



Army UAS Update

Mr. John Beck, Deputy Project Manager, Unmanned Aircraft Systems
10 July 2015 | HAMA



DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED



Unmanned Aircraft Systems (UAS) Project Office Organization, Vision, and Mission

VISION

Revolutionize our Nation's warfighting operations by being the world class leader in the development, production and sustainment of unmanned aircraft and associated systems.

MISSION

Provide our Nation and its allies world class interoperable unmanned aircraft systems and integrated payloads through excellence in program management and lifecycle support.



COL Courtney Cote
Project Manager, SFAE-AV-UAS
Comm: 256-313-5327
DSN: 897-5327
courtney.p.cote@mail.mil



Mr. John Beck
Deputy Project Manager
Comm: 256-313-5342
DSN: 897-5342
John.d.beck.civ@mail.mil



Mr. Ed Ward
Chief, UAS Fleet Management
SFAE-AV-UAS-LO
Comm: 256-955-0639
edward.m.ward.civ@mail.mil



Mr. Lars Ericsson
Chief, Technical Management
SFAE-AV-UAS-TM
Comm: 256-313-5335
lars.d.ericsson.civ@mail.mil



Mr. David Lancaster
Chief, Business Management
SFAE-AV-UAS-BM
Comm: 256-842-7221
david.g.lancaster6.civ@mail.mil



Mrs. Dana Osborne
Chief, Operations Center
SFAE-AV-UAS-RC
Comm: 256-313-5383
dana.r.osborne2.civ@mail.mil



LTC Robert Walker
Director, International UAS
SFAE-AV-UAS-EP
Comm: 256-313-5382
robert.w.walker55@mail.mil



Mrs. Jennifer Gillum
Director, Rapid Integration and
Acceptance Center (RIAC)
SFAE-AV-UAS
Comm: 435-831-5232
jennifer.l.gillum.civ@mail.mil



LTC Nick Kioutas
Product Director,
Modernization
SFAE-AV-UAS-MOD

Comm: 256-313-5334
nickolas.t.kioutas@mail.mil



LTC William Venable
Product Manager,
Common Systems
Integration
SFAE-AV-UAS-CSI

Comm: 256-313-5428
william.r.venable4@mail.mil



LTC Tony Davila
Product Manager,
Medium Altitude
Endurance, SFAE-
AV-UAS-MAE

Comm: 256-313-4655
tony.o.davila@mail.mil



LTC Tory Burgess
Product Manager,
Ground Maneuver
SFAE-AV-UAS-
GM

Comm: 256-313-5359
james.t.burgess@mail.mil



LTC Nick Kioutas
Product
Manager,
SUAS
SFAE-AV-UAS-SU

Comm: 256-313-5334
nickolas.t.kioutas@mail.mil



Mrs. Donna Hightower
Deputy
Product Manager

Comm: 256-842-7199
donna.h.hightower.civ@mail.mil



Mr. Ed Gozdur
Deputy
Product Manager

Comm: 256-313-5349
edward.e.gozdur.civ@mail.mil



Mr. Jeff Crabb
Deputy
Product Manager

Comm: 256-313-5328
jeffrey.a.crabb.civ@mail.mil



Mr. Todd Smith
Deputy
Product Manager

Comm: 256-842-7286
todd.l.smith.civ@mail.mil



Mr. Max Mitchell
Deputy
Product Manager

Comm: 256-313-5434
max.h.mitchell2.civ@mail.mil

- Sky Warrior Alpha
- Gray Eagle Block Zero
- Hunter

- OSRVT
- UGCS
- GBSAA

- Gray Eagle

- Shadow

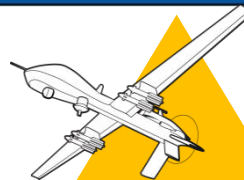
- Raven
- Puma



Army Unmanned Aircraft Systems

INSCOM/Special Operations

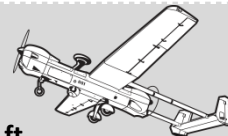
Corps Level Reconnaissance, Surveillance, and Target Acquisition (RSTA) supporting the ISR process. Full Motion Video (FMV), Signals Intelligence (SIGINT), Synthetic Aperture Radar, Ground Moving Target Indicator Radar (SAR/GMTI), comms, and weapons. Assigned to Aerial Exploitation Battalions and 160th Special Operations Aviation Regiment



