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2011 Special Operations Forces Industry Conference

**Tampa, FL
May 17-19, 2011**

Agenda

TUESDAY, MAY 17, 2011

BUSINESS OPPORTUNITIES SESSION

Small Business and TILO

- Mrs. Karin Fones, Program Support Specialist, Technology and Industry Liaison Office, USSOCOM
- Mr. Chris Harrington, Director, Office of Small Business Programs and Technology and Industry Liaison Office, USSOCOM

SBIR and S&T

- Mrs. Margaret McCaskey, Director, Experimentation and JCTD, USSOCOM
- Mr. Shawn Patterson, Program Manager, SBIR, USSOCOM

AT&L Efficiencies and Contract Effects

- Col Kurt Bergo, USAF, Director, Procurement, USSOCOM

Tips for Submitting Successful Proposals

- Ms. Traci Dandeneau, Contracting Specialist, USSOCOM
- Ms. Sue Griffin, Contracting Officer, USSOCOM
- Mr. Kevin Jans, Contracting Officer, USSOCOM
- Mr. Chris Kernan, Acquisition Attorney, USSOCOM
- Ms. Verdetta Weaver, Contracting Officer, USSOCOM

Remarks

- Mr. James W. Cluck, Acquisition Executive and Director, Special Operations Research, Development, and Acquisition Center, USSOCOM

WEDNESDAY, MAY 18, 2011

CONCURRENT TRACK SESSIONS

Understand

- PEO-Special Reconnaissance, Surveillance, and Exploitation (SRSE) Portfolio Review and APBI PEO-SRSE, Mr. Doug Richardson
- SOF ISR Roadmap PEO-SRSE, Col James Berry, USAF and Ms. Valerie Shuey
- Identify Superiority/Sensitive Site Exploitation - The Future of SOCOM Biometrics PEO-SRSE, Mr. Craig Archer and Mr. Mike Fitz
- PEO-Fixed Wing (FW) Portfolio Review and APBI PEO-FW, Col Duke Richardson, USAF
- Enhanced Fixed Wing Capabilities PEO-FW, Col Duke Richardson, USAF

Communicate

- PEO-Command, Control, Communications, and Computers (C4) Portfolio Review and APBI PEO-C4, Mr. Tony Davis

- USSOCOM Tactical Wide Band SATCOM Efforts PEO-C4, Mr. Eric Barnes
- ISR/Full Motion Video Architecture/ Initiatives PEO-C4, Mr. Tony Coones
- MISO Portfolio Review PEO-C4, Ms. Caryn Bain
- Mobile Distributed Communication Architecture (MDCA) Panel SORDAC-ST, Mr. Weldon Jones
- Miniaturized/Conformal Antennas Panel SORDAC-ST
- Electronic Protection Panel SORDAC-ST

Move

- PEO-Rotary Wing (RW) Portfolio Review and APBI PEO-RW, COL Doug Rombough, USA
- Future of SOF Vertical Lift Efforts PEO-RW, COL Doug Rombough, USA
- Rotary Wing Communications PEO-RW and Rotary Wing Situational Awareness PEO-RW, COL Doug Rombough, USA
- PEO-Maritime (M) Portfolio Review and APBI PEO-M, CAPT Richard Blank, USN
- Advanced Surface Craft Power Systems PEO-M, Mr. Peter Depa
- Low-cost Dry Submersible Hull, Mechanical, and Electrical PEO-M, Mr. Stephen Armstrong

Engage

- PEO-Special Operations Forces Warrior (SW) Portfolio Review and APBI PEO-SW, COL Jim Smith, USA
- Ground Combatant Systems (GCS) - Survivability, Ballistic, Weather, Medical PEO-SW, Mr. Duke Dunnigan
- GCS - Mobility PEO-SW, Mr. Michael Ellis
- GCS - Lethality, Visual Augmentation, Weapons, Ammunition PEO-SW, Mr. Patrick Carley
- Science and Technology (S&T) Portfolio Review and APBI SORDAC-ST, Ms. Lisa Sanders
- Visual Augmentation Panel SORDAC-ST
- Target Engagement Panel SORDAC-ST
- Non-lethal Interdiction of People and Vehicles Panel SORDAC-ST
- Advanced Energetics Panel SORDAC-ST

THURSDAY, MAY 19, 2011

CONCURRENT TRACK SESSIONS

UNDERSTAND

- Guiding the Tip of the Spear PEO-SRSE, Ms. Jan E. Fitz
- Guiding the Tip of the Spear PEO-SRSE, Lt Col Edmund Fitzgerald, USAF
- Guiding the Tip of the Spear PEO-SRSE, Mr. Charles Arant
- SIGINT/Cyber Future Environment PEO-SRSE, LCDR Aaron Hill, USN
- Trends in Global Communications, Mr. John McEachen, Ph.D.

COMMUNICATE

- High Speed Communication PEO-M, Mr. Peter Depa
- Lightweight, Small Volume, CO2 Removal Technology for Underwater Breathing Apparatus (UBA) and Undersea Platforms` PEO-M

MOVE

- Improved Energy Density Batteries Panel SORDAC-ST
- Sustainable Power and Energy SORDAC-ST
- Mobility Technology Projects Panel SORDAC-ST

ENGAGE

- Combat Swimmer Thermal Protection System PEO-M
- Dynamic Ride Impact Mitigation PEO-M, CDR Joe Dituri, USN
- Advanced Materials for Armor and Weight Reduction Panel SORDAC-ST
- Multi-spectral Signature Reduction Panel SORDAC-ST

REGISTRATION CHECK-IN

| | |
|------------------|---------------------------|
| Saturday | 10:00 AM - 5:00 PM |
| Sunday | 8:00 AM - 5:00 PM |
| Monday | 8:00 AM - 5:00 PM |
| Tuesday | 7:00 AM - 6:00 PM |
| Wednesday | 7:00 AM - 4:30 PM |
| Thursday | 7:00 AM - 2:00 PM |

ID BADGE

During onsite registration check-in, each Attendee will be issued a conference identification name badge. Please be prepared to present a valid picture ID. Badges must be worn at all conference functions.

ATTIRE

Appropriate dress for this conference is business casual for civilians and uniform of the day for military personnel.

GALA DINNER ATTIRE

Civilian: Black Tie/Formal
Army: Mess Dress or Dress Blues
Marine Corps: Mess Dress
Navy: Dinner Dress White Jacket
Air Force: Mess Dress

LUNCH ON OWN

Lunch items will be available for purchase in the Exhibit Hall and Ballroom D during the conference. Cash and major credit cards will be accepted.

MONDAY, MAY 16, 2011

| | |
|---------------------------|--|
| 8:00 AM - 5:00 PM | Registration Open <i>Mezzanine Level</i> |
| 8:00 AM - 5:00 PM | Exhibitor Setup <i>Exhibit Hall</i> |
| 11:00 AM - 6:00 PM | Golf Tournament 11:00 AM - Registration and Lunch 1:00 PM - Shotgun Start <i>Bay Palms Golf Course, MacDill AFB; Registration Required</i> |

TUESDAY, MAY 17, 2011

| | |
|--------------------------|--|
| 7:00 AM - 6:00 PM | Registration Open <i>Mezzanine Level</i> |
| 7:00 AM - 9:00 AM | Continental Breakfast <i>Ballroom D</i> |

Business Opportunities Session

| | |
|----------------------------|---|
| 9:00 AM - 9:30 AM | Small Business and TILO <i>Ballrooms A-C</i> <ul style="list-style-type: none"> ► Mrs. Karin Fones, Program Support Specialist, Technology and Industry Liaison Office, USSOCOM ► Mr. Chris Harrington, Director, Office of Small Business Programs and Technology and Industry Liaison Office, USSOCOM |
| 9:30 AM - 10:15 AM | SBIR and S&T <i>Ballrooms A-C</i> <ul style="list-style-type: none"> ► Mrs. Margaret McCaskey, Director, Experimentation and JCTD, USSOCOM ► Mr. Shawn Patterson, Program Manager, SBIR, USSOCOM |
| 10:00 AM - 6:00 PM | Exhibit Hall Open <i>Exhibit Hall</i> |
| 10:15 AM - 10:45 AM | Networking Break <i>Exhibit Hall</i> |
| 10:45 AM - 11:15 AM | AT&L Efficiencies and Contract Effects <i>Ballrooms A-C</i> <ul style="list-style-type: none"> ► Col Kurt B ergo, USAF, Director, Procurement, USSOCOM |
| 11:15 AM - 11:45 AM | Tips for Submitting Successful Proposals <i>Ballrooms A-C</i> <ul style="list-style-type: none"> ► Ms. Traci Dandeneau, Contracting Specialist, USSOCOM ► Ms. Sue Griffin, Contracting Officer, USSOCOM ► Mr. Kevin Jans, Contracting Officer, USSOCOM ► Mr. Chris Kernan, Acquisition Attorney, USSOCOM ► Ms. Verdetta Weaver, Contracting Officer, USSOCOM |
| 11:45 AM - 1:00 PM | Lunch on Own |

SENIOR INDUSTRY EXECUTIVE FORUM

Pre-approved CEOs, COOs, and Presidents are invited to participate in a Senior Industry Executive Forum during SOFIC, to occur on Wednesday, May 18, 2011, 2:00 PM - 3:30 PM at the Tampa Convention Center, Rooms 15-16. Advanced registration is required. Neither onsite registrations nor substitutions will be accepted.

The Forum will be hosted by ADM Eric T. Olson, Commander, USSOCOM, and Mr. James W. Cluck, Acquisition Executive and Director, Special Operations Research, Development, and Acquisition Center, USSOCOM, to provide an opportunity for industry and USSOCOM to share their insights, perspectives, and priorities relating to USSOCOM acquisition objectives and challenges. The Forum is designed to be an informative discussion, with audience participation, between industry and government leaders and experts. Component Commanders in attendance include:

- ▶ LTG John Mulholland, USA, Commander, USASOC
- ▶ RADM Edward Winters, USN, Commander, NAVSPECWARCOM
- ▶ Lt Gen Eric Fiel, USAF, Vice Commander, USSOCOM
- ▶ MajGen Paul Lefebvre, USMC, Commander, MARSOC

SOFIC Conference

1:00 PM - 1:05 PM

Conference Welcome Remarks

Ballrooms A-C

- ▶ MG Barry D. Bates, USA (Ret), Vice President, Operations, NDIA

1:05 PM - 1:45 PM

Remarks

Ballrooms A-C

- ▶ ADM Eric T. Olson, Commander, USSOCOM

1:45 PM - 2:30 PM

Remarks

Ballrooms A-C

- ▶ Mr. James W. Cluck, Acquisition Executive and Director, Special Operations Research, Development, and Acquisition Center, USSOCOM

2:30 PM - 3:00 PM

Networking Break

Exhibit Hall

3:00 PM - 4:00 PM

USSOCOM Component Commander Panel

Ballrooms A-C

- ▶ LTG John Mulholland, USA, Commander, USASOC
- ▶ RADM Edward Winters, USN, Commander, NAVSPECWARCOM
- ▶ Lt Gen Donald Wurster, USAF, Commander, AFSOC
- ▶ Maj Gen Paul Lefebvre, USMC, Commander, MARSOC

4:00 PM - 4:30 PM

Session Adjourned - Free Time

4:30 PM - 6:00 PM

“Star Spangled Salute” Networking Reception

Exhibit Hall

WEDNESDAY, MAY 18, 2011

7:00 AM - 4:30 PM

Registration Open

Mezzanine Level

7:00 AM - 8:00 AM

Continental Breakfast

Ballroom D

8:00 AM - 8:45 AM

Understand: Advancing SOF's Battlespace Awareness

Ballrooms A-C

Moderator: Mr. Konrad Trautman, Director, J2, USSOCOM

- ▶ Mr. Craig Archer, Chief, Identity Intelligence Branch, J2, USSOCOM
- ▶ Col James Berry, USAF, Chief of the SOF ISR Cell, J2, USSOCOM
- ▶ LTC Scott Riley, USA, G2, USASOC
- ▶ LtCol Michelle Trusso, USMC, Operations Officer, JICSOC, USSOCOM

This panel will discuss USSOCOM's efforts to know and understand the operational area to enable SOF with timely, relevant, comprehensive, and accurate assessments. Key discussion areas will be:

- ▶ ISR Planning, Direction, and Collection
- ▶ Processing, Exploitation, Analysis, and Production
- ▶ Dissemination
- ▶ Military Information Support Operations and Civil Affairs Technologies

SOFIC 2011 AGENDA

8:45 AM - 9:00 AM **Transition to Track Sessions**

9:00 AM - 3:30 PM **Exhibit Hall Open**
Exhibit Hall

9:00 AM - 9:45 AM **Concurrent Track Sessions**

| | UNDERSTAND | COMMUNICATE | MOVE | ENGAGE |
|--------------------------|---|---|---|---|
| | Rooms 18-19 | Rooms 20-21 | Rooms 22-23 | Rooms 24-25 |
| 9:00 AM - 9:45 AM | PEO-Special Reconnaissance, Surveillance, and Exploitation (SRSE) Portfolio Review and APBI <i>PEO-SRSE, Mr. Doug Richardson</i> | PEO-Command, Control, Communications, and Computers (C4) Portfolio Review and APBI <i>PEO-C4, Mr. Tony Davis</i> | PEO-Rotary Wing (RW) Portfolio Review and APBI <i>PEO-RW, COL Doug Rombough, USA</i> | PEO-Special Operations Forces Warrior (SW) Portfolio Review and APBI <i>PEO-SW, COL Jim Smith, USA</i> |

9:45 AM - 10:15 AM **Networking Break**
Exhibit Hall

10:15 AM - 12:00 PM **Concurrent Track Sessions**

| | UNDERSTAND | COMMUNICATE | MOVE | ENGAGE |
|----------------------------|--|---|---|---|
| | Rooms 18-19 | Rooms 20-21 | Rooms 22-23 | Rooms 24-25 |
| 10:15 AM - 12:00 PM | SOF ISR Roadmap <i>PEO-SRSE</i> Identify Superiority/Sensitive Site Exploitation - The Future of SOCOM Biometrics <i>PEO-SRSE</i> | Secure Wireless Mobile Ad Hoc Network (MANET) <i>PEO-C4</i> USSOCOM Tactical Wide Band SATCOM Efforts <i>PEO-C4</i> ISR/Full Motion Video Architecture/Initiatives <i>PEO-C4</i> | Operations Brief - 160th SOAR (A) <i>PEO-RW</i> Future of SOF Vertical Lift Efforts <i>PEO-RW</i> Rotary Wing Communications <i>PEO-RW</i> Rotary Wing Situational Awareness <i>PEO-RW</i> | Ground Combatant Systems (GCS) - Survivability, Ballistic, Weather, Medical <i>PEO-SW</i> GCS - Mobility <i>PEO-SW</i> GCS - Lethality, Visual Augmentation, Weapons, Ammunition <i>PEO-SW</i> |

12:00 PM - 1:00 PM **Lunch on Own**

1:00 PM - 1:45 PM **Communicate: The SOF Information Environment – Net-centric USSOCOM Information Technology (IT) Warfare**
Ballrooms A-C

Moderator: Mr. John Wilcox, Director, J6, USSOCOM

- ▶ COL Campbell Cantelou, USA, G6, USASOC
- ▶ CDR Ken Elkern, USN, N6, NAVSPECWARCOM
- ▶ Col Von Gardiner, USAF, A6, AFSOC
- ▶ LtCol Gary Delgado, USMC, G6, MARSOC

This panel will discuss USSOCOM's efforts to provide SOF with net-centric communication capabilities that enable SOF to form, run, and fight as a network, seamlessly in garrison down to three-man teams globally deployed in areas with limited coverage and/or infrastructure support. Key discussion areas will be:

- ▶ CIO 5-year Strategic Vision
- ▶ Key Technology Capabilities
- ▶ SIE End-states to be Enabled over the Next 5 Years

SOFIC 2011 AGENDA

1:45 PM - 2:00 PM **Transition to Track Sessions**

2:00 PM - 2:45 PM **Concurrent Track Sessions**

| | UNDERSTAND | COMMUNICATE | MOVE | ENGAGE |
|--------------------------|---|--|---|--|
| | Rooms 18-19 | Rooms 20-21 | Rooms 22-23 | Rooms 24-25 |
| 2:00 PM - 2:45 PM | PEO-Fixed Wing (FW) Portfolio Review and APBI <i>PEO-FW, Col Duke Richardson, USAF</i> | Single Network Infrastructure for Multiple Security Classifications <i>PEO-C4</i> Secure Wireless for TS Networks <i>PEO-C4</i> MISO Portfolio Review <i>PEO-C4</i> | PEO-Maritime (M) Portfolio Review and APBI <i>PEO-M, CAPT Richard Blank, USN</i> | Science and Technology (S&T) Portfolio Review and APBI <i>SORDAC-ST, Ms. Lisa Sanders</i> |

2:45 PM - 3:15 PM **Networking Break**
Exhibit Hall

3:15 PM - 4:30 PM **Concurrent Track Sessions**

| | UNDERSTAND | COMMUNICATE | MOVE | ENGAGE |
|--------------------------|---|---|--|---|
| | Rooms 18-19 | Rooms 20-21 | Rooms 22-23 | Rooms 24-25 |
| 3:15 PM - 4:30 PM | Enhanced Fixed Wing Capabilities <i>PEO-FW</i> | Fly-Away Broadcast System (FABS) Version 2 Miniaturization Requirements <i>PEO-C4</i> Audio Leaflet <i>PEO-C4</i> Sonic Projection <i>PEO-C4</i> Mobile Distributed Communication Architecture (MDCA) Panel <i>SORDAC-ST</i> Miniaturized/Conformal Antennas Panel <i>SORDAC-ST</i> Electronic Protection Panel <i>SORDAC-ST</i> | Lightweight, Submersible, Multi-fuel Outboard Engines <i>PEO-M</i> Advanced Surface Craft Power Systems <i>PEO-M</i> Low-cost Dry Submersible Hull, Mechanical, and Electrical <i>PEO-M</i> | Visual Augmentation Panel <i>SORDAC-ST</i> Target Engagement Panel <i>SORDAC-ST</i> Non-lethal Interdiction of People and Vehicles Panel <i>SORDAC-ST</i> Advanced Energetics Panel <i>SORDAC-ST</i> |

4:30 PM - 6:00 PM **Session Adjourned - Free Time**

6:00 PM - 7:00 PM **Gala Reception**
Marriott Waterside Hotel - Grand Ballroom Foyer; Registration Required

7:00 PM - 10:00 PM **Gala Dinner with Guest Speaker**
Marriott Waterside Hotel - Grand Ballroom; Registration Required
► Gen James N. Mattis, USMC, Commander, USCENTCOM

THURSDAY, MAY 19, 2011

7:00 AM - 2:00 PM **Registration Open**
Mezzanine Level

7:00 AM - 8:00 AM **Continental Breakfast**
Ballroom D

8:00 AM - 8:45 AM **Move: Enhancing SOF's Maneuver Capabilities through Recapitalization, Structured Growth, and Modernization**
Ballrooms A-C

Moderator: Brig Gen Eugene Haase, USAF, J8, USSOCOM

- ▶ BG Kevin Mangum, USA, Commander, ARSOAC
- ▶ CAPT Jason Ehret, USN, J8, NAVSPECWARCOM
- ▶ Brig Gen Norman Brozenick, USAF, A5/8/9, AFSOC
- ▶ Col John Fitzgerald, USMC, G8, MARSOC

This panel will discuss USSOCOM's continuing structured growth and recapitalization of its rotary- and fixed-wing aviation fleets, the wide range of SOF-peculiar and SOF-modified ground mobility vehicles, and the significant modernization and recapitalization of both surface and undersea mobility systems. Key discussion areas will be:

- ▶ Modernization of Surface and Undersea Mobility Systems
- ▶ Growth and Recap of Fixed- and Rotary-wing Assets, including Future Vertical Lift
- ▶ Tactical Ground Mobility Systems

8:45 AM - 9:00 AM **Transition to Track Sessions**

9:00 AM - 1:00 PM **Exhibit Hall Open**
Exhibit Hall

9:00 AM - 10:30 AM **Concurrent Track Sessions**

| | UNDERSTAND | COMMUNICATE | MOVE | ENGAGE |
|--------------------|--|--|--|--|
| | Rooms 18-19 | Rooms 20-21 | Rooms 22-23 | Rooms 24-25 |
| 9:00 AM - 10:30 AM | Guiding the Tip of the Spear <i>PEO-SRSE</i> | High Speed Communication <i>PEO-M</i> | Improved Energy Density Batteries Panel <i>SORDAC-ST</i> | Combat Swimmer Thermal Protection System <i>PEO-M</i> |
| | SIGINT/Cyber Future Environment <i>PEO-SRSE</i> | Lightweight, Small Volume, CO2 Removal Technology for Underwater Breathing Apparatus (UBA) and Undersea Platforms <i>PEO-M</i> | Sustainable Power and Energy <i>SORDAC-ST</i> | Dynamic Ride Impact Mitigation <i>PEO-M</i> |
| | | | Mobility Technology Projects Panel <i>SORDAC-ST</i> | Advanced Materials for Armor and Weight Reduction Panel <i>SORDAC-ST</i> |
| | | | | Multi-spectral Signature Reduction Panel <i>SORDAC-ST</i> |

10:30 AM - 11:00 AM **Networking Break**
Exhibit Hall

11:00 AM - 12:00 PM **SORDAC Awards Presentation**
Ballrooms A-C

The Special Operations Research, Development, and Acquisition Center (SORDAC) will recognize the exceptional performance and accomplishments of those in the SOF acquisition community.

12:00 PM - 1:00 PM **Lunch on Own**
Last Chance to View Exhibits

1:00 PM - 1:45 PM **Engage: SOF Operations at the Seams – Precision Strike and Protection Where it's Needed Most**
Ballrooms A-C

Moderator: COL Michael Adams, USA, J33, USSOCOM

- ▶ COL Nils Sorenson, USA, G3, USASOC
- ▶ CAPT Steve Wisotzki, USN, N-3, NAVSPECWARCOM
- ▶ Brig Gen Michael Kingsley, USAF, A3, AFSOC
- ▶ Mr. Gary Oles, Deputy G3, MARSOC

This panel will discuss current and future efforts to provide SOF with kinetic and non-kinetic capabilities in all environments for desired effects from all domains. Key discussion areas will be:

- ▶ Warfighter Protection – Countermeasures
- ▶ Precision Strike Advances
- ▶ Improved Non-lethal Capabilities (Airborne and Ground), including Vehicle and Personnel Stopping and Warning and Fratricide Avoidance

1:45 PM - 2:00 PM **Conference Concluding Remarks**
Ballrooms A-C

- ▶ MG Barry D. Bates, USA (Ret), Vice President, Operations, NDIA

Special Operations Forces Industry Conference



Col Kurt Bergo

Director of Procurement

AT&L Efficiencies and
Contract Effects



Procurement





Overview

- Organization & Mission
- Key Statistics
- Upcoming Source Selections
- USD (AT&L) Directed Initiatives





A Unique Organization

A Unified Combatant Command...

Command of all U.S. based SOF
Plan and Synch DOD activities in OCO
Deploy SOF to support GCCs as directed, conduct operations globally
Plan & execute pre-crisis activities

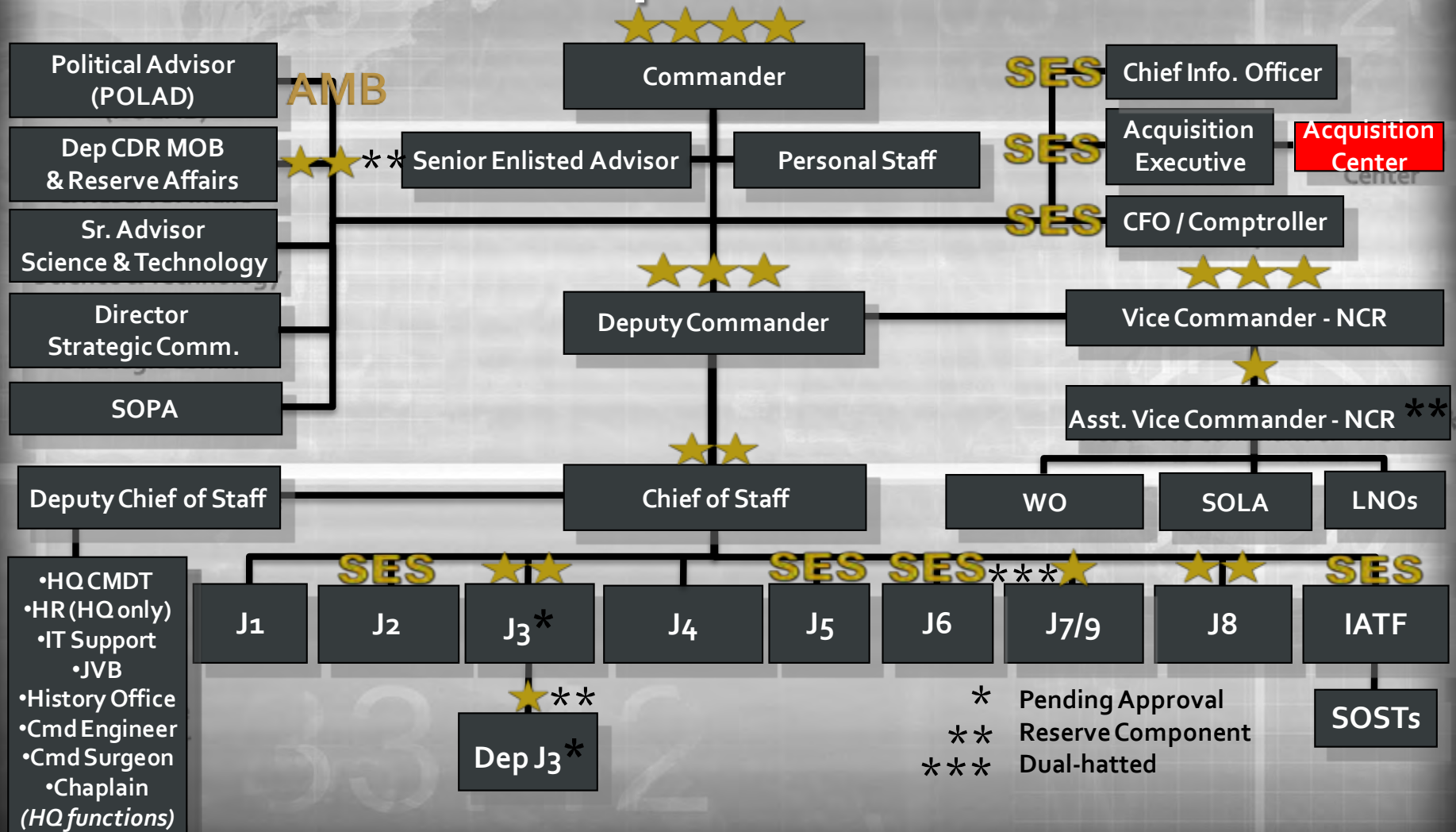


...with Service & MILDEP-like responsibilities

Organize, train, equip SOF
Develop Strategy/Doctrine/Tactics
Program and Budget
Monitor SOF personnel
Ensure interoperability
Procure SOF-peculiar equipment & training

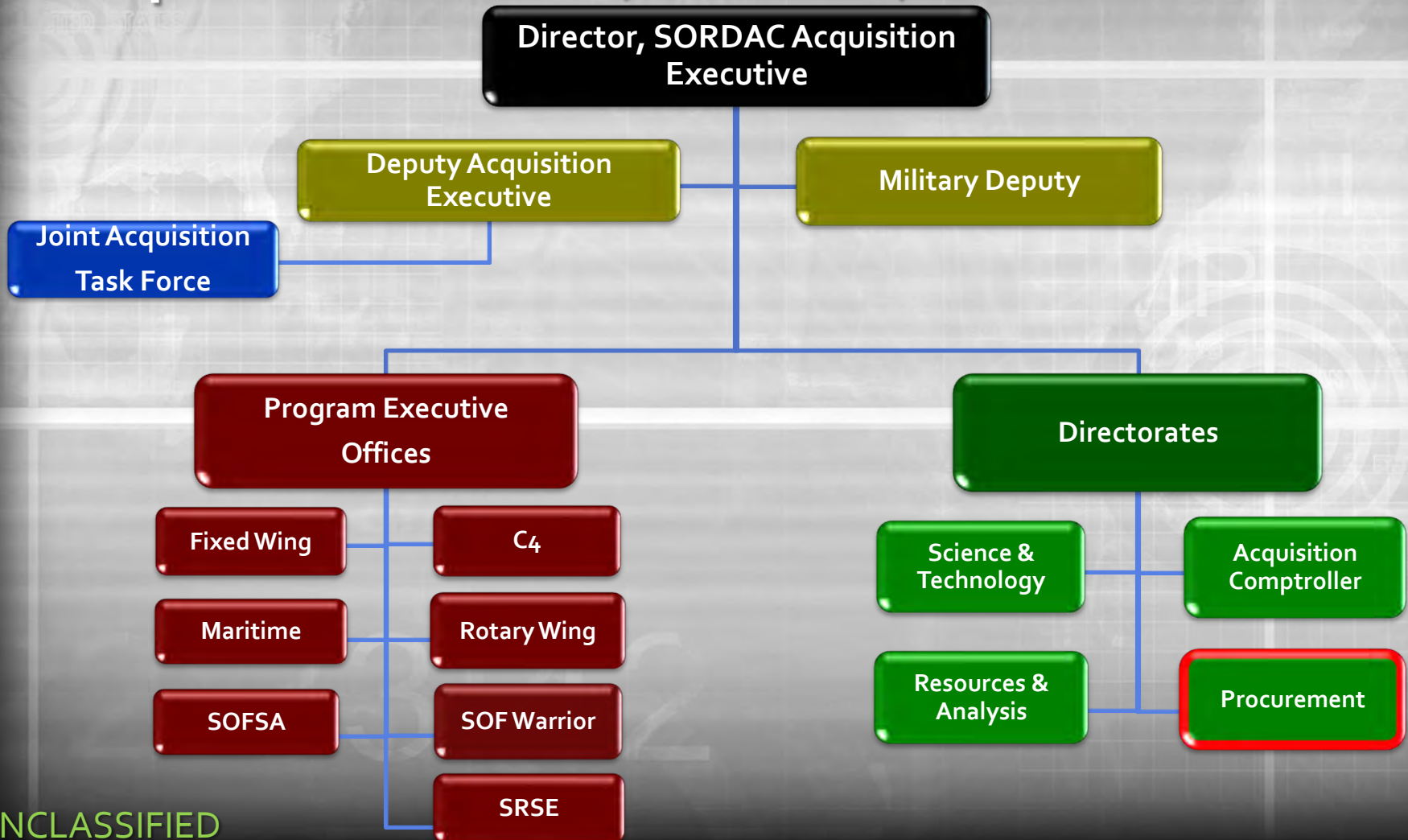


USSOCOM Headquarters



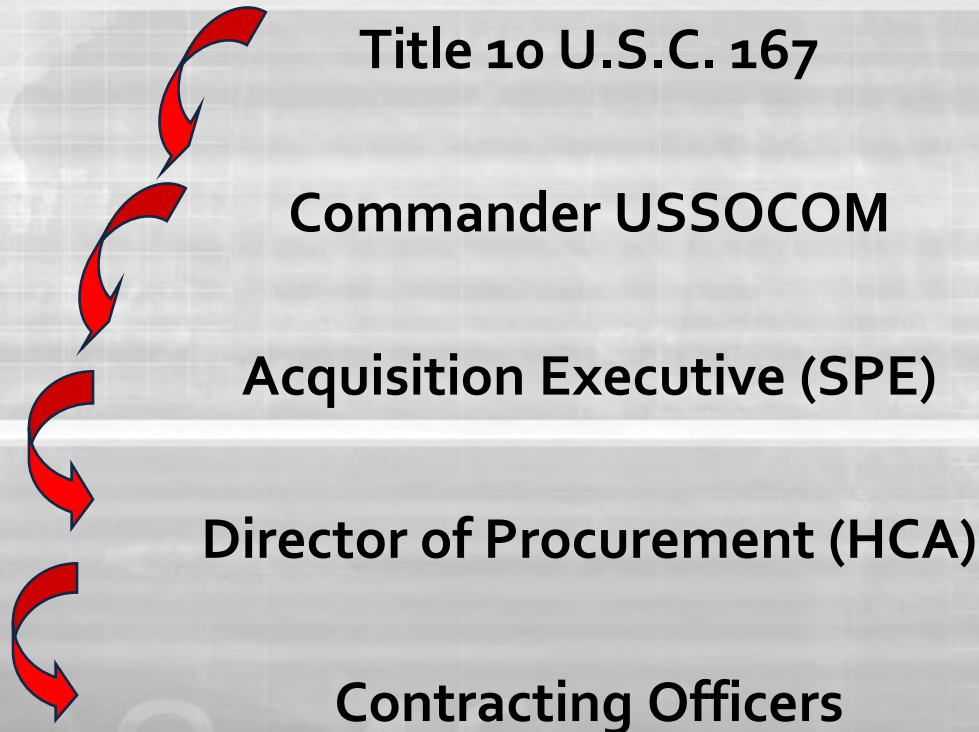


Special Operations Research, Development, Acquisition Center (SORDAC)





Flow of Contract Authority





Definition: Special Operations Peculiar

- Equipment, Materiel, Supplies, and Services with No Service-common Requirement
- Items Initially Used by SOF Until Adopted by a Service
- Modifications Approved by CDR USSOCOM for Application to Items Used by Other DOD Forces
- Critically Urgent Items/Services Supporting SOF Activities

Source: DODD 5100.3, "Support of the Headquarters of Combatant and Subordinate Joint Commands", Certified Current as of March 24, 2004



USSOCOM is a Joint "Acquisition Center"





Directorate of Procurement (DoP)

Mission Statement

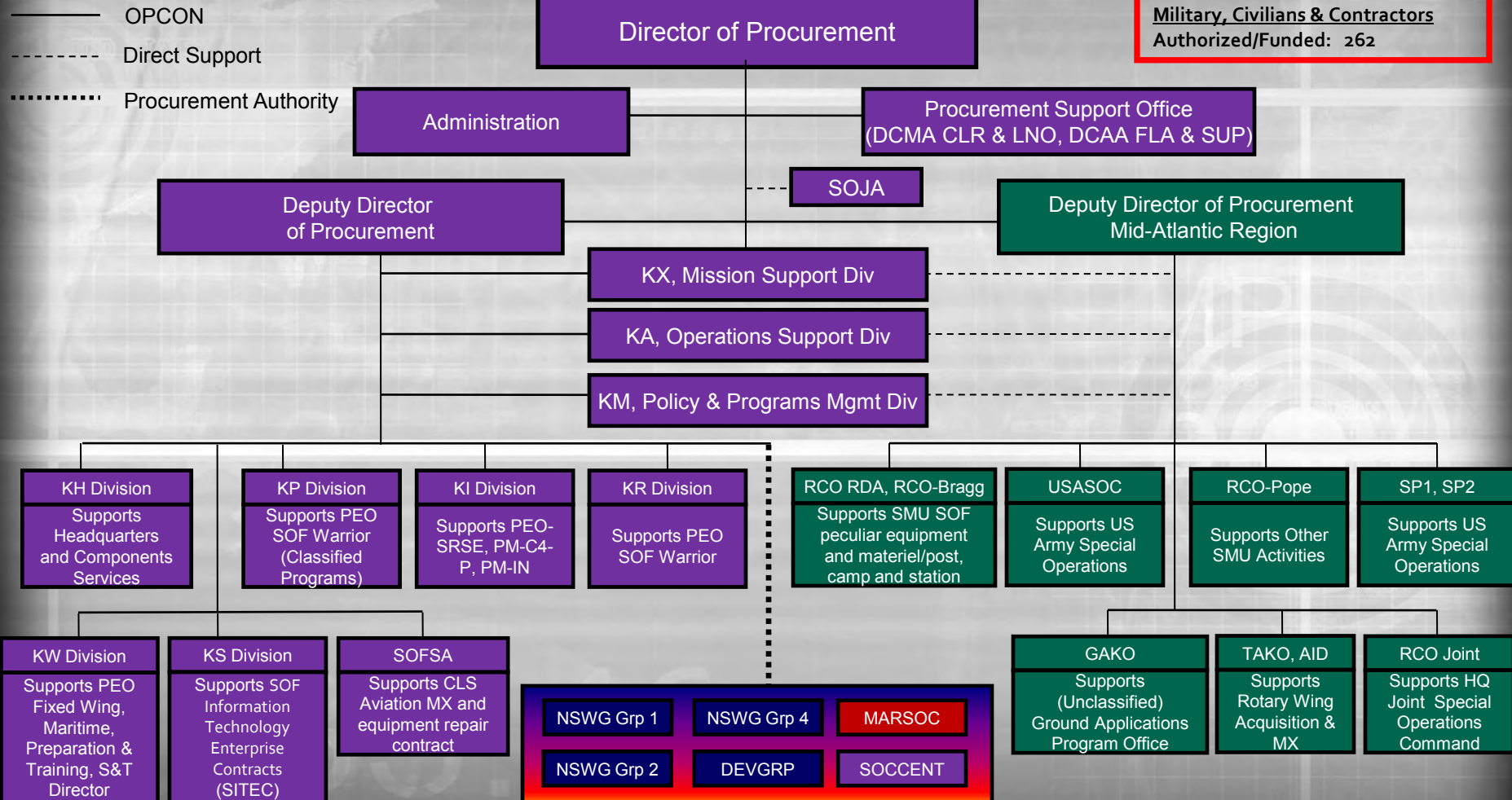
- To rapidly transform acquisition strategies into superior technologies, equipment, and services for Special Operations Forces world-wide.

Vision Statement

- To be DOD's finest contracting team providing rapid, focused, and innovative support to Special Operations Forces.

