US Special Operations Command

USSOCOM Perspective on Unmanned Aircraft Systems (UAS)

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J33 Joint Reconnaissance Branch

Scan Eagle Launch From NSW MK V Craft

Deploying SOF-Unique ISR Capabilities in support of current global special operation missions

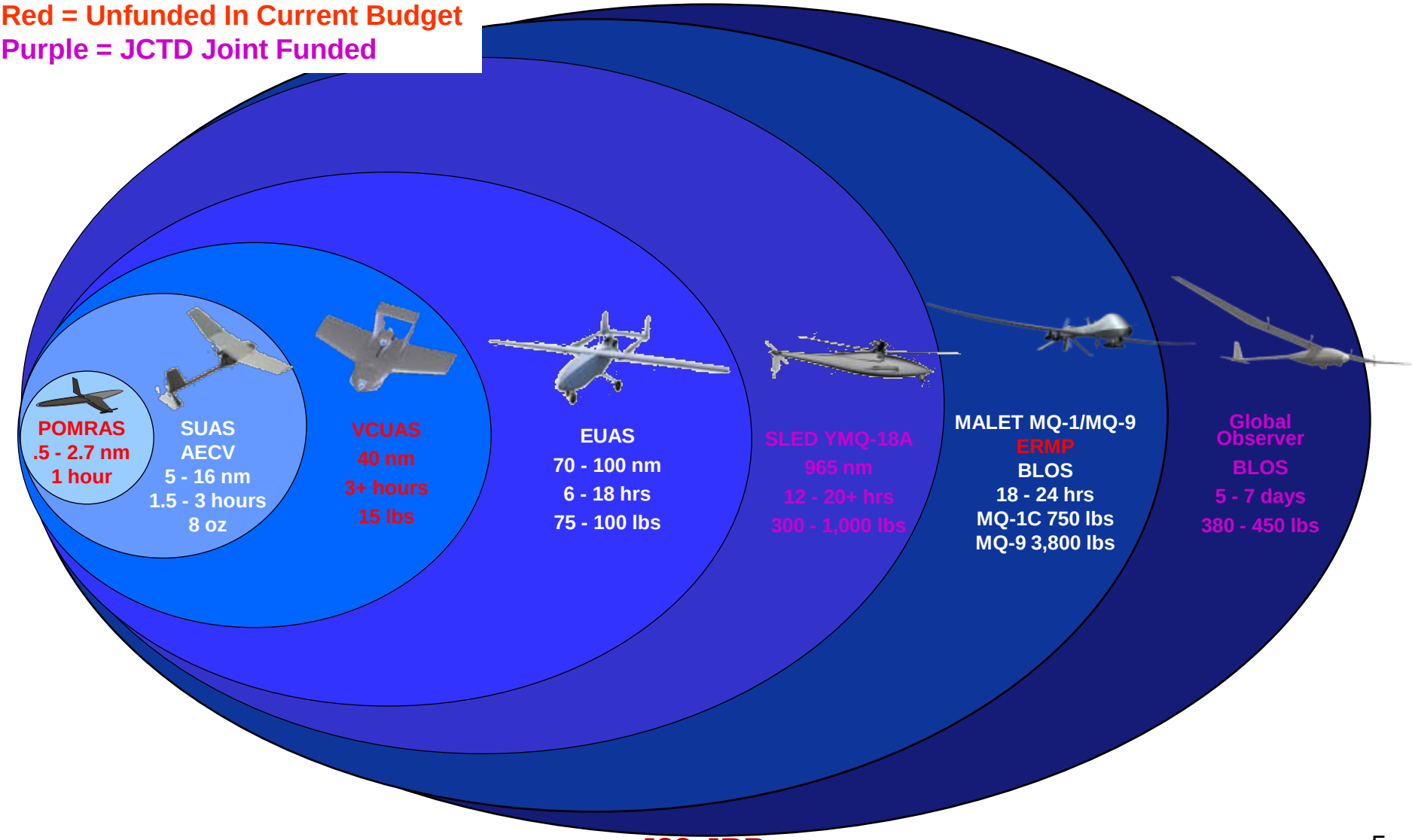
JRB Overview

- Coordinates deployment of all SOCOM ISR assets
- Facilitates ***deployment*** of additive ISR supporting SOF by leveraging service programs, capabilities and demonstration efforts
- Maintain situational awareness of all ISR supporting current deployed SOF operations
- Coordinate GCC ISR Request for Forces (RFF) related to SOF
- Coordinate limited ground collection efforts, particularly where complimentary to airborne collection assets