Gray Eagle
MQ-1C

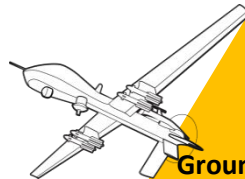
Endurance ~24 hrs
Max Altitude ~25,000 ft

Hunter
MQ-5B
Endurance ~20 hrs
Max Altitude ~18,000 ft



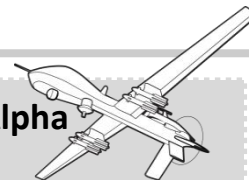
Division Level

Provides dedicated RSTA supporting the Commander's Common Operational Picture (COP), and the ISR Process. Mission-configured support including FMV, SAR/GMTI, SIGINT, comms, and weapons. Assigned to Active Component Divisions and the National Training Center.



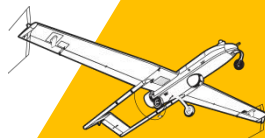
Warrior Alpha
Block 0
Ground Based Sense and Avoid (GBSAA)
Airspace Integration

Endurance ~22 hrs
Max Altitude ~25,000 ft



Brigade Level

Provides organic RSTA at Brigade and Below supporting the Commanders COP. Mission Configured support including FMV and comms. Assigned to the Brigade Combat Team, Combat Aviation Brigades, and Special Forces Group/Ranger RGMT



Shadow
RQ-7B

Endurance ~9 hrs
Max Altitude ~18,000 ft

Battalion/Company Level

Provides the small unit the organic capability to perform Beyond Visual Line-Of-Sight (BLOS) RSTA with payloads such as FMV



Short Range Micro (SRM)

Medium Range Maneuver (MRM)



Raven
RQ-11B

E ~90 min/Alt ~300 ft



Long Range Reconnaissance
Surveillance (LRRS)
Puma
RQ-20A

E ~2 hrs/Alt ~500 ft

Command and Control/ Dissemination

FOCUS OF ARMY UAS:

- Operational
- Tactical



One System Remote
Video Terminal (OSRVT)

SUAS Tactical Open
Government
Architecture (TOGA)
Controller



Universal Ground
Control Station (UGCS)



UAS Family of Systems

FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	FY 21
-------	-------	-------	-------	-------	-------	-------

Gap

MQ-1C Gray Eagle

CPD 8.6
(In Staffing)

FOT&E

GBSAA fielding

3x Units Fielding

2x Units Fielding

2x Units Fielding

2x Units Fielding

Initiation of GE Mod line

- 1 Universal Ground Control Station is incorporated
- 2 Improved Gray Eagle (FY17-18)
- 3 Expeditionary Capability (FY18-20)
- 4 Integrating Ka SATCOM (FY21-22)

Gap

MQ-5B Hunter

Integration/Fielding Copperhead Sensor

1

2

- 1 Gray Eagle Begins replacing Hunter in AEBS
- 2 Divest Hunter

Gap

RQ-7B Shadow

FOT&E

Block III Engine Development

V2 Fielding Begins

Block III Engine Production

V2 Production Complete

V2 Fielding Complete

3x CAB V2 Fielding

3x CAB V2 Fielding

1x CAB V2 Fielding

2x CAB V2 Fielding

1x CAB V2 Fielding

- 1 Shadow v2 Attributes: (1) Type 1 Encryption, (2) MUM-T, (3) Digital Architecture
- 2 Block III Attributes: (1) Reliability, (2) Acoustic signature, (3) Better performance