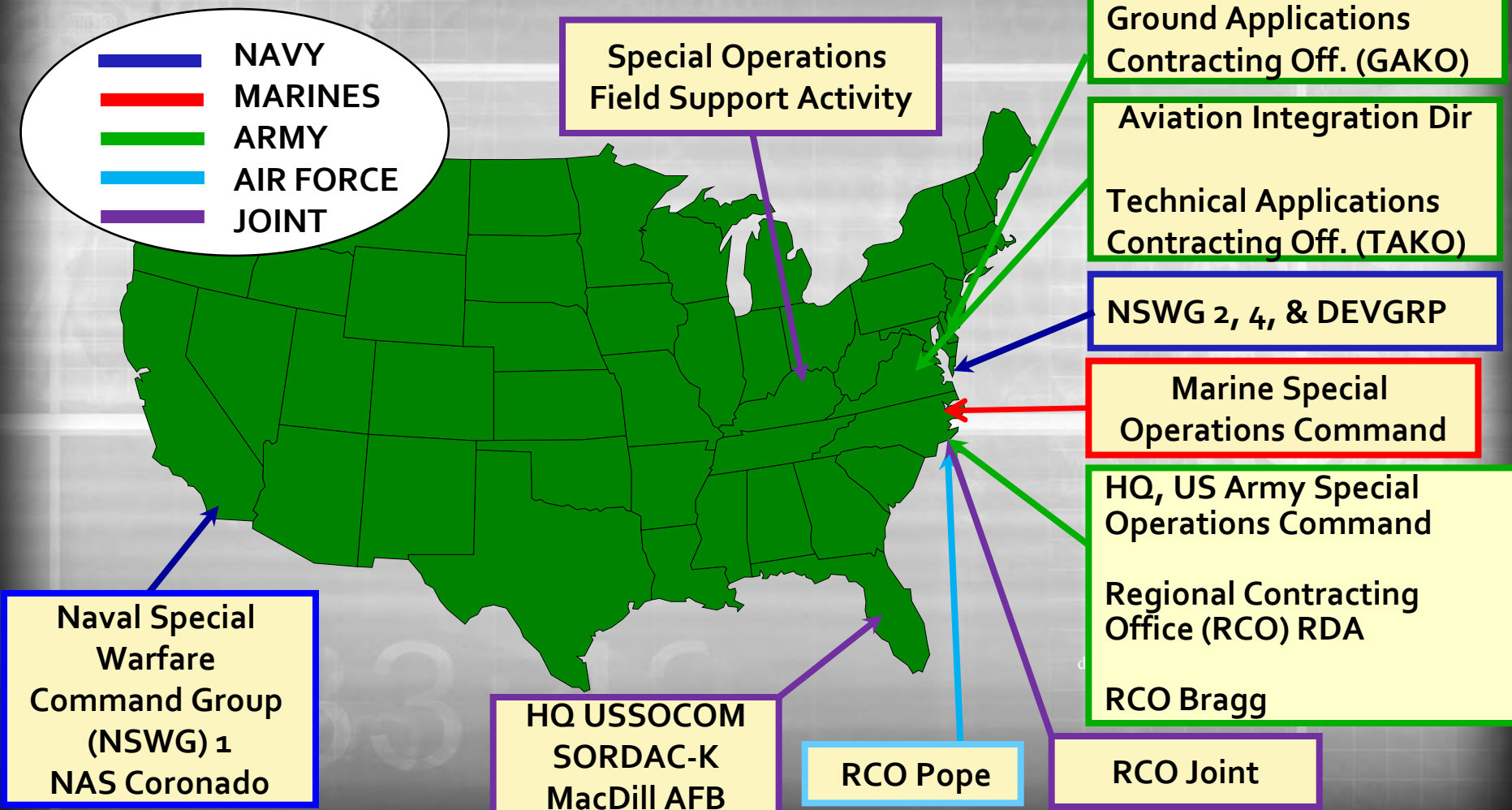


DoP Organizational Structure



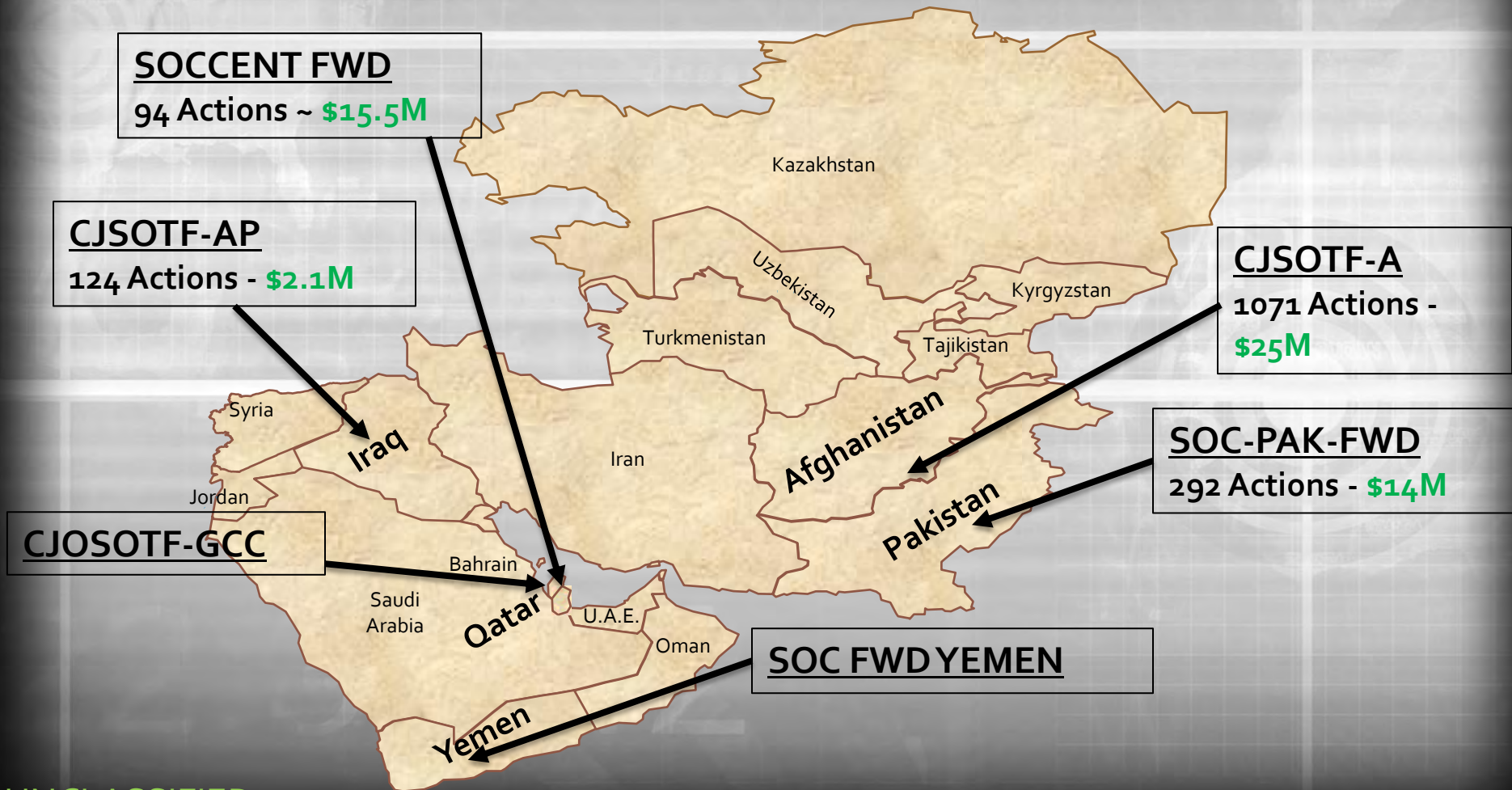


USSOCOM Contracting Offices



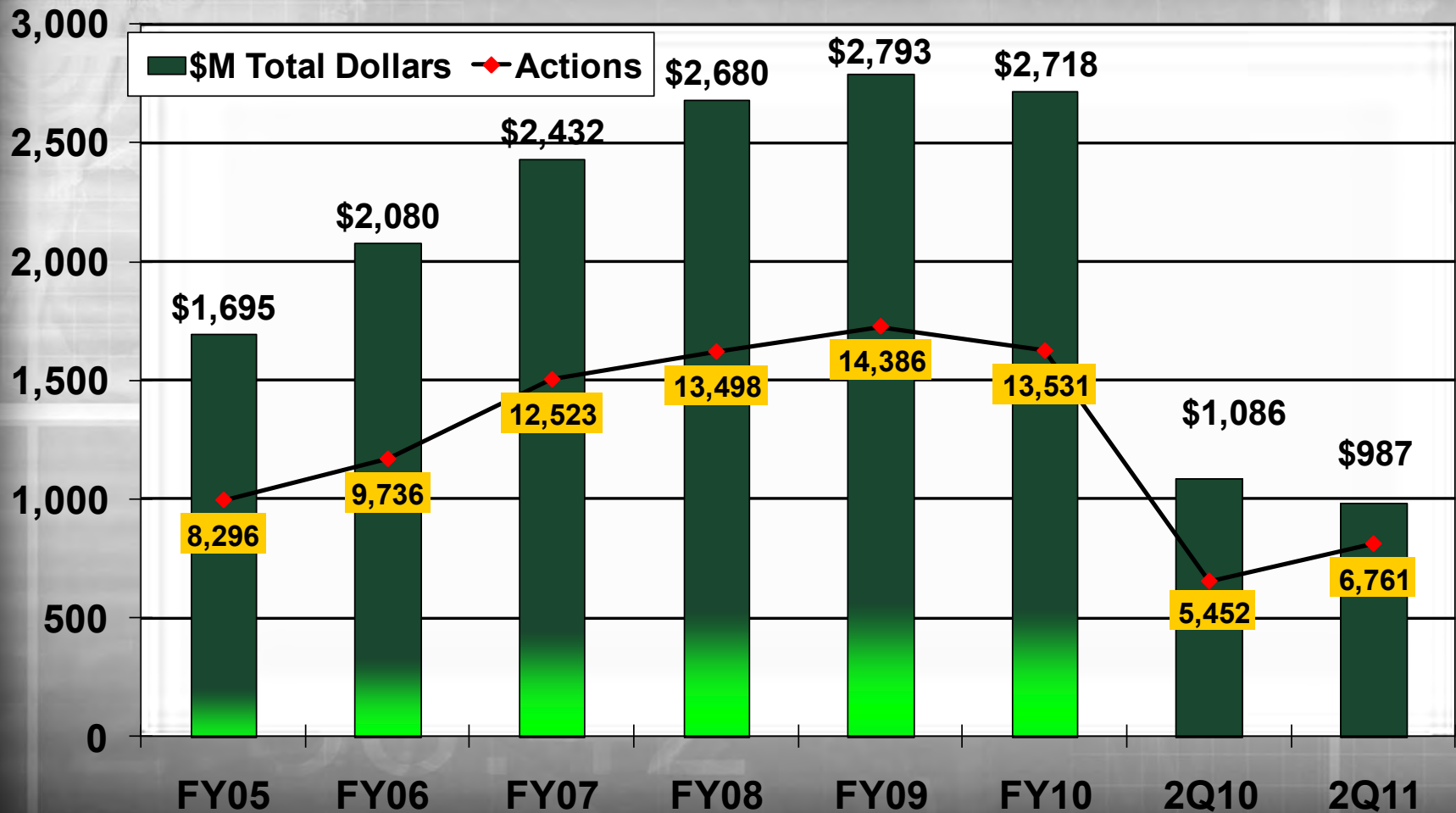


SOCCENT Contracting Footprint





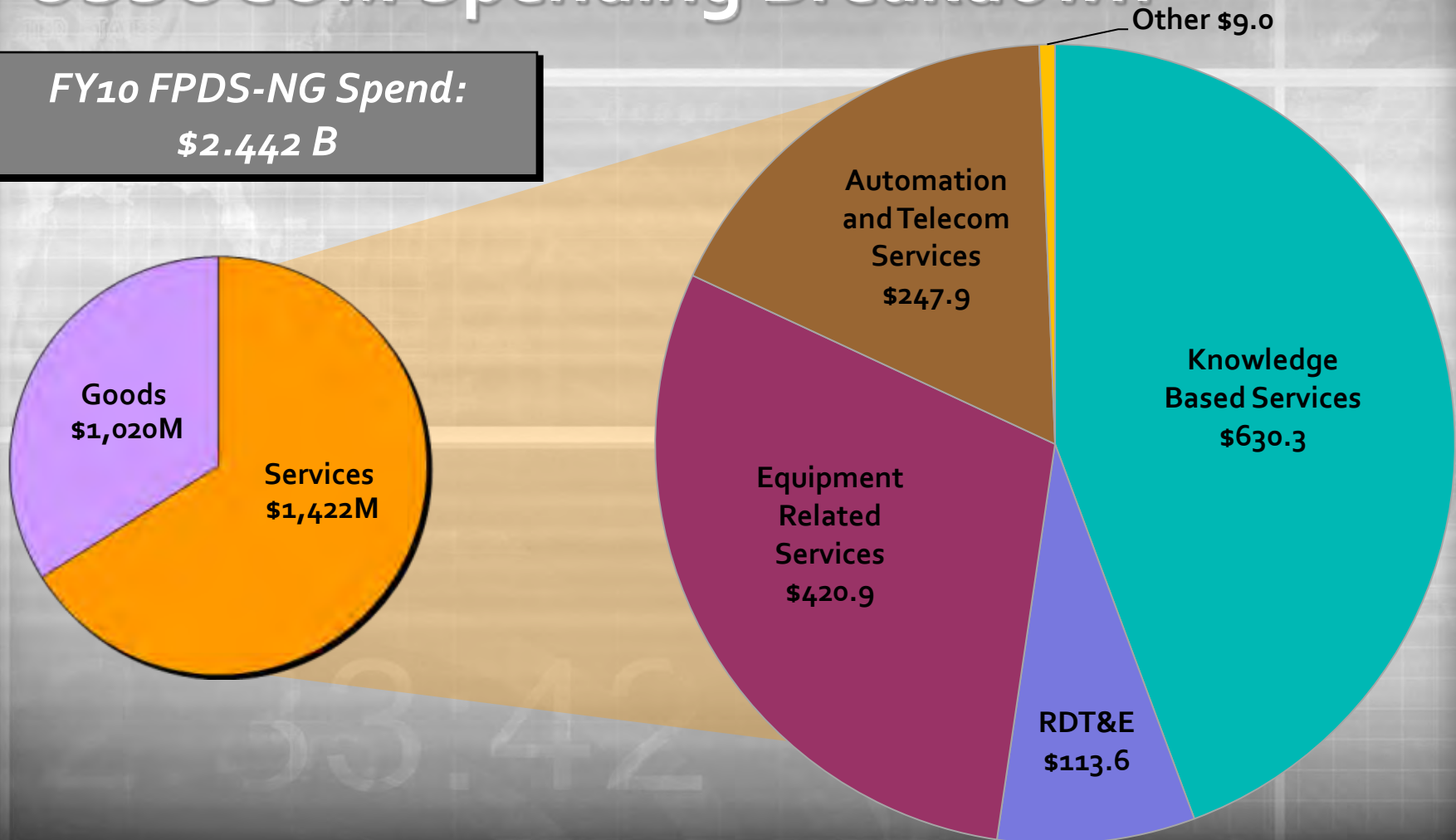
Procurement Activity Levels (FY05-FY11)





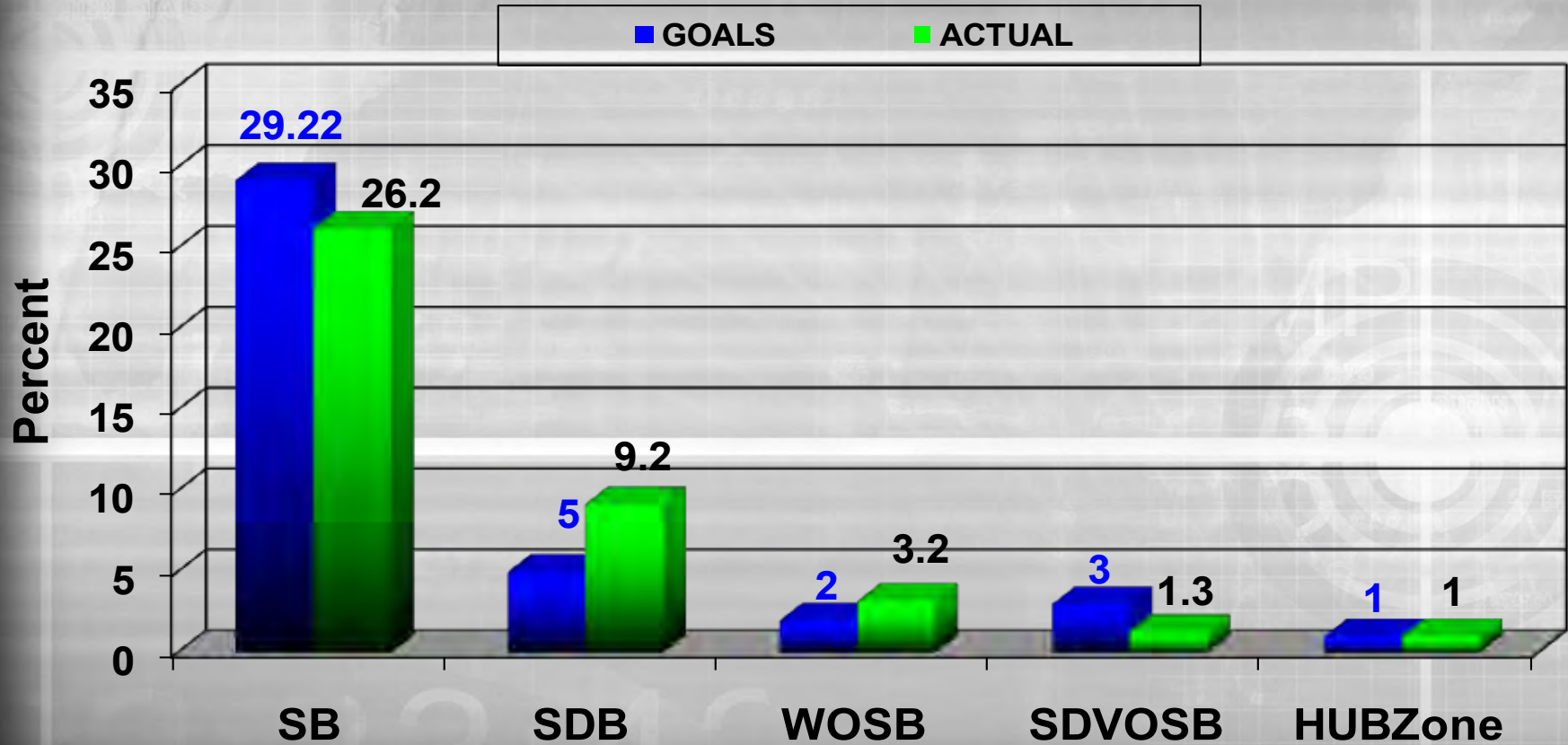
Fiscal Year 2010 USSOCOM Spending Breakdown

FY10 FPDS-NG Spend:
\$2.442 B





Small Business Program (FY11) (SORDAC-RA OSBP)



FY10 (\$M) 780.5
FY11 (\$M) 226.9

297.2
79.0

93.3
28.2

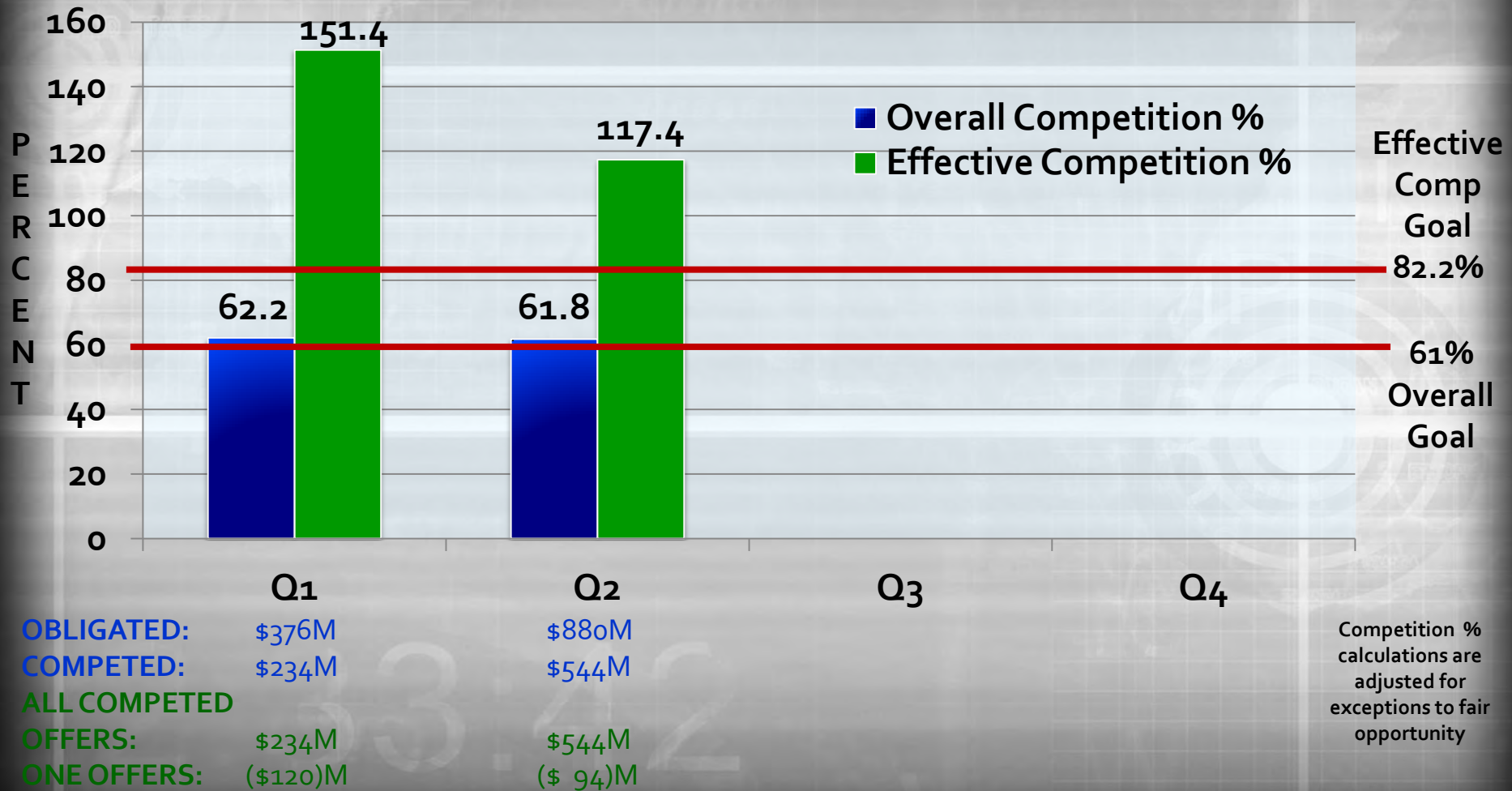
50.5
11.9

23.9
9.1

(2Q)



Effective Competition by Quarter





Upcoming Source Selections

| TITLE | BRIEF DESCRIPTION | EST AMOUNT | EST/ACT RFP RELEASE | EST AWARD DATE |
|--|---|--------------|---------------------|----------------|
| SITEC Specialty Services | Provides unique IT Enterprise Management Support to JSOC and TSOC along with Special Access Program Support Task Orders | TBD | Nov-11 | May-11 |
| Family of Terminals (SDN-M Recompete) | Non-developmental production ready Special Operations Forces Tactical Assured Connectivity System (SOFTACS) and Product Distribution System (PDS) family of terminals (FoT). | \$500M | Jul-11 | Jan-12 |
| Tactical Local Area Network (TACLAN) | Tactical Local Area Network (TACLAN) is a modular, scalable family of computer network equipment and workstations. | \$500M | May-11 | Aug-11 |
| SPEAR Backpack | Replace existing Load Carrying System | \$49M | Aug-11 | Mar-12 |
| Fully Integrated X-Ray Imaging Tool | Development of a fully integrated X-Ray imaging Tool | under \$10 M | May-11 | Aug-11 |
| Special Operations Eye Protection (SOEP) | Ballistic Goggles and Sunglasses | \$49M | Jun-11 | Jan-12 |
| Precision Sniper Rifle (PSR) | The PSR system (weapon and ammunition) will enhance operational effectiveness and sniper survivability. | \$252M | Jun-11 | Apr-12 |
| Ammunition and Weapon Testing | Engineering services and rapid response testing support for characterizing, testing, and documenting the performance of weapons, ammunition, munitions, and energetic systems, components and related systems | \$15M | Jun-11 | Sep-11 |
| Hard Armor Recompete | Hard armor ballistic plates, Non-commercial | \$49M | Mar-12 | Jan-13 |
| Modular Gloves System | Suite of integrated gloves, from thin, fire-resistant to extreme cold weather mitten | \$50M | Feb-12 | Nov-12 |
| Spot on Target (SPOTR) | A device to be used in conjunction with the Handheld Laser Marker (HLM) that allows operators to verify that their 1064-nm energy is on target at the intended ranges of the HLM. | \$45M | May-11 | Nov-11 |
| All Terrain Vehicles (ATVs) | Replace aging ATV fleet with "off-the-shelf" vehicles | \$32M | Aug-11 | Oct-11 |
| Ground Mobility Vehicles (GMVs) | Modified Commercial-Off-the-Shelf, medium weight vehicle | \$375M | Sep-11 | Apr-12 |
| Non-Standard Commercial Vehicles (NSCVs) | Provide SOF operators with covert mobility by acquiring commercial vehicles that are representative of indigenous operating environments and modified to meet SOF unique requirements. | \$105M | Dec-11 | Apr-12 |



USD(AT&L) Directed Initiatives

**Better Buying Power Highlights:
Guidance for Obtaining Greater
Efficiency and Productivity in
Defense Spending**



USD(AT&L)'s Efficiency Initiatives

(Nov 3, 2010 Memo, 5 Major Areas)

- 1) **Target Affordability**
- 2) **Incentivize Productivity & Innovation in Industry**
- 3) **Promote Real Competition**
- 4) **Improve Tradecraft in Services Acquisition**



1) Target Affordability & Control Cost Growth

Action

- Mandate Affordability as a requirement
 - Milestone A: Establish affordability target in context of analysis of resources available in portfolio or mission area
 - Milestone B: Present trade-off analysis showing how cost varies as design and schedule are traded off against each other
- Drive productivity growth through Will Cost/Should Cost management

Implementation

- Acquisition Managers with large ACAT Programs
- For large ACAT Programs



2) Incentivize Productivity & Innovation in Industry

Action

- Reward contractors for successful supply chain and indirect expense management
- Increase use of FPIF contracts where appropriate

Implementation

- 1 Dec 2010. DPAP will review Weighted Guidelines tying profit and performance
- 1 Jan 2011. Incentive strategy behind profit in acquisition strategy for all programs
- Immediately:
 - Greater consideration to FPIF contracts for efforts moving from development to production
 - Justification for contract type for each proposed contract above \$100M
 - FPIF contracts with 120% ceiling and 50/50 share ratio should be norm



3) Promote Real Competition

Action

- Present a competitive acquisition strategy at each program milestone
- Increase small business role in defense marketplace competition

Implementation

- 1 Dec 2010. One page competitive strategy for all ACAT levels
- Report to USD(AT&L) intent to reduce single-bid competitions
 - Address market research, restricted specs & adequate time for proposal prep. Achieve 2% reduction in single-bid competitive contracts in FY 2011, with continuing reductions thereafter
- 1 Dec 2010. All competitive and non-competitive procurement actions will seek to increase small business participation through weighting factors in past performance and in fee construct



3) Promote Real Competition (cont)

Action

- Remove obstacles to competition

Implementation

- 15 Nov 2010. Contracting officers conduct negotiations with all single proposal offerors. Basis will be cost or price analysis, using certified or non-certified data cost or pricing data as appropriate.
- 1 Dec 2010. Component competition advocates will develop plan to improve overall rate of competition at least 2% per year and 10% per year for effective competition
- 15 Nov 2010. Require open system architectures and set rules for acquisition of technical data rights



4) Improve Tradecraft in Services Acquisition

Action

- Address causes of poor tradecraft in services acquisition (continued)
 - Enhance competition by requiring more frequent re-competes of knowledge-based services

– “1-bid” Proposals

Implementation

- 1 Jan 2010. Report results of review of length of time knowledge-based service contracts are scheduled to remain in effect before re-compete
- 1 March 2011. Provide plan to bring knowledge-based services contracts into closer compliance with a three year limitation
- 1 Dec 2010. When “1-bid” proposals are received, require pricing and cost data as appropriate.
 - Solicitations receiving only 1-bid, that were open to industry for less than 30 days, are to be re-advertised for a minimum period of an additional 30 days unless a waiver is obtained from the HCA.



4) Improve Tradecraft in Services Acquisition (cont)

Action

- Address causes of poor tradecraft in services acquisition (continued)
 - Limit the use of T&M and award fee contracts for services
 - Require that services contracts exceeding \$1B contain cost efficiency objectives
- Increase small business participation in providing services

Implementation

- Immediately. Ensure services acquisitions favor CPFF or CPIF initially
- When robust competition exists, or there is recent competitive history, ensure services favor FFP contracts
- Immediately. services contracts valued at more than \$1 billion contain provisions to achieve productivity improvements and cost efficiencies throughout the term of the contract.
- Immediately. DPAP ensure Office of Small Business Programs is included as member of OSD peer reviews of service acquisitions
- 1 Jan 2011. Seek opportunities to compete Multiple Award/IDIQ contracts among small businesses



Take Aways

- 1) Taking Action to increase competition
- 2) Taking Action to increase accuracy of price and cost
- 3) Taking Action to Incentivize Productivity & Innovation in Industry



Questions



?



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USSOCOM



SOFIC 2011 Setting the Course



Mr. James Cluck

Acquisition Executive and Director
United States Special Operations Command
Research, Development, and Acquisition Center

The overall classification of this briefing is:

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Acquisition Challenge



Acquisition Enterprise

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DOD and Service Labs, International Partners,
Industry IR&D

Service Acquisition

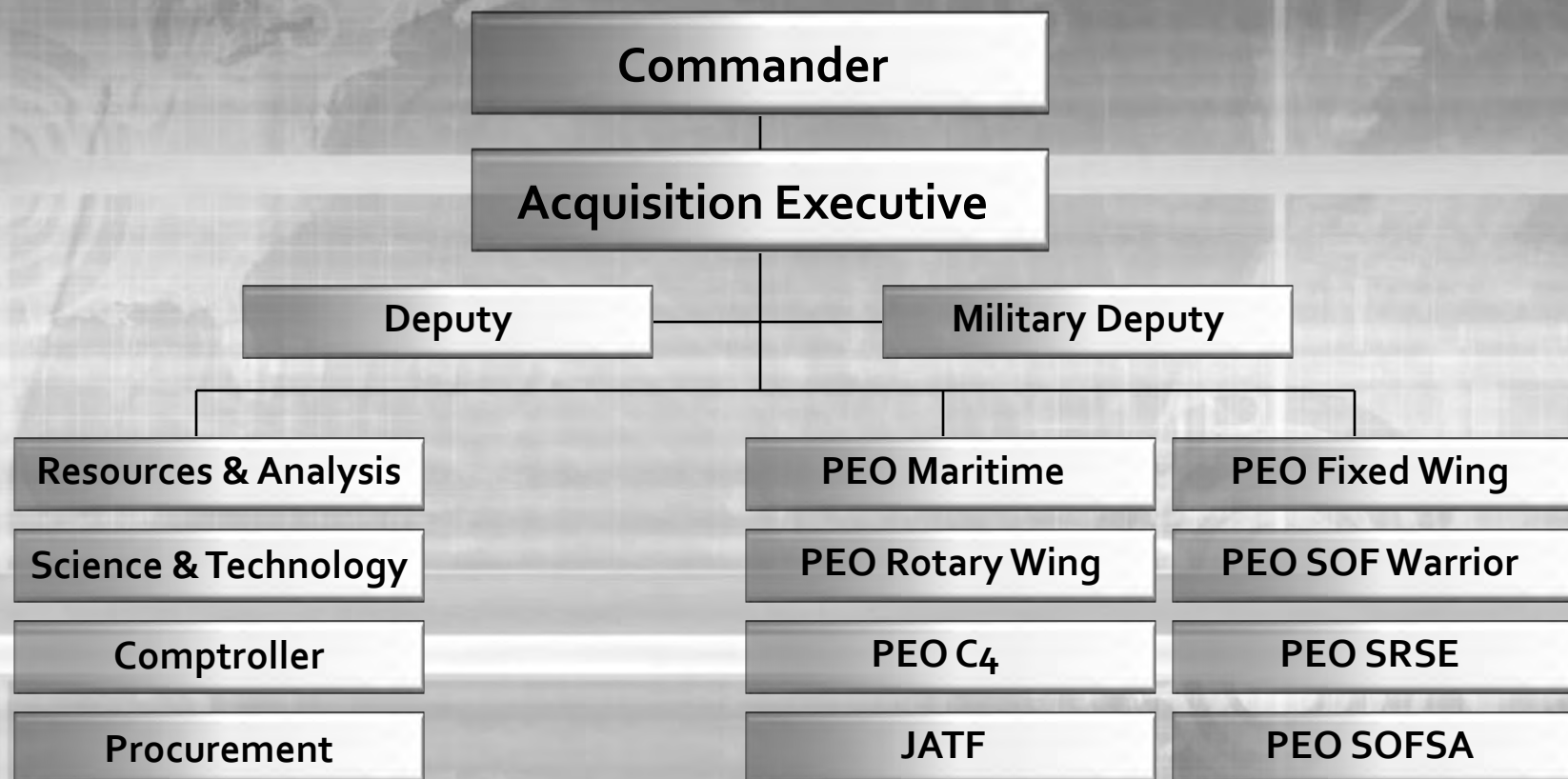
SOF Acquisition

- Combat Feedback
- Unconventional Uses

- SOF-to-Service Transition
- Innovative Acq Practices

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SORDAC Organization



Many Acquisition Tools

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AC130H
Sensor Replacer



MH - 47

Traditional Acquisition



C4

Commodity Purchase



Handheld Laser
Marker

Combat Evaluation

Abbreviated
Acquisition
Project



Next Gen NV Goggles

SBIR



A160T Forester

JCTDs



Mine Roller

Forward Support
to OPS



Solar Panel

Tech/REITS Project



Viper Strike

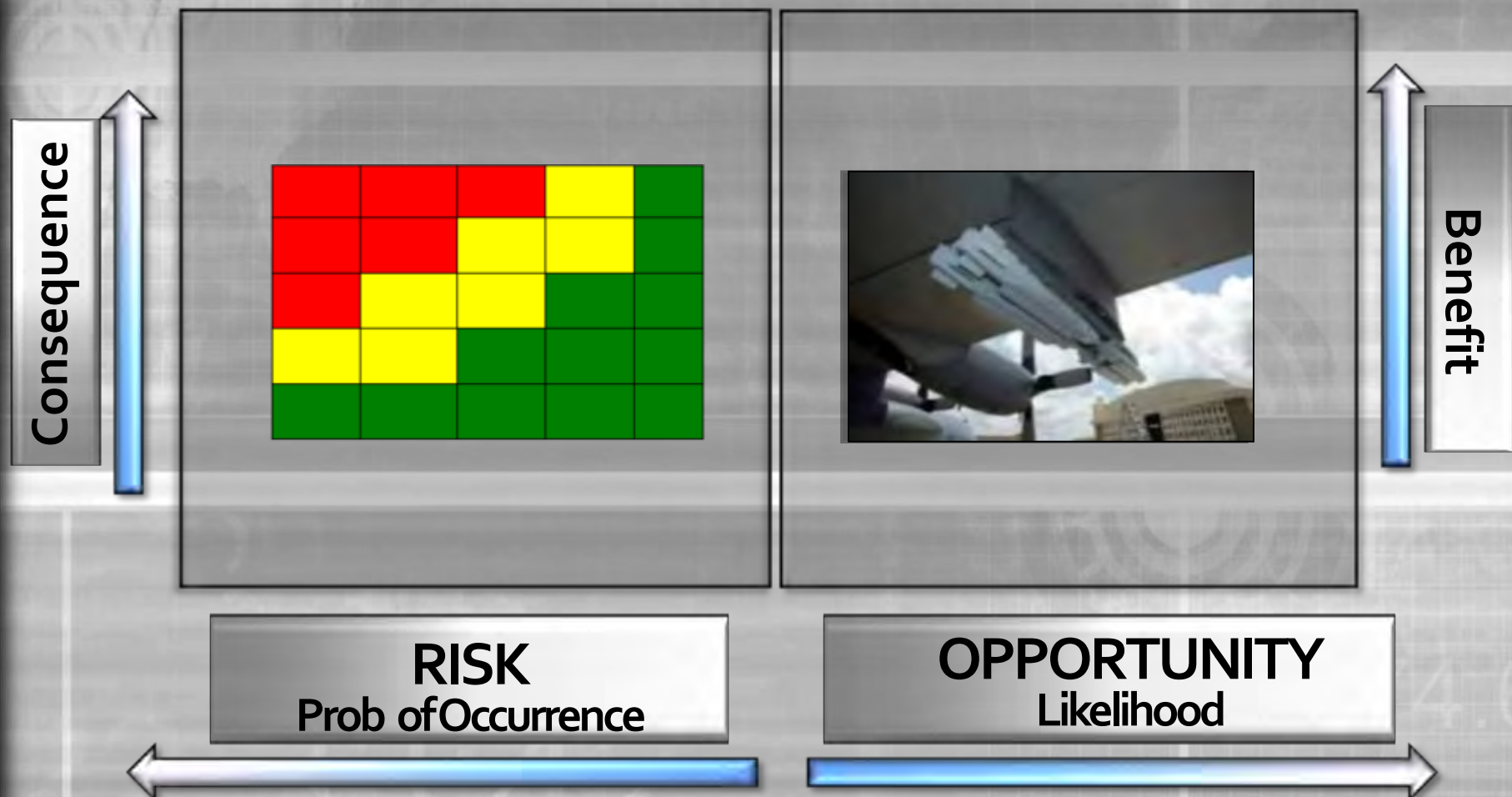
DAC / FCT



Urgent Acquisition / CMNS

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Agility Requires Proactive Thinking/Planning in Both Dimensions



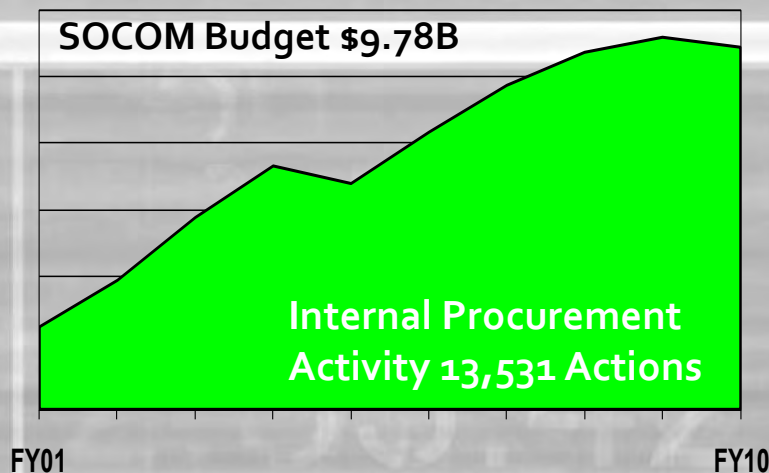
FY10 SOF Acquisition

EQUIPPING THE WARFIGHTER



- 30+ Fixed & Rotary Wing Craft Systems
- 100+ Vehicles
- 1800+ Weapons Systems
- 7600+ C4I Systems
- 600+ ISR Kits
- 9.7M Ammunition

WORKLOAD



INNOVATION



- Project Dragon Spear
- Mobile Tech Repair Centers
- Solar Panels in FOBs
- Hand Held Laser Markers
- Manned/Unmanned ISR

SOF ACQUISITION TEAM



FY 2012 Procurement Request \$1,798 Million

- MH-60 Modernization
- Non-Standard Aviation
- MH-47 Chinook
- CV-22 SOF Modifications
- AC/MC-130J

11 NEW STARTS

- CV-22 Block 20
- A/MH-6 Improved Seat System
- Hostile Fire Indicating System
- Secure Real Time Video
- Non-Standard Aviation (NSAV) Low Cost Modifications
- AC-130H Overt Signaling Device (OCO)
- NSAV PC-12 Block 5 (OCO)
- Aviation Foreign Internal Defense (AVFID)
- Unmanned Aerial Systems Payloads
- Range Modernization
- Civil Affairs Information Management



FY 12 RDT&E Request - \$496 Million

Special Operations Technology

Special Operations Advanced Technology

Special Operations Aviation

Systems Advanced

Special Operations

Intelligence Systems

SOF Operations Enhancement

SOF Rotary Wing Aviation

SOF Underwater Systems

4 NEW PROGRAM ELEMENTS

- RQ-7 Unmanned Aerial Vehicle (UAV)
- RQ-11 UAV
- AC/MC-130J
- Military Information Support Operations

8 NEW STARTS

- Modifications for A/MH-6M Block 3 Upgrade
- MH-47 Engine Automatic Re-Light
- MH-47 Upgrades
- Combatant Craft (Heavy)
- MC-130J Simulator
- RQ-7 UAV
- RQ-11 UAV
- Non-Standard Material



SOFIC 2010

"SOF: Accelerating the Force"

- Improve the Effectiveness of the SOF Acquisition C2 Structure
- Develop and Sustain a Workforce of "SOF Acquirers"
- Improve and Streamline SOF Acquisition Processes
- Enhance Transparency, Communications, and Customer Relationships

How Are We Doing?

