  - Infra-Red Suppression System
  - Defensive System Upgrades
- **Future**
  - Crew reduction initiatives
  - Modular Open Systems Approach
  - Augmented/Virtual Reality training

Mission Operator Pallet

Infra-Red Suppressors

Weapons Pylons




Common Launch Tube Portals

Sensors

30mm Gun

105mm Howitzer

STAND-OFF PRECISION GUIDED MUNITIONS

- **Capability Description**
  - Air-to-ground precision guided munitions for first pass lethality
- **On-Going Efforts**
  - Weapon Data Link for autonomous/coordinated targeting
  - Increased range/stand-off
- **Future**
  - Next-gen effects: Post-launch selectable, cyber/EW, payload delivery
  - Next-gen guidance & sensors: ATR, optical, contested environment
  - Modular Open Systems Approach
  - Greater range/Quicker response

SMALL GLIDE MUNITION (SGM)

GRIFFIN MISSILE

COMMON LAUNCH TUBE (CLT)

SO-P HELLFIRE VARIANTS

LASER SMALL DIAMETER BOMB

ARMED OVERWATCH PROGRAM

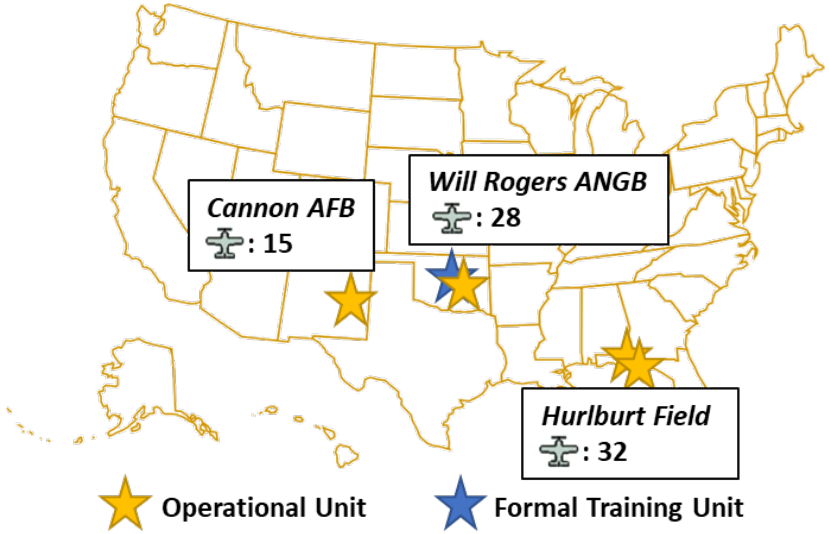
System Capabilities:

- Austere Takeoff and Landing
- Range and Endurance
- Weaponization
- Mission Communications
- Two (2) Crew Stations for Flight and Mission Ops
- Auto Pilot
- Full Motion Video Sensor(s)
- Oxygen Systems
- Defensive Systems
- Cockpit and Engine Armor
- Modular Sensor Station(s)
- Net Readiness and Cybersecurity

Industry-proposed Platforms:

Photos from Jun-Jul 21 Prototype Demos

Planned AFSOC & ANG Basing:



Key Dates:

- Production proposals received 30 Nov 2021
- **Contract Award:** 4QFY22

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Silent Knight Radar

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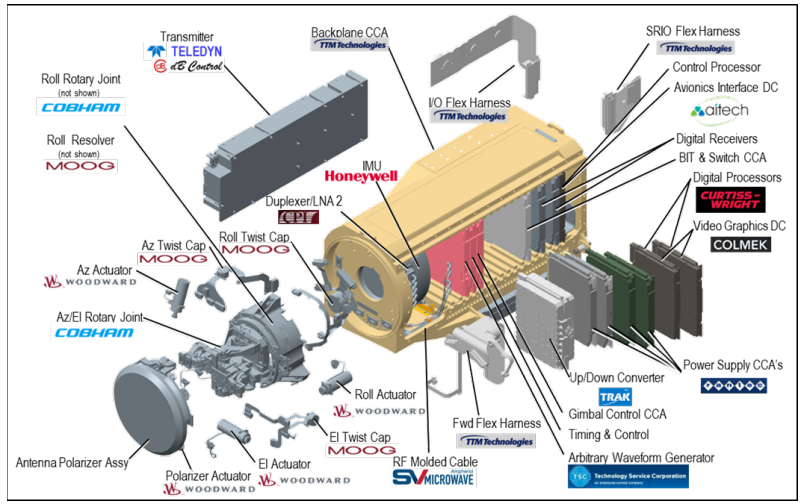
SILENT KNIGHT RADAR