Gap

Family of SUAS
RPUAS CPD Increment II,

Raven Gimbal Proc ends

Increment I Enters Sustainment

TOGA Development

SRM Dev

1

RPUAS Increment II

FOT&E

TOGA Production

MRM/LRRS Production

Frequency Reallocation Initiated

2

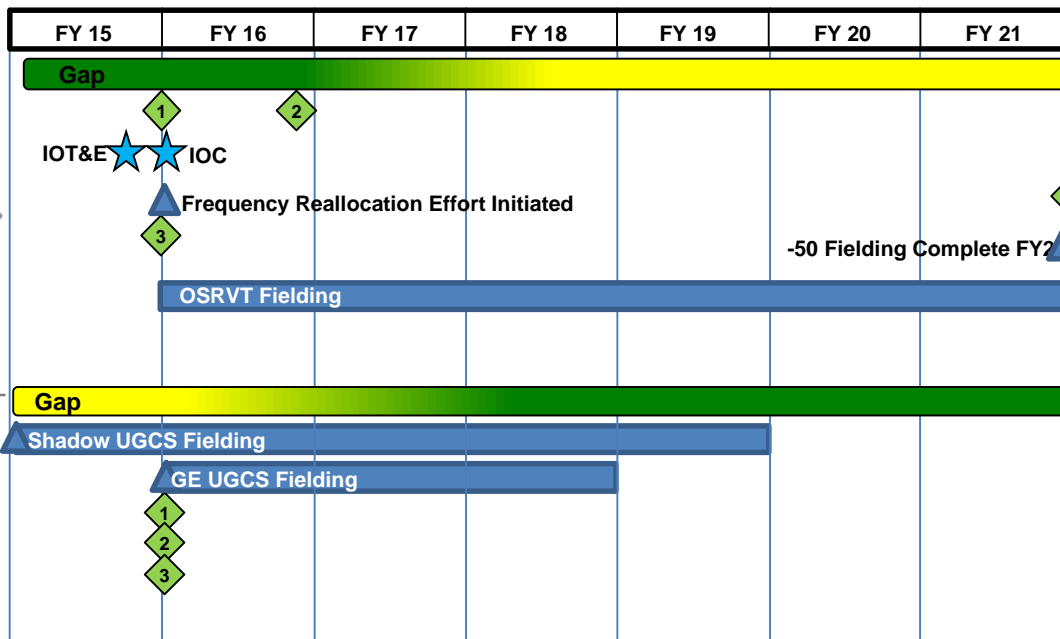
- 1 TOGA Development initiated FY 13
- 2 Integration of new frequency kits into MRM/LRRS

- LRRS: Long Range Reconnaissance
- MRM: Medium Range Mobile
- SRM: Short Range Micro and Surveillance

Capability None Partial Full



UAS Family of Systems



One System Remote Video Terminal (OSRVT)



UGCS



UGCS

- 1 Bidirectional and EO/IR payload control capability
- 2 HD Video, Video Motion Tracking Indicator (VMTI) and NET-T capability
- 3 Frequency Reallocation Funding FY15-20
- 4 Should Cost Effort could move fielding completion to FY20
- 1 UGCS Common Baseline (IOP 2.2) Compliance Achieved
- 2 Aided Target Detect, Track, ID, reduce cognitive load and increase MUMT comms
- 3 Universal Interface is the Centerpiece of the UAS Profession; Commonality, Scalability, Maneuverability



Current P3I Priorities Addressing the Future Fight Include:

Gray Eagle MQ-1C

- **Expeditionary**
 - Alternate airfield ATLS (Alternate Takeoff and Landing System)
 - Self survey using CSP (Common Sensor Payload)
 - SATCOM ATLS
 - Portable maintenance and enhancements
 - System footprint reduction
- **Survivability**
 - GPS denied
 - Anti-jam antenna
 - Improved Gray Eagle
 - Ka SATCOM
- **Commonality/Interoperability**
 - UGCS upgrade (IOP compliant) (FACE)
 - ARC 231s
 - Synchronized interoperable waveforms
- **Lethality**
 - Universal payload interface