Industry Engagements

- Industry Meetings – Hosted 89 Visits
- TILO Engagements – FY10:
566 Requests, 115 Events,
1,014 Attendees

Cooperative Agreements

- 3 Agreements in Place
- 6 Agreements Working

Competition

FY10:

- 13, 531 Actions
- Goal 31%
- Achieved 45.6%

FY11:

- 6,761 Actions
- Overall Goal 61%
- Achieved 61.8%

Small Business Participation

FY10: Goal/Achieved

- SB–28%/28.2%
- SDB – 9%/12%
- WOSB –2%/3.8%
- SDVOSB – 3%/1.6%
- HUB zone – 1%/1.2%

FY11: Goal/Achieved

- SB–22%/26.2%
- SDB – 5%/9.2%
- WOSB –2%/3.2%
- SDVOSB – 3%/1.3%
- HUB Zone – 1%/1%





AT&L Summit

- Coordinating SOF/Service Acquisition Program Plans
- SOF Peculiar/Service Common Transition
- Eliminate Redundant Weapons System Safety Certs
- Expand Role of Technology Awareness
- Service Leverage of SOF Authority/Practices

SOF Acquisition Example

Small UAS SOCOM/Service Synergy

CY

2005

2006

2007

2008

2009

2010



USSOCOM
Pointer JCTD



USSOCOM
Develops/fields
Raven A and then Raven B
(2005-2008)



Adopted by Army/USMC
Common Production/
Sustainment (2007 -)



USSOCOM
All-Environment
Capable Variant
Developed/Fielded
(2009)

Army Procures Via
SOCOM Contract
(2010)





Setting The Course

- Sustaining OCO–Acquired Equipment
- Leaning Business Processes
- Enabling Unified Communications Capabilities
- Defining Best Competitive Practices
- Managing Service Contracts
- Improving Experimentation Opportunities
- International Program Involvement



SOFIC 2011

- **USSOCOM Senior Leader Panels**
- **PEO/PM and Functional Track Sessions**
- **Thematically Arranged Format**
- **Networking Opportunities**
- **SOF Acquirer Awards Ceremony**

Special Operations Forces Industry Conference

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Karin Fones

TILO Program Support Specialist



Technology & Industry Liaison Office



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The TILO "Mission"

**To serve as the primary contact for
the command and industry,
academia and other Government
agencies to facilitate
communications, connections and
collaboration of SOF capabilities,
ideas and solutions of command
areas of interest**



Technology & Industry Liaison Office





The TILO Overview

- Provide guidance, direction and assistance to industry on how to conduct business with USSOCOM
- Facilitate technical discussions, demonstrations, presentations and other events for the command
- Receive and coordinate Unsolicited Proposals
- Plan, coordinate and conduct Special Operations Forces Industry Conference

“Benefits of Using the TILO”

- USSOCOM communicates capability areas of interest on website, available to all
- Your submission potentially reaches a wider audience
- Everyone goes through same process - small, large or foreign
- Industry quad charts, white papers, contact information, etc., available to all USSOCOM personnel
- Not a guarantee of any immediate or future contract, but does open the channels for idea sharing



Technology & Industry Liaison Office



“Capability/Idea Submission Process”

- Industry provides a “Capability Based” submission provided via USSOCOM webpage
- TILO reviews information and staffs to SMEs
- SMEs review, provide feedback in about 30 days
- If interest is generated, follow-on meeting/demonstration/discussion held
- “No interest now,” does not mean there will never BE interest!



Technology & Industry Liaison Office



“What Information Do I Submit”?

- Provide a solution, not a generic capability overview
- Understand what is “SOF” and what is “Service” Common
- Provide a good technical description and substantiating information
- Provide relevant specifications, e.g. size, weight, power; how it is a game-changer
- Identify current Gov’t contracts, SBIRs, etc., you are working on; identify specific internal POC if known



Technology & Industry Liaison Office



“Business Partner Network”

- Self-Registration Process
- Provide your GOV POC contact info for follow up
- CAGE Code required
- Updates are batch processed around the 1st of each month, not as received
- Form connections with other industry partners with similar/complementary capabilities
- Market research tool for USSOCOM personnel



Technology & Industry Liaison Office



"It All Begins Here"



Technology & Industry Liaison Office



“Contact Information”

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Technology & Industry Liaison Office



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Chris Harrington

Director, Small Business Programs



OFFICE OF SMALL BUSINESS PROGRAMS



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Small Business Jobs Act

"Small businesses create two out of every three jobs in this country. So our recovery depends on them."

"And if we want to keep America moving forward, we need to keep investing in our small businesses. This is, by the way, more important than just our economy. It's also about who we are as a people."

"Small businesses are the backbone of our economy. They are central to our identity as a nation."

~Remarks by the President on the Small Business Jobs Act



Overview

- Small Business Jobs Act
- USSOCOM Small Business Performance
- OSBP POCs



Small Business Jobs Act

- Updated Size Standards
Requires the SBA to review 1/3 of all the size standards every 18 months and make appropriate adjustments.
- Mentor-Protégé program
Requires a GAO report on the effectiveness of the 8(a) M-P program. Allows SBA to establish M-P programs for HUBZones, WOSBs and SDVOSBs similar to the 8(a) M-P program.
- Small Business Contracting Parity
Creates parity among the 8(a), HUBZone, SDVOSB and WOSB programs.

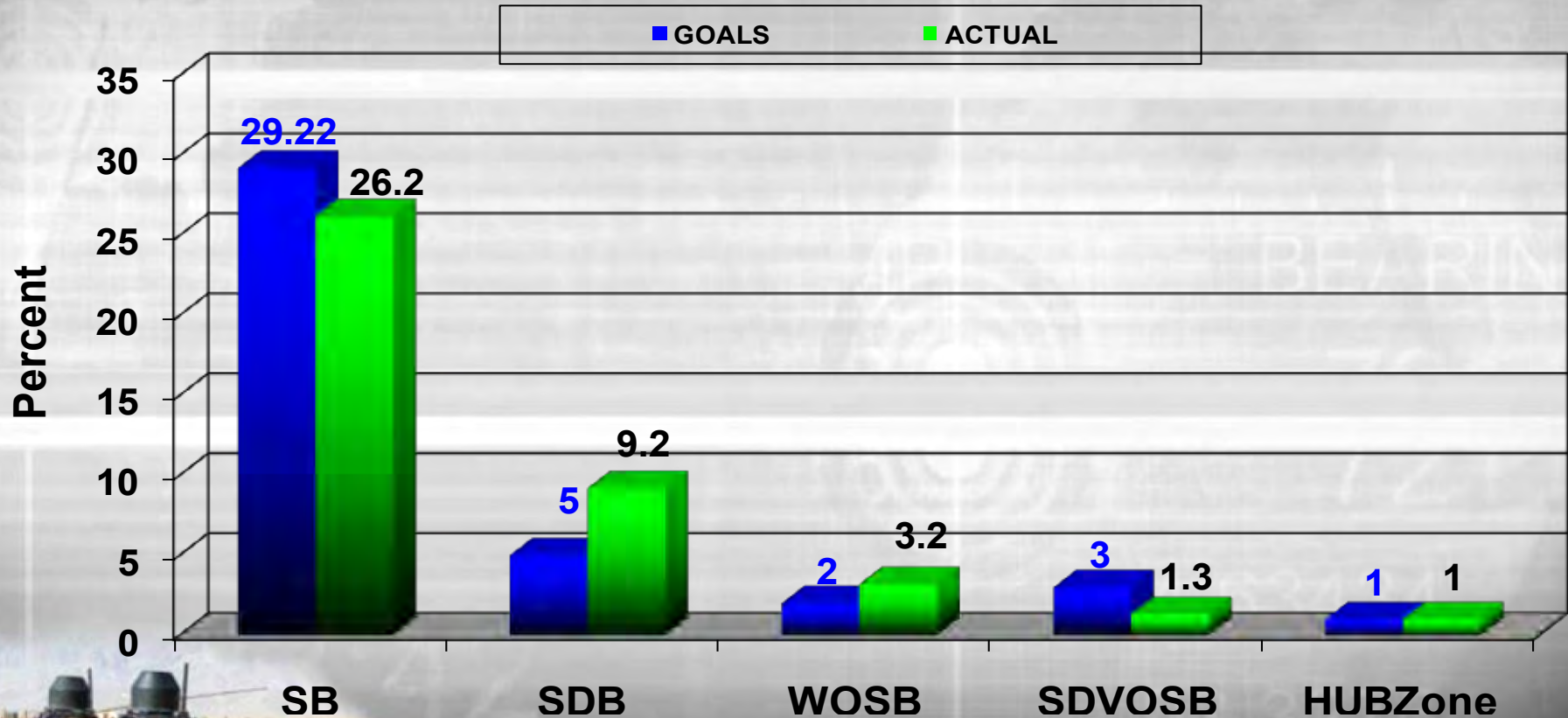


Small Business Jobs Act

- **Payment of Subcontractors**
Requires prime contractors to notify KO of payment of a reduced price to a subcontractor or any past due payment of more than 90 days. The results will be included in the contractor's performance evaluation.
- **Training for Contracting Personnel**
Requires courses for acquisition personnel in the proper classification of business concerns and small business size and status.
- **Agency Accountability**
Requires each procurement employee or program manager to communicate to subordinates the importance of achieving small business goals.

Small Business Program (FY11)

(SORDAC-RA OSBP)



OFFICE OF SMALL BUSINESS PROGRAMS





Small Business Points of Contact

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Margaret E.G. McCaskey

Director, Technical Experimentation & JCTDs

Science & Technology

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Technical Experimentation

- **Mission**

- Support Concept & Solution Development for SOF Capability Gaps, Technology Thrust Areas & Warfighter Challenges

- **Objectives**

- Partner & Coordinate with SOCOM Organizations, Federal Labs & Industry
- Increase Interaction between Operational & Acquisition Communities through Experimentation
- Enhance Operational Visibility of Innovative Solutions & Technology Opportunities
- Decrease Time from Technology Integration to Fielding of Capabilities





Technical Experimentation MBE & CBE

- **Mission Based Experimentation (MBE)**
 - Rapidly Exploit Potential Solutions for High Priority, High Value SOF Warfighter Mission Requirements
- **Capabilities Based Experimentation (CBE)**
 - Identify Potential Technology Solutions, Impacts, Limitations & Utility to Meet SOF Technical Objectives / Thrust Areas





USSOCOM-NPS Experimentation Cooperative

- Provide a Venue to Rapidly Assess, Develop, Counter & Exploit Emerging Capabilities to Address Immediate Warfighter Needs
- Evaluation Includes:
 - Technical Feasibility
 - Affordability
 - Effectiveness
 - Utility





Technical Experimentation Venues

- **Camp Roberts, CA**
 - Numerous Ranges & Training Areas
 - Dedicated Location with Established Communications Infrastructure
 - Events Conducted in May, Aug & Nov

Main Facilities





Technical Experimentation Venues

Avon Park, FL

- Restricted Airspace (R-2901A) with Runway & Control Tower
- Live Fire Ranges (25M to 1000M)
- Improvised MOUT Facility
- Close Proximity to USSOCOM
- Event Conducted in Feb

Main Facilities





Historical Focus Areas

- **Intelligence, Surveillance & Reconnaissance (ISR)**
- **Command, Control, Communications & Computers (C4)**
 - Focus Area for August Event (Subject to Change)
- **Medical**
- **Power & Energy**
- **Irregular Warfare (IW)**
- **Cyberspace Operations (Attack, Defend, Exploit)**
- **Weapons, Shelters, Barriers & Electronic Attack**
- **Mobility**



Technical Experimentation Invitation

- The next planned event will be held **1-12 August 2011** at **Camp Roberts, CA**
- White papers may be submitted for consideration to **Tech_Exp@socom.mil**
 - 2 page maximum
 - Should include technology description, intended scope, expected outcome & SOCOM sponsor
- **Space & Time Limited, Submission of White Papers Not a Guarantee of Admission**
- **Experimentation Participation by SOCOM or NPS Invitation Only**



Experimentation is a process, failures are not considered negative outcomes, we learn from both successes and failures

"I have not failed. I've just found 10,000 ways that won't work." - Thomas Edison

"Failure is only the opportunity to begin again more intelligently." - Henry Ford

"You can't have any successes unless you can accept failure." - George Cukor

"There is no failure. Only feedback." - Robert Allen

"You always pass failure on your way to success." - Mickey Rooney

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Shawn Patterson

SBIR Program Manager

Small Business Innovation Research

Science & Technology



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SBIR Overview

- Congressionally mandated program
- Established to fund R&D small business concerns
- Three-phased process encompassing technology feasibility, demonstration, and transition
- Funded as a set-aside assessment of extramural RDT&E budget
- Congress established program with Small Business Innovation Development Act of 1982 and assigned Small Business Administration programmatic authority



SBIR Overview

- Requires each federal agency with an extramural RD budget over \$100M to set aside 2.5% for SBIR
- Offers the government a unique opportunity to engage small technology businesses to meet mission needs by funding R&D to:
 - Address identified capability/ technology gaps
 - Generate cost savings
 - Enhance existing capabilities
- 11 federal agencies and 12 DOD components participate

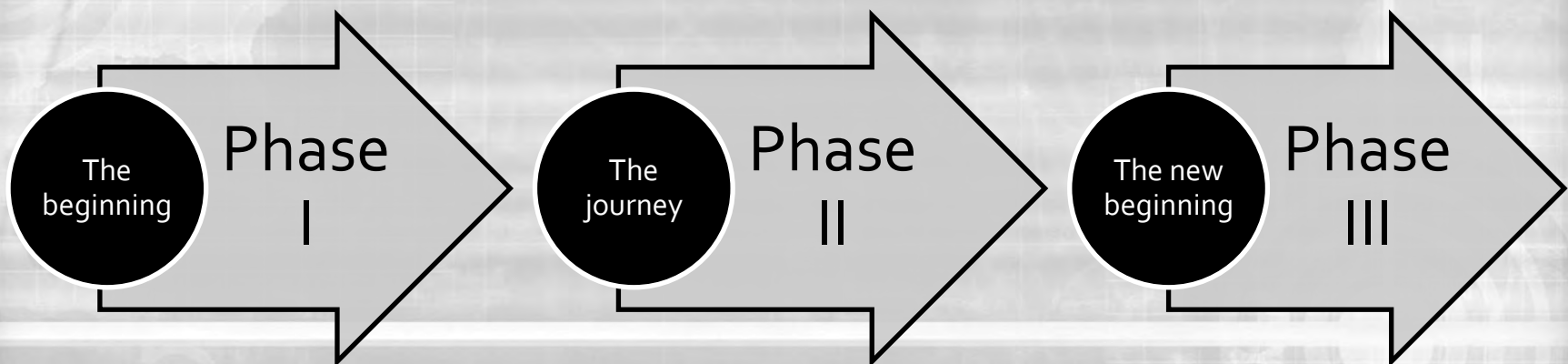


SBIR Goals

- Stimulate technological innovation
- Increase private sector commercialization of federal R&D
- Increase small business participation in federal R&D
- Foster participation by minority and disadvantaged firms in technological innovation



SBIR Three-Phased Approach



- Early Exploration of Ideas
- Feasibility Study

- Concept Refinement
- Prototype Development

- Further R&D/ Demonstration
- Production & Sales



SBIR Links

- www.ussocomsbir.com
- www.dodsbir.net
- www.sba.gov



Special Operations Forces Industry Conference

Mr. Charles Arant

HF-TTL DPM, PLM For Tags

Guiding the Tip of the Spear

**Special Reconnaissance
Surveillance and Exploitation**

“Guiding The Tip Of The Spear” Hostile Forces – Tagging, Tracking, And Locating (HF-TTL)

- Provides TTL Capability To Tag, Track, And Locate High-Value Items Of Interest
- HF-TTL Mission Sets Are Comprised Of Tailored Kits Fielded Annually To Meet Emerging Requirements
- Portfolio Consists Of Tagging / Tracking And Close-Target Audio / Video / Reconnaissance Systems
- ISR Asset Interoperability With Tags And Beacons
- Global, Precise, Near-Real-Time TTL

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Surveillance and Exploitation**

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“Guiding The Tip Of The Spear” Hostile Forces - Tagging, Tracking, And Locating (HF-TTL)

- **Size, Weight, And Power (SWAP) Considerations**
 - Physical Size, Weight, Packaging, And Power Requirements Of Existing Systems Are Often Unacceptable
 - TTL Devices Must Provide Expedient Options Under Various Circumstances In Diverse Operational Environments
- **Concealment Is Paramount**
 - Imagination And Tradecraft Should Be The Only Limitations
- **Cost Is An Independent Variable**
 - Devices Are “Consumable” And In High Demand
 - Must Be Inexpensive, With State-Of-The-Art Functionality
 - Crucial Trade-Space Parameters
 - Range, Duration, And Accuracy
 - Data Transmission / Exfiltration

Special Reconnaissance

Surveillance and Exploitation



Questions?

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Special Operations Forces Industry Conference

Lt Col Edmund Fitzgerald

Program Manager,
Rapid Capability Insertion

Guiding the Tip of the Spear

**Special Reconnaissance
Surveillance and Exploitation**

“Guiding The Tip Of The Spear” Rapid Capability Insertion Program

- TTL Device Size, Weight, Power, and Cost-Cost-Cost Reductions
 - RF and Non-Traditional (e.g. Optical/Multi-Band) Tags & R/Xs
- Unique LPI/LPD Communication Mechanisms
- Reprogrammable, Remotely-Controlled Miniature Sensors (A/V/RF)
- Devices Able To Be Used In GPS-Denied/GPS-Mitigated Environments (i.e. Alternative Tracking Architectures)
- Stand-Off/Remote Recognition And Matching
 - Iris/Facial/Other
- Non-Optical Sensors For Fingerprinting Capture & Matching
- Alternate Power Sources & Power Management Equipment

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Questions?

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LCDR Aaron Hill

Deputy Program Manager,
Joint Threat Warning System (SIGINT)

SIGINT/Cyber Future Environment

**Special Reconnaissance
Surveillance and Exploitation**

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Technology Areas of Interest

- Improved Direction Finding (DF) And Geo-location (GEO) Antenna Arrays (Airborne / Maritime / Mobile / Body worn)
- Networked Tactical SIGINT Systems
- Lightweight, Adaptable Tactical SIGINT Systems
- Exploit Modern Communication Systems
- Data Discovery And Enrichment In Support Of Intel Analysis
- Advanced Data Management Systems
- Network Multi-Level / Cross Domain Security Services
- Full Motion Video / Motion Imagery (FMV/MI) Exploitation
- Multi-Intelligence Fusion And Correlation

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Improved DF and GEO Antenna Arrays

- Current State of The Technology
 - Bulky, Narrowband, Limited-Accuracy DF Antennas
- Ongoing Efforts
 - Phased Array and Beam-Steering Antennas; Body-Wearable DF Antennas; T/FDOA Techniques
- Where We Want to Be
 - Wideband High-Gain Antenna Systems; Flexible Multi-Platform High-Accuracy DF and GEO Antenna Systems; Body-Wearable, Concealable DF Antennas; All-Azimuth/Elevation
- Potential Game Changers
 - Phase-Coherent DF Systems; Beam-Steering Antenna Design; T/FDOA Signal Measurements

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Networked Tactical SIGINT Systems

- **Current State of The Technology**
 - Techniques for Collaborative DF And Geo-Location Operations
- **Ongoing Efforts**
 - Networking Concepts And Devices To Communicate Between Tactical SIGINT Operators
- **Where We Want to Be**
 - DF and Geo-Location of Signal Sources Using All Available Overhead, Air, Maritime And Ground SIGINT Assets
- **Potential Game Changers**
 - Lightweight VHF-UHF Mesh Networking Radios; Miniature Communications Devices; JICD 4.0 Collaborative Geo-Location Messaging; Time/Frequency Direction Of Arrival (T/FDOA) Sensors; Geo-Location Algorithms

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Surveillance and Exploitation**



Lightweight, Adaptable Tactical SIGINT Systems

- **Current State of The Technology**
 - Heavy, Power-Hungry, Inflexible Products; Focused Use
- **Ongoing Efforts**
 - Reduce Equipment Size, Weight and Power (SWAP); Expand Platform Integration; Versatile HW/SW
- **Where We Want to Be**
 - Common Low-SWAP Adaptable SIGINT Equipment
- **Potential Game Changers**
 - Miniature T/FDOA-capable Receivers; Versatile Antenna “Toolkits”; Low-Profile and Body-Wearable DF Antennas; Flexible Industry-Standard Equipment Interfaces and Software Applications

**Special Reconnaissance
Surveillance and Exploitation**



Exploit Modern Communications Systems

- **Current State of The Technology**
 - Collection, Exploitation of Current Communications Signals
- **Ongoing Efforts**
 - Develop Collection and Exploitation Techniques for New Emerging Systems
- **Where We Want to Be**
 - Worldwide Collection and Exploitation of Advanced Communications Systems
- **Potential Game Changers**
 - Advanced Signal Processing Algorithms; Demodulation and Decryption Techniques; Versatile, Wideband Tactical SIGINT Systems

**Special Reconnaissance
Surveillance and Exploitation**



Advanced Data Management Systems

- **Current State Of The Technology**
 - Relational Data Base Management Systems (RDBMS)
 - XML Databases
 - Object-oriented Databases
- **Ongoing Efforts**
 - SIDMS
- **Where We Want To Be**
 - Enable The Effective/Efficient Management Of Unstructured Data
 - A Distributed Data Management System That Reduces The Overhead And Complexity Of Current RDBMS.
- **Potential Game Changers**
 - Advanced XML Databases At A Maturity Level Of RDBMS

**Special Reconnaissance
Surveillance and Exploitation**



Network Multi-Level Security/Cross Domain Security Services

- **Current State Of The Technology**
 - Cross Domain Solutions Are Complex, High In Cost, And Lack Operational Flexibility In Addressing User Needs
- **Ongoing Efforts**
 - Evaluating Solutions –E.G., Trusted Virtual Environment (TVE)
- **Where We Want To Be**
 - Enable SOF Users To Exchange Information, Collaborate On-Demand, And Utilize SOF Required Applications Between Security Domains
- **Potential Game Changers**
 - Certified/Accredited Classification Labels To Unstructured Data Types
 - Flexible And Robust Algorithms That Enable Current Cross Domain Guards To Support Complex Data Types

**Special Reconnaissance
Surveillance and Exploitation**



Full Motion Video (FMV) Exploitation

- **Current State of The Technology**
 - Human Analysis, Few Automated Tools
- **Ongoing Efforts (Research)**
 - Content/Semantic Based Search Capabilities
 - Change /Activity/Object Detection Within FMV Files To Support Video Processing, Exploitation, Dissemination (PED) Processes
- **Where We Want to Be**
 - Enable Detection of Objects and Activities Of Interest Within Real-Time and Archival Video
- **Potential Game Changers**
 - Object/Activity Auto-Tagging In High Definition Video

**Special Reconnaissance
Surveillance and Exploitation**



Multi-Intelligence Fusion And Correlation

- Current State of The Technology
 - Multi-INT Data Collections Using Single-INT Stove-Piped Systems And Processes—Limited Post-collection Fusion
- Ongoing Efforts
 - MASINT Tactical Information Fusion (MASTIF) ACTD
- Where We Want To Be
 - Improve Target Geo-Location/Identification Accuracy, Confidence And Speed
 - Enable Cross Cueing Of Intelligence, Surveillance, And Reconnaissance (ISR) Collection Assets
- Potential Game Changers
 - Automated, Real-Time Detection, Identification, And Geo-location Of Target Of Interest, Auto-Project/ Predict Movements

**Special Reconnaissance
Surveillance and Exploitation**



Questions?

**Special Reconnaissance
Surveillance and Exploitation**



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Special Operations Forces Industry Conference

Ms. Jan E. Fitzmaurice

DPM DCGS-SOFle

Guiding the Tip of the Spear

Special Reconnaissance Surveillance and Exploitation

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“Guiding The Tip Of The Spear”

Processing, Exploitation, Dissemination (PED)

- **Decrease Cost**
 - OSD(I) Guidance: Build Once, Use Many
 - Greater DI2E Framework Enterprise
 - DOD Webservice Factory And Application Storefront
 - Partner With Other DCGS Family Of Systems And Combat Support Agencies
 - Partner With Other SORDAC Program Of Records
 - Especially PEO C4 As They Are The Infrastructure Layer For DCGS-SOF
 - Optimize Licensing Models
- **Increase Performance**
 - Automated PED Tools
 - Common Data Standards
 - Sensor Output Standards
 - e.g. Open Geospatial Consortium

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Surveillance and Exploitation

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Questions?

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Surveillance and Exploitation**

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NAVAL
POSTGRADUATE
SCHOOL

Trends in Global Communications

18 May 2011

John McEachen, Ph.D.

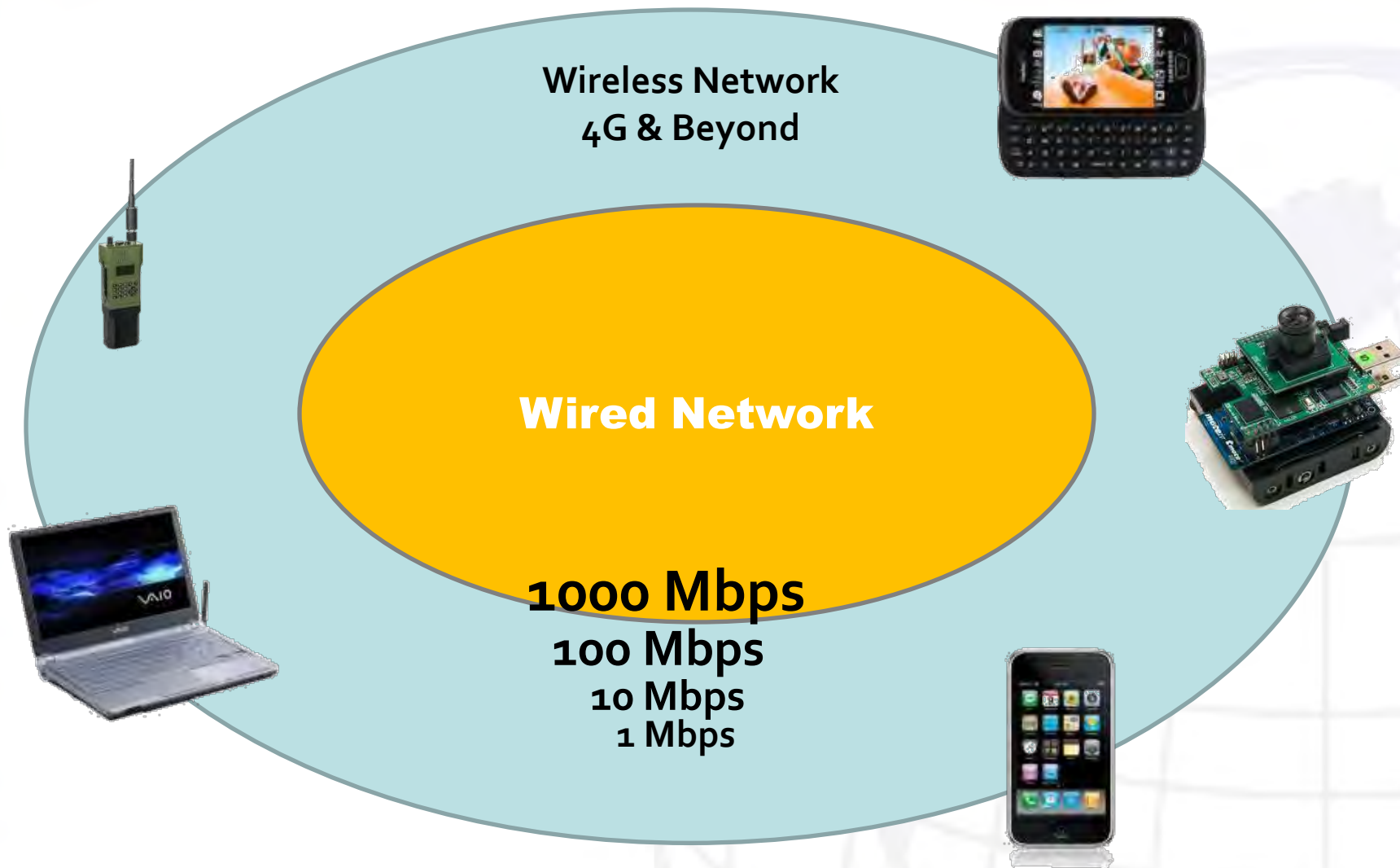
Professor

Department of Electrical and Computer Engineering
Naval Postgraduate School



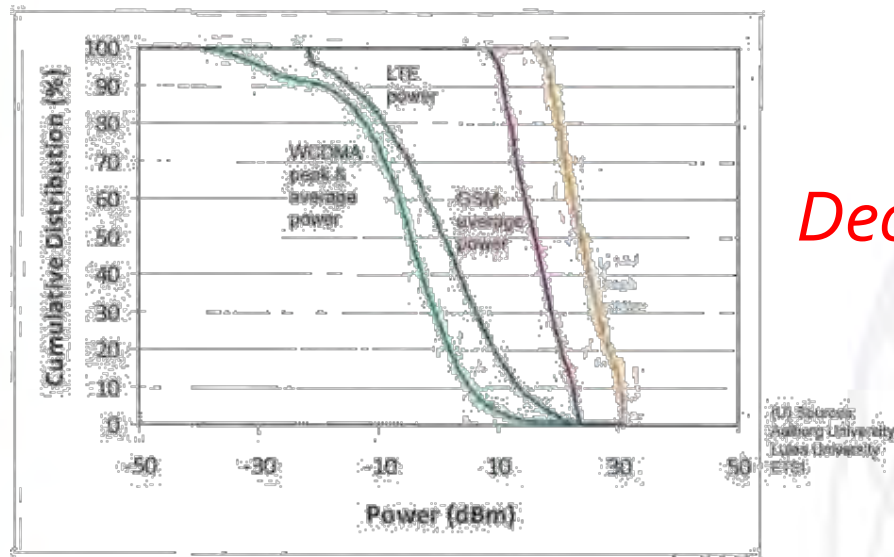


The Future Information Grid



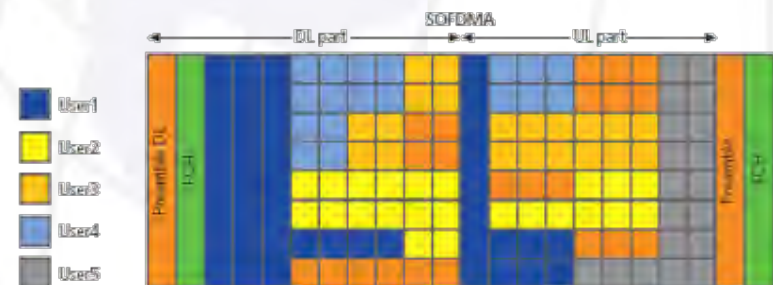
New waveform: CDMA \rightarrow OFDMA

*Increasing Bandwidth: 25 KHz \rightarrow 100 MHz
(4,000 x increase!)*



Decreasing Handset Power!

Increasing Complexity!





Trend: SDR slowly being accepted

- Widespread commercial use (i.e. mobile phones) of Software-defined radio still not foreseen
 - Craig Partridge (DARPA) – “\$50 SDR in 2020”
- Increasing use of SDR by international tactical radio manufacturers
- Superb opportunities for SDR in SIGINT systems



Aselsan
PRC-9651
(Poland)

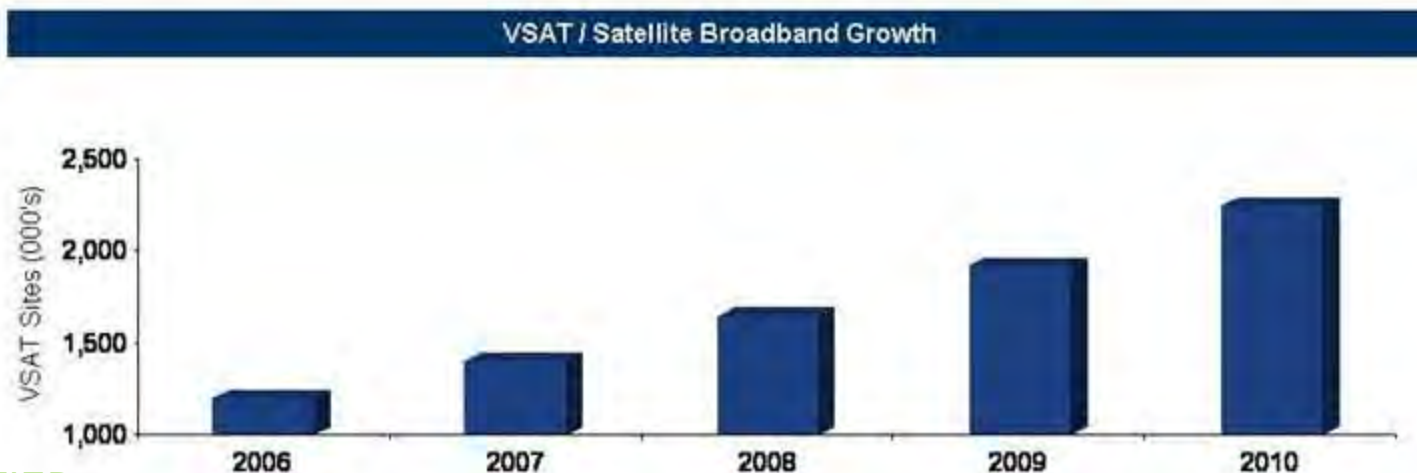


Aselsan
PRC-9651
(Turkey)



Trend: Broadband SATCOM Small Growth

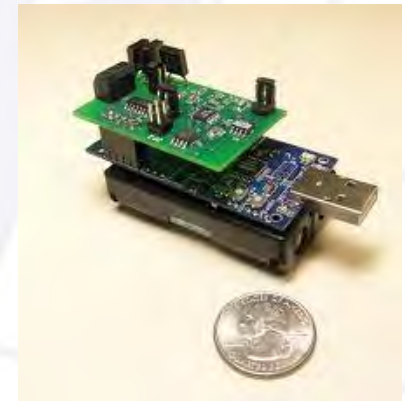
- Broadband satellite data services will continue to see zero to linear growth for the next five years
- Renewed interest after Middle East turmoil
- Providers looking to new Ka-band satellites (50Mbps) beginning in 2014



Source: Pro Brand International, Inc.

Trend: Smart Dust Disillusionment

- Sensor networks, or smart dust, considered to have flat growth in the next five years
- Market share leader, Crossbow, abandoned the technology in 2010 to focus on GPS systems
- Difficulties in reliability, deployment
- Primary interest remains industrial
- No consumer applications

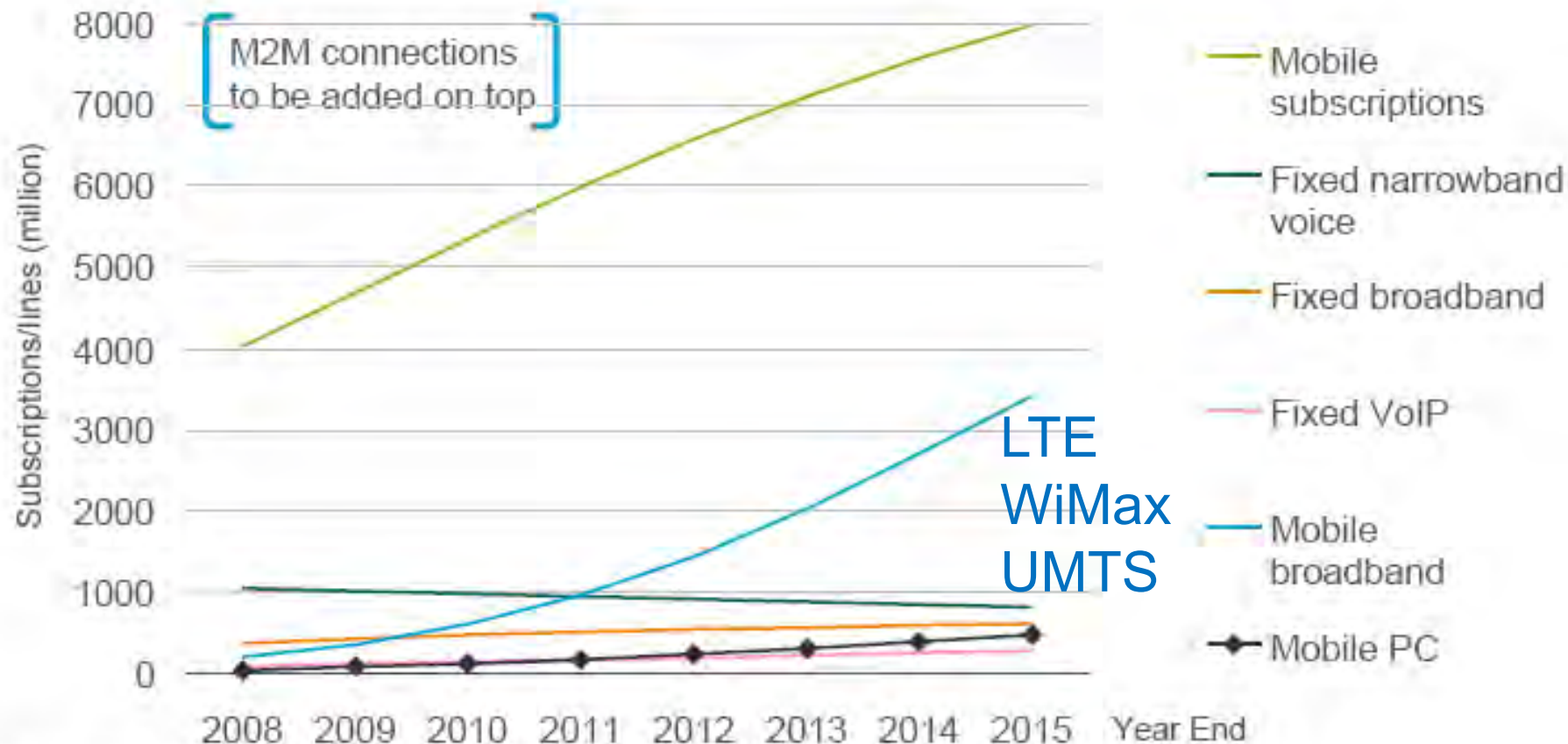




Trend: Mobile Broadband is growing fastest

Mobile Broadband...

...fastest growing technology in history!



Source: Internal Ericsson

Mobile Broadband: CDMA2000 EV-DO, HSPA, LTE, Mobile WiMAX, TDSCDMA. Both mobile PC and handheld devices.