USSOCOM
UAS Platforms

USSOCOM UAS Portfolio

Red = Unfunded In Current Budget
Purple = JCTD Joint Funded



Small UAS (SUAS)

Rucksack Portable System for Maneuver Units to Provide Increased Situational Awareness with a Modular & Interoperable UAS

Key Performance

- 90 Min Endurance
- 5 nm Data Link Range
- Up to 1,000 Ft AGL Surveillance Altitudes
- Up to 10,000 Ft MSL Operating Altitudes
- Single Person Hand Launch
- Modular EO or IR Sensor

- Material Solution to the RPUAS JORD
- CMN-S Transitioned to Joint Program with USA/USMC
- Full Operational Capability in FY08
- Technology Enhancements in Payloads, Image Processing, and Data Links

Attribute	SUAS
Wingspan (ft)	4.6
Length (ft)	3
Payload (lbs)	0.5
GTOW (lbs)	4
System Weight (lbs)	25

System: 3 UA, 1 GCS, 1 FRK, 3 EO & 2 IR Payloads

SUAS
All Environment Capable Variant (AECV)

Provides SOF Tactical Units a Highly Mobile UAS Capable of Being Deployed from Both Land and Maritime Mobility Platforms

Key Performance

- 135 Min Endurance
- 11 nm Data Link Range
- Up to 1,200 Ft AGL Surveillance Altitude
- Up to 14,000 Ft MSL Operating Altitude
- Single Person Hand Launch
- Gimbaled Dual EO/IR Payload

- Captures Technology Advances & Additional Operational Requirements Since RPUAS JORD
- Enhances the Survivability and Utility of the Current SUAS Materiel Solution
- Expands the Operational Envelope:
  - High Moisture/Rain & Snow/ High Humidity
  - Reduced Acoustic Signature
  - Repeated Landings Fresh & Salt Water

Attribute	AECV
Wingspan (ft)	9.2
Length (ft)	4.7
Payload (lbs)	1.2
GTOW (lbs)	12
System Weight (lbs)	50

System: 3 UA, 2 GCS, 1 FRK, 1 RVT, 3 EO/IR Payloads

Expeditionary UAS (EUAS)

Provides a Dedicated UAS to Provide Land and Maritime ISR Capabilities to SOF Task Groups and Squadrons

Key Performance

- 6 Hours Endurance with 100 Pound Payload
- 70 nm Data Link Range
- 10,000 Ft MSL Flight Altitudes
- Fully Automatic Take-Off and Landing
- EO/IR Sensor

- 5 Year, IDIQ Contract Awarded To L-3 Communications 11-Sep-09
- Currently Building First System
  - 6 Aircraft, 2 Ground Control Stations, Spares
  - Scheduled Delivery Spring 2010
- Operator Training Following Delivery
- Operational Assessment Prior To First Deployment

Attribute	Viking 400
Wing Span (ft)	20.0
Length (ft)	15.0
Payload (lbs)	Up To 130
MGTOW (lbs)	530
Empty Wt (lbs)	336
Engine (Hp)	38

Medium Altitude Long Endurance Tactical (MALET)

USAF Capability with SOF Unique Capability Areas for Rapidly Deployable Persistent ISR and Precision Strike

- Low Collateral Damage Precision Guided Missile
- Assets-Co-located w/Ground Elements
- Control from CONUS
- Transmission of Full-Motion-Video
- Signals Intelligence

MQ-9

MQ-1

MQ-1 Predator	Attribute	MQ-9 Reaper
Rapid Deployment	Mission	Precision Strike
48	Wing Span (ft)	66
585	Useful Load (lbs)	5,600
2,300	MGTOW (lbs)	10,000
25,000	Op Altitude (ft)	50,000
135	Max Airspeed (KIAS)	>220

SOF Long-Endurance Demonstrator (SLED) - YMQ-18A

Developmental VTOL UAS capable of supporting variable payloads/ missions with medium altitude and long-endurance

Key Performance

- 18+ Hours Maximum Endurance
- 160+ mph Max Speed
- 20,000 Ft Hover Out of Ground Effect
- Vertical Take-Off and Landing
- Multiple payload capabilities

- FY05 ACTD demonstrated long-endurance and capability to support multiple payloads
- Post-JCTD User Evaluation On-Track
  - Demonstrate integration with FOPEN radar
- Multiple organizations exploring potential CONOPS
  - Counter IED; Cargo/Precision Resupply; ISR
- SOF VTOL UAS CDD in staffing