- **Capability Description**
  - SOF Common Terrain Following/Terrain Avoidance (TF/TA) Silent Knight Radar provides a Low Probability of Intercept/Low Probability of Detection (LPI/LPD) capability to provide SOF aircraft with maneuverability in aerial denied peer/near peer environment



- **On-Going Efforts**
  - Reliability improvements
  - Software Integration & Enhancements

- **Future**
  - Integrated data processing / fusion with various onboard SOF sensors

CV-22B OSPREY

- **Capability Description**
  - Provides Long Range, High Speed, All-Weather, Infil/Exfil, and Resupply of Teams in Hostile, Denied, and Politically Sensitive Areas in a Single Period of Darkness

- **On-Going Efforts**
  - Terrain Following Radar Integration
  - Color Helmet Mounted Display
  - Suite of integrated Radio Frequency Countermeasures Upgrades
  - Aircraft Reliability Improvements

- **Future**
  - Airborne Mission Networking
  - Reliability Enhancements

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USSOCOM Detachment 1

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RAPID ACQUISITION AND TEST TEAM

PATHFINDER

- Small team stood up at USSOCOM Det 1 (Eglin) to evaluate new technology w/out impacting mainline programs
- Demonstrates pathfinder projects with an approval process proportional to the demo
- Gives users / requirements creators an early look at systems to fix issues – early feedback to acquisition community

WHAT IS PATHFINDER

- Partnership between USSOCOM, AFSOC, SPO, 96 Test Wing, vendors and other DoD organizations
  - Collaboration to provide aircraft, aircrew, requirements, airworthiness approvals, test planning, execution, & reporting
- Works w/ technologies left of Milestone A
- Concept to increase TRL maturity, promote Rapid Acquisition, and enable Tech Transitions

RAPID DRAGON

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Emerging Technologies

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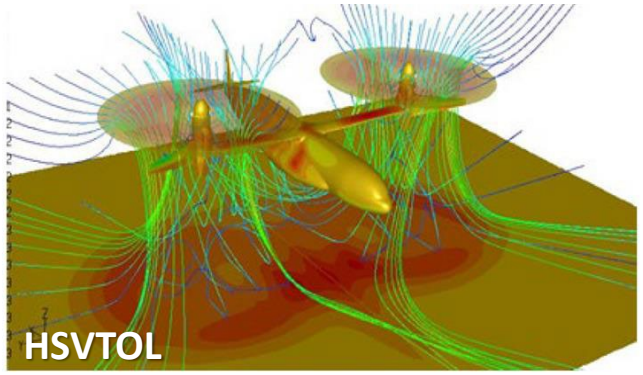
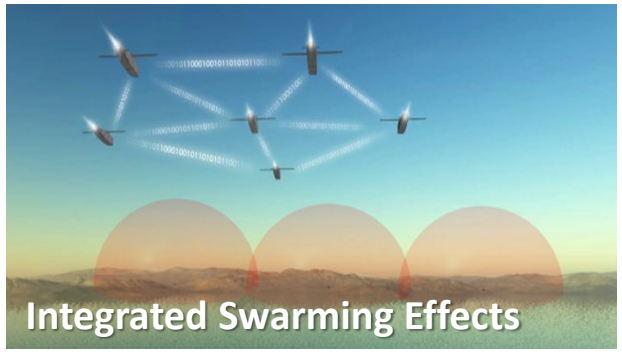
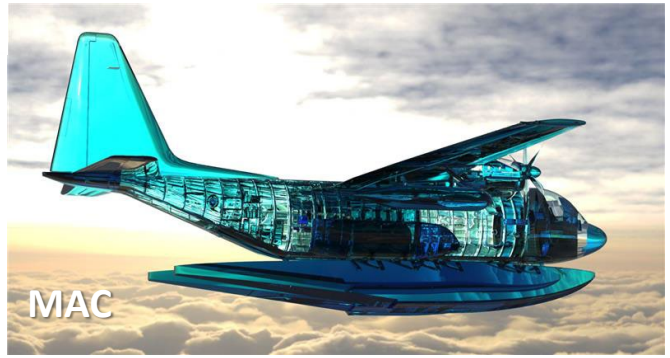
EMERGING TECHNOLOGY