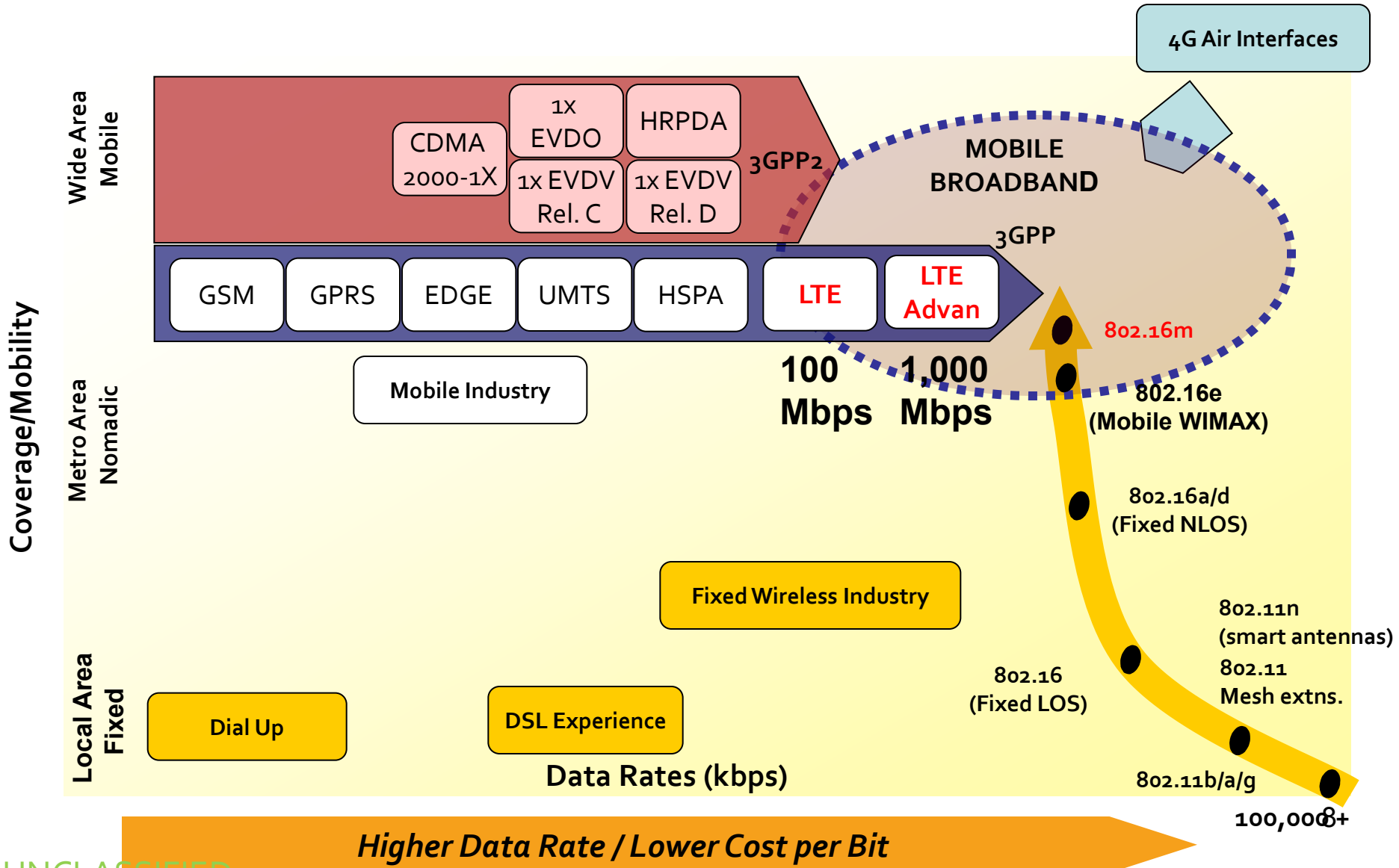
Mobile Broadband and Mobile PC are subsets of total mobile subscriptions.

Fixed Broadband: Cable, xDSL, Fiber, PC-to-PC VoIP e.g. Skype not included in VoIP.

This slide contains forward looking statements.



Two Key technologies are evolving to meet the Wireless Broadband Requirements





What will we do?

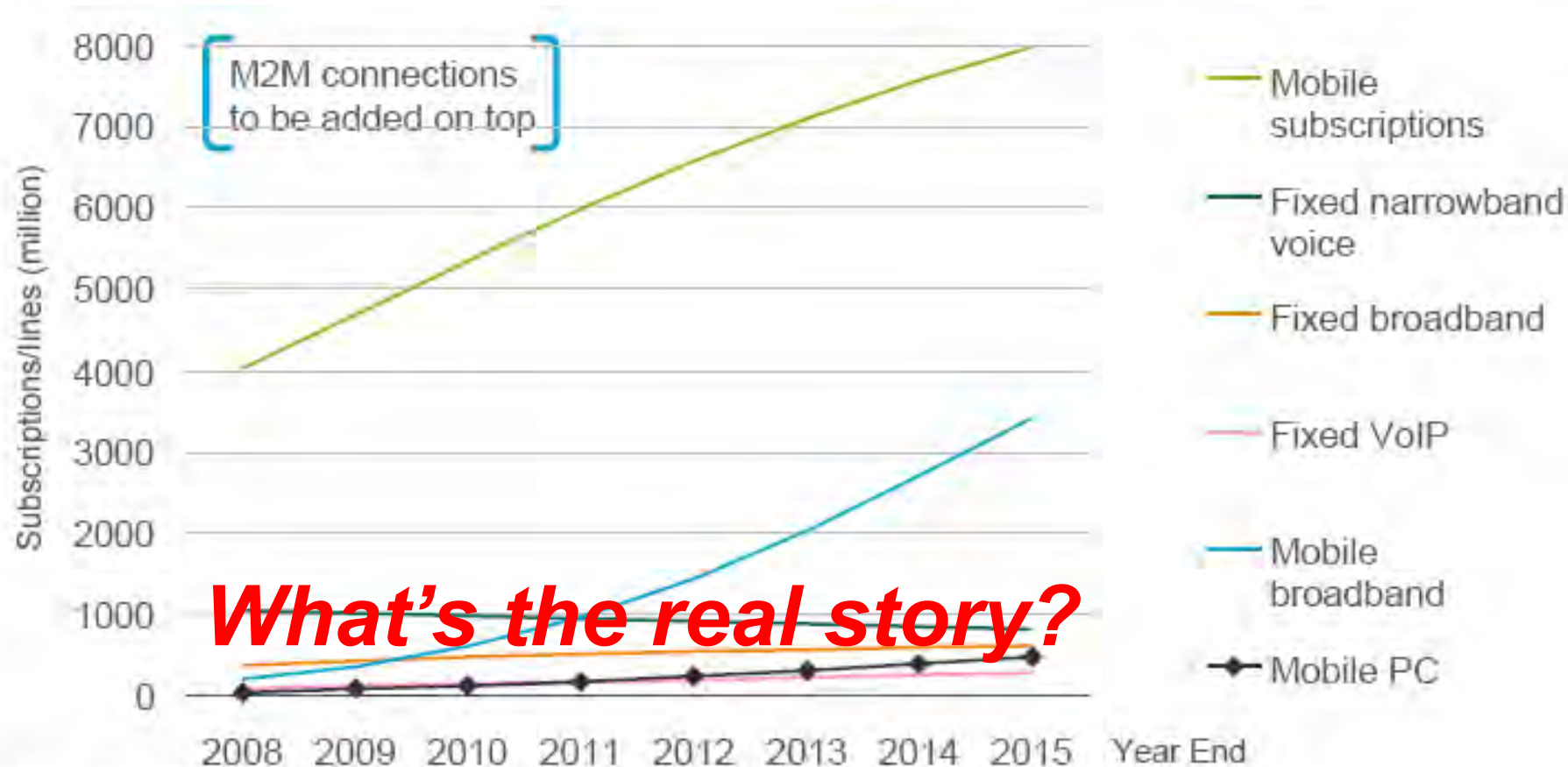


Future of Social Networking with Augmented Reality

Concept investigation by Matthew Buckland (matthewbuckland.com) and Philip Langley (@royalalien) of 20fourlabs.com



Trend: Mobile Broadband is growing fastest



Source: Internal Ericsson

Mobile Broadband: CDMA2000 EV-DO, HSPA, LTE, Mobile WiMAX, TDSCDMA. Both mobile PC and handheld devices

Mobile Broadband and Mobile PC are subsets of total mobile subscriptions

Fixed Broadband: Cable, xDSL, Fiber, PC-to-PC VoIP e.g. Skype not included in VoIP

This slide contains forward looking statements

Sprint makes \$3B bet on WiMax

[My Sprint](#)[Shop](#)[Digital Lounge](#)[Community](#)[Support](#)[Welcome to Sprint](#)[Already have Sprint?](#)

**WHAT WILL YOU DO FIRST WITH
EVO, THE FIRST 4G PHONE?**

[Get it now](#)

htc EVO™ 4G



Wateen : First nationwide WiMAX 4G deployment in the world (Nov 2008)

Background

Division of Warid Telecom (Abu Dhabi)
Nationwide WiMAX license (3.5 GHz) in Pakistan

Value Proposition

Speedy Installation
Low Cost replacement to DSL
E2E network (IP NGN Core, IMS)
Nationwide service footprint
One Stop Triple Play

Target Segments

Residential
Enterprise
SME
SoHo

Differentiators

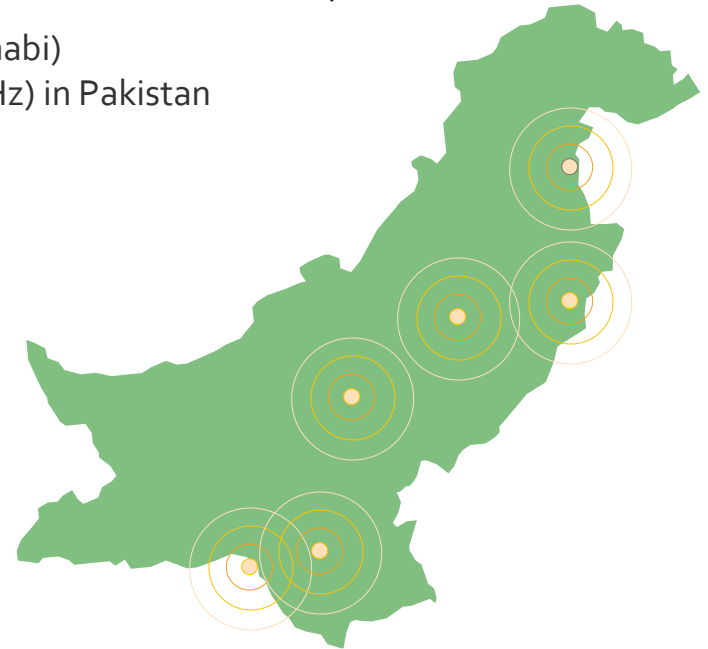
Nationwide Coverage
Untethered (Wireless)
Fixed and Mobility

Services Offered

Internet Access
VoIP
VPN

Major Competitors

Incumbent Fixed Operators



Mobile WiMax Phones



Samsung
(Korea)

HTC
(Russia)



Mobile WiMax Networks



Globe (Phillipines)

Mobinnet (Iran)



Operational Iranian 4G Networks

(all supplied by Chinese vendors Huawei or ZTE)

MTN Irancell

Over 300 Mobile WiMax cells in 48 cities. Largest 4G provider in Iran.
(www.mobinnet.ir/wimax)

Laser Telecom

First Mobile WiMax in Iran,
covers 80% of Tehran



Second largest 4G provider in Iran.
Mobile WiMax in 7 largest provinces

(http://www.mtn.com/AboutMTNGroup/GroupFootprint/MiddleEastAndNorth/MiddleEastAndNorth_Iran.aspx)

Golestan



Datak Telecom



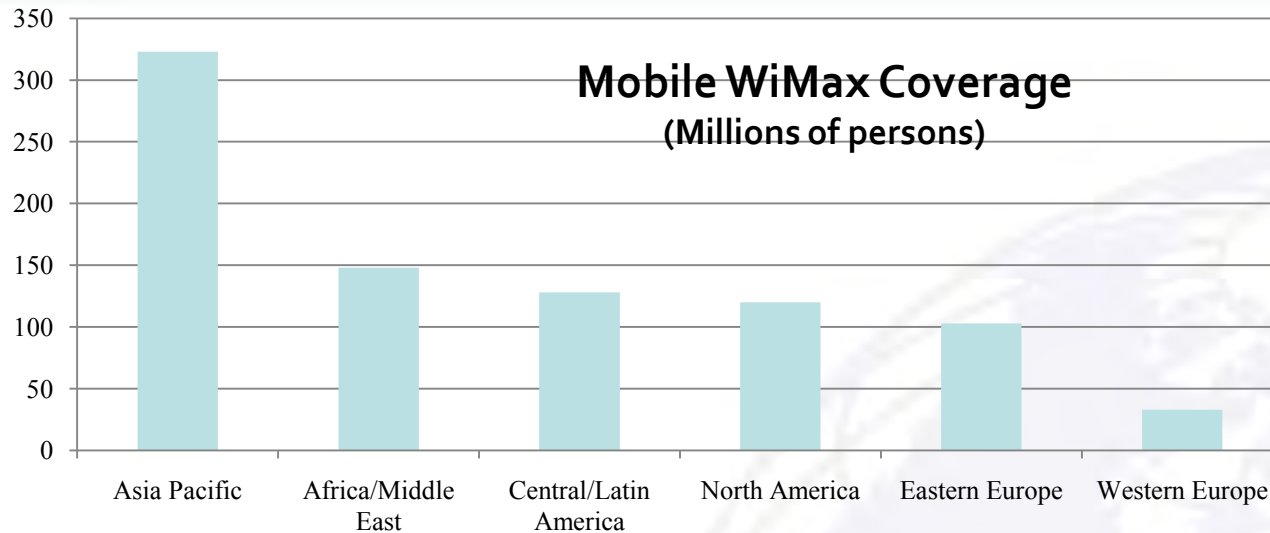
Nationwide Mobile WiMax Networks Based on Huawei Core Infrastructure



Source: www.huawei.co.cn



WiMax Forum Estimates

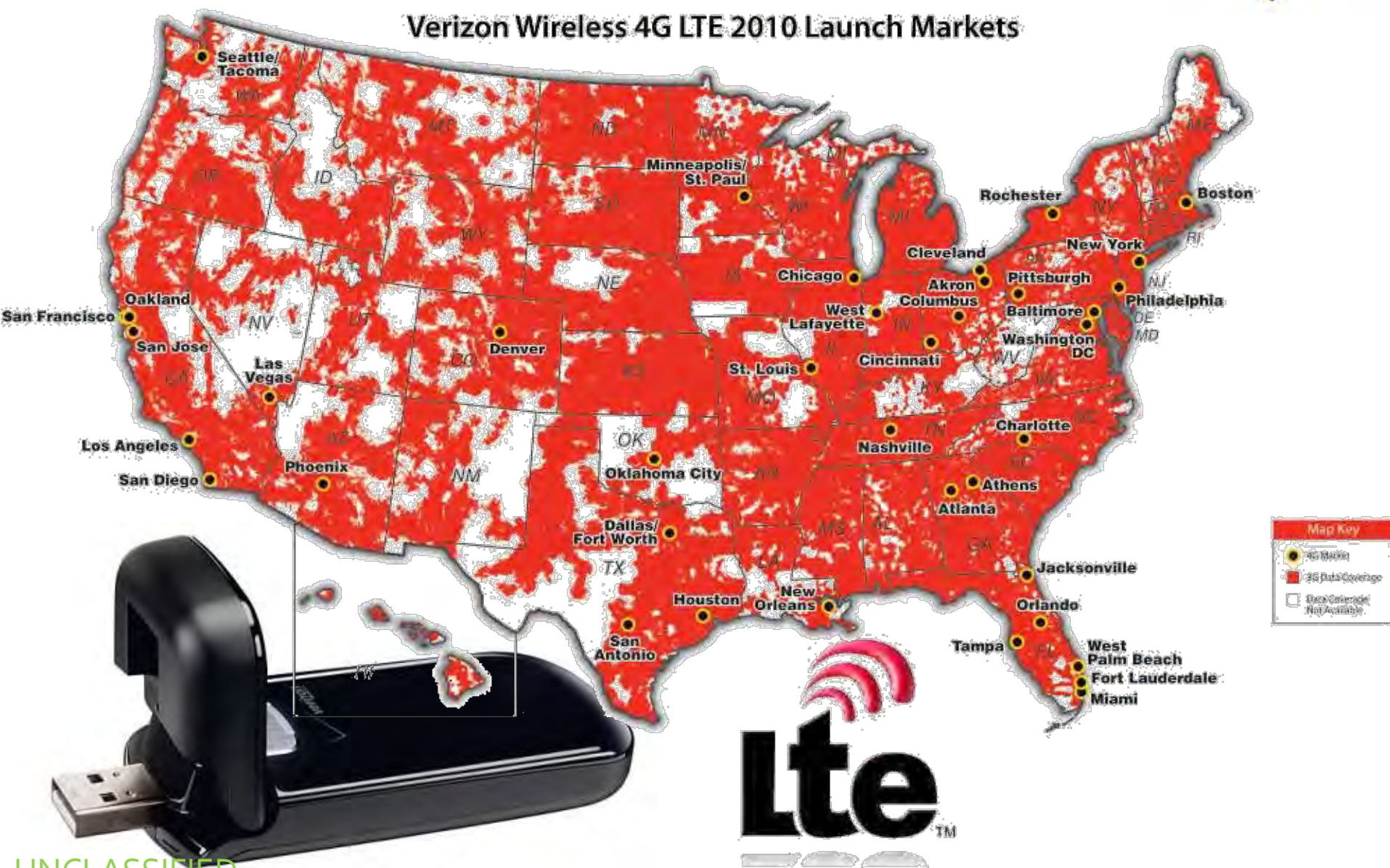


- Currently 582 operators in 150 countries
- \$1.2 B investment planned for 2011 (China, US, Taiwan, Korea, Malaysia)
- Coverage of 823 mil persons end of 2010
- Coverage of 1.4 bil persons end of 2011



What about LTE?

Verizon Wireless 4G LTE 2010 Launch Markets





LTE is Gaining Steam!

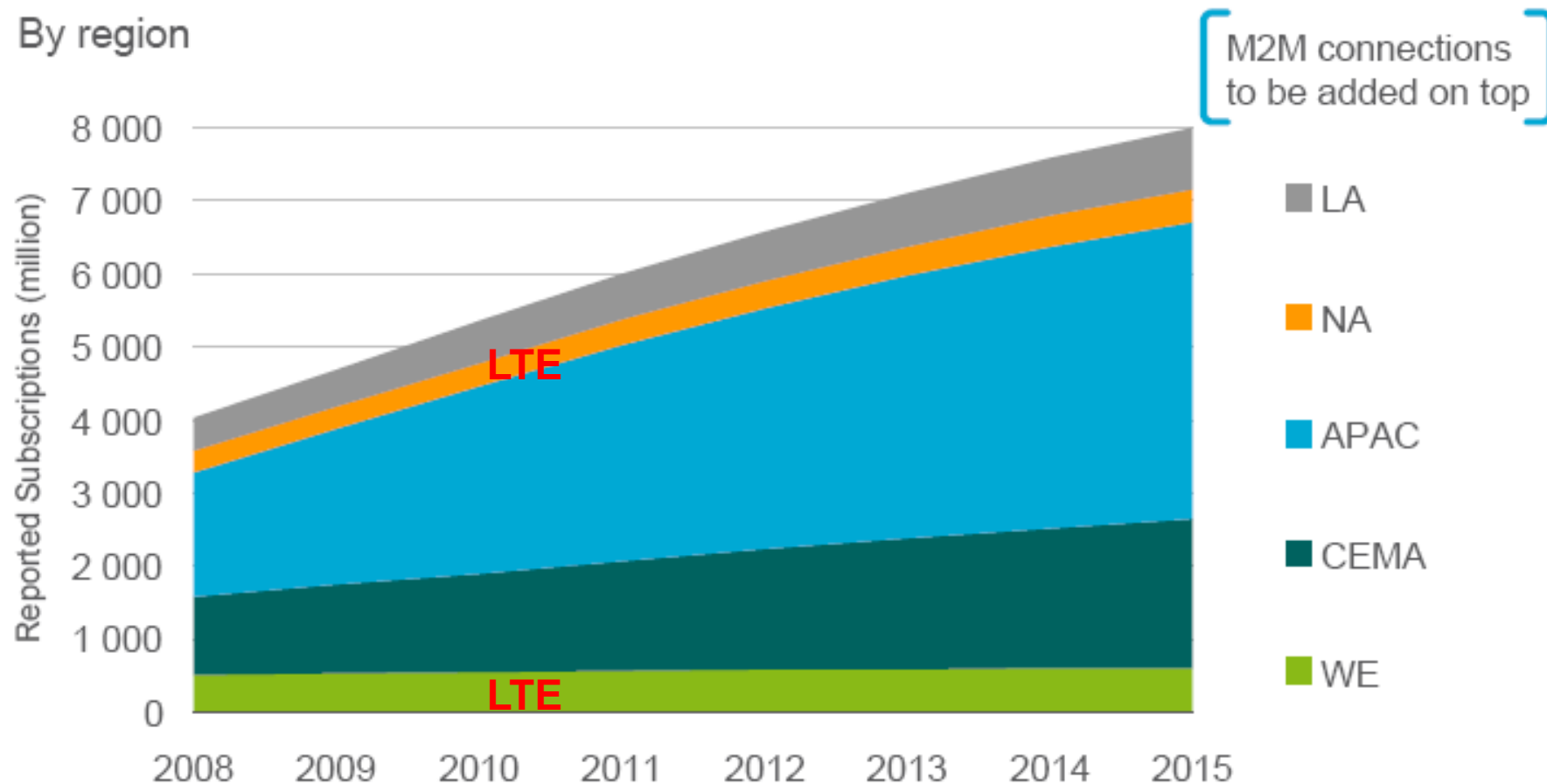
- January 2010 – First public LTE network operational in Stockholm/Oslo
 - Uses Samsung devices, Ericsson network core
 - 50 Mbps download, 20 Mbps upload
- Sparse operational networks in Uzbekistan, Japan, Austria, Germany, US
- Test demonstrations in Moscow, Shanghai, Hong Kong
- Top ten global network providers committed to LTE
- LTE adoption in North America, Western Europe assured
- China? India? Russia? Middle East?





Mobile Subscriptions by Region

By region



Source: Internal Ericsson



Worldwide Deployment



Operational WiMax operators
(www.wimaxmaps.org)



(Blue) Operational LTE operators
(Red) Planned LTE operators
(www.ltemaps.org)

Three Very Different Signals

WiFi

Bandwidth is fixed
Carrier frequency is known
10's of users
Users transmit when they want
Small area networks

≠

Fixed WiMax (2004)

Variable bandwidths
User bandwidth is fixed
Carrier frequency determined by operator
100's of users
Users transmit on a schedule
Cable modem/DSL alternative (Non-mobile)

≠

WiMax (2009)

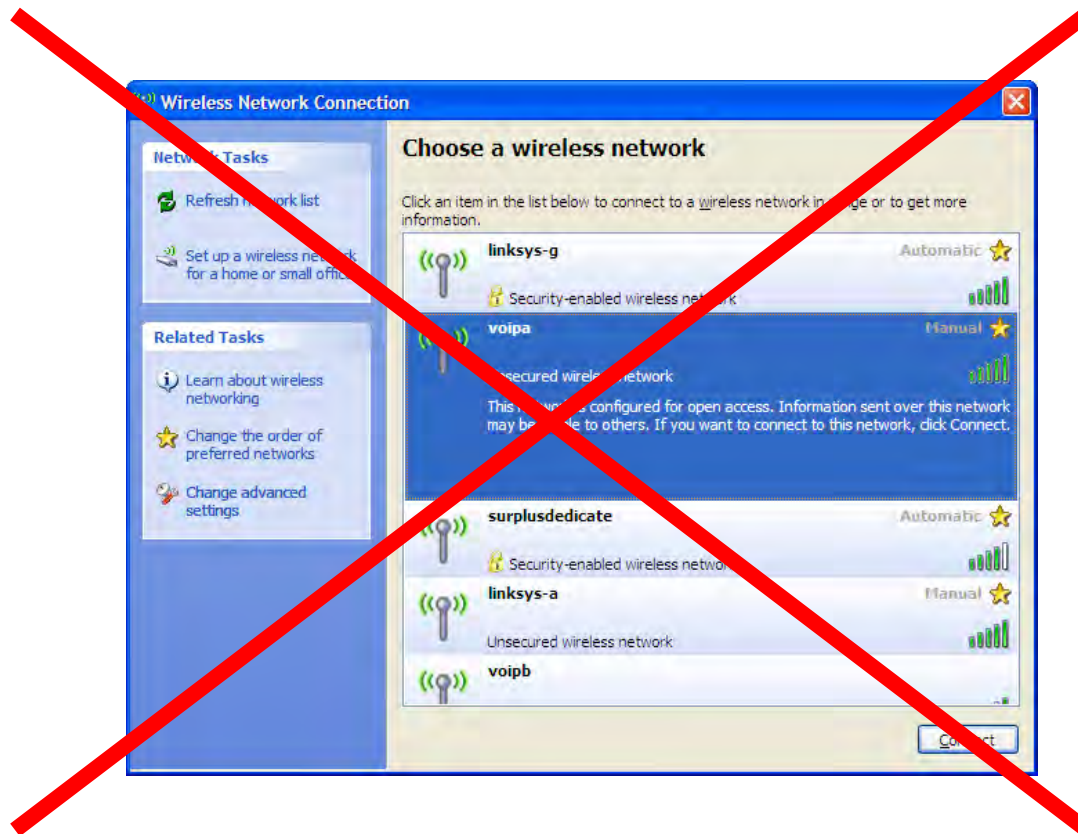
Variable bandwidths
Variable User bandwidth
Carrier frequency determined by operator
100's of users
Users transmit on a schedule
Mobile Phone technology +

No Cheap Packet Sniffers!



If You Don't Know What You're Looking For...

...finding a 4G network is not easy!





4G Geolocation using Timing Advance

- Potential for Better than 10x Improvement Over GSM TA Location Techniques
 - 40m for 4G vs. 400m for GSM
- RNG-RSP Successfully Received in Traffic
- Small Timing Adjust Variance in Repeated Observations
- Periodic and Handoff Ranging Can Add to Location Accuracy



- Mobile broadband is the fastest growing technology in history
- Adoption is occurring in underdeveloped nations 10x faster than developed nations
- LTE will be the dominant mobile technology in developed countries in four years
 - WiMax has made significant inroads in underdeveloped countries
 - Jury is still out in China
- Collecting 4G signals will be challenging but exciting potential for geolocation

mceachen@nps.edu

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Peter Depa

Deputy Program Manager-Combatant Craft

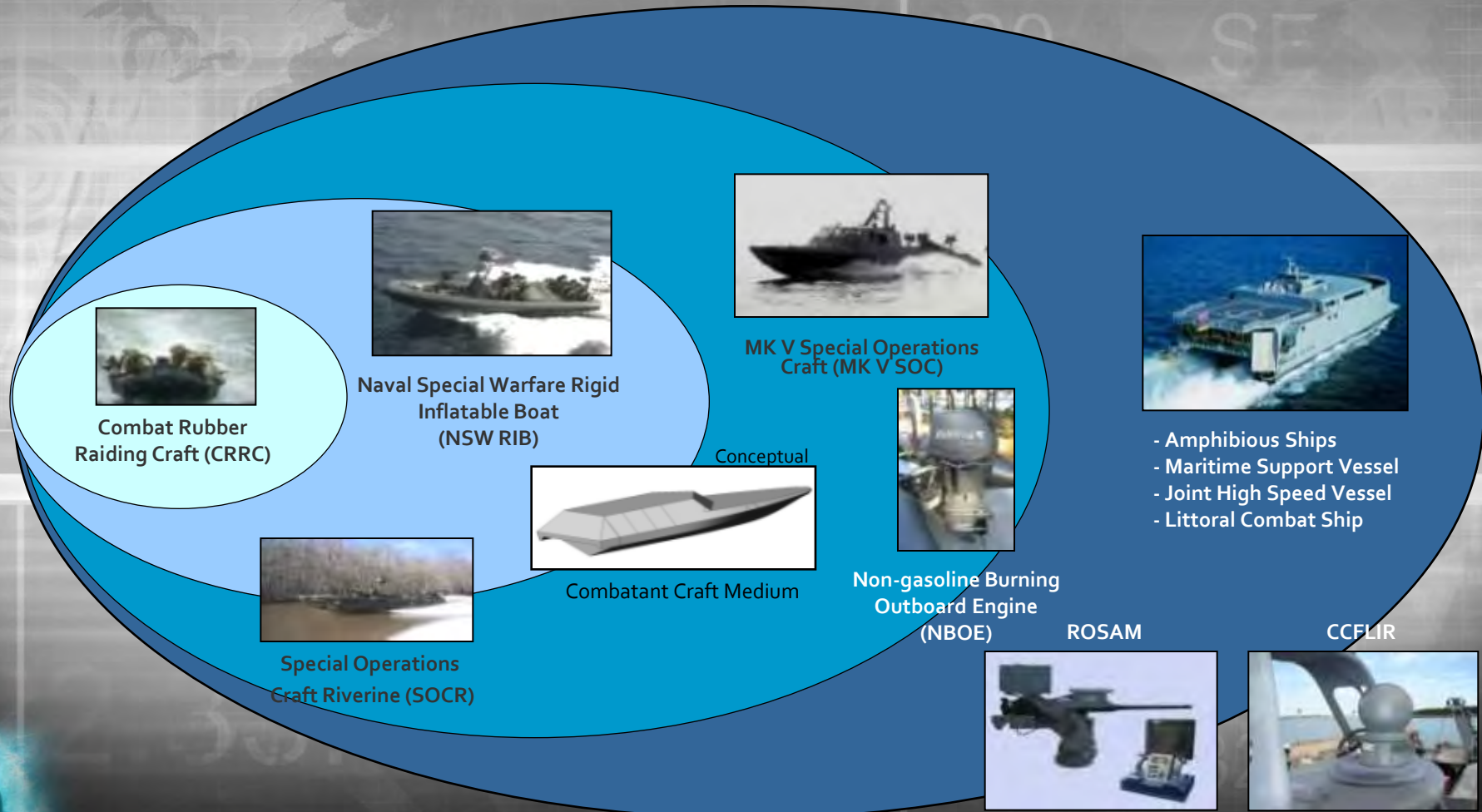
High Speed Communication

Maritime Systems



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Surface Mobility Systems



Maritime Systems



Technology Areas of Interest

- High Speed Communications
- Secure Wireless Intercom System



Maritime Systems



High Speed Communication

- Current status:
 - Mobility craft have low to medium HF/VHF/UHF speed communications that provide data rates on the order of 64 Kbps.
 - These systems restrict ability to receive and distribute timely, robust, situational awareness information to and from other theater participants.
 - Existing high data rate SATCOM antennas are too big or too expensive to be used on combatant craft.



Maritime Systems



High Speed Communication

- Where we want to be:
 - Equip craft with IP-67 rated, low-mass (<100 Lbs), low-profile (<10" in height), low-cost (<\$100K), high data-rate Ku-band SATCOM communications capability that provides zenith to near-horizon coverage achieving data rates up to 1.5 Mbps downlink and 512 Kbps uplink while the craft is on-the-move.



Maritime Systems



Secure Wireless Intercom System

- **Current status:**
 - **AN/VIC-3 wired intercom**
 - Constrains Crew mobility by restrictive length of intercom cables
 - Trip hazards and cable damage caused by SWCC and embarked SOF operator movement, an inherent wired intercom weakness
 - Temporary loss of communications caused by crew members disconnecting from one station to move to another station, creating situations when the craft Officer in Charge was unable to provide timely direction to crew during tactical operations
 - **Each crew member currently carries AN/PRC-148 MBITR hand held radio**
 - Type-1 encrypted, half duplex, no access to boat radios
 - **Numerous manufacturers of Wireless Intercom systems, but none at the present time is capable of meeting the performance parameters**



Maritime Systems



Secure Wireless Intercom System

- Where we want to be:
 - NSA approved Type-1 encrypted full duplex Wireless Intercom
 - Provide crew access to existing boat radios with no EMI/EMC issues
 - User worn transceiver as small as possible, battery life ≥ 12 hours
 - Water immersion at one meter for 12 hours and IP67 rated



Maritime Systems





Lightweight, Small Volume CO₂ Removal Technology

- Current Status:
 - Existing underwater breathing apparatus (UBA) systems (Mk 25 and Mk 16) have an absorbent volume between 2.9 and 4.0 liters.
 - The ratio of CO₂ volume absorbed to absorbent volume (VRCO₂) at 21°C for each of these systems is VRCO₂=120.
 - As the temperature decreases, present systems remove less CO₂.



Lightweight, Small Volume CO₂ Removal Technology

- **Where We Want to Be:**
 - CO₂ removal technologies that can meet or approach a performance objective of 240 VRCO₂ over a temperature range of 2°C to 35°C and demonstrates equivalent or decreased breathing resistance as current systems.

POC: PEO Maritime 813.826.9501



Mobility

Go Anywhere, Undetected, and Return Safely

- **Signature Reduction (Visual, Acoustic, Thermal, Radar)**
- **Enhanced Freedom of Maneuver**
 - Increased Speed Over Terrain, Extended Range
 - Occupant Comfort/Health
 - Improved Durability
 - Reduced Vehicle Weight
- **Improved Force Protection and Survivability**
 - Armor Improvements
 - Active Countermeasures
- **Improved Situational Awareness**
 - Sensors, 360° Vision
 - Integrated Bridge Systems, Consolidated Communications
 - Secure Wireless Communications Systems





Mobility (2)

- **Improved Ride Quality**
 - Reduce operator injury
 - Increase combat effectiveness
- **Multi-Fueled Engines**
 - Provide capability for common logistical fuels for small engines
 - Outboards, 2-Strokes, UAV & ATV engines
- **RF Direction Finding**
 - DF system suitable for use on small UAVs
 - 3D bearing information from a single intercept
- **Hostile Fire Indicator**
 - Integrated HFI
 - Multispectral Imaging
 - Advanced ATR algorithms





Improved Energy Density Batteries

- **Variety of Form Factors**
 - Micro-battery Technology for Miniature Sensors and Devices
 - Helmet and Weapons Mounted Electronics
- **Reduce Size and Weight**
- **Fast Recharging**
- **Five to Ten Times the Current Battery Capacity Life**
- **Reduced Thermal Signature**
- **Longer Shelf Life**
- **Safety of Use/Internal Fail-Safes**
 - Thermal Runaway
 - Military Combat Environment
- **Advanced Energy Storage for Underwater Vehicles**





Sustainable Power and Energy

Reduced Dependence on Fossil Fuels

- Increased Efficiency in Photovoltaic Cells
- Fuel Cells
- Wind
- Multi-Purpose
 - Water Purification
 - Power Source



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CDR Joe Dituri

Chief Engineer - Maritime

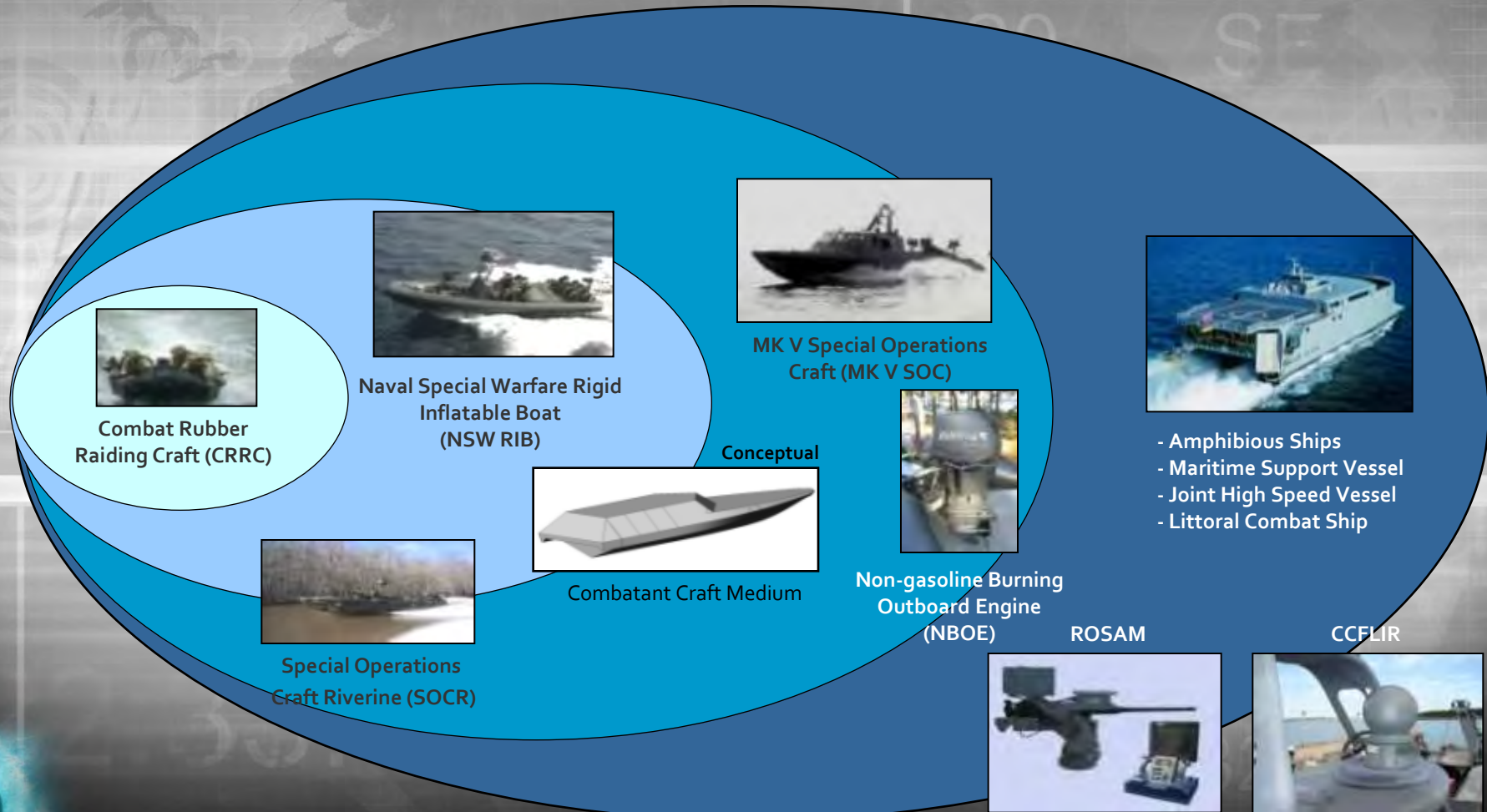
Dynamic Ride Impact Mitigation

Maritime Systems



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Surface Mobility Systems



Maritime Systems



Technology Areas of Interest

- Dynamic Ride Impact Mitigation



Maritime Systems



Dynamic Ride Impact Mitigation

- **Current status:**
 - Current craft have rigid hull form with passive, shock-absorptive seats with damping characteristics that are platform specific, location and occupant agnostic, and generally fail to ameliorate injurious shock accumulations over time.
 - Current systems provide a daily equivalent static compression dose, normalized to an 8-hour day (S_{ed8}) rating of no better than 4.7 MPa per ISO 2631-5:2004.



Maritime Systems



Dynamic Ride Impact Mitigation

- Where we want to be:
 - Hull forms and / or seating systems / combinations that significantly mitigates both short and long-term shock effects on all occupants in all sea-state conditions and speeds.