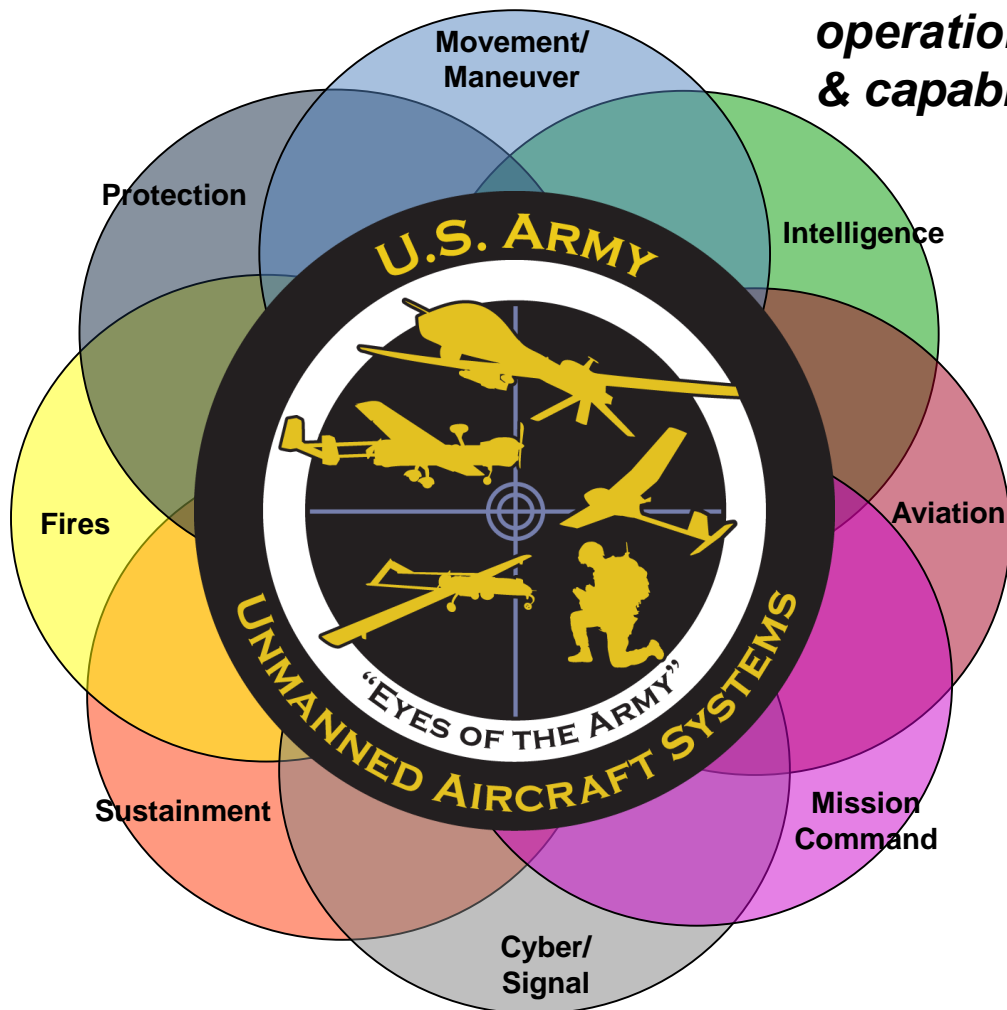
Shadow RQ7-B

- **Expeditionary**
 - Shadow Lite
- **Survivability**
 - GPS denied
 - Anti-jam antenna
 - Identify Friend or Foe (IFF) Transponder Upgrade
- **Commonality/ Interoperability**
 - UGCS (Universal Ground Control System) upgrade (IOP compliant) (FACE)
 - Voice Over Internet Protocol (VOIP) MUM-T Upgrade
- **Lethality**
 - Universal payload interface
 - **Second Source Payloads**
 - High Definition video for improved target detection and recognition



UAS: Intersection of the Army

UAS interacts with all aspects of operations...mixing stakeholders, missions & capabilities



- Recon/Surveillance/BDA
- Indirect Fire
- Data Dissemination
- Manned/Unmanned Teaming
- Electronic Warfare
- Special Operations Forces
- Comm/Data Relay
- Attack
- Cargo

UAS has revolutionized how the Army fights...it will continue to do so

UAS...a Combined Arms Asset



UAS Challenges and Concerns

- **Dedicated Army S&T investment in UAS is required**
 - Investment needed on Group 3 and Above
 - Industry will drive S&T on smaller platforms
 - Force 2025 may address
- **Current LIRA does not account for threat based UAS.**
 - LIRA-17 and Force 2025 and beyond to address
- **Migration to Soldier maintenance**
- **Relevance of UAS in Next War**
 - Vulnerabilities must be addressed in modernization lines
 - Integration into the Aviation ASE portfolio
- **Survivability**
 - Serviced within the Aviation ASE portfolio
 - Improve Engine reliability and fuel system
 - Vulnerabilities must be addressed in modernization lines
- **Expeditionary**
 - Reduce/eliminate reliance on runways and airfields
 - FSR migration to Soldier maintenance
- **Commonality/Interoperability**
 - Convert fleet to common software and hardware; look and feel
 - Make the Control System the primary interface to future UA development
 - Develop an universal armament interface adaptable across the Aviation Fleet



Discussion