Attribute	YMQ-18A
Rotor Dia. (ft)	36.0
Length (ft)	35.0
Payload (lbs)	Up To 1,000
MGTOW (lbs)	6,500
Empty Wt (lbs)	2,500

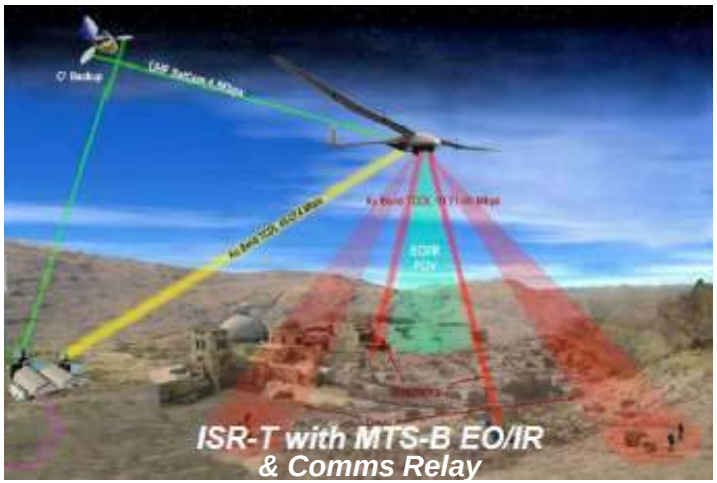
Global Observer
Joint Capability Technology Demonstration

Address Current Capability Gap in Persistent ISR, Communications Relay and PSYOP Broadcast with a High-Altitude, Long-Endurance UAS

Program Objectives

- Flight endurance of 5 days at 65,000 feet
- Flight endurance of 7 days at 55,000 feet
- Payload capacity of 380 lbs
- Flight Testing & Demonstrations in CY10
- Potential Transition for Extended User Eval in FY11

Role	Organization
Oversight Executive	DUSD AS&C
COCOM Sponsors	USSOCOM and USSTRATCOM
Lead Service	United States Air Force (USAF)
Technical Manager (TM)	USSOCOM SORDAC-FW
Operational Manager (OM)	Air Force Special Operations Command
Transition Manager (XM)	USAF ACC
Government Partner	ASAALT, DHS, and DTRA
Industry Partner	AeroVironment Inc. (AV)



USSOCOM J33 JRB

Perspective/Observations

UAS Perspectives

- **UAS Demand will continue to expand**
  - **But have experienced the "ground floor" of DOD demand**
    - 3 Caps (MQ-1) 2003 to currently 40+ caps ⟶ ~60 caps 2012
    - Growth facilitated by:
      - "Open skies" in AFG/Iraq with DOD controlling combat assets
      - Minimal certification/standardization
      - Surges ordered at senior DOD levels
      - ISR Task Force formed
  - **DOD demand continues to grow**
    - Services continue building respective programs
    - "Truck" aspect remains important, but DOD continues to refine specific/technical capabilities and payloads
  - **Transition to entities outside US DOD: Customs, NOAA, Law Enforcement, Foreign Countries opens additional market share opportunities**

UAS Perspectives

- **UAS facilitators to continued growth**
  - **Resolving Airspace Issues: CONUS and OUTCONUS**
    - Haiti issue with UAS/Airspace
  - **“Sense and Avoid” technology**
  - **DOD/FAA Regulation**
  - **Pilot/Crew Training Standardization/Requirements/Currency**
  - **Safety/Reliability track record**
  - **Public opinion/trust**
  - **RPA vice UAS**
  - **Encryption**
  - **Bandwidth/Satellite time/Frequency congestion**
  - **Modular Payloads**

UAS Perspectives

- **Near-Term Factors Affecting UAS Demand/Employment**
  - **Planned Iraq drawdown from now through Dec 2011**
  - **Demand for small UAS likely lessen as large become more prevalent**
  - **Future engagement will focus more on host/partner nation collaboration**
  - **Air Space/POLMIL issues may spur small manned aircraft option**
    - Flying manned aircraft poses little/no airspace concern
    - Manned aircraft less conspicuous
    - However minimal growth planned for manned aircraft (Liberty)
      - P-3 operating under HONA/eventual replacement by P-8
      - Army Guardrail RC-12, Guard RC-26, MARRS

Summary

- Experienced accelerated UAS growth in past 9 years primarily to service Iraq/Afg engagement.
- To transition employment of UAS elsewhere outside Iraq/Afg and migrate utilization to other-than-military applications, different set of challenges will need resolution to facilitate further growth.
- Until challenges to “open sky” UAS operation are resolved, may see some tapering of demand tempered with balance of small manned aircraft.

Questions??