Maritime Systems





Advanced Materials for Armor and Weight Reduction

- **Body Armor**
 - Reduce Weight
 - Reduce Cost
 - Increase Ballistic Performance
 - Assess Test Standards Applicability to SOF Needs
- **Ground/Air Vehicle Armor**
 - Opaque: same goals as body armor
 - Transparent: Reduced Weight & Cost, Improved Ballistic Performance, No Situational Awareness Degradation (NVG or visual spectrum)
 - Flat
 - Curved

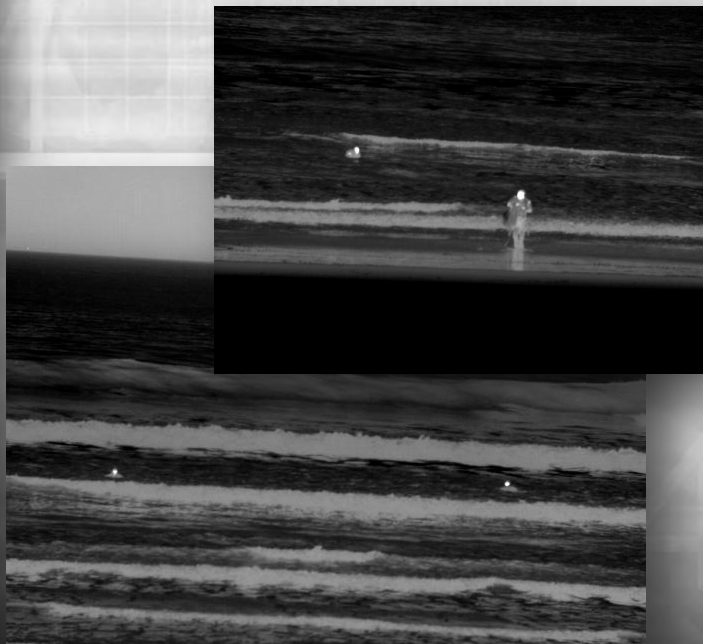




Multi-spectral Signature Reduction

For the SOF Operator and his equipment in all environments

- Radar Cross-section
- Visual, Near IR, Shortwave IR, Midwave IR, Longwave IR
- Acoustic





Combat Swimmer Thermal Protection

- **Current Status:**
 - Combat swimmers require thermal protection from cold and warm ambient water temperatures.
 - Current diving suits utilize insulation materials, such as Thinsulate or Polartec, to provide protection for short periods of immersion or for electrical resistive systems.

33:42



Combat Swimmer Thermal Protection

- **Where We Want to Be:**
 - Thermal protection in ambient water temperatures anywhere between 2°C and 35°C for a minimum duration of 12 hours. Maintain diver's dexterity and core temperature at 37°C.
 - Provide protection for diver's extremities and core, such that the diver will not have a reduced off-gassing in the extremities due to decreased blood flow.

POC: PEO Maritime 813.826.1975

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Special Operations Forces Industry Conference



Tips for Writing Successful Proposals

Traci Dandeneau – Contract Specialist

Chris Kernan – Acquisition Attorney

Sue Griffin – Division Chief

Kevin Jans – Contracting Officer

Verdetta Weaver – Contracting Officer



Procurement

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Missed Opportunities

Pre-Solicitation Phase

- Contractor has not accessed the SBA website for the available programs (small business planner), tools (monthly chat events, electronic newsletters, podcasts and a myriad of business resources), and services (financial assistance, contract opportunities, disaster assistance, on-line training, etc.)

<http://www.sba.gov/>

- Contractor is unfamiliar with the Federal Business Opportunity (FedBizOps) webpage where buyers may post and vendors may search, monitor and retrieve Federal contracting opportunities

<https://www.fbo.gov/>

- Unaware of Government requirement
- Does not attend any industry day, or pre-solicitation or pre-proposal conferences
- Vendor asks questions too late for the Government to respond prior to proposal closing date.
- Contractor is not registered in Central Contractor Registration (CCR)

<http://www.ccr.gov/>



Step 1: Early Requirement Analysis

- **Access & register in FedBizOps**
 - “Favorites” and “Watch List” features
- **Pre-Solicitation Notices**
 - Identify the supply or service?
 - What is the acquisition strategy?
 - Type of Contract (FAR 16)
 - Acquisition of Commercial Items (FAR 12), Simplified Acquisition Procedures (FAR 13), Sealed Bidding (FAR 14), Contracting by Negotiation (FAR 15), Small Business Set-Asides (FAR 19.5)
 - Delivery Requirements
 - Industry Day/Pre-Solicitation or Pre-Proposal Conferences/Qualification Requirements
 - Opening/Closing Date



Missed Opportunities

Solicitation Review Phase

- **Failure to follow the instructions**
 - Proposal is untimely and/or not in the correct medium
 - Proposal contains extraneous information and/or fails to include the requested information
 - Proposal is incomplete, whereas “fill-ins” representations, certifications, matrices are incomplete, especially in identifying Government Rights to Technical Data (DFAR 252.227-7017)
- Questions asked relatively close to the proposal due date run the risk of answers not being provided before the closing time.



Step 2: Solicitation Review

- **I - The Schedule: A – H**
 - A: Solicitation/Contract Form
 - B: Supplies or services and prices/costs
 - C: Description/specifications/statement of work
 - D: Packaging and marking
 - E: Inspection and acceptance
 - F: Deliveries or performance
 - G: Contract Administration Data
 - H: Special contract requirements
- **II - Contract Clauses: I**
- **III - List of Documents, Exhibits & Other Attachments: J**
- **IV - Representations and Instructions: K, L & M**



Missed Opportunities

Submittal Phase

- Failure to recognize and understand the factors and weightings, Preliminary Evaluations and/or Go/No-go criteria
- Technical Area
 - Product samples submitted are not representative of the proposed system, do not work, or have missing pieces/parts
 - Inconsistencies in the Proposal's Technical approach and Pricing proposal; Alternative proposals are incomplete, whereas they fail to provide a thorough technical discussion and the associated pricing
 - Proposal fails to discuss product/service in sufficient detail to demonstrate compliance with the Government's requirement
 - Proposal parrots the Government specification or indicates meeting the Governments requirement
 - Proposal does not include test data to support assertions Past Performance Area
 - Contractors fail to sufficiently provide the required information and often provide inaccurate data



Missed Opportunities

Submittal Phase (cont)

- **Pricing Area**
 - Proposal fails to provide the supporting documentation for Pricing Area (Commercial Price List, Stepladder pricing anomalies, inflation, escalation, CDRLs, discount terms, etc.)
- **Offeror fails to keep abreast of FedBizOps for amendments to the solicitation.**
 - Changes in the specification, proposal instructions, evaluation criteria, proposal due date



Step 3: Identify the Source Selection Process & Technique

- **Basis for Award (Section M/FAR 52.212-2)**
- **Evaluation Criteria (Section M/FAR 52.212-2)**
 - Evaluation Factors and significant subfactors (FAR 15.304)



Step 3 - Basis for Award

- **Lowest cost/price acceptable proposal**
- **Best Value**
 - Any basis for award which states that factors in addition to cost/price will be considered in some relative order of importance to determine the winning proposal.
 - Allows the government the discretion to determine which proposal offers the best chance of successfully meeting the requirement
 - Trade-off process (FAR 15.101-1): Technical, Past Performance, Cost/Price factors



Step 3 - Evaluation Criteria

TECHNICAL *(Area)*

Product Samples *(Factor)*

Test Results *(Subfactor)*

User Assessment *(Subfactor)*

Specifications *(Subfactor)*

Technical Approach *(Factor)*

Specification Thresholds/Objectives *(Subfactor)*

Management *(Factor)*

Quality Assurance *(Subfactor)*

Subcontracting *(Subfactor)*

Facilities *(Subfactor)*

PAST PERFORMANCE *(Area)*

PRICE *(Area)*

Sample

This information will be placed in Section M or Clause 52.212-2 of the RFP. Relative weights and Criteria will be explained.



Step 4: Follow the instructions and submit the required material

Section L

or

FAR 52.212-1

Instructions to Offerors

Identifies for offerors what they are required to submit

Section M

or

FAR 52.212-2

Evaluation Criteria

Identifies to offerors how the Government is going to evaluate what we have asked offerors to submit





Analysis checklist

- **Early Requirement Analysis**
- **Thorough Solicitation Review**
- **Identify the Source Selection Process & Techniques**
- **Follow the Instructions and Submit the Required Material**



Questions



?



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Mr. Douglas Richardson

Program Executive Officer - SRSE

Portfolio Review and APBI

**Special Reconnaissance
Surveillance and Exploitation**

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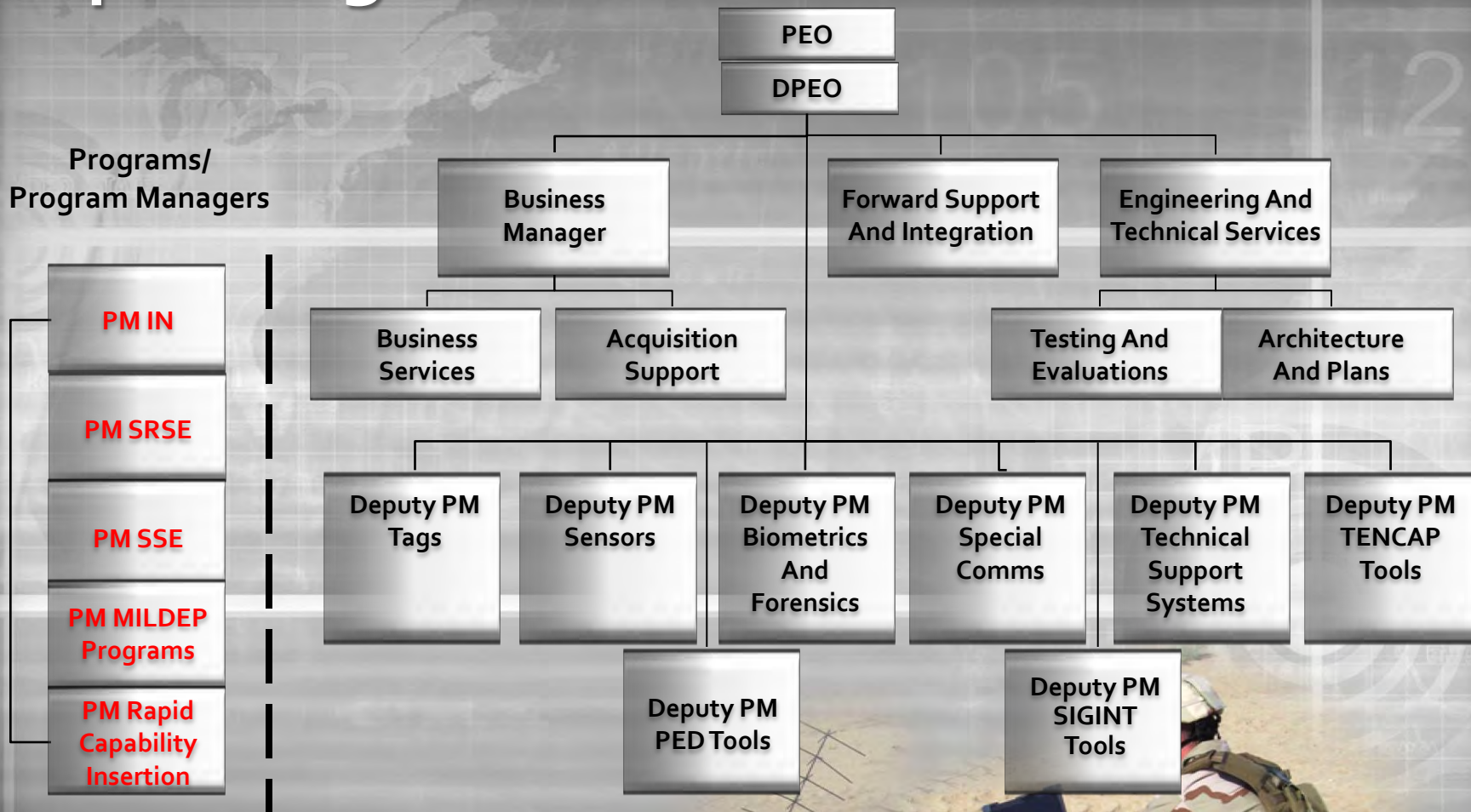
Mission

Manage The Development, Acquisition, Fielding, New Equipment Training, And Sustainment Of State Of The Art Technical Collection And Exploitation Tools For Advanced Surveillance, Reconnaissance, And Intelligence Systems For Theater Forces And Special Operations Commands

**Special Reconnaissance
Surveillance and Exploitation**



Operating Structure



**Special Reconnaissance
Surveillance and Exploitation**



Hostile Forces – Tagging, Tracking & Locating (HF-TTL) Program

- Provides Capability To Tag, Track And Locate High-Value Items Of Interest
- Portfolio Of Tagging / Tracking And Close-Target Audio / Video And Reconnaissance Capabilities

Acquisition Strategy

- Commodity Procurement Program

Period of Performance

- Annually Fields Tailored Mission Sets To Component And Theater Special Operations Commands

Milestones

- Kit Selection: Annually
- User Testing: Quarterly
- Commodity Procurements: Annually
- New Equipment Training: Continuously
- Fielding And Deployment: Continuously

Point of Contact

PEO-SRSE
(813) 826-7424

Funding

- FY11 Procurement: \$22.380M
- FY 12 Procurement: \$24.065M

Current Contract/OEM

- Multiple - Contact TILO

HF-TTL Examples



**Special Reconnaissance
Surveillance and Exploitation**

Special Operations – Tactical Video System (SOTVS)

- **Family Of Attended And Unattended Sensor Systems To Capture And Transfer Near-Real-Time Day/Night Tactical Ground Digital Imaging**

Acquisition Strategy

- Evolutionary Migration Strategy Continuously Upgrades Kits / Components

Period of Performance

- In Sustainment, Continuous Capital Equipment Replacement

Milestones

- Post-Milestone C, Sustainment And Capital Equipment Replacement

Point of Contact

PEO-SRSE
(813) 826-1323

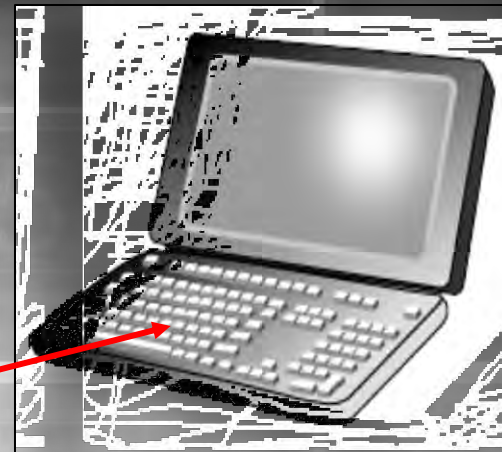
Funding

- FY 11 O&M: \$4.956M
- FY 12 O&M: \$4.618M

Current Contract/OEM

- Multiple – Contact TILO

SOTVS Examples



Special Reconnaissance
Surveillance and Exploitation



Sensitive Site Exploitation (SSE) Program

- Capability To Exploit Personnel, Documents, Electronic Data, And Material On A Sensitive Site/Objective
- Collects And Transmits Unique, Measurable Biometric Signatures

Acquisition Strategy

- Commodity Procurement Program

Period of Performance

- Variable, Fields Multiple Configurations Of Biometric And Forensic Kits To Components

Milestones

- Kit Selection: Annually
- User Testing: As Required
- Commodity Procurements: Annually
- New Equipment Training: Continuously
- Fielding And Deployment: As Required

Point of Contact

PEO-SRSE
(813) 826-7429

Funding

- FY 11 Procurement: \$2.278M
- FY 12 Procurement: \$3.484M

Current Contract/OEM

- Multiple – Contact TILO

SSE Examples



Special Reconnaissance

UNCLASSIFIED

Surveillance and Exploitation



Joint Threat Warning System (JTWS)

- Signals Intelligence (SIGINT) And Precision Geo-Location For Ground, Air, And Maritime Applications

Acquisition Strategy

- Spiral Development and Evolutionary Technology Insertions

Period of Performance

- In Sustainment, Continuous Capital Equipment Replacement

Milestones

- Post-Milestone C, Sustainment And Capital Equipment Replacement

Point of Contact

PEO-SRSE
(813) 826-7486

Funding

- FY11 Procurement: \$37.510M
- FY12 Procurement: \$35.109M

Current Contract/OEM

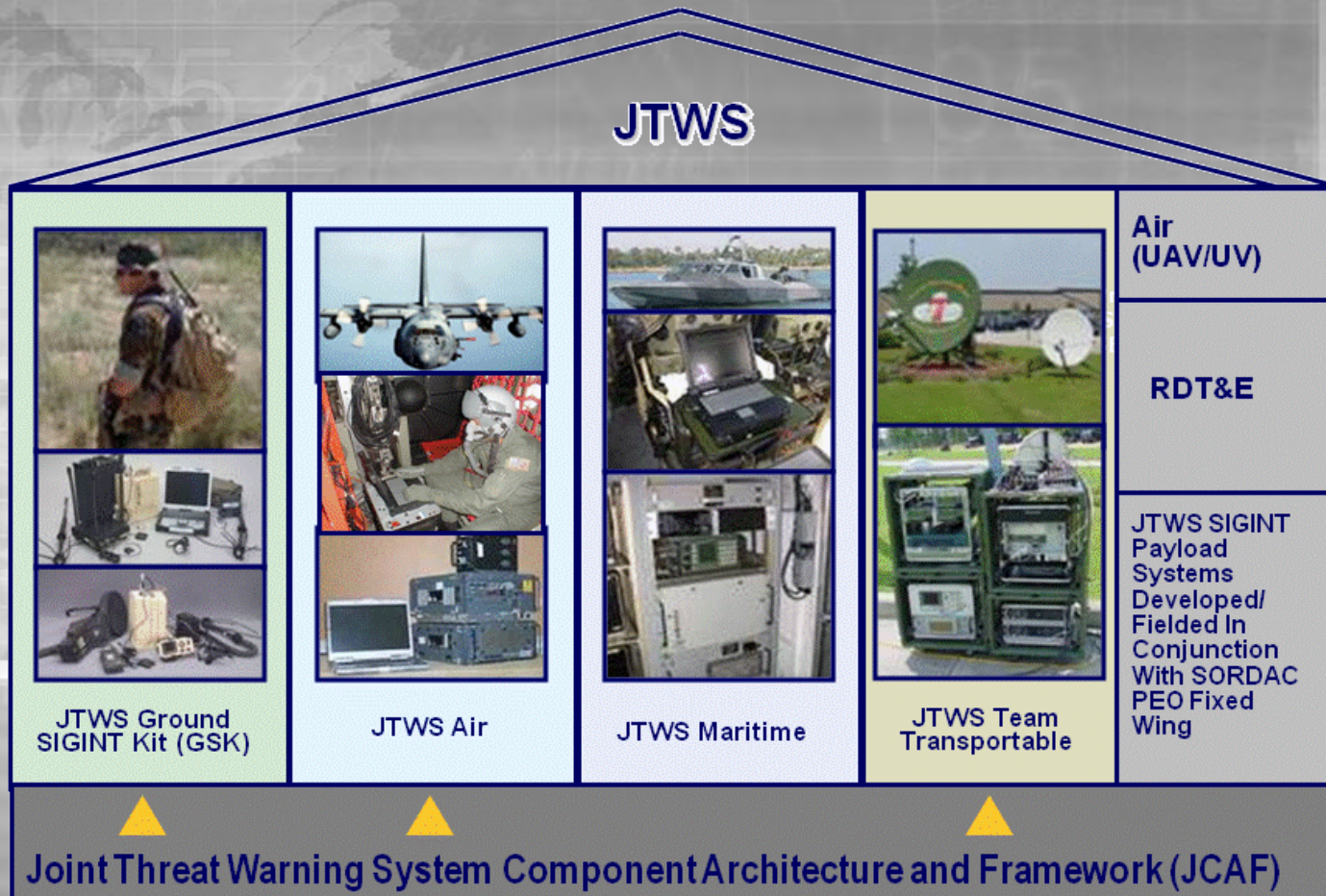
- Multiple – Contact TILO

Special Reconnaissance
Surveillance and Exploitation

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JTWS Family of Systems



Special Reconnaissance

Surveillance and Exploitation



Distributed Common Ground System For Special Operations Forces (DCGS-SOF)

- Operates As Part of Defense Intelligence Information Enterprise And SOF Information Enterprise (SIE)
- Provides Framework, Data, Services And Applications For SOF Garrison/Deployed Processing Exploitation Dissemination (PED), Advanced Analytics And SOF ISR Enterprise

Acquisition Strategy

- Partner With SIE And Intelligence Community And DCGS Family Of Systems Programs Of Record; Evolutionary Technology Inserts

Period of Performance

- Project Dependent

Milestones

- Milestone B For Enterprise; Sustainment And Capital Equipment Replacement For SIGINT And Full Motion Video PED

Point of Contact

PEO-SRSE
(813) 826-7444

Funding

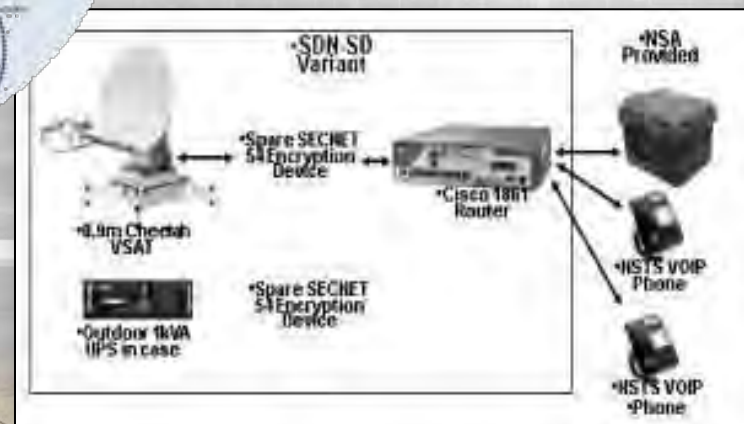
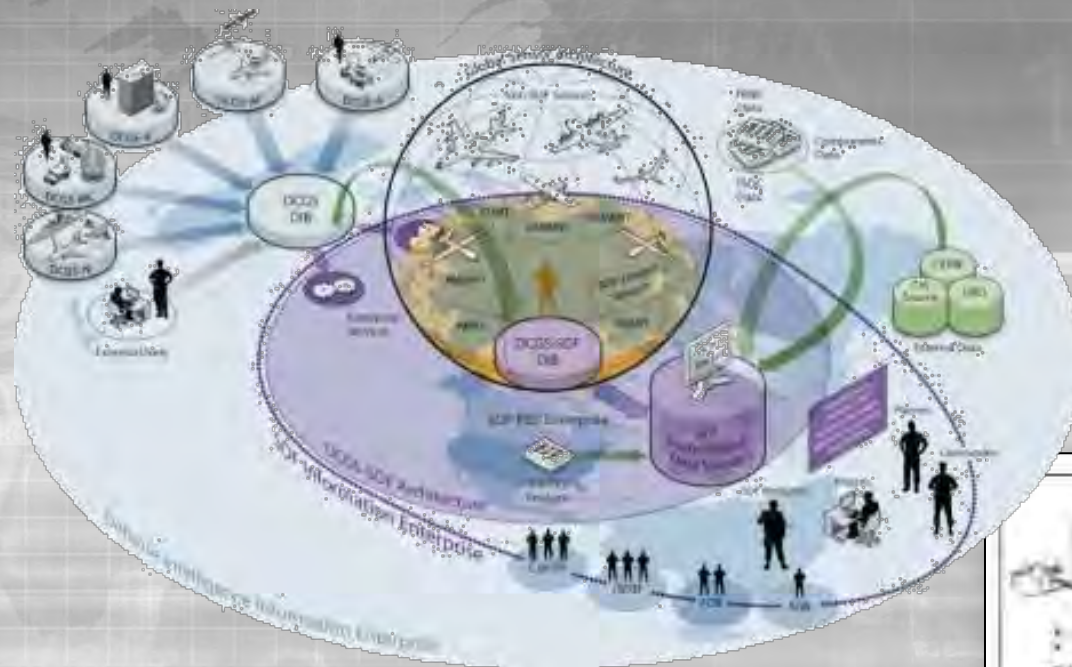
- FY11 Procurement: \$5.225M
- FY12 Procurement: \$15.621M

Current Contract/OEM

- Multiple – Contact TILO

**Special Reconnaissance
Surveillance and Exploitation**





Silent Dagger

Special Reconnaissance UNCLASSIFIED Surveillance and Exploitation

Special Operations Forces Planning, Rehearsal, Execution Program (SOFPREP)

- Provides Generation Of Legacy And Common Databases In Support Of SOFPREP (Data Management) Systems

Acquisition Strategy

- Evolutionary Technology Insertions

Period of Performance

- In Sustainment, Continuous Capital Equipment Replacement

Milestones

- Post-Milestone C, Sustainment And Capital Equipment Replacement

Point of Contact

PEO-SRSE
(813) 826-7478

Funding

- FY11 O&M: \$7.913M
- FY12 O&M: \$6.121M

Current Contract/OEM

- Multiple – Contact TILO

**Special Reconnaissance
Surveillance and Exploitation**



Integrated Survey Program (ISP)

- Technical Surveys And Multi-Media Production

Acquisition Strategy

- Evolutionary Technology Insertions

Period of Performance

- In Sustainment, Continuous Capital Equipment Replacement

Milestones

- Post-Milestone C, Sustainment And Capital Equipment Replacement

Point of Contact

PEO-SRSE
(813) 826-7478

Funding

- FY11 O&M: \$1.220M
- FY12 O&M: \$1.364M

Current Contract/OEM

- Multiple – Contact TILO

Special Reconnaissance
UNCLASSIFIED Surveillance and Exploitation



Rapid Capability Insertion Programs

- Clandestine Tagging Tracking And Locating (CTTL) : Develops And Prototypes Innovative TTL Capabilities Through Applied Research And Development (R&D)
- Special Reconnaissance Capabilities (SRC): Provides R&D Of Novel Reconnaissance Devices, Special Communications Equipment And Unattended Ground Sensors
- National System Support To SOF (NSSS): Serves As The Command's Tactical Exploitation Of National Capabilities (TENCAP) Office And Leverages Existing And Future Space-Related Technologies

Acquisition Strategy

- Rapid Prototyping, Technology Demonstration, Combat Evaluations

Period of Performance

- Project Dependent

Milestones

- Project Dependent

Point of Contact

PEO-SRSE
(813) 826-7402

Funding

| | FY11 | FY12 |
|--------|-----------|-----------|
| • CTTL | \$22.478M | \$26.486M |
| • SRC | \$20.650M | \$20.919M |
| • NSSS | \$0.979M | \$0.756M |

Current Contract/OEM

- Project Dependent

In-House Broad Area Announcement (BAA)

- Maximum Use Of FY2011-2012 SORDAC Consolidated BAA (HG9222-10-BAA-SORDAC-KI)
 - » Efficient Contract For Relevant RDT&E Efforts
 - » Updated Annually Within Special Reconnaissance, Surveillance, and Exploitation (SRSE) Areas Of Technological And Scientific Importance

**Special Reconnaissance
Surveillance and Exploitation**



Accelerating The Force

- Streamlined Processes
- Integrated Technology Development
- Linkage To The Warfighter
- Scenario-Based Experimentation And Evaluation
- Acquisition Partner To USSOCOM J2

**Special Reconnaissance
Surveillance and Exploitation**



PEO-SRSE Briefings & Panels

Wednesday, May 18 , 1015-1200

Thursday, May 19, 0900-1030

Technology/Capability Areas Of Interest:

- SOF ISR Roadmap Panel
- Identity Superiority / Sensitive Site Exploitation, The Future Of SOCOM Biometrics Panel
- Guiding The Tip Of The Spear
- SIGINT / Cyber Future Environment

**Special Reconnaissance
Surveillance and Exploitation**



Special Operations Forces Industry Conference

Mr. Tony Davis

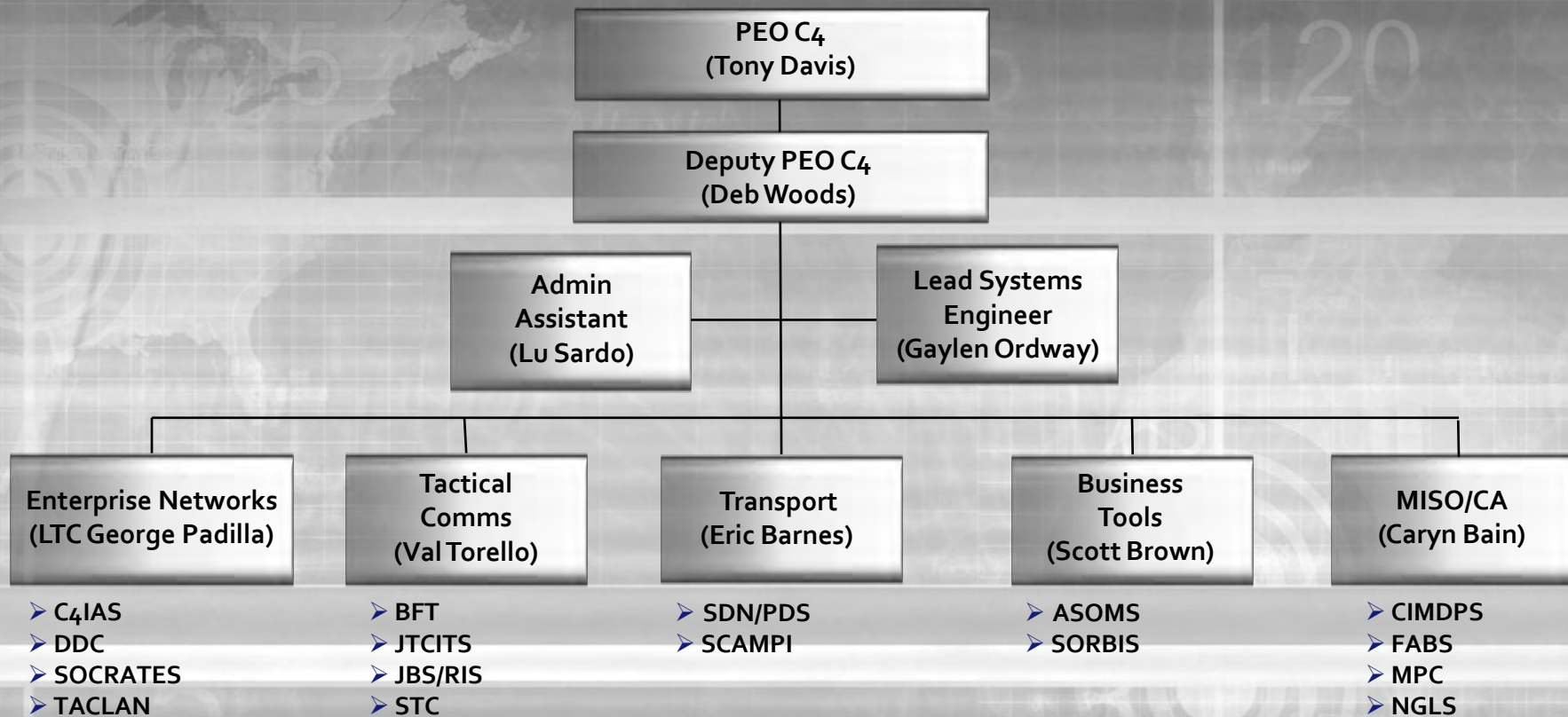
**Program Executive
Officer for C4**

**Portfolio Review
and APBI**

**C4 Command, Control,
Communications, and Computers**



Organizational Structure



BFT – Blue Force Tracking
C4IAS – C4 Intelligence Automation System
CA - Civil Affairs
CIMDPS - Civil Information Management Data Processing System
DDC - Distributed Data Center
FABS - Fly Away Broadcast System
RIS - Radio Integrity System
JTCITS - Joint Tactical C4I Transceiver System
MISO - Military Information Support Operations
MPC - Media Production Center

MPS - MISO Print System
NGLS - Next Generation Loudspeaker System
PACE - Planning and Analysis Collaborative Environment
PDS - Product Distribution System
SCAMPI - Not an Acronym
SDN – SOF Deployable Nodes
SOMS-B - Special Operations Media System – Broadcast
STC - Special Operations Forces Tactical Communications
TACLAN - Tactical Local Area Network

C4 Program Families



STC



BFT



JTCITS



RIS

Tactical Comms



TACLAN

C4IAS/SOCRATES
DDC

Enterprise Networks



SCAMPI



PDS



SDN

Transport



SORBIS

Business Tools



ASOMS

C4 Command, Control,
Communications, and Computers



SITEC Source Selections Schedule

| | | 2011 | | | | | | | | | | |
|------------------------|--|------|-----|-----|-----|-----|-----|------|-----|-----|------------------------|--|
| | | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | | |
| Enterprise Net | | | ★ | | | | | | | | Enterprise Net | |
| Data Center | | | ★ | | | | | | | | Data Center | |
| Dist Comp | | | | ★ | | | | | | | Dist Comp | |
| IT Service Mgmt (ITSM) | | | | | ✦ | | ★ | | | | IT Service Mgmt (ITSM) | |
| Specialty Svcs | | | | ▲ | ✦ | | ★ ➡ | | | | Specialty Svcs | |
| App Mgmt | | | | | ▲ ✦ | | ★ ➡ | | | | App Mgmt | |
| Production | | | | | | ▲ ✦ | | | ★ | | Production | |

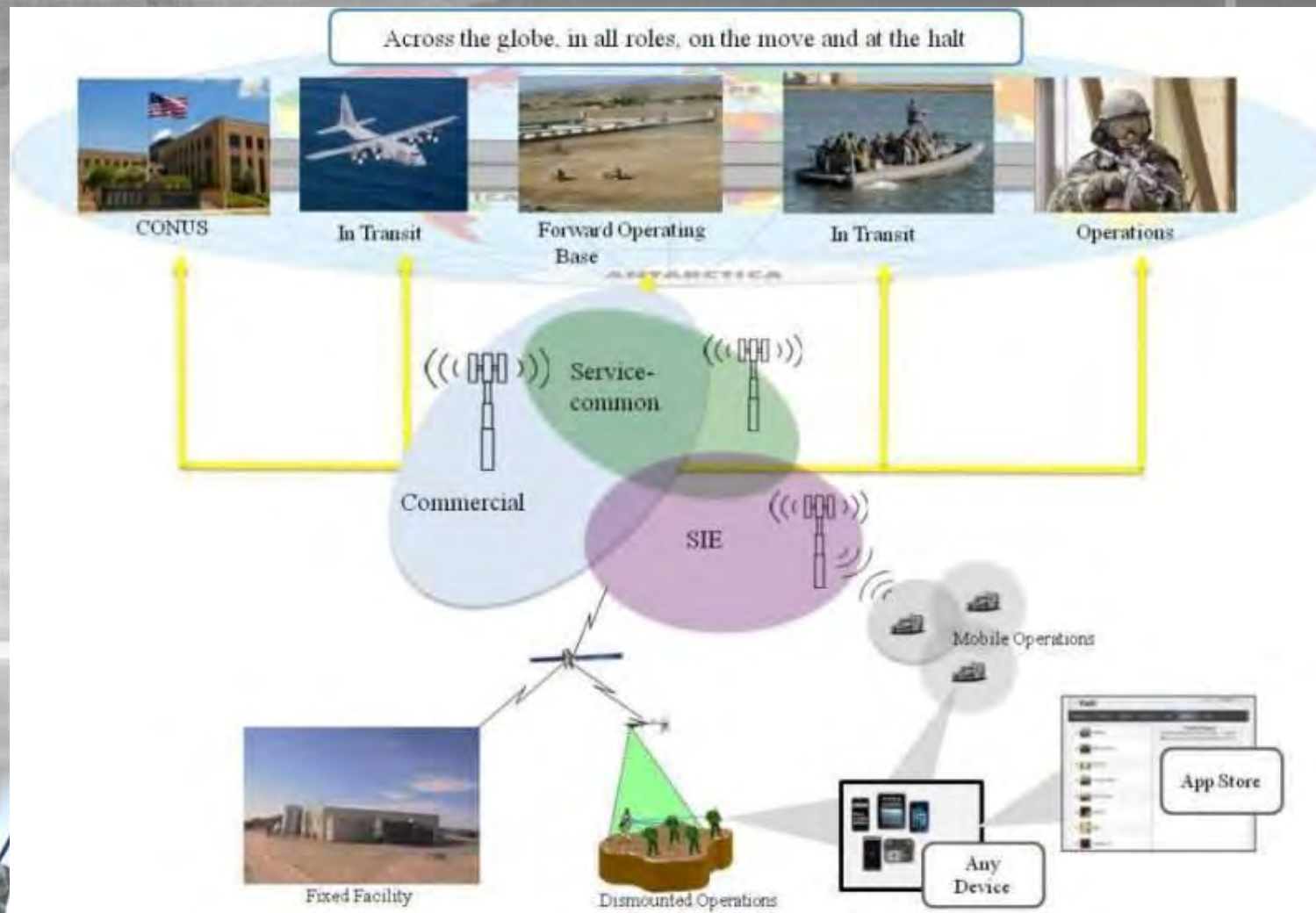
- ▲ Proposals Due
- ✦ Evaluation
- ★ Basic Award
- ➡ Mini Evals



C4 Command, Control,
Communications, and Computers



CIO Wireless Vision



C4 Command, Control,
Communications, and Computers



Tactical Comms

- Blue Force Tracking (BFT) coverage and form factors
- Next Generation Tactical C3I (NGTC3I)
- Network extension and flexibility
- Hand-held device size and capability



C4 Command, Control,
Communications, and Computers



NGTC₃I

- **Next Generation Tactical C₃I**
 - Will provide next generation radios to meet requirement for five form factors under STC (MP, FM, HH, HF, IR)
- **Interim Solution**
 - USSOCOM CIO memo of April 2010
 - Follow-on contracts being worked; Planned Award Oct 2011
- **Several Cooperative Research and Development Agreements (CRADA) in staffing**
- **Plan to release second RFI mid-FY12**
 - RFP later FY12 based on RFI results



C4 Command, Control,
Communications, and Computers



JTCITS

- Revised CPD in staffing, based on FY10 RFI and FY11 Limited User Testing
- Second RFI posted in FEDBIZOPS on 18 Mar 2011
 - Smaller, lighter form factor
 - Encryption
 - Multiple bands
 - Software configurable
 - Multiple display options
- Developing acquisition strategy for FY12 procurement based on final CPD and FY11 RFI responses



C4 Command, Control,
Communications, and Computers



Enterprise Networks

- Cloud Computing and Thin Client
- Virtualization of storage and servers
- Distributed Data Center optimization
- Video distribution, storage, and mgmt
- Enterprise management tools
- Caching and acceleration
- Green IT



TACLAN

C4IAS/SOCRATES
DDC*Enterprise Networks*

C4

Command, Control,
Communications, and Computers





C4IAS/SOCRATES

- Technology Refresh Support for USSOCOM Garrison IT Infrastructure
 - Workstations
 - Storage
 - Switching Equipment
 - Servers
 - Non-Microsoft Software – new and maintenance for existing

Acquisition Strategy

- Small Business Set-Aside

Period of Performance

- One Year Base
- Four 1-Year Options

Milestones

Contract Award: Estimate 2QFY12

Point of Contact

SORDAC-KH

Funding

- FY12-17 Procurement; O&M; RDT&E
- Contract Ceiling: TBD

Current Contract/OEM

N/A

C4 - Command, Control, Communications, and Computers



C4IAS

- **Competitive Multi Vendor Network Infrastructure**
- **Ongoing Efforts:**
 - Reviewing Industry best practices, open source documentation and independent analysis of organizations adopting a multi vendor approach
- **Where We Want To Be:**
 - Economical, sustainable infrastructure without compromising capability
- **Potential Game Changers:**
 - Cross vendor network management tools

Acquisition Strategy

TBD

Period of Performance

N/A

Milestones

RFI: May 2011

Point of Contact

SORDAC-KI

Funding

TBD

Current Contract/OEM

N/A

Transport

- Wide Band SATCOM On-The-Move
- Deployable/mobile 3G/4G infrastructure
- Next generation crypto products
- Mobile SOF Strategic Entry Point (MSSEP) requirements



SCAMPI



PDS



SDN

Transport



C4 Command, Control,
Communications, and Computers



SDN Family of Terminals Upgrade

- Projected Requirements

- Sub-one meter SDN-Lite remains same as legacy, Ku-Band only
- Replace 1.0-meter SDN-Medium (SDN-M) with more capable 1.2-meter Tri-Band (X, Ku, Ka)
- Replace 2.4-meter SDN-Heavy (SDN-H) with smaller footprint 2.0-meter Quad-Band (C, X, Ku, Ka)
- Common GUI across all variants; Common maintenance & training documents
- Integral iDirect (TDMA)
- Procurement will meet support new BOI and CERP requirements