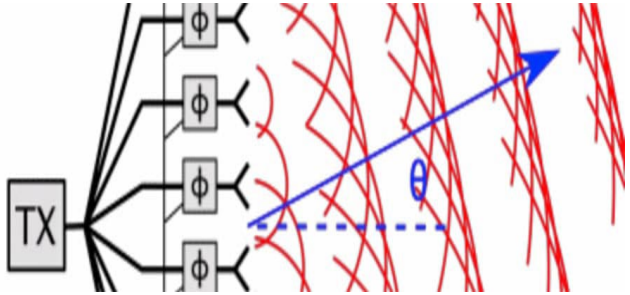
- **Focus Areas**
  - High Speed Vertical Takeoff & Landing (HSVTOL) design concepts
  - Remote Gunship/Automated fight deck
  - Amphibious MC-130 (MAC) demonstration
  - Active Electronically Scanned Array Radar
  - AC-130J High Energy Laser demonstration
  - Aircraft survivability analysis and development
  - PNT development
  - Aircraft radar/sensor demonstration
  - Reduce crew workload/automation
  - Future munitions / launch mechanisms
  - Integrated weapon effects / swarming
  - Small UAS / weapon launch system integration



Launch Mechanisms







Active Electronically Scanned Array

FW TECH INSERTION ROADMAP

NEAR TERM	MID TERM	FAR TERM
MOSA Architecture		
• Development Environment Foundation • Modular LRU Technology • Open Cloud Platform	• Integrated Open Platform Architecture • Fusion Engine Integration	• HW / Platform Agnostic Adaptable Architecture
Mission Survivability		
• Expendable CM / Drones • HSVTOL Propulsion / MAC • AISR Extended Range / Next Gen • Cyber Hardening	• Adaptive Nulling Antennas • CM Fusion Engine • Cyber Fusion Engine	• On the Fly, Near Peer Survivable Adaptable Counter Measures
Position, Navigation, Timing		
• M-Code REGI Solutions • Blended PNT Solutions • Munition Form Factor PNT	• PNT Fusion Engine • Terrain Mapping	• Coordinated Precise Position & Timing • Denied Environment Capable
Automation		
• WB/BLOS Datalink • SWARM Technology • Data Fusion (Threats & Targets)	• ATR • AI/ML Machine Assisted Targeting • Human-Machine Interfacing	• ABMS/JADC2 Compatible C2
Advanced Sensors		
• Adaptive Filtering / Interleaving • Multi-Function Sensors (PNT/Comms) • All Weather / Urban, Dense Env	• Sensor Fusion Engine • Multi-INT Fusion	• All Terrain / All Weather Env Capable • Multi-Mission Capable
Precision Strike		
• Collaborative Strike • Palletized / Stand-Off Munitions • WDL	• Advanced Secure WDL • Off Platform Targeting/Guidance • Renewable Energy Generation/Storage	• JADC2 Controlled Strike

OPPORTUNITIES

- **Broad Agency Announcements (BAA) & Requests For Information (RFI)**
  - USSOCOM Science & Technology (S&T) Directorate
- **Office of the Secretary of Defense Programs**
  - Small Business Innovation Research (SBIR)
  - Small Business Technology Transfer (STTR)
  - Foreign Comparative Test (FCT)
- **Other Transaction Authorities**
- **Cooperative Research And Development Agreements (CRADAs)**
- **Collaborative efforts with Government Laboratories, University Affiliated Research Centers, Federally Funded Research & Development Centers, Land Grant Universities, etc.**
- **USSOCOM S&T Technical Experimentation Events**
- **USSOCOM Acquisition Agility Events – SOFWERX**
- **USSOCOM Engage SOF (eSOF)**

QUESTIONS?