C4 Command, Control,
Communications, and Computers





SDN Family of Terminals

- **Actions to Date:**
 - Special Notice on FEDBIZOPS for SDN-M J&A Dec 2010
 - SDN/PDS Family of Terminals Contract
 - Announced pending re-compete Dec 2010
 - RFI posted Feb 2011
 - RFP package in development



Acquisition Strategy

- Full and Open Competition
- Single award, 5 year IDIQ contract

Period of Performance

Jan 2012 through Dec 2017

Milestones

- Jul 2011 RFP Release
- Jan 2012 Award

Point of Contact

SORDAC-KI

Funding

\$500M ceiling

Current Contract/OEM

H92222-D-06-0007
L-3 Global Communications Solutions,
Victor, NY

Mobile SOF Strategic Entry Point (MSSEP)

Requirement: SDN-H CPD, 9 Jan 09

- Provides theater with deployable SSEP capability
- Quad-band capable (3.9-meter X, C, Ku, Ka band)
Light Weight, Medium Aperture Antenna
- Unclassified and classified voice, data, VTC, and video services
- Video storage, VTC bridge, and switching capabilities



C4 Command, Control,
Communications, and Computers



SATCOM On the Move (SOTM)

Requirement: SDN-M CPD, 16 Jan 07

- High bandwidth, SATCOM ,Transport Capability
- Secure voice, data, and FMV situational awareness
- Modular and tailorable packaging
- SOF Information Environment reach-back from a mobile platform
- IP-based technology
- Variants
 - Wideband SOTM-Afloat
 - Wideband SOTM-Ground



C4 Command, Control,
Communications, and Computers





C4 - Command, Control, Communications, and Computers

Tactical Local Area Network (TACLAN)

- Cradle-to-Grave Support for SOF Global Tactical IT Infrastructure
- HW/SW Integration, Production, and Fielding
 - TACLAN Suites (Full & C2)
 - Mission Planning Kits (MPK)
 - Field Computing Devices (FCD)
- HW/SW Baseline Upgrades and Modernization
- Engineering and Lifecycle Sustainment Support



Acquisition Strategy

- Small Business Set-Aside under SITEC Tower 7 (C4 Production)

Period of Performance

- Three Year Base
- Two 1-Year Options

Milestones

Contract Award: Estimate 4QFY11

Point of Contact

SORDAC-K

Funding

- FY11-16 Procurement; O&M; RDT&E
- Contract Ceiling: \$500M

Current Contract/OEM

H92222-o8-D-0017
iGov Technologies, McLean, VA

MISO/CA Program Families

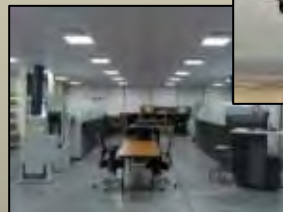


FABS V2



SOMS-B V2

Broadcast



Print



Manpack



Ground Vehicle / Watercraft Variant

NGLS



MPC

| | | | | | |
|---------------|--------------------------------------|-----------------------|-----------------------------------|---|-------------------|
| Planning I | Target Audience Analysis II | Series Dev. III | Product Dev. & Design IV | Approval V Product Distribution & Dissemination VI | Evaluation VII |
|---------------|--------------------------------------|-----------------------|-----------------------------------|---|-------------------|

PACE

| | | | | | |
|----------|------------|---------------|----------|------------|---------|
| Planning | Collection | Consolidation | Analysis | Production | Sharing |
|----------|------------|---------------|----------|------------|---------|

CIMDPS



**MPC-Light
MPC-Medium**



Deployable Production Kits

C4 Command, Control,
Communications, and Computers



MISO Broadcast Systems

Current System

FABS V2



Future Needs

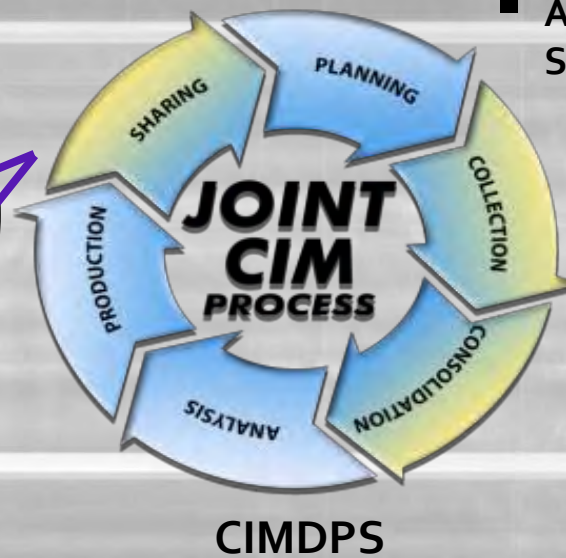
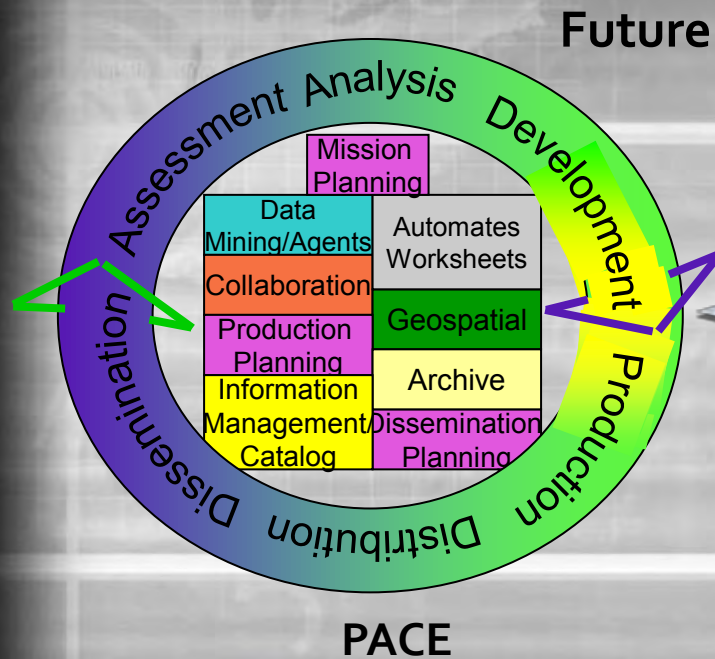
- Man Transportable AM Antenna To Support Broadcast Ranges
 - AM 30 Miles
- Miniaturization of the FABS V2 Core Equipment
 - Transportable By Commercial Air
 - Must Weigh Less than 100lbs (Threshold) and 70lbs (Objective)



C4 Command, Control,
Communications, and Computers



PACE and CIMDPS



- Advanced Algorithms for Cognitive Science and Applications in:
 - Trends and Themes Over Time
 - Data Mining
 - Behavior Modeling
 - Measures of Effectiveness



C4 Command, Control,
Communications, and Computers



Special Operations Forces Industry Conference

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COL Doug Rombough

Program Executive Officer-Rotary Wing

**Advanced Planning
Briefings for Industry**

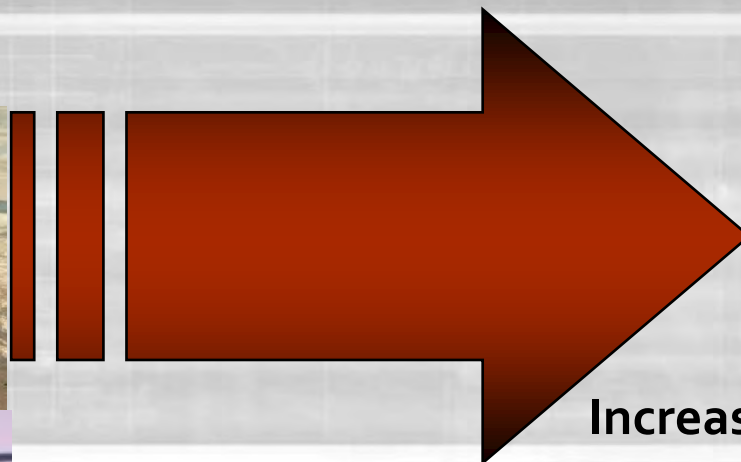
Rotary Wing

UNCLASSIFIED

Rotary Wing Lift Transformation



PHOTO BY TED CARLSON (DOYRIGHT 2000)



Lighter & Faster

Increase Payloads

Increase Lethality

Increase Survivability

Increase Situational Awareness

Reduce Crewmember Workload

Seamless & Quick Aircraft Integration

ROTARY WING



Technology Areas of Interest

- **Lightweight Transparent Armor**
- **Hostile Fire Indicating System (HFIS)**
- **Reduced Optical Signature Emissions Solution (ROSES)**

ROTARY WING



Lightweight Transparent Armor



ROTARY WING



Lightweight Transparent Armor

- **Current state of the technology**
 - Transparent: 7 lbs/ft² small arms protection
 - Small, flat surfaces only
- **Ongoing efforts**
 - Helicopter Survivability Task Force (HSTF) funded Multi-Hit Transparent Armor (MITAS) effort
 - Army Research Lab (ARL) USSOCOM Science and Technology project

ROTARY WING



Lightweight Transparent Armor (Continue)

- **Where we want to be**
 - Weight is critical
 - Transparent: $<5 \text{ lbs/ft}^2$ with AP protection
 - Large flat & curved surfaces
- **Potential game changers**
 - New lightweight materials for strike plate component of a layered transparency solution
 - New manufacturing techniques for large & complex shapes

ROTARY WING





Lightweight Transparent Armor

- Lightweight Transparent Armor
- This program will be applied to flat and large curved surfaces and will not degrade optical clarity

Acquisition Strategy

- Full and Open Competition
- RFP for EMD phase released in FY14

Period of Performance

FY14-TBD

Milestones

FY14&15 Research and Development
FY15 Milestone C Decision

Point of Contact

USSOCOM PEO-Rotary Wing

Funding

- \$11M RDT&E FY14
- \$1.9M RDT&E FY15
- \$10.9M PROC FY15

Current Contract/OEM

TBD

Hostile Fire Indicating System (HFIS)



ROTARY WING



Hostile Fire Indicating System (HFIS)

- **Current state of the technology**
 - Numerous potential systems but no single system has demonstrated the ability to discern hostile intent against the full spectrum of small arms threats
- **Ongoing efforts**
 - CERDEC and United Kingdom Ministry of Defense Common Missile Warning System HFI
 - Multi-Function Threat Detector JCTD
 - OSD DDR&E funded Rotorcraft Aircraft Survivability Equipment (RASE) experiment

ROTARY WING



Hostile Fire Indicating System (HFIS) (Continued)

- **Where we want to be**
 - HFIS solution that provides hostile intent discrimination, azimuth, elevation, and range to hostile fire sources, geolocates and displays the threat on a digital map, and cues targeting systems or weapons
 - Multi-Spectral Solution is required to meet User requirements
 - Combination of Ultra-Violet (UV), Infrared (IR), and Acoustics
- **Potential game changers**
 - Lightweight, integrated, and multi-spectral warning sensors with minimal A-Kit impacts

ROTARY WING





Hostile Fire Indicating System (HFIS)

- Detects, classifies, and alerts the aircrew to the presence of small caliber, crew-served, AAA, and RPG fires
- By providing detection and angle of arrival, HFIS will enhance aircraft survivability

Acquisition Strategy

- Integrate HFI capability into existing aircraft sensors
- Develop acoustic HFI capability

Period of Performance

FY10-TBD

Milestones

4th QtrFY-11 Established interim HFI software solution
FY12 Milestone C Decision

Point of Contact

USSOCOM PEO-Rotary Wing

Funding

- \$2.5M RDT&E FY10
- \$4M RDTE FY11
- \$19M PROC FY12-15

Current Contract/OEM

Various integration contracts

Reduced Optical Signature Emissions Solution (ROSES)



ROTARY WING



Reduced Optical Signature Emissions Solution (ROSES)

- **Current state of the technology**
 - Advanced Infrared Countermeasures Munitions (AIRCMM)
 - M-216
- **Ongoing efforts**
 - USSOCOM Phase II SBIR: Low Visibility Flare
- **Where we want to be**
 - Covert & effective protection against current & advanced IR Surface to Air Missiles (SAM)
 - Use current Improved Counter Measures Dispenser (ICMD)

ROTARY WING



Reduced Optical Signature Emissions Solution (ROSES) (Continued)

- **Potential game changers**
 - **Lightweight, integrated, multi-functional IR countermeasures**
 - **Alternative Reduced Optical Solution**

ROTARY WING





Reduce Optical Signature Emission Solution (ROSES)

- This program will develop a replacement flare that will operate outside of the visible spectrum
- Improve effectiveness and survivability of current and emerging IR threats

Acquisition Strategy

- Full and Open Competition
- Expect EMD RFP release in late FY11

Period of Performance

FY10-TBD

Milestones

FY11-12 Flare development
FY13 New Flare Solution
FY 13 Milestone C Decision

Point of Contact

USSOCOM PEO-Rotary Wing

Funding

- \$3.8M RDT&E FY10
- \$4M RDT&E FY11
- \$2.9M RDT&E FY12
- \$3.5M PROC FY13

Current Contract/OEM

TBD

Future Technology Interest

- **Degraded Visual Environment (DVE)**
 - Brown Out / White Out countermeasures
 - Cable Warning /Obstacles Avoidance
 - Synthetic Vision
 - Advanced Distributed Aperture System
- **Lightweight Fire and Forget Weapon**
- **Aircraft with rapid ingress/egress capability with true helicopter capabilities on the objective**

ROTARY WING



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Questions



ROTARY WING



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Special Operations Forces Industry Conference

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COL Doug Rombough

Program Executive Officer-Rotary Wing

Portfolio Review

Rotary Wing

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AGENDA

- Mission
- Achievements
- SOF Acquisition Team
- PEO Support
- SOF Rotary Wing Programs
- PEO Contact Info
- Way Ahead

ROTARY WING



MISSION

Provide acquisition oversight management for Rotary Wing Systems in USSOCOM. Support all stakeholders in Rotary Wing Acquisition process to provide cutting edge capabilities to the SOF Community

ROTARY WING



The Year In Review

SOF Acquisition Team deliveries and major events:

- ✓ 12 MH-47G aircraft delivered to the 160th SOAR
- ✓ 18 A/MH-6 Block 2.0 Upgrade completed and returned to the 160th SOAR
- ✓ 20 MH-60 aircraft inducted in the SOFSA production line
- ✓ 5 MH-60Ms fielded in support of training
- ✓ 12 SIRFC shipsets delivered to the 160th SOAR

ROTARY WING



Special Operations Research, Development and Acquisition Center (SORDAC)

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Director/Acquisition Executive
Mr. Cluck

Deputy Director for Acquisition
Mr. Geurts

Military Deputy for Acquisition
COL Miller

Joint Acquisition Task Force

Agile Dagger – Mr. Fields
Dragon Spear– Maj Blausen

Directorates

Director of Resources & Analysis
Mr. Koufas

Director of Science & Tech
Mr. Shepherd

Director of Procurement
Col Bergo

Director of Acquisition Comptroller
Mrs. Iverson

Program Executive Offices

PEO Fixed Wing
Col Richardson

PEO Maritime
CAPT Blank

PEO Rotary Wing
COL Rombough

PEO SOF Warrior
COL Smith

PEO SRSE
Mr. Richardson

PEO SOFSA
COL Chyma

PEOC₄
Mr. Davis

ROTARY WING



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SOF ACQUISITION TEAM

Equip the Soldiers and Airmen of the 160th SOAR(A) and 6th SOS with the most capable rotary wing aircraft in the world.

Facilitate sustainment of the modified and/or unique aircraft provided to the 160th SOAR(A) and 6th SOS.



ARSOAC / AFSOC
(Capability Manager)



PEO RW (USSOCOM)
(Program Oversight)



160th SOAR (A) - SIMO / 6th SOS
(Users)



PM TAPO / PM NSRWA / PM STS
(Materiel Developer)

ROTARY WING



PEO Support

- **Quality Equipment Fielded as Quickly as Possible**
 - Aviation Warfighter is the First Priority
 - Quality is Better than Quantity
- **Single Point of Contact within USSOCOM**
 - Provide Management Oversight
 - Provide Program & Financial SMEs
- **Build/Foster Relationships**
 - Within the SOF Community
 - Leverage Army Aviation
 - Liaison to Congress
- **Future of SOF Vertical Lift**
 - Next Generation Aircraft

ROTARY WING



Acquisition Principles

- Deliver capability to the user expeditiously
- Exploit proven techniques and methods
- Keep Warfighters involved throughout the process
- Take risk and manage it!

ACCELERATE THE FORCE

ROTARY WING



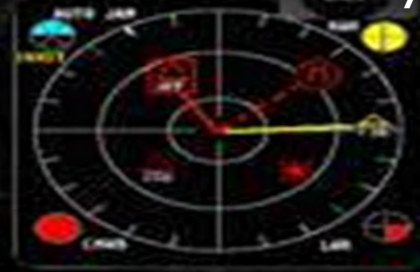
Mi-17 NSRW



Sensors



Aircraft Survivability



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MH-60M



MH-47G CMS



YMQ-18A



CAAS



A/MH-6M CMS



PEO Rotary Wing



MH-47G



Avionics/Navigation



Ballistic Protection

A/MH-6M



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SOF RW Capabilities

A/MH-6M MELB

Mission Equipped Little Bird (MELB)
Light Attack/Assault
* 6 Combat Equipped Troops (Assault)
* Cruise Speed: 90 knots
* Max Gross Weight: 4,700 lbs
Rapidly Deployable
Shipboard Operations
Surgical Point Insertion
Aerial Reconnaissance
Close Air Support
Reconfigurable Armament (Attack)



Mi-8/17

Medium Assault
* 32 Combat Equipped Troops
* Cruise Speed: 130 knots
* Max Gross Weight: 28,600 lbs
* Ext Loads: 10K lbs
Troop Movement
Resupply



MH-60M Blackhawk

Medium Assault
* 9 Combat Equipped Troops
* Cruise Speed: 140 knots
* Max Gross Weight: 24,500 lbs
* Ext Loads 9,000 lbs
Aerial Refuel Capable
Suppressive Fire Capability
Resupply
Advanced Aircraft Survivability Equipment
Defensive Armed Penetrator (DAP)
Reconfigurable Armament
Armed Escort & Close Air Support



MH-47G Chinook

Heavy Assault
* 44 Combat Equipped Troops
* Cruise Speed: 120 knots
* Max Gross Weight: 54,000 lbs
* Ext Loads:
25K lbs tandem & 26K lbs center hook
Aerial Refuel Capable
Suppressive Fire Capability
Resupply
Advanced Aircraft Survivability Equip



YMQ-18A Hummingbird

Unmanned Aerial System
Multi-role Missions (ISR/Re-Supply)
* Gross Weight : 5500 lbs
* Payload: 2500 lbs
* Range: 2250 NM
* Endurance: 18.7 hrs w/300 lbs
12.1 hrs w/532 lbs
8.1 hrs w/1000 lbs
* Speed: 142 kts
* Ceiling : 20000 ft



ROTARY WING



MH-47G CHINOOK

54,000 Pounds

Enhanced Air Transportability
Pylons

Common Avionics Architecture
System (CAAS) Cockpit

Standardized Engines
(T55-GA-714A)

Suite of Integrated Radio Frequency
Countermeasures (SIRFC)

zAircraft
Max Gross Wt (54,000 lbs)

AN/AVR-2B Laser
Detection System

New Electro-Optical Sensor
System (EOSS FLIR)

Multi-Mode Radar (MMR)

Rescue
Hoist

Infrared Exhaust
Suppressors (IES-47)

Aerial Refuel Probe

XM-216 Dark Flares

New-Build Nose/Cockpit Structure

Expanded Left-forward
Gunner's Window

Common Missile Warning System (CMWS)
w/ Improved Countermeasures Dispenser

Standardized Extended
Range (Fat Tank)
Configuration

Improved Bilge Paint
& Corrosion Protection

Rebuilt Airframe Structure (New
Elect. Wires/ Hydraulic Lines)

Component Recapitalization

WHITE = Army Provided

RED = SOF Unique

YELLOW = SOF Driven-Tested / Army-Adopted

MH-60M BLACKHAWK

24,500 Pounds

NEW Airframe and
Dynamic Components

Active Vibration
Control

Wide Chord Blades

2500 SHP YT706-GE-700 Engines

Dual Digital Automatic
Flight Control System

Electric External
Rescue Hoist

Aerial Refuel Probe

60 KVA Generator

Common Avionics
Architecture System (CAAS)
Cockpit

Multi-Mode Radar

AN/AVR-2B Laser Detecting Set

XM-216 Dark Flares

Common Missile Warning System (CMWS)
w/Improved Countermeasures Dispenser

Suite of Integrated
Radio Frequency Countermeasures
(SIRFC)

AN/ZSQ-2
Advanced Electro-Optic
Sensor System (EOSS FLIR)

WHITE = Army Provided

RED = SOF Provided

YELLOW = SOF Driven-Tested / Army-Adopted

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A/MH-6M MELB

4,700 Pounds

6 Bladed Main Rotor System

4 Bladed Tail Rotor System

MARK IV
Rails

FLIR A-Kit

Improved Engine Inlet and
Inlet Barrier Filter (IBF)

WD-6 Digital Cockpit
Management System (CMS)

Crashworthy/ 0.50
Caliber Ballistic Main
Fuel Tanks

External Conformal Fuel Tanks

FADEC= Full Authority Digital Engine Control
FLIR= Forward Looking Infrared

Allison 250C-30R/3M w/ FADEC
600shp Transmsn/Drive Sys (30 min.)

Cambered
Vertical Fin

Enlarged Aft Cargo
Doors & Opening

Improved Tail Stinger

Lightweight AH and
MH Plank Systems

Fast Rope Release System (FRIES)

4700 lb Landing Gear

UNCLASSIFIED

NSRWA Mi-17

28,660 Pounds

UNCLASSIFIED



Aircraft Characteristics and Performance

| | |
|------------------------------------|-------------|
| Rotor Diameter | 69.9 ft |
| Fuselage Length | 59.7 ft |
| Fuselage Width | 8.2 ft |
| Height | 18.2 ft |
| Disc Area | 3,830 sq ft |
| Empty Weight | 15,685 lb |
| Loaded Weight | 24,500 lb |
| Max Takeoff Weight | 28,660 lb |
| Max Flight Speed | 156 mph |
| Cruise Flight Speed | 149 mph |
| Hover Ceiling Out of Ground Effect | 13,000 ft |
| Service Ceiling | 16,000 ft |
| Range with Normal Payload | 345 nm |
| | |

ROTARY WING

UNCLASSIFIED



UNCLASSIFIED

YMQ-18A HUMMINGBIRD

5,500 Pounds

Low Disk
Loading

Advanced
Airfoil

Lightweight, Stiff
Graphite Composite
Blades

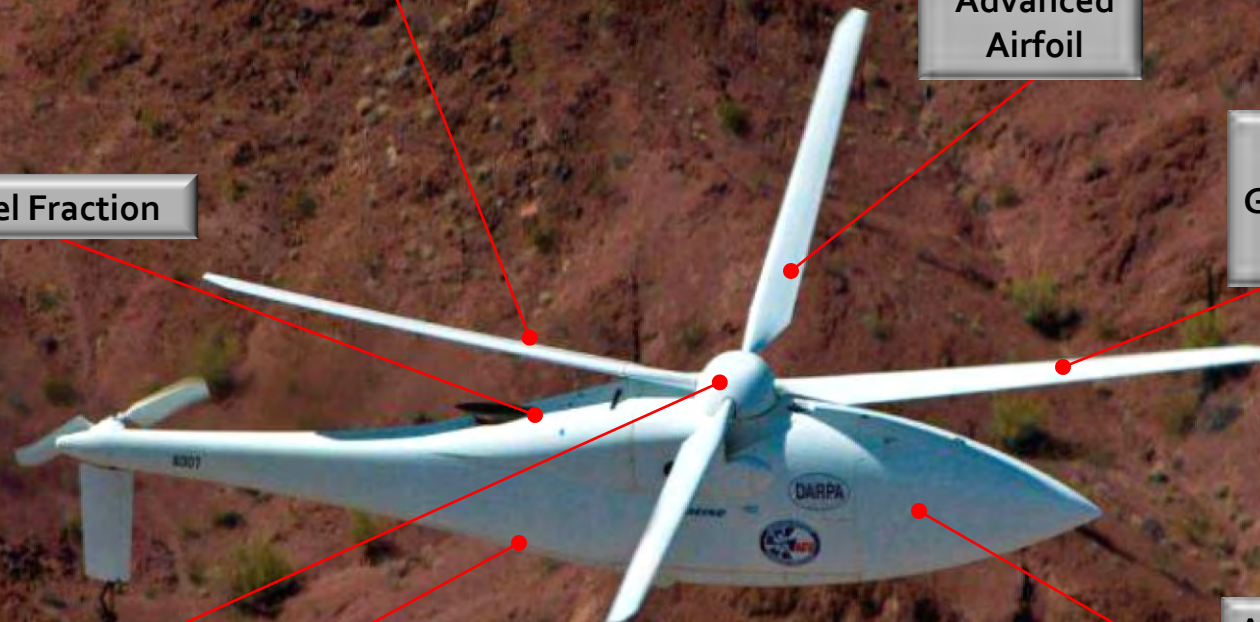
High Fuel Fraction

Autonomous
Flight
Management

Hingeless
Rigid Rotor

Composite
Airframe

Optimum Speed Rotor Adjusts RPM 200 to 400



UNCLASSIFIED

Combat Mission Simulators

UNCLASSIFIED

MH-47E CMS



A/MH-6M Little Bird



MH-47G CMS



"SimAuthor"

Flight Data Analysis &
Visualization

Battle Staff Training System



"CAAS" Desktop
Trainers



"SOFTEAMS"

MH-60K CMS



Direct Support Maintenance



Aquatics Training
Facility (Dunker)

MH-60L/M CMS



ROTARY WING

UNCLASSIFIED



Way Ahead

Planning for the next five years:

- MH-60M fielding
- MH-47G Plus 8
- MH-47 2.3 Block Upgrade
- A/MH-6 3.0 Block Upgrade
- Hostile Fire Indicating System (HFIS)
- Aircraft Occupant Ballistic Protection System (AOBPS)
- Reduce Optical Signature Emission Solution (ROSES)
- Secure Real-Time Video (SRTV)
- Upgrade Legacy Simulators
- Research Technology for Degraded Visual Environment (DVE)

ROTARY WING



Questions



ROTARY WING



Special Operations Forces Industry Conference

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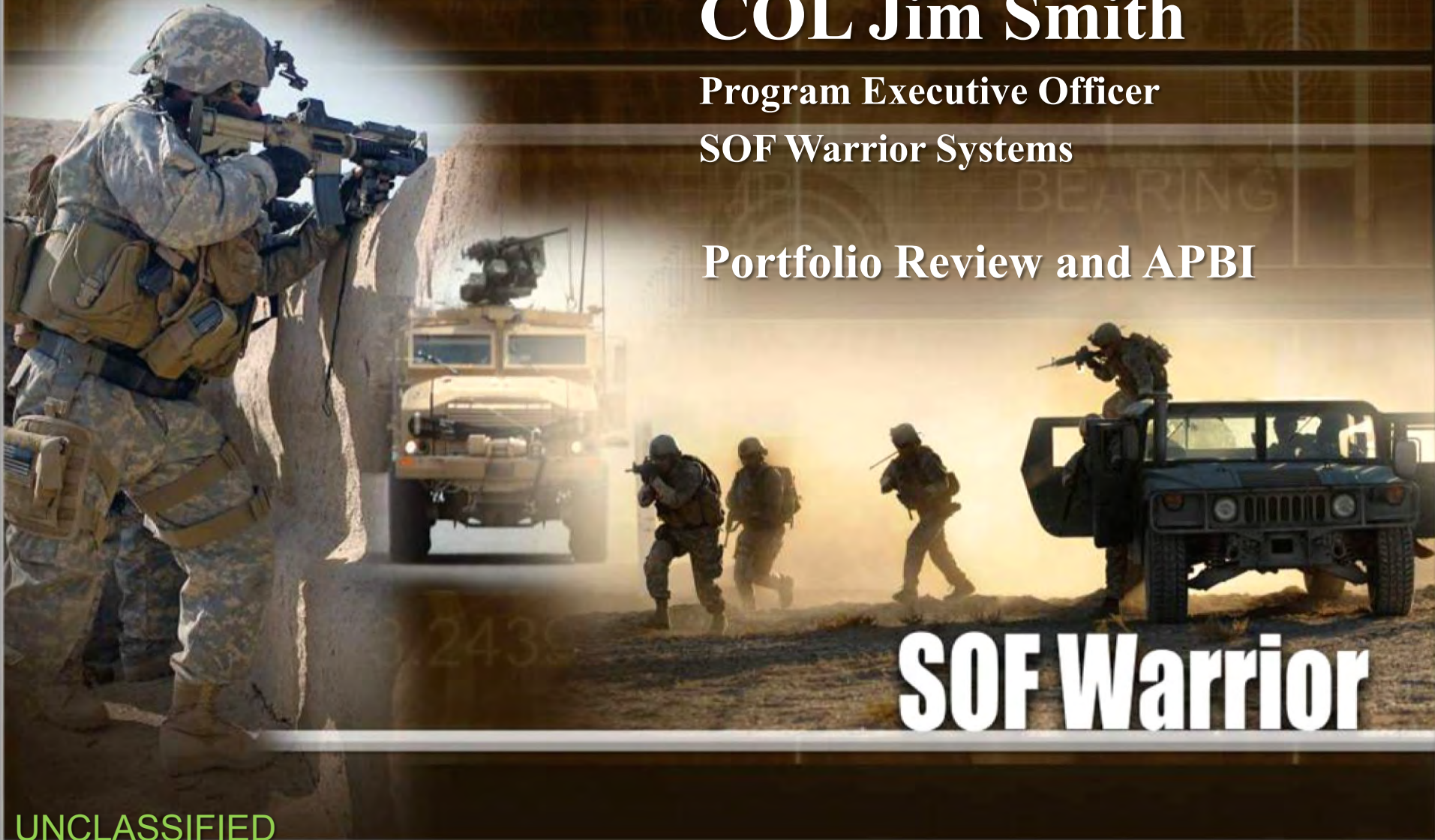


COL Jim Smith

Program Executive Officer

SOF Warrior Systems

Portfolio Review and APBI



SOF Warrior

UNCLASSIFIED

Agenda

- Mission
- Organization
- Who We Are
- What We Do
- PEO Challenges
- Competitive Opportunities
- Technology Challenges
- Questions

SOF WARRIOR



Special Operations Research, Development and Acquisition Center (SORDAC)

Director/Acquisition Executive
Mr. Cluck

Deputy Director for Acquisition
Mr. Geurts

Military Deputy for Acquisition
COL Miller

Joint Acquisition Task Force

Agile Dagger – Mr. Fields
Dragon Spear – Maj Blausen

Directorates

Director of Resources & Analysis
Mr. Koufas

Director of Science & Tech
Mr. Shepherd

Director of Procurement
Col Bergo

Director of Acquisition Comptroller
Mrs. Iverson

Program Executive Offices

PEO Fixed Wing
Col Richardson

PEO Maritime
CAPT Blank

PEO Rotary Wing
COL Rombough

PEO SOF Warrior
COL Smith

PEO SRSE
Mr. Richardson

PEO SOFSA
COL Chyma

PEOC₄
Mr. Davis

SOF WARRIOR



Acquisition Principles

- Deliver capability to the user expeditiously
- Exploit proven techniques and methods
- Keep Warfighters involved throughout the process
- Take risk and manage it!

ACCELERATE THE FORCE

SOF WARRIOR



PEO-SW

Mission

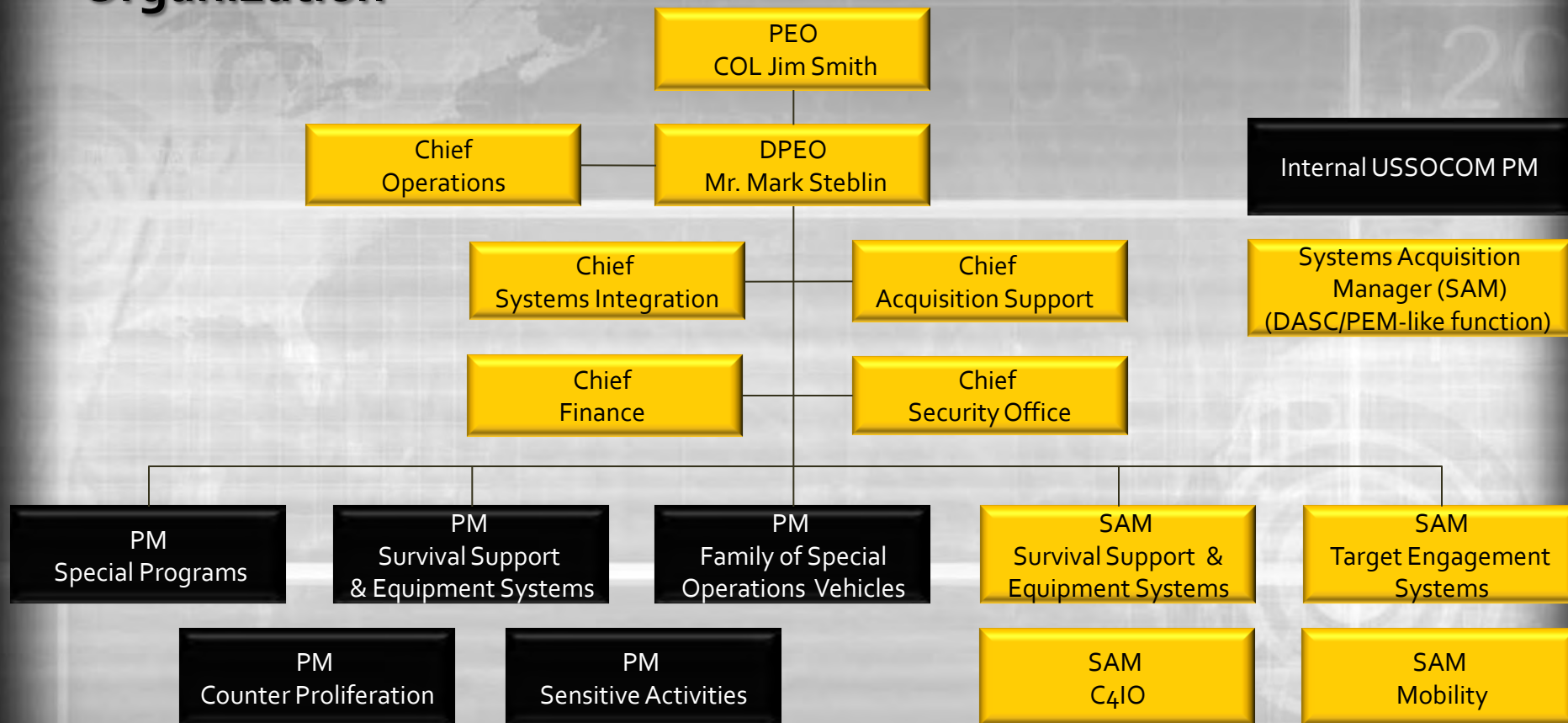
Provide rapid and focused acquisition of SOF-unique capabilities to USSOCOM operators conducting decisive ground SOF activities and global operations against terrorist networks

SOF WARRIOR



PEO-SOF Warrior Systems

Organization



SOF WARRIOR



PEO-SW

Who We Are

Mobility



Light Tactical All
Terrain Vehicles



Individual All
Terrain Vehicles



Non-Standard
Commercial Vehicles



Ground Mobility
Vehicle



MRAP-ATV



Counter RC-IED
Electronic Warfare

Survivability



Combat Uniform & Helmets



Integrated
Comms



Body Armor / Load
Carriage System

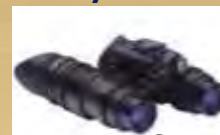


Combat
Medic Kit



Casualty Evacuation

Lethality



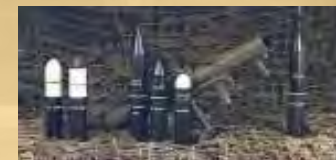
AN/PVS-15
Night Vision Goggle



Combat Assault Rifle



AC-130 Ammo



Multi-Purpose Anti-Armor
Anti-Personnel Weapon System



Handheld
Laser Marker



MK13 Sniper Rifle w/ INOD



Demolition Kit



SOF Laser
Acquisition Marker

SOF WARRIOR



Mobility: Family of Special Operations Vehicles



ATV



LT-ATV



GMV (Light)



SRATS



GMV (Heavy)



RG-31



RG-33



RG-33AUV



M-ATV



NSCV

- SOF Unique
 - Individual and Lightweight Vehicles
 - Single Seat 4x4 All Terrain Vehicles
 - Side-by-Side 4x4 All Terrain Vehicles
 - Medium Weight Vehicles
 - Specialized Reconnaissance Assault Transport System
 - GMV1.1: Internally Transported Vehicle development
 - Non-Standard Commercial Vehicles
- SOF Mods to Service Common
 - Ground Mobility Vehicle (HMMWV)
 - MRAP Family (RG-31, RG-33, AUV, MATV)

SOF WARRIOR



Survivability: Survival Support & Equipment Systems



Eye Protection



Backpacks

Medic Kit

- Helmets and Mounts
- Ballistic Armor :
 - Body Armor
 - Soft Armor
 - Load Carriers
- Combat Uniforms
- Eye protection and Headsets
- Medical:
 - Operator and Medic Kits
 - Casualty Evacuation Kits



Helmets, Mounts & Comms



Protective Clothing



SOF WARRIOR



Lethality: Target Engagement Systems



AN/PVS-15 Night Vision Goggle
w/ Clip-on Thermal Imager



MK13 Sniper Rifle w/ INOD

- Visual Augmentation Systems
 - Helmet Mounted: PVS-15A, Clip-On Thermal Imager, Digital Fusion Goggles, Panoramic
 - Weapon Mounted: Clip-On Night Vision Devices, Direct Optic Magnified Sights, Red Dot Aiming
 - Handheld: Thermal Imagers, Laser Markers



Handheld
Laser Marker



SOF Laser
Acquisition Marker

- Weapons and Accessories
 - Combat Assault Rifles
 - Machine Guns
 - Sniper Rifles
 - Laser Pointers, Illuminators, and Suppressors



Combat Assault Rifle

- Ammunition, Demolitions and Breaching
 - Small Caliber Ammunition
 - Shoulder Fired Systems
 - Aviation Ammunition
 - Demolition kit



Advanced Lightweight
Grenade Launcher



Multi-Purpose Anti-Armor
Anti-Personnel Weapon System

SOF WARRIOR



PEO-SW

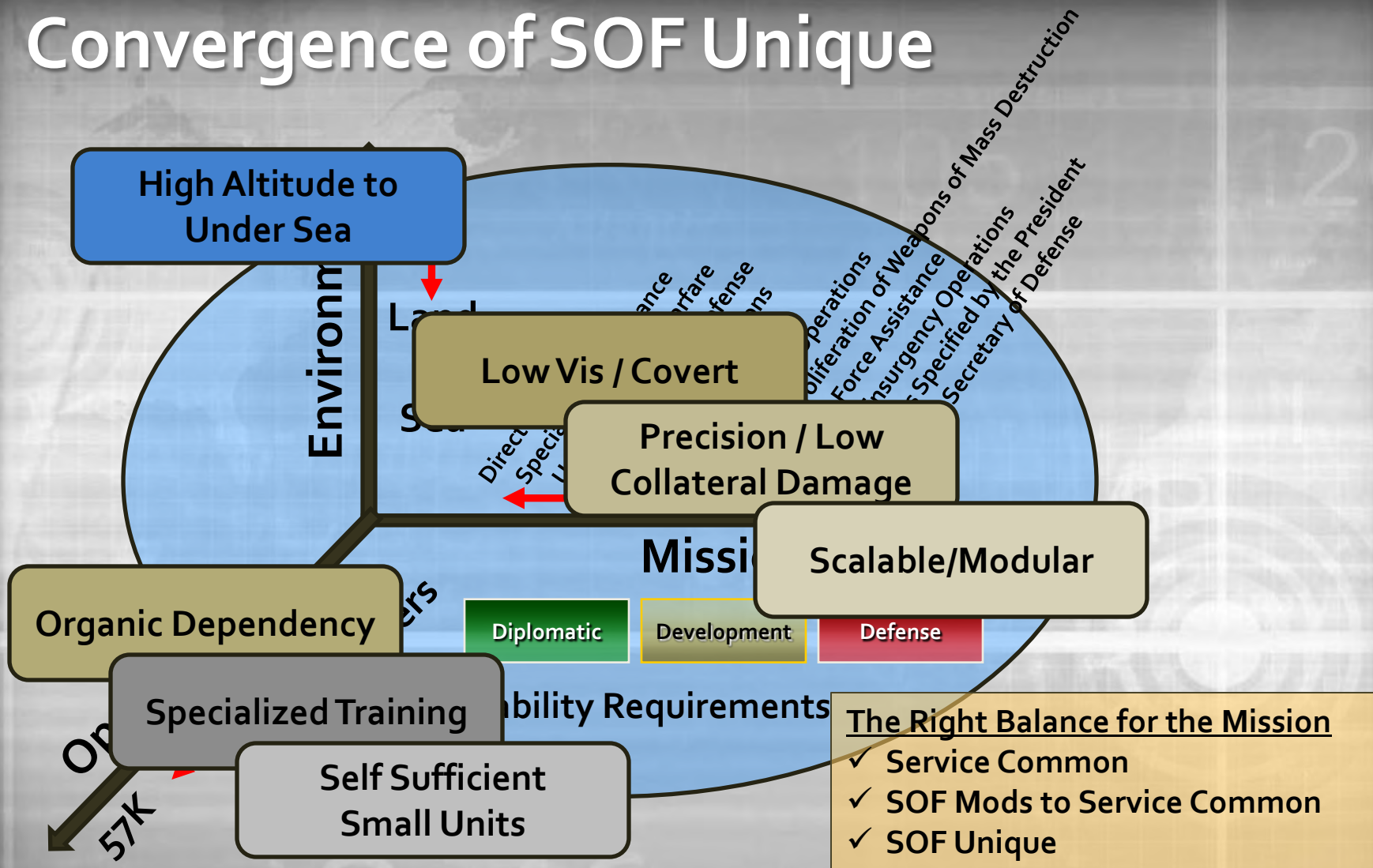
What We Do (1 Year Snapshot)

- Number of Contracts/Orders: 500+; Percent Competitive: ~44%
 - Handheld Laser Marker (\$75M, IDIQ, 3 Years)
 - Long Range Ground Mobility Visual Augmentation System (\$40M, IDIQ, 1 Year)
 - Maritime Assault Suit System (\$5M, IDIQ, 5 Years)
 - Tactical Combat Casualty Care – Casualty Evacuation Set (\$49M, IDIQ, 5 Years)
 - Systems Technical Support for FSOV (\$25M, IDIQ, 5 Years)
 - Non-Standard Commercial Vehicles (\$41M, IDIQ, 1 Year)
- Funds Executed:
 - RDT&E \$79M
 - PROC \$615M
 - O&M \$362M
- Equipment Fielded (Approximate/Year):
 - SOF Combat Weapons 3,500+
 - SOF Weapons Accessories 28,000+
 - Visual Augmentation Devices 8,000+
 - SOF Vehicles 450+
 - Survival Support Equipment Systems 83,000+

SOF WARRIOR



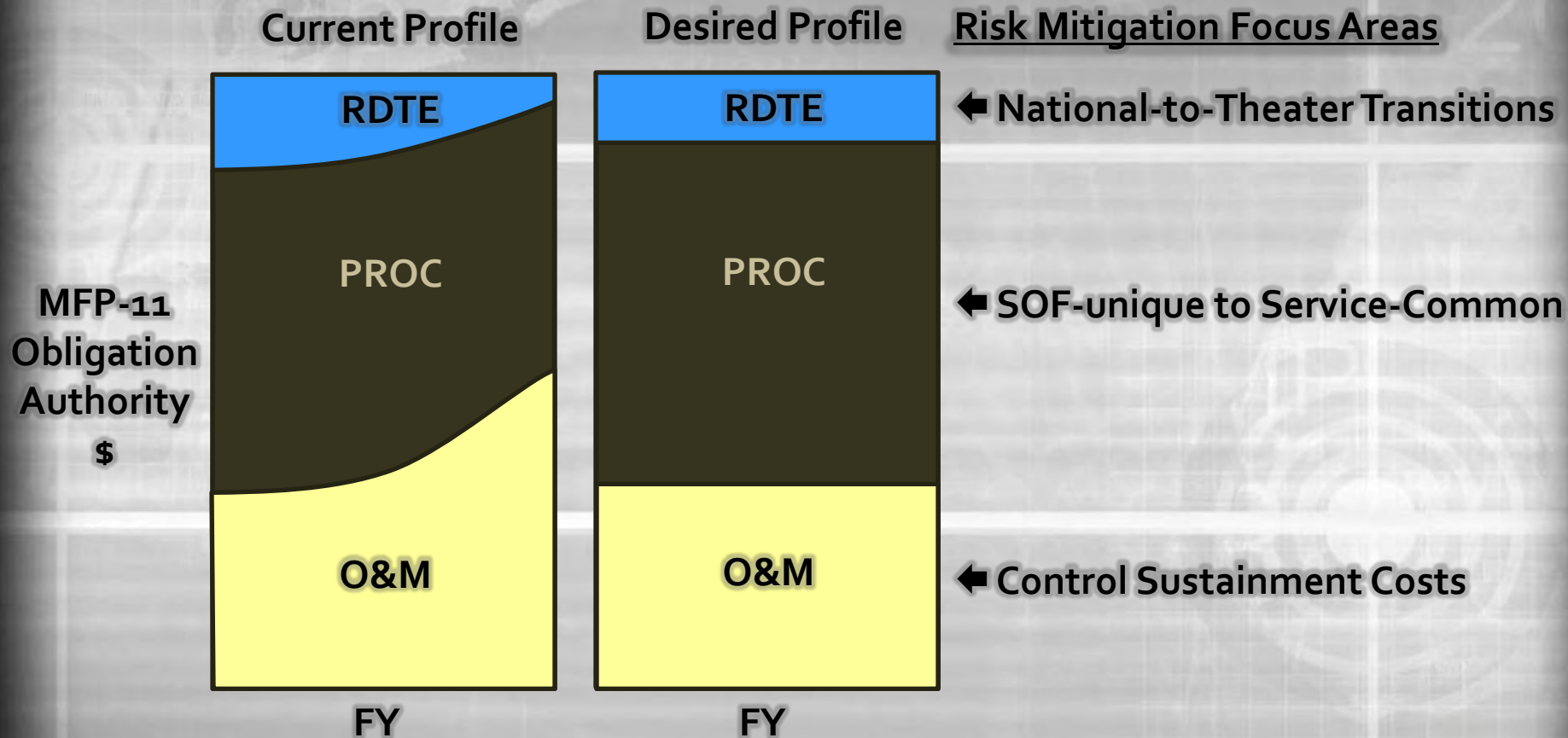
Convergence of SOF Unique



SOF WARRIOR



PEO Challenges



SOF WARRIOR



Opportunities: Next 12-18 Months

Survivability (SSES)

- Ballistic Plate
- Body Armor Vest
- Soft Armor
- Modular Supplemental Armor Protection (Extremity Protection)
- Eye Protection (Spectacles and Goggles)
- Protective Combat Uniform
- Backpack Suite
- Load Carriage Systems (various)
- MICH Communications Headset (Land Comms)
- Maritime Communications
- Visual Augmentation System (VAS) Mounts for Night Vision Goggles

Lethality (TES)

- Binocular Night Vision Devices
- Improved Night Observation Device (Sniper Sights)
- Spot-Recognition Device
- Precision Sniper Rifle (MK13 Replacement)
- Foreign Nonstandard Materiel
- Enhanced Carbine Optical System (long range)
- Enhanced Carbine Optical System (close range)

Mobility (FSOV)

- All Terrain Vehicles
- Ground Mobility Vehicles
- Non-Standard Commercial Vehicles

SOF WARRIOR



Technology Challenges

Integrated Systems

- Reduced Size Weight and Power (SWaP)
- Integrated NVG & Weapon Sights, Communications, Power Supply
- Load: Body Armor, Radio Antennae
- Power: Rechargeable, Renewable, Lightweight, Long Endurance, System Level Power Management
- Vehicle: C4ISR, CROWS, NAV, FBCB2

Signature Reduction/Management

- Soldier: Low Visibility (I2, IR) in Battlespace, Concealable Armor and Individual Equipment Kit, Improved Survivability through Far-Forward Medical Care
- Weapons: Flash and Bang, Alternative to Near-IR Laser Pointers for Night Aiming
- Vehicles: Low Visibility Kits for Discrete Operations

SOF WARRIOR



Technology Challenges (cont)

Survivability

- Soldier: Light, Flexible, Increased Area of Coverage, Multi-spectral Laser Protection for Combat Eyewear, Concealable, Improved Personal Signature Management
- Vehicle: Transparent, Lightweight, Increased Visibility/SA, Survivable Tires

Improved Situational Awareness

- Beyond I2 Tubes
- Regain “the Night” and Covert Operations

Wireless Technology

- Secure and Hardened
- Helmet and Weapon Sight Integration
- Tactical Video & Comms
- Multi-channel; Interoperable (Vehicle and Dismounted)

SOF WARRIOR



Questions



SOF WARRIOR





Special Operations Forces Industry Conference

Mr. Craig Archer / J24-I

Mr. Mike Fitz / SORDAC-SR

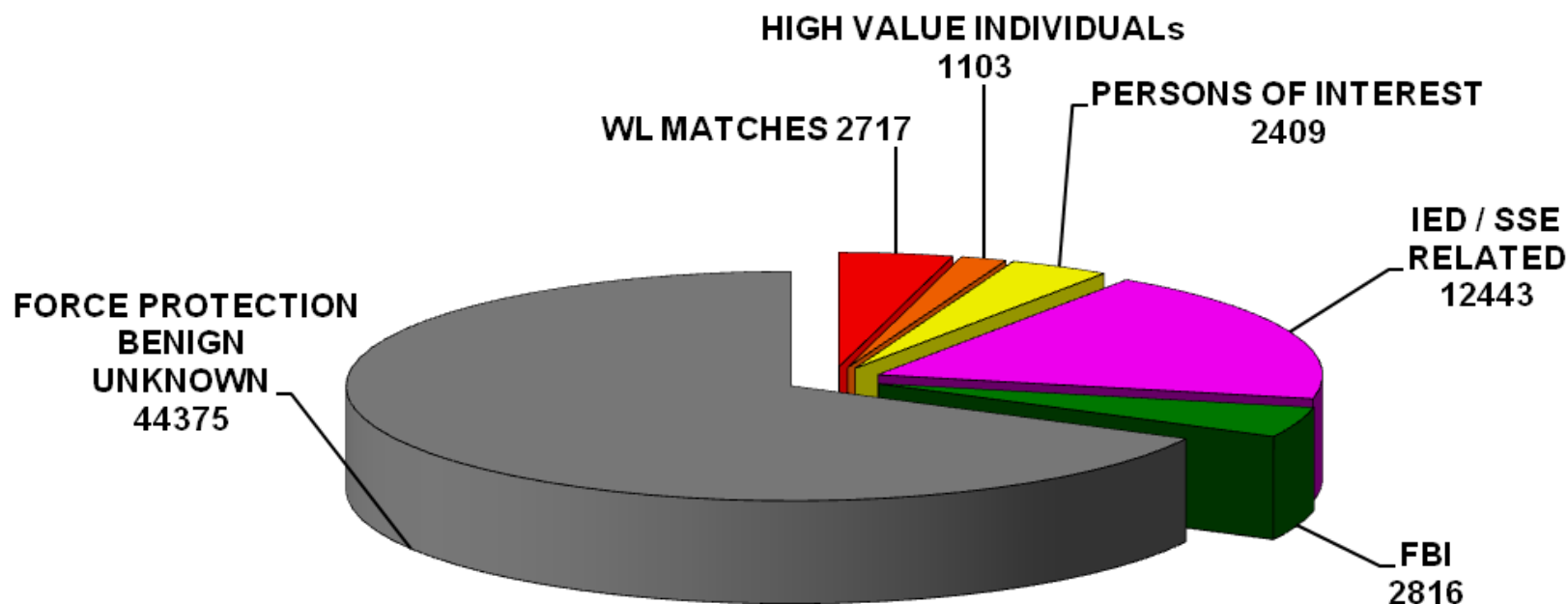
Mr. Brad Chedister / SORDAC-ST

Sensitive Site Exploitation
(SSE)

**Special Reconnaissance
Surveillance and Exploitation**



SOF Matches



Note: Matches may be counted in more than one category.

| | |
|-------------------------|---------------------|
| Total Submissions | - 174279 |
| Total Minus Error Files | - 163848 |
| Matches | - 65863 |
| Match Rate - 40% | As of 29 March 2011 |



SOF Exploitation Architecture





Shifting Of The Operational Paradigm

- Unconventional Warfare
- Support to Homeland Defense and Inter Agency
 - U.S. Border Patrol
 - ICE
 - Local Law Enforcement
- Nation Building “By, With, and Through”
 - Sovereign Nation Engagements
 - Scanning Missions
 - Piracy Missions
- Support to Personnel Recovery Missions
- Force Protection
 - Directive 350-27 and USSOCOM Policy MEMO 10-14
 - Directive 525-40
 - Identity Protection
- Humanitarian Missions
 - Earthquake Relief
 - Refugee Camps
 - Medical Assistance Missions

What is the USG and DOD definition of Identity Operations?

What is the USG and DOD Vision for Identity Operations?

What DOD and USG guidance is available to drive and authorize full spectrum Identity Operations?

How will DOD and the USG sustain and fund full spectrum or classified Identity Operations?



Identity Management Cell PED Enables "End to End" Synchronization

- Man-in-the-loop providing near real time inter-agency exploitation sensor synchronization
- Man-in-the-loop ensuring synchronization of LEVEL III intelligence support to SOF
- Coordinate to ensure tactical and strategic Persons of Interest (POI) are nominated to NCTC and BEWL for global dissemination across inter-agency and international partners
- Coordinate with inter-agencies to strategically track, tag and synchronize terrorist threats globally
- Produces NRT tactical and strategically relevant Biometrics Enabled Intelligence (BEI) to support SOF
- Conduct initial discovery "So What" on Biometric submissions



Special Reconnaissance, Surveillance and Exploitation

SOF Identity Management Vision

Exploitation, Protection and Integrated PED enables Identity Intelligence



Phase I

SOF
EXPLOITATION
FN -VETTING
BLUE FORCE
IDENTITY
PROTECT

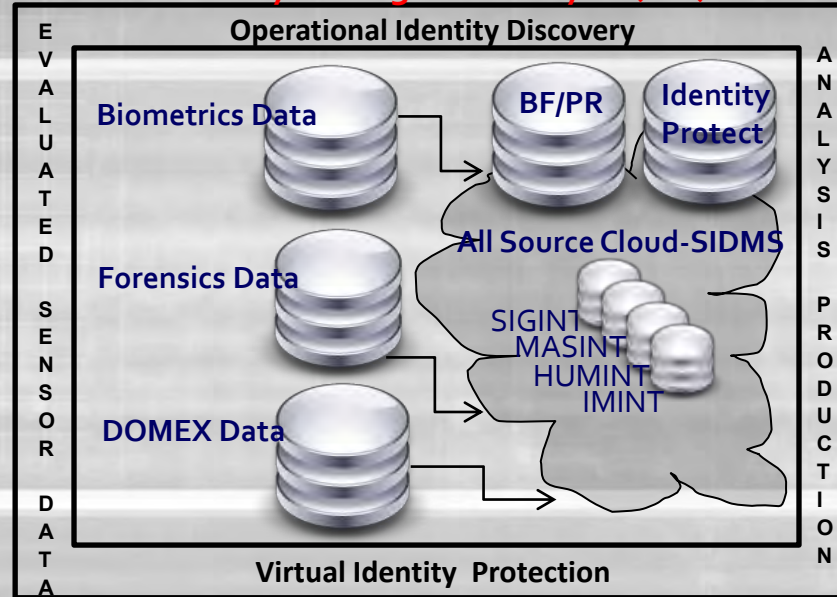


RAW

SENSOR DATA

Biometrics
CELLEX
Forensics
DOCEX
DIGITAL MEDIA
DNA
EAC

Phase III Identity Intelligence Analysis (I2A)



Phase III Responsibilities

All Source (I2A) Production
BEI Production
DOD Watch Listing
Identity Protection Management
Personal Recovery Management

Phase II Responsibilities

Identity Discovery
Identity Operations Synch
NRT Inter Agency Sensor Synch
DOD Watch Listing

Intel Oversight
Foreign Disclosure
Architecture Management
SSE Sensor PED
Personnel Recovery PED
Identity Resolution
Identity Correlation
FN Vetting PED

IA Data/Sensor Correlation
BM/ Forensics Data Fusion

Supporting Functional Requirements

Architecture Development
SSE Requirements
Identity Management Policy
Inter Agency Coordination
Identity Operations Synch
Develop Identity Capabilities

Phase II

Identity Resolution
Identity Correlation
Identity Discovery

**Output is
Evaluated
Sensor Data**



**Man-in-the-Loop
Interface to
Authoritative
Databases**





Joint Exploitation Training Center

Fort Bragg NC Range 37

JETC

Tactical

Operational / Theater

Strategic / National

Operator
Basic
Course

Operator
Advanced
Course

TEC I

TEC II

Exploitation
Seminar

National &
DOD
Exploitation
Training

COLLECTION, PID & TARGETING

ANALYSIS & ATTRIBUTION

INTEROPERABILITY & FUSION

COLLABORATION & DISSEMINATION

Tailored to Meet *Global* SOF Operational and Intelligence Requirements

Institutionalize, Train and *Evolve* the Complete SOF Exploitation Enterprise
Attended by all USASOC, JSOC, MARSOC, NSWG



SOF Site Exploitation (SSE) Kit Components

Enrollment (EN) Kit



Crossmatch Guardian-R
Fingerprint Scanner



Crossmatch SEEK
Fingerprint & Iris Imager

Identification (ID) Kits



Crossmatch SEEK
Fingerprint & Iris Imager

Biometrics



3G SIMIS
SIM Reader



XRY/XACT
Cell Phone Extraction

CELLEX

Data and Information Extraction



Tableau TD-1
Disk Imager



Digital Intelligence FRED-L
High-Level Computer Analysis

High-Level MEDEX

Data and Information Extraction



Bode
DNA Swab



Lynn Peavey
Latent Print Kit



BattleLite
Forensic Lights

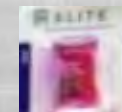


Metal Tec 1400
Metal Detector

DNA and Latent Print Collection



ADF G-2
Low-Level
Computer Data Exploitation



Field Forensics EL-1003
Explosives and Trace Element Detection

Forensics Support Equipment



Biometrics Kit Allocations

| Enrollment Kits | Total Acquired | BOI |
|-----------------|-------------------|------|
| USASOC | 308* | 194 |
| NSWC | 137 | 137 |
| MARSOC | 32 | 32 |
| TOTAL | 477 | 363 |
| | | |
| ID Kits | | |
| USASOC | 1002 | 1002 |
| MARSOC | 60 | 60 |
| TOTAL | 1062 | 1062 |

* BOI Reduced in Latest CPD



Tactical Site Exploitation Kit Allocations

| OA Kits | FY10 | JUONS | FY11 | FY12 | FY13 | FY14 | FY15 | FY16 | Total | BOI | Short |
|--------------|------|-------|------|------|------|------|------|------|-------|-----|-------|
| USASOC | 276 | 137 | 134 | 56 | 54 | 124 | 194 | 121 | 843 | 843 | 0 |
| MARSOC | 42 | 6 | | | | | | | 48 | 48 | 0 |
| TOTAL | 366 | 143 | | | | | | | | 891 | 0 |
| | | | | | | | | | | | |
| Enabler Kits | FY10 | JUONS | FY11 | FY12 | FY13 | FY14 | FY15 | FY16 | Total | BOI | Short |
| USASOC | 40 | 25 | 10 | 8 | 8 | 8 | 10 | 24 | 168 | 168 | 0 |
| MARSOC | 17 | | | | | | | | 17 | 17 | 0 |
| NSWC | 58 | 21 | | | | | | | 79 | 137 | 58 |
| TOTAL | 128 | 46 | | | | | | | | 322 | 58 |
| | | | | | | | | | | | |
| EAC | FY10 | JUONS | FY11 | FY12 | FY13 | FY14 | FY15 | FY16 | Total | BOI | Short |
| | 1 | | | | | 1 | 1 | 1 | 4 | 11 | 7 |



Biometrics & Forensics Development Opportunities

- **Biometric Capabilities**
 - Non-Optical Imaging Sensors for fingerprint capture and matching
 - Rapid DNA Matching
 - Stand-off/Remote Facial Recognition And Matching
 - Stand-off/Remote Iris capture
 - Dustless Latent print collection
 - Deception Detection
- **Forensic Capabilities**
 - Hidden Chamber and Hidden Material Detection
 - NRT Document/Cellular Phone Translation / Gisting
 - Removal of GSR Positives from explosives detection
 - Improved Presumptive Tactical Explosives / Nitrates / Narcotics Kits
 - Cellular PIN Code Bypass or Cracking Technology
 - Improved Cellular Exploitation Middleware
 - Improved Format Exports for Presumptive Chemical Analysis, i.e. AHURA / HAZMAT ID



Special Operations Forces Industry Conference

Colonel James Berry

Chief, Intelligence Support Division

• Presenter's Title

Ms. Valerie Shuey

Program Manager Intelligence

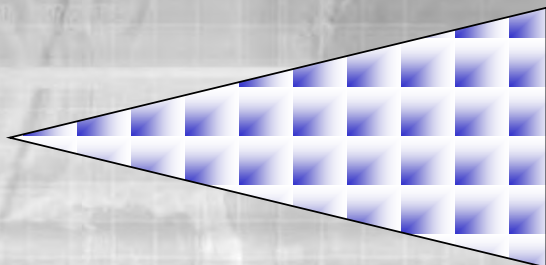
**SOF ISR Challenges
and Way Ahead**

**Special Reconnaissance
Surveillance and Exploitation**

The Changing Relationship Between Intelligence and Operations

FIND

FINISH

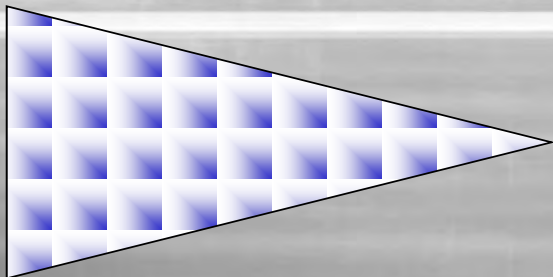


Conventional Warfare

- Minimal level of effort to find enemy
ISR focus: determine enemy status, intent
- Large, sustained effort to defeat
ISR focus: improve kill mechanism effectiveness & efficiency

FIND

FINISH



Irregular Warfare

- Large level of effort to find enemy
Where's Waldo...?
- Small, focused effort to defeat
Small footprint, combined U.S./foreign partner....

**Special Reconnaissance
Surveillance and Exploitation**



ISR Evolution

- Targets
 - From large troop concentrations and industrial sites...
 - ...to previous, *plus* critical targets within installations or formations...
- Purpose and timelines
 - From strategic and operational planning – days to weeks...
 - ...to previous, *plus* time-critical targeting for elusive targets – minutes to seconds...
 - ...to previous, *plus driving mission generation in near real time.*
- Precision and persistence
 - From periodic sampling for general battlefield awareness...
 - ...to previous, *plus* finding and engaging fleeting targets with precision weapons...
 - ...to previous, *plus continuous surveillance required to affect rapidly unfolding events and engage high-value targets* with minimal collateral effects.

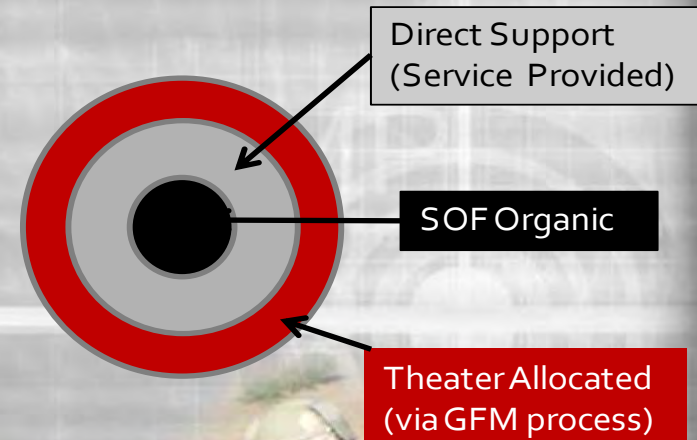
**Special Reconnaissance
Surveillance and Exploitation**

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Framework – SOF ISR

- What makes SOF ISR 'Peculiar':
 - SOF ISR Capabilities must be scalable and tailorable to SOF Operators and SOF TTPs
 - Focused on identifying and actioning networks (with partners), not providing over-watch
 - SOF ISR must be dedicated, habitual, and seamless to the SOF Operator
 - SOF ISR must support the full spectrum of SOF Core activities and operations
- Tenets of SOF ISR:
 - Persistent surveillance ("Unblinking Eye")
 - Habitual relationships w/SOF Operators and TTPs
 - Detailed, specialized products tailored to mission, customer, and pace of ops
- SOF ISR Capability Requirements (Big Picture)
 - Detect, Identify, and locate targets of interest
 - Monitor and track targets of interest
 - Monitor and exploit terrorist communications
 - Link coalition and interagency within a collaborative environment

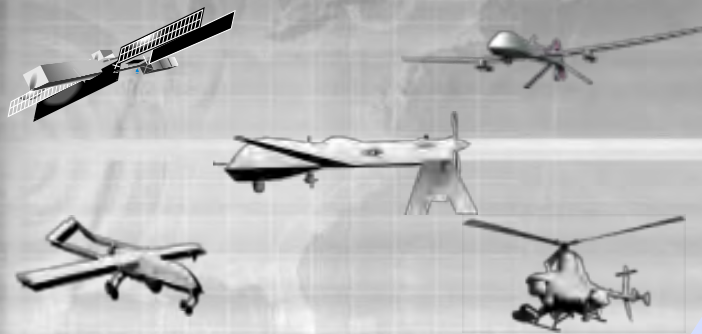


**Special Reconnaissance
Surveillance and Exploitation**



SOF ISR Components

SOF ISR: focused on SOF operator, full spectrum of SOF mission, global



Airborne Platforms & Sensors

- Manned
- Unmanned

Collection



Close Access Platforms & Sensors

- HF-TTL
- SOTVS/RSTA
- JTWS – Air/Ground/Maritime
- SSE
- Biometrics
- Forensics
- DOMEX



FMV PED

SIGINT PED

Other PED

Databases and Tools: SIDMS, SOCRATES, DCGS FoS

Communications: SIE, Service/CSA Provided

**Special Reconnaissance
Surveillance and Exploitation**



IW ISR Capability Requirements

- *Detect, identify, and locate* individuals and group, facilities, equipment, financial and information resources
- *Monitor and track* from initial contact through a desired end state, including destruction, capture, or exploitation.
- *Monitor and exploit* communications and surveillance methods and equipment
- *Link coalition and interagency* leaders, collectors, analysts, planners, and execution elements within a collaborative environment.

Partner Nation may comprise point of detection and execution arm

**Special Reconnaissance
Surveillance and Exploitation**



SOF Airborne ISR Capability Requirements

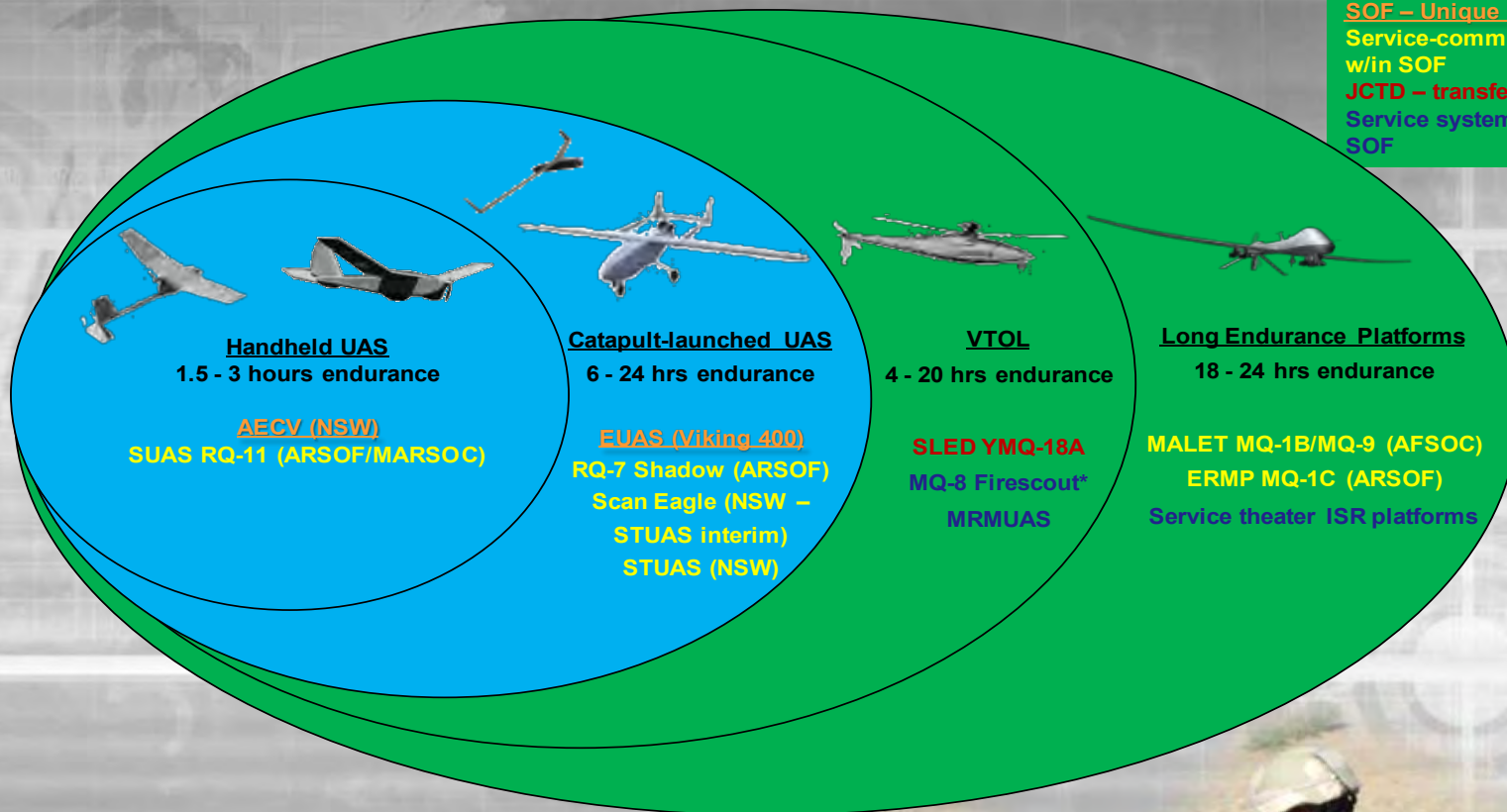
- Vehicles
 - *All-weather, day and night*
 - *Long on-station* loiter
 - *Multi-sensor* modularity (currently, FMV+others)
 - System “stretch” to *support emerging capabilities*
 - *Expeditionary* – rapid/self-deploy; operate from unimproved sites and afloat platforms
 - *Suppressed signature* – noise and visual
- C2
 - Flexible command and control – *line-of-sight and beyond*
 - Sensor and target analysis *tools to rapidly plan and cue or re-task* capabilities
 - *Interoperable with services, ICs and coalition/partner nations*
- Sensor systems
 - *All-weather day and night*
 - Networked and deployable sensor *data processing and exploitation*
 - Sensor *data integration/fusion*
 - *Interoperable with services, ICs and coalition/partner nations*

**Special Reconnaissance
Surveillance and Exploitation**



SOF AIRSR Integrated Capabilities

SOF – Unique Programs
Service-common systems
w/in SOF
JCTD – transfer to service
Service systems supporting
SOF



LOS, FMV only

BLOS, Multi-sensor

Special Reconnaissance Surveillance and Exploitation



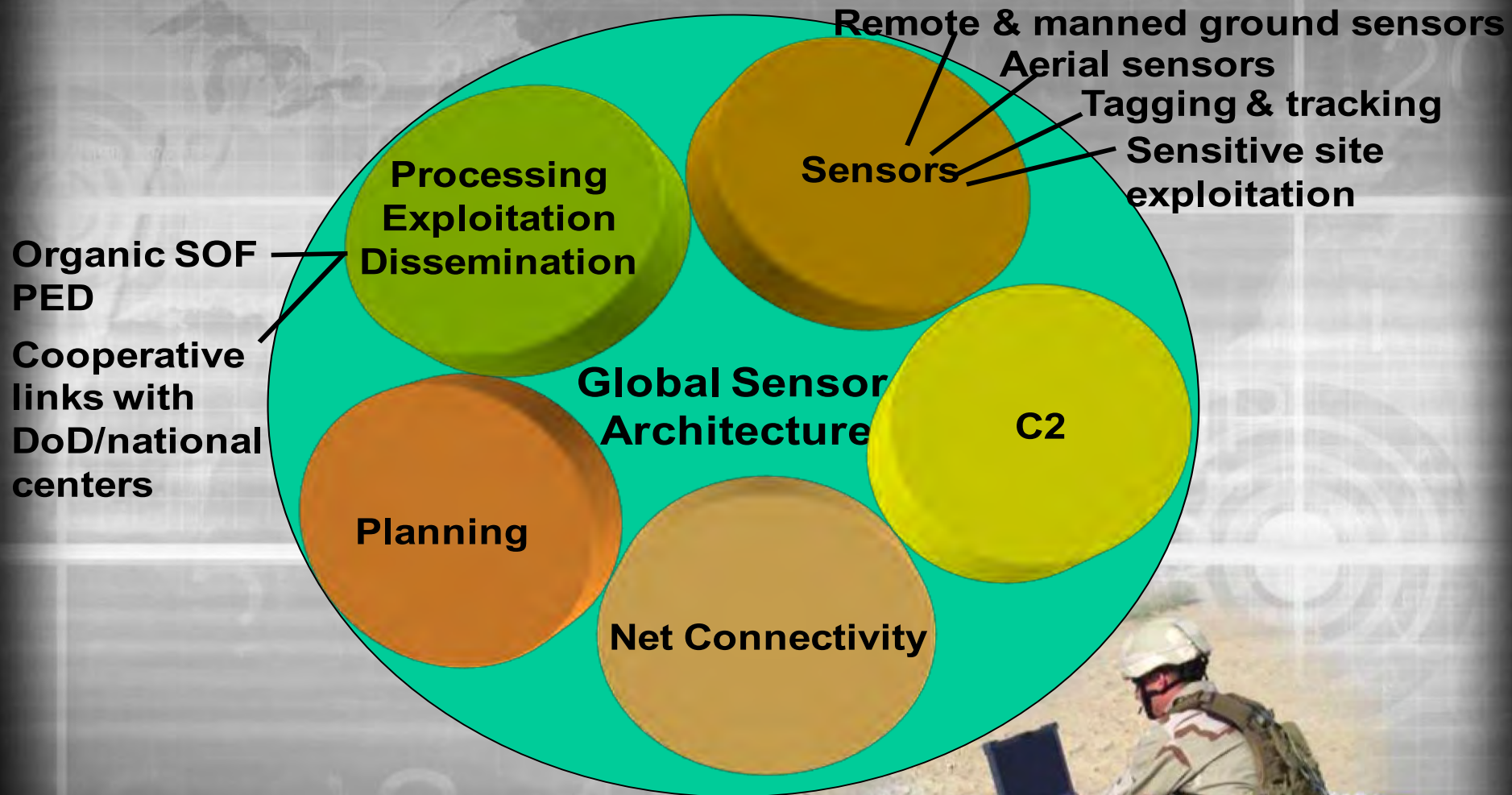
ISR PED Modernization

- Enable SOF PED enterprise to handle significant increase in workload from future collection, increased orbits & new sensors
- Community fields sensors which maximize PED effectiveness & efficiency
- Eliminate nugwork, enable analysts to focus on high payoff activities – 80/20
- Fat-fingering geo-coords across networks into chat; multiple local unique databases; proprietary LIMFACs; lack of automated dataflow
- Levels of PED varies significantly – match PED to mission
- Define ISR architecture, workflow, dataflow, and associated metadata – End to end – starting from sensor, through all phases of PED – includes ITCs and sensor operators
- Priorities: successful automated dataflow – geocoords, timestamp, mission ID, source ID/releasability rules

**Special Reconnaissance
Surveillance and Exploitation**



Global Sensor Architecture



**Special Reconnaissance
Surveillance and Exploitation**



ISR Data

- Overarching requirement: Knowledge Management Roadmap
 - Bringing together DATA, Information and Knowledge
 - Discoverable, retrievable, sustainable
 - Enhance Communication/Collaboration/Dissemination
- Data strategy is at the heart
 - What is it? Where is it? Who owns it? How do we get it if we need it? How do we use it? How do we tie it all together? (FUSION)
 - Acceptable, enforceable and adaptable Standards

**Special Reconnaissance
Surveillance and Exploitation**

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SOF Way Ahead

- CONOPS
 - *Small SOF elements* deployed in many locations -- advisory/assistance efforts, building partner nation capacities against terrorist networks
 - *Small, select SOF operations* in lawless, paramilitary environments to disrupt/deny adversary sanctuary areas
- *Increase organic SOF ISR* capabilities
 - *Communications* systems and architectures
 - *Processing, Exploitation, and Dissemination (PED)* of networked information
 - *Ground, air, maritime sensor* capacities
 - Better *utilization and synchronization of SOF human sensor* activities
- *Increase partnerships* with Combat Support Agencies
 - Cooperative PED; integrate SOF into national agency architectures
- *Solicit support* from the services
 - Support through the Joint Staff for *GCC-requested ISR assets* ISO SOF
 - Provide needed *communications architecture/bandwidth* to support SOF ISR needs
 - Provide additional *manpower* to support ISR platforms (aircrew, PED)
 - *Accelerate fielding* of service-programmed ISR to SOF
- *Grow allied/partner nation* ISR capabilities
 - *Partner with established allied nations* to improve regional capabilities
 - i.e. our sensors, their platforms and personnel
 - *Tailored enhancement of PN/HN capabilities* through train, equip, and advise activities

Special Reconnaissance
Surveillance and Exploitation

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SOF Way Ahead – Technology Challenges

- *Counter-insurgency Ops are changing the face of ISR*
 - High demand for *readily-exploitable data*
 - Rapid *access to multiple data sources* drives *intelligence...intelligence drives decisions and actions*
- *More diverse operational environments will drive sensor and PED requirements beyond FMV*
 - *Sense and exploit* to detect/identify/track through cover and weather in high-clutter environments
 - *Track* HVIs over *global distances*
 - Datalinks need to accommodate increasing amounts of *raw data from multiple sensors*
 - *Limited forward footprint* will stress operational coordination – need assured comms and presentation methods in quantity
- *Future operations will present new challenges in host/partner nation cooperation*

Requires an integrated Joint, Service, Interagency effort

**Special Reconnaissance
Surveillance and Exploitation**



Questions?

**Special Reconnaissance
Surveillance and Exploitation**

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Special Operations Forces Industry Conference

Mr. Eric Barnes
Transport Division Chief

**Tactical Wide Band
SATCOM Efforts**

**C4 Command, Control,
Communications, and Computers**



SOF Deployable Node (SDN) Family of Terminals Upgrade

- Projected Requirements

- Sub-one meter SDN-Lite remains same as legacy, Ku-Band only
- Replace 1.0-meter SDN-Medium (SDN-M) with more capable 1.2-meter Tri-Band (X, Ku, Ka)
- Replace 2.4-meter SDN-Heavy (SDN-H) with smaller footprint 2.0-meter Quad-Band (C, X, Ku, Ka)
- Common GUI across all variants; Common maintenance & training documents
- Integral iDirect (TDMA)
- Procurement will meet support new BOI and CERP requirements



C4 Command, Control,
Communications, and Computers



SDN Family of Terminals Upgrades

- **Consolidate common requirements across all variants**
 - Temperature, 81oG
 - Transportability (two-person lift IAW MIL-STD-1472)
 - MTBF, Availability
 - No tools for assembly/disassembly
- **Apply variant-specific requirements as required**
 - Throughput
 - Frequency Bands
 - System Weight/Volume
 - Set-up/Teardown Times (frequency band reconfiguration time)



C4 Command, Control,
Communications, and Computers





SDN Family of Terminals

- **Actions to Date:**
 - Special Notice on FEDBIZOPS for SDN-M J&A Dec 2010
 - SDN/PDS Family of Terminals Contract
 - Announced pending re-compete Dec 2010
 - RFI posted Feb 2011
 - RFP package in development



Acquisition Strategy

- Full and Open Competition
- Single award, 5 year IDIQ contract

Period of Performance

Jan 2012 through Dec 2017

Milestones

- Jul 2011 RFP Release
- Jan 2012 Award

Point of Contact

SORDAC-KI

Funding

\$500M ceiling

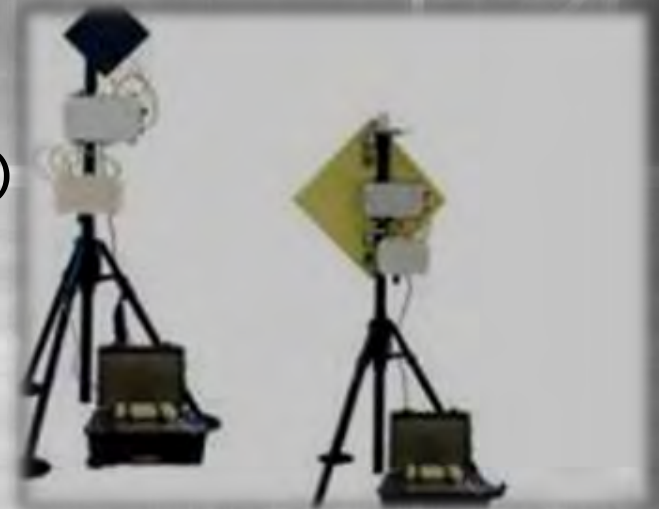
Current Contract/OEM

H92222-D-06-0007
L-3 Global Communications Solutions,
Victor, NY

SDN Extension Packages

Requirement: SDN-M CPD, 16 Jan 07

- Line of Site Technology Radios (4.4GHz Military Band and 5.8GHz ISM Band Options)
- Tropospheric Technology
- 3G/4G Deployable Cellular Site, Tactical Network Topology (TNT) Experimentation Request For Information



C4 Command, Control,
Communications, and Computers



Mobile SOF Strategic Entry Point (MSSEP)

Requirement: SDN-H CPD, 9 Jan 09

- Provides theater with deployable SSEP capability
- Quad-band capable (3.9-meter X, C, Ku, Ka band)
Light Weight, Medium Aperture Antenna
- Unclassified and classified voice, data, VTC, and video services
- Video storage, VTC bridge, and switching capabilities



C4 Command, Control,
Communications, and Computers



SATCOM On the Move (SOTM)

Requirement: SDN-M CPD, 16 Jan 07

- High bandwidth, SATCOM ,Transport Capability
- Secure voice, data, and FMV situational awareness
- Modular and tailorable packaging
- SOF Information Environment reach-back from a mobile platform
- IP-based technology
- Variants
 - Wideband SOTM-Afloat
 - Wideband SOTM-Ground



C4 Command, Control,
Communications, and Computers



Questions?



C4 Command, Control,
Communications, and Computers



Special Operations Forces Industry Conference

Mr. Tony Coones

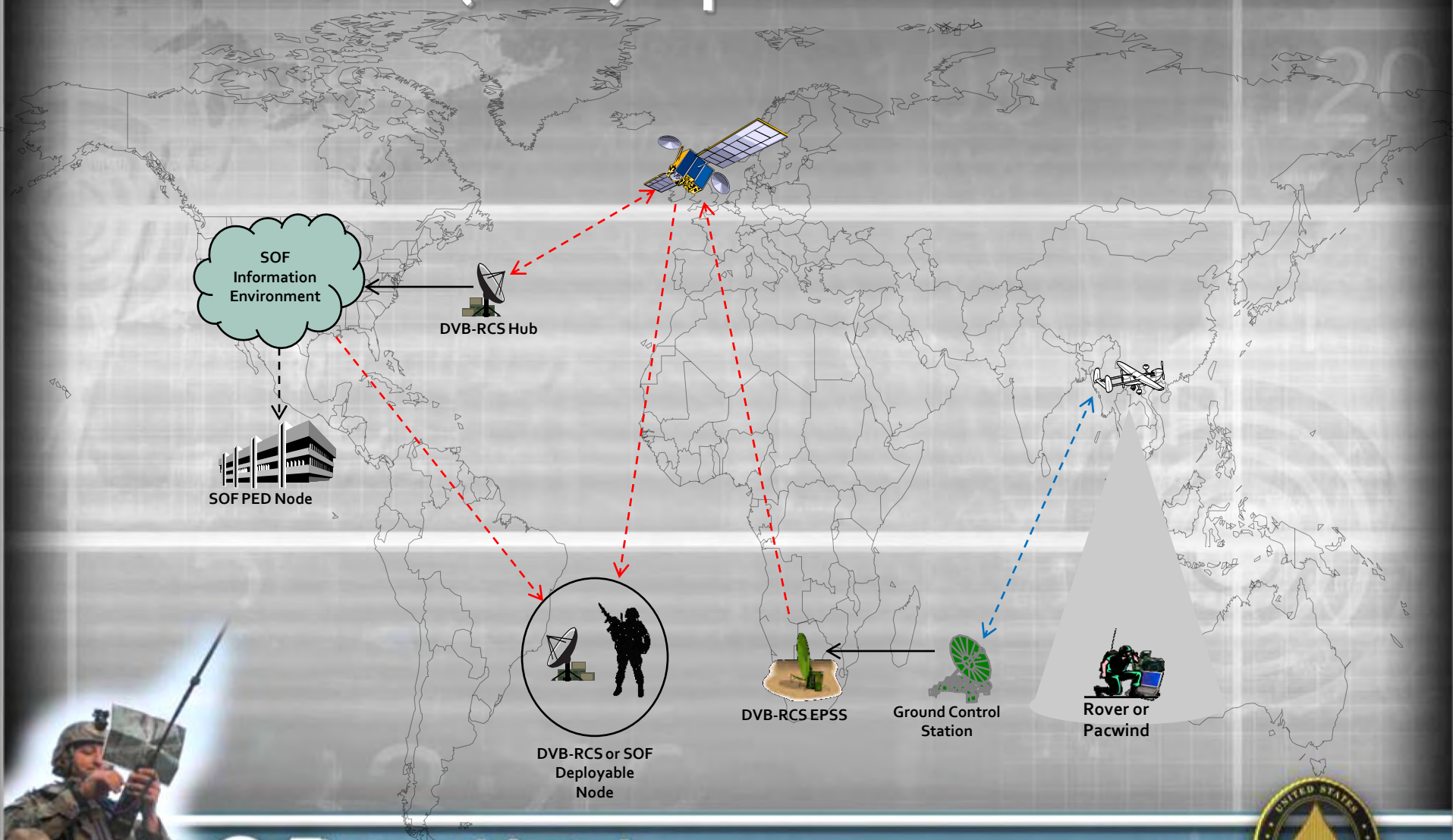
**Full Motion Video
Action Officer**

**ISR / FMV Architecture
and Initiatives**

**C4 Command, Control,
Communications, and Computers**



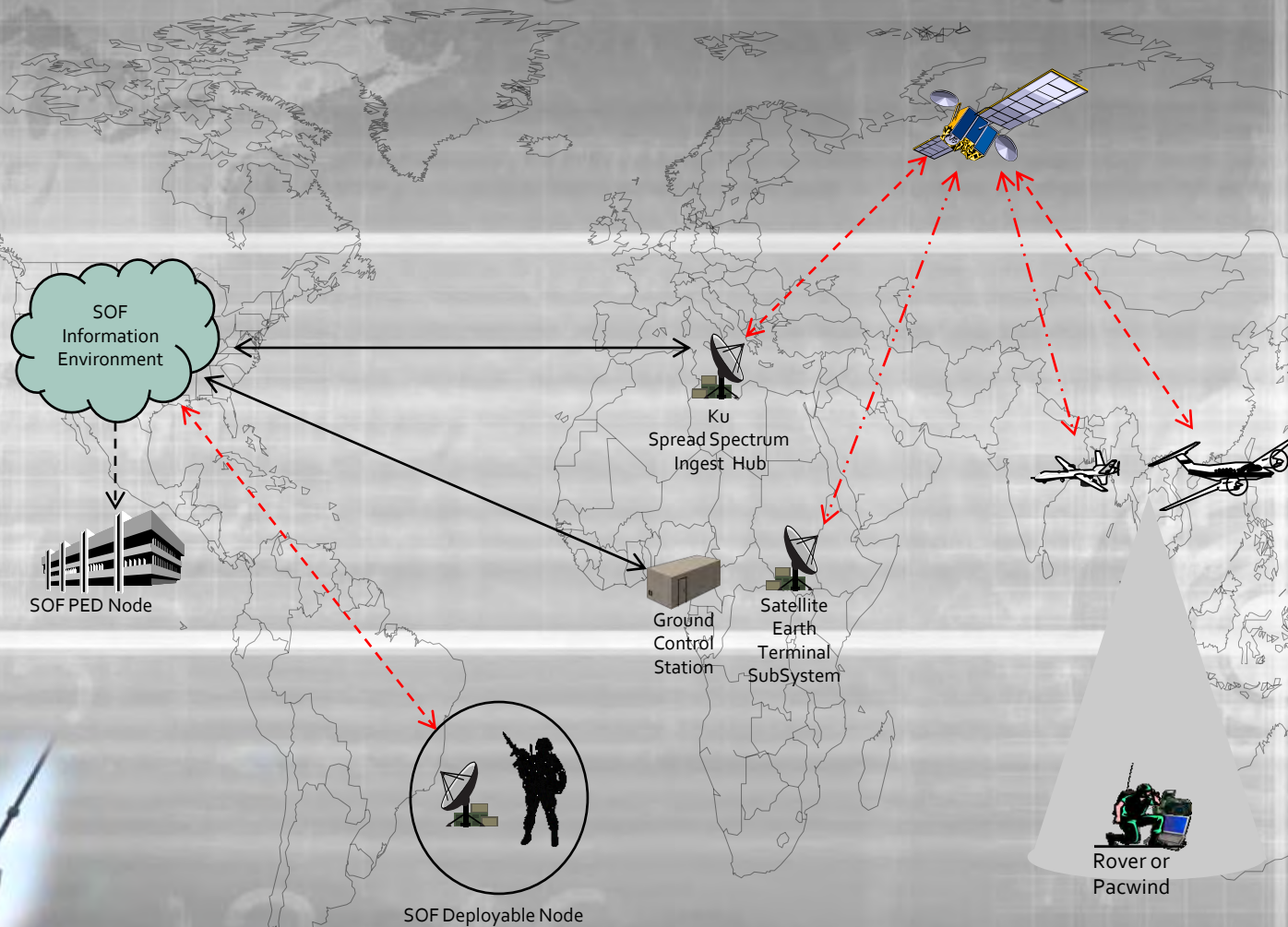
Line-of-Site (LOS) Operations



C4 Command, Control,
Communications, and Computers



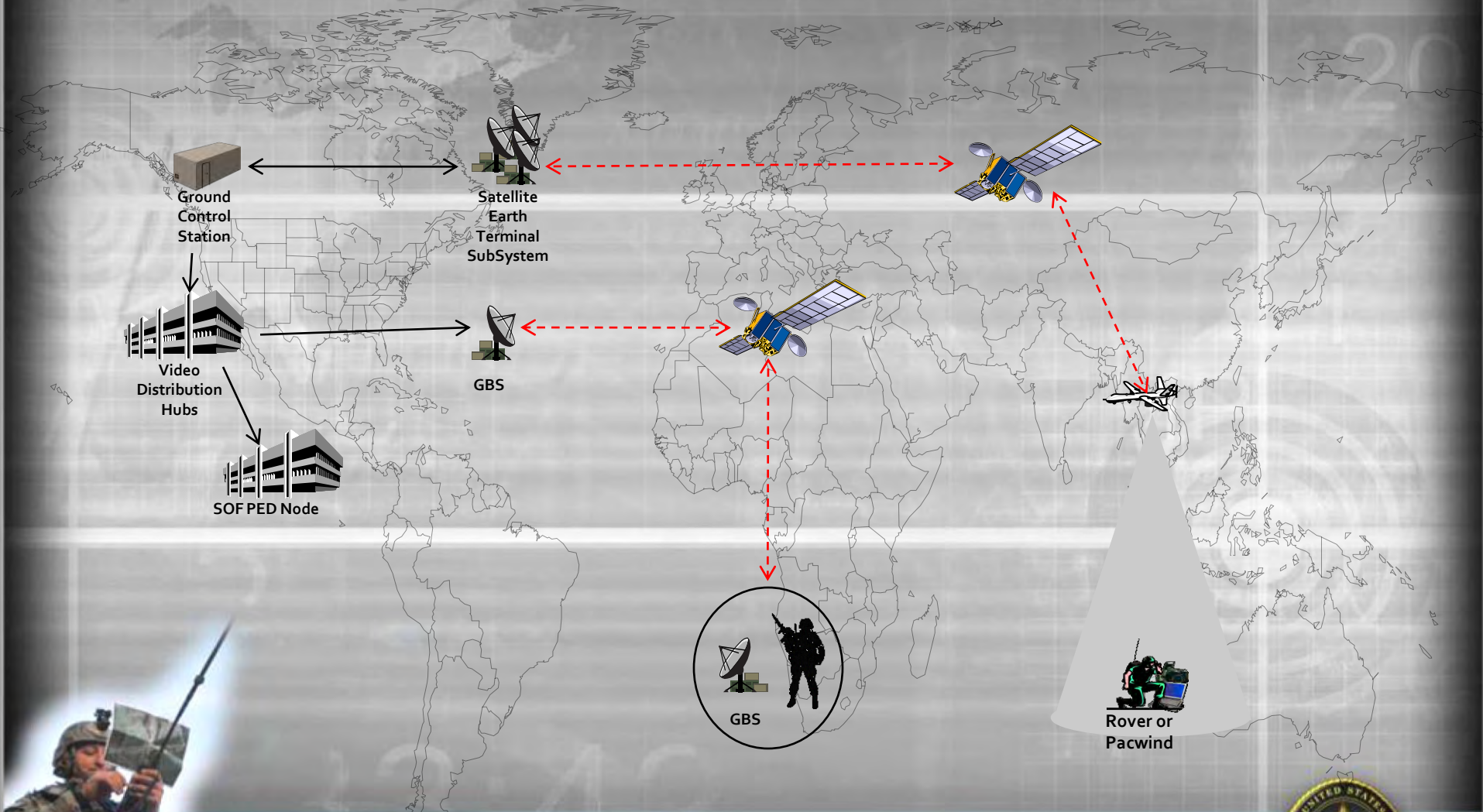
Beyond-Line-of-Sight (BLOS) Operations



C4 Command, Control,
Communications, and Computers



Remote Split Operations (RSO)



C4 Command, Control,
Communications, and Computers



Where Do We Need Help?

- **Sensor-to-PED-to-War Fighter is an IOC Requirement, not an After Thought – BLOS should be a KPP for PED**
 - Permissive and Non-Permissive Environments
 - SOF must be Agile, Flexible, and sometimes Covert
- **Satellite Capacity requires Ka as well as Ku Capabilities**
 - DOD's Worldwide Global SATCOM Solution
 - Sea-Borne and Maritime Applications
- **DOD Compatible and Standard Solutions**
 - Ability to breakout and redistribute data prior to GCS
 - Individual Encryption for each data feed at the Source
 - Proprietary Solutions limit Operational Flexibility



C4 Command, Control,
Communications, and Computers



Special Operations Forces Industry Conference

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Communications & Situational Awareness

COL Doug Rombough, PEO-RW



Rotary Wing

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Agenda

- Situational Awareness
- Hostile Situational Awareness Threats and Solutions
- Inherent Situational Awareness Threats and Solutions
- MH-60M Blackhawk Current / Future SA Equipment
- End State - Balanced Situational Awareness

ROTARY WING



Situational Awareness

"In the complex and dynamic aviation environment, information overload, task complexity, and multiple tasks can quickly exceed the aircrew's limited attention capacity. The resulting lack of SA can result in poor decisions, leading to human error."

Dr. Mica Endsley
Situational Awareness Technologies, 1995

ROTARY WING



Hostile SA Threats and Solutions

Threats to SOF Aviation

Small Arms/RPGs/AAA →

MANPADS →

Pilot Overload →

Current Solutions

Hostile Fire Indicating System & SIRFC

SIRFC & CMWS

Sensor Fusion / SIRFC / CAAS

Pending Solutions

Hostiles on the Objective →

Secure Real-Time Video (SRTV)

Fratricide →

Joint Battle Command – Platform (JBC-P)

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Inherent SA Threats and Solutions

Threats to SOF Aviation

Visual Impairing Armor —————→

Brownout / Whiteout —————→

Obstacles / Wires / Terrain —————→

Pending Solutions

Transparent Armor Panels

DVE

DVE / Hazard Sharing Between Aircraft

ROTARY WING



MH-60M BLACKHAWK

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Joint Battle
Command - Platform
(JBC-P)

Degraded Visual
Environment (DVE)

SAFEAIR / CDAS / GATM

Hostile Fire Indicating
System (HFIS)

Secure Real-Time
Video (SRTV)

Transparent Armor
Door Panels

Dual Digital Automatic
Flight Control System

ARC-231 Radios

Multi-Mode Radar

Common Avionics
Architecture System (CAAS)
Cockpit

AN/AVR-2B Laser Detecting Set

Suite of Integrated
Radio Frequency Countermeasures
(SIRFC)

AN/ZSQ-2
Advanced Electro-Optic
Sensor System (EOSS FLIR)

CURRENT

FUTURE

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End State - Balanced Situational Awareness



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Questions

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SOF Future Vertical Lift

COL Doug Rombough

PEO Rotary Wing

May 2011



Rotary Wing

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Agenda

- Mission
- SOF Acquisition Team
- SOF Rotary Wing Programs
- Transformation of SOF VL
- Contact Info
- Way Ahead

ROTARY WING



Mission

Provide program oversight for Rotary Wing Systems in USSOCOM. Support all stakeholders in Rotary Wing Acquisition process to provide cutting edge capabilities to the SOF Community

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SOF Acquisition Team

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- Equip the soldiers of the 160th SOAR(A) with the most capable rotary wing aircraft in the world.
- Equip the airmen of the 6th SOS with NSWRA.



ARSOAC / AFSOC
(Capability Manager)



PEO RW (USSOCOM)
(Program Oversight)



160th SOAR (A) - SIMO / 6th SOS
(Users)



PM TAPO / PM NSRWA / PM STS
(Materiel Developer)

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Current SOF RW Capabilities

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* Configuration
Dependant

A/MH-6M MELB

Mission Equipped Little Bird (MELB)

Light Attack/Assault

* 6 Combat Equipped Troops (Assault)

* Cruise Speed: 90 knots

* Max Gross Weight: 4,700 lbs

Rapidly Deployable

Shipboard Operations

Surgical Point Insertion

Aerial Reconnaissance

Close Air Support

Reconfigurable Armament (Attack)



Mi-8/17

Medium Assault

* 32 Combat Equipped Troops

* Cruise Speed: 130 knots

* Max Gross Weight: 28,600 lbs

* Ext Loads: 10K lbs

Troop Movement

Resupply



MH-60M Blackhawk

Medium Assault

* 9 Combat Equipped Troops

* Cruise Speed: 140 knots

* Max Gross Weight: 24,500 lbs

* Ext Loads 9,000 lbs

Aerial Refuel Capable

Suppressive Fire Capability

Resupply

Advanced Aircraft Survivability Equipment

Defensive Armed Penetrator (DAP)

Reconfigurable Armament

Armed Escort & Close Air Support



MH-47G Chinook

Heavy Assault

* 44 Combat Equipped Troops

* Cruise Speed: 120 knots

* Max Gross Weight: 54,000 lbs

* Ext Loads:

25K lbs tandem & 26K lbs center hook

Aerial Refuel Capable

Suppressive Fire Capability

Resupply

Advanced Aircraft Survivability Equip



YMQ-18A Hummingbird

Unmanned Aerial System

Multi-role Missions (ISR/Re-Supply)

* Gross Weight : 5500 lbs

* Payload: 2500 lbs

* Range: 2250 NM

* Endurance: 18.7 hrs w/300 lbs

12.1 hrs w/532 lbs

8.1 hrs w/1000 lbs

* Speed: 142 kts

* Ceiling : 20000 ft



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Combat Mission Simulators

MH-47E CMS



A/MH-6M Little Bird



MH-47G CMS



"SimAuthor"

Flight Data Analysis &
Visualization

Battle Staff Training System



"CAAS"
Desktop
Trainers



MH-60K CMS



MH-60L/M CMS



"SOFTEAMS"

Direct Support
Maintenance



Aquatics Training
Facility (Dunker)



SOF RW Transformation



~~MH-6C~~
~~AH-6J~~
~~MH-6J~~



MH-6M (51)



MH-60L
 MH-60L DAP
 MH-60L C2
 MH-60K



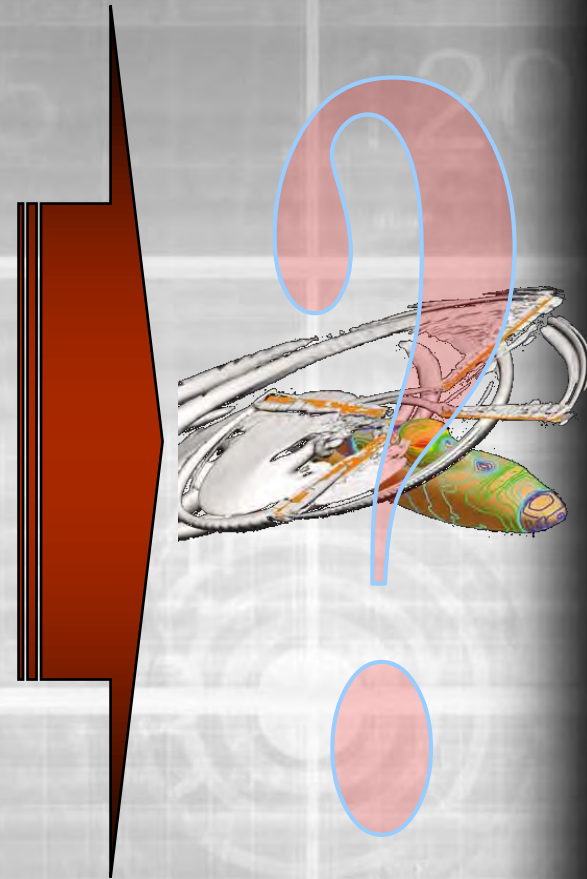
MH-60M (72)



~~MH-47D~~
~~MH-47E~~



MH-47G (69)

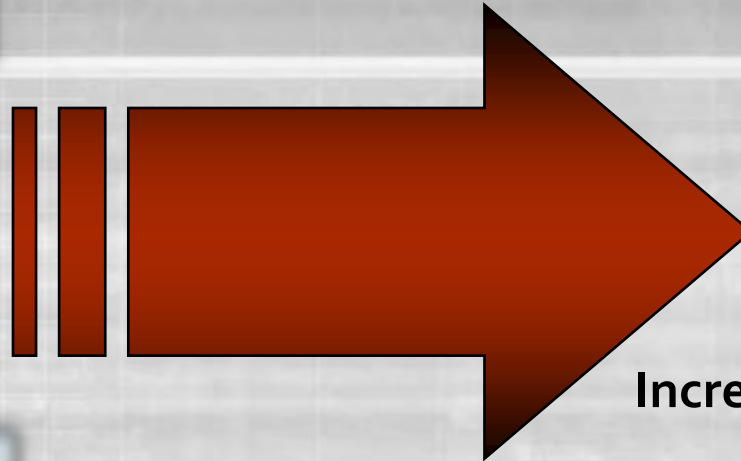


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Rotary Wing Lift Transformation

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Lighter & Faster

Increase Payloads

Increase Lethality

Increase Survivability

Increase Situational Awareness

Reduce Crewmember Workload

Seamless & Quick Aircraft Integration

ROTARY WING



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Incremental Improvement MH-47

MH-47G



MH-47D/E



MH-47G New Build

CH-47 A/B/C



BGAD 1 BGAD 1.1 BGAD 2.0

BGAD 2.1 BGAD 2.2 BGAD 2.3

1960's

1980's

2000

2010

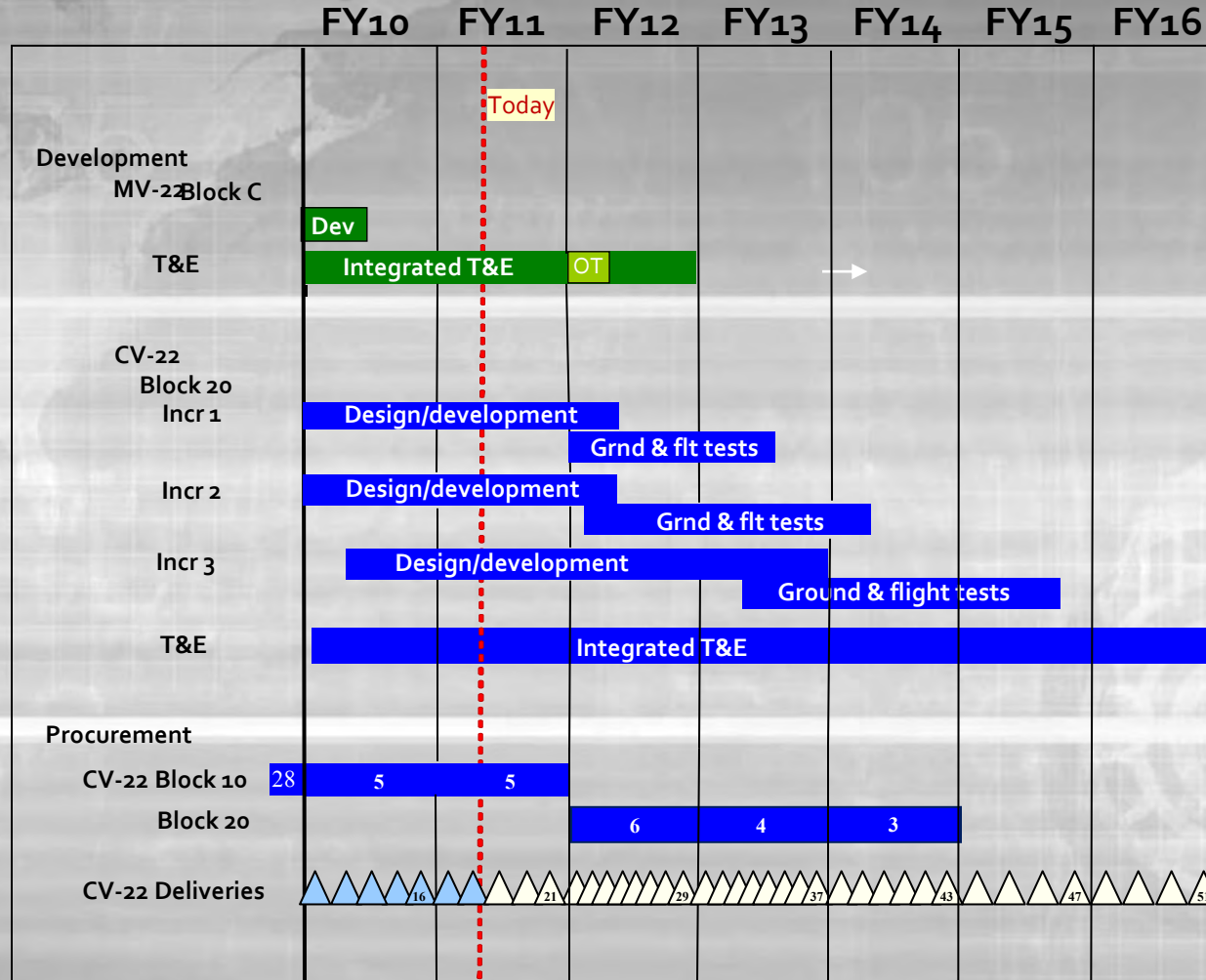
2025

ROTARY WING



Incremental Improvement CV-22

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Bottom Line

The current fleet of DOD rotorcraft cannot continue to be incrementally improved to meet future operational requirements. Significant increases in range, speed, payload, survivability, reliability, and reduced logistical footprint are all required and can only be met through the application of new technologies, which are best developed through a Joint Multi-role/commonality approach.

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DOD Initiative (2009 FVL Begins)

- The genesis of this initiative was a letter from the Congressional Rotorcraft Caucus, signed by co-chairs Congressman Sestak and Congresswoman Granger, to the Secretary of Defense and Chairman of the Joint Chiefs of Staff requesting they conduct and provide the results of an Assessment of future DOD Vertical Lift aircraft capabilities. Secretary of Defense Gates directed the Office of the Secretary of Defense (OSD) Acquisition, Technology and Logistics (AT&L) to:

"Lead the development of an Assessment that will outline a Joint approach to the future development of vertical lift aircraft for all the Military Services."

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DOD Initiative (Cont)

- Subsequent to Secretary Gates' response, the 2009 Duncan Hunter National Defense Authorization Act was signed into law and included Section 255, which had similar language directing:

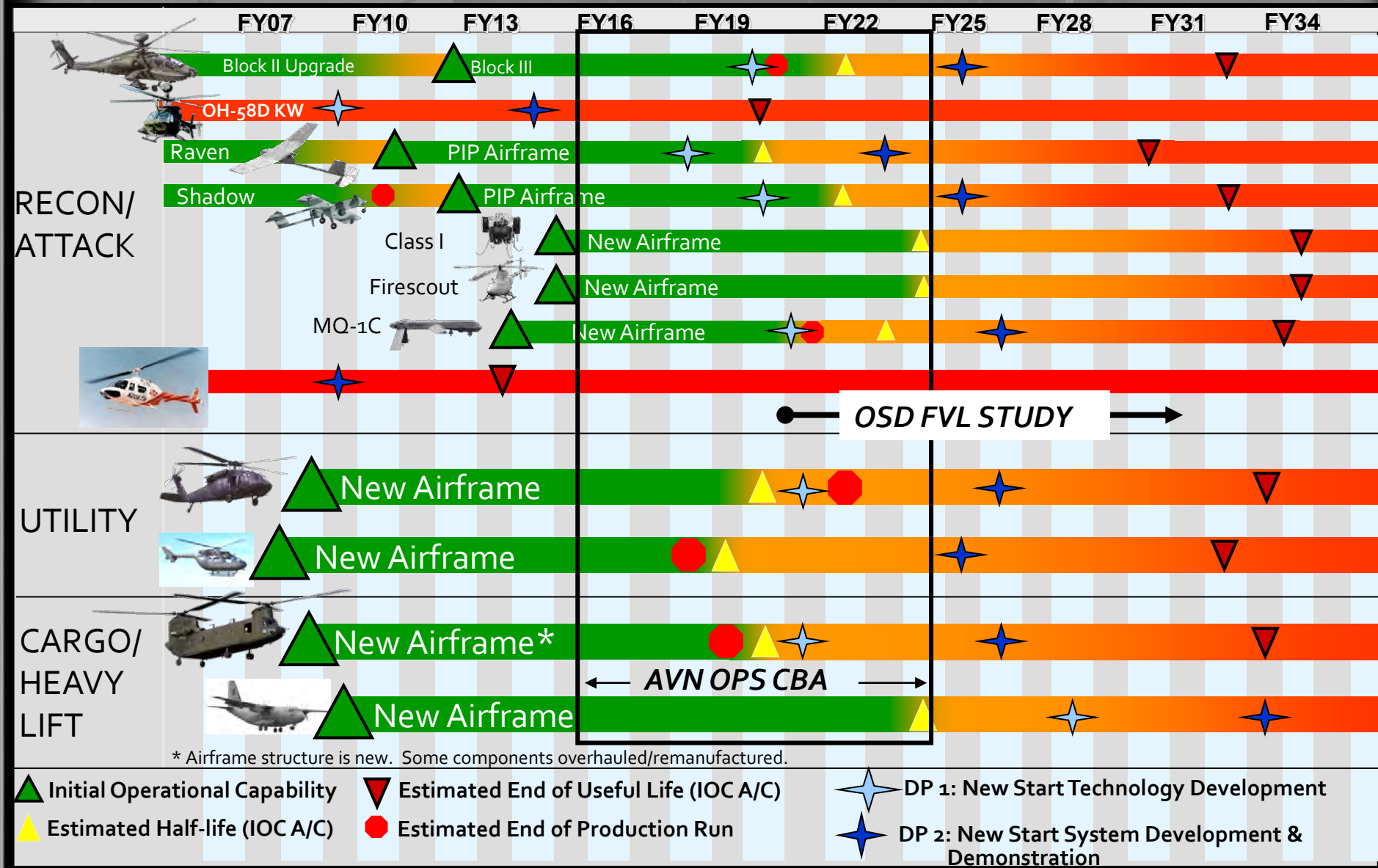
 “The Secretary of Defense and the Chairman of the Joint Chiefs of Staff shall carry out a capabilities-based assessment that outlines a joint approach to the future development of vertical lift aircraft and rotorcraft for all of the Armed Forces.”
- The OSD (AT&L) Director, Land Warfare and Munitions (LW&M) and the Deputy Director, Resources and Acquisition, J-8, Joint Staff, co-chaired the Future Vertical Lift (FVL) Executive Steering Group (ESG) to provide guidance and oversight to the capabilities based assessment team.

ROTARY WING



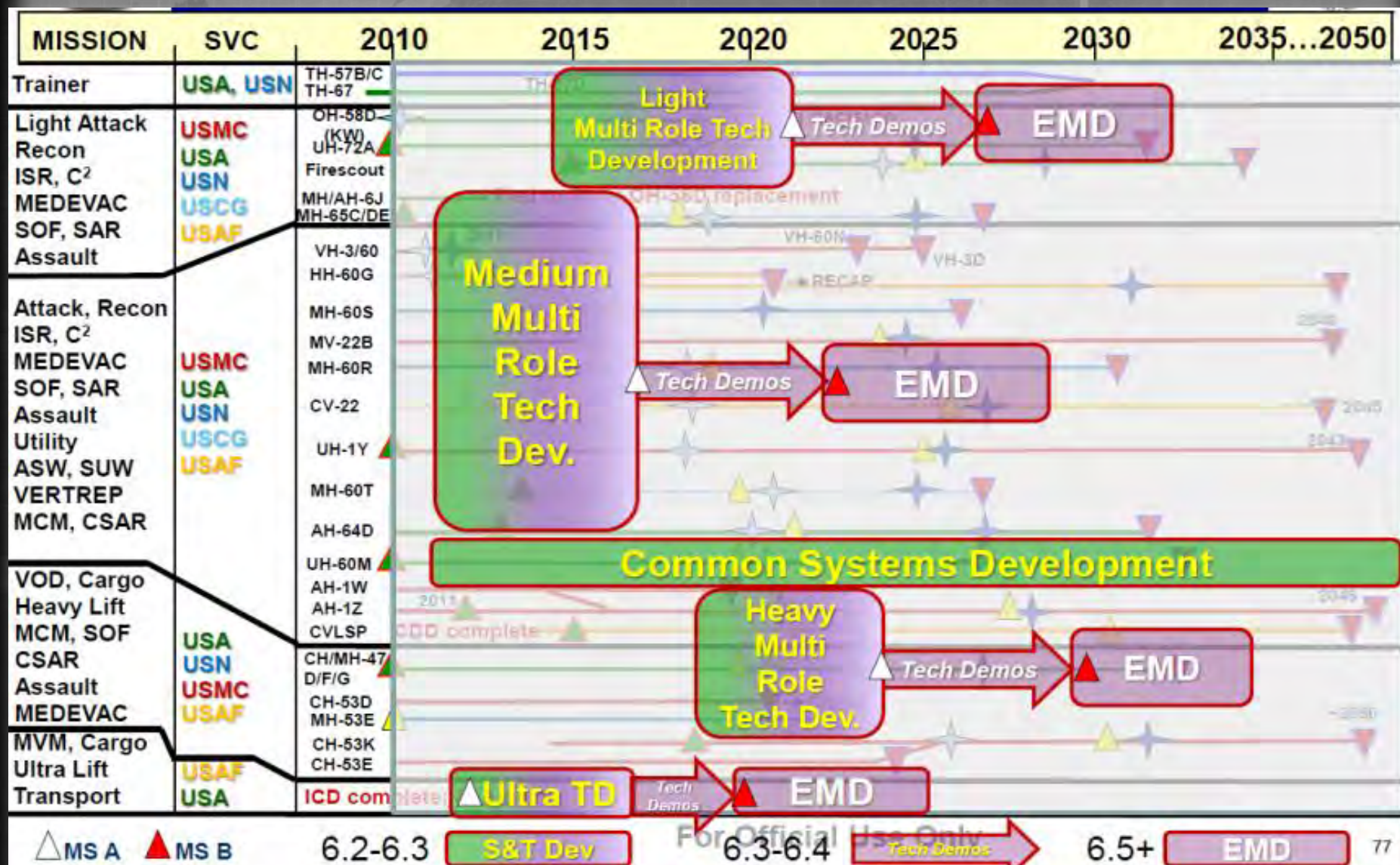
Platform Assessment

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Baseline Aircraft by Class



JMR Emerging Attributes

| JMR Study Performance Ranges | | | | |
|------------------------------|----------------|----------------|---------------|-------------|
| | Light | Medium | Heavy | Ultra |
| Speed | >170-300+ kts | >170-300+ kts | >170-300+ kts | 300+ kts |
| Combat Radius | ~424 km | ~424 km | ~424 km | ~462 km |
| Payload (Int) | ~2k - 4.5k lbs | ~6k - 20k lbs | ~20-30k lbs | ~40-72k lbs |
| Payload (Ext) | ~2k - 4.5k lbs | ~10k - 20k lbs | ~16-30k lbs | ~40-72k lbs |
| Passengers* | ~4-6 | ~11-24 | ~33-44 | ~100-120 |

*Combat troop weight 365lbs

Identified
range of Joint
missions

Recon
ISR
MEDEVAC
SOF
SAR
Amphib Assault
Attack
ASW
ASUW
C2
Transport
Security

Recon
ISR
MEDEVAC
SOF
SAR
Amphib Assault
Attack
CSAR
ASW
ASUW
VERTREP
MCM
C2
VOD
Cargo/Lift
Transport
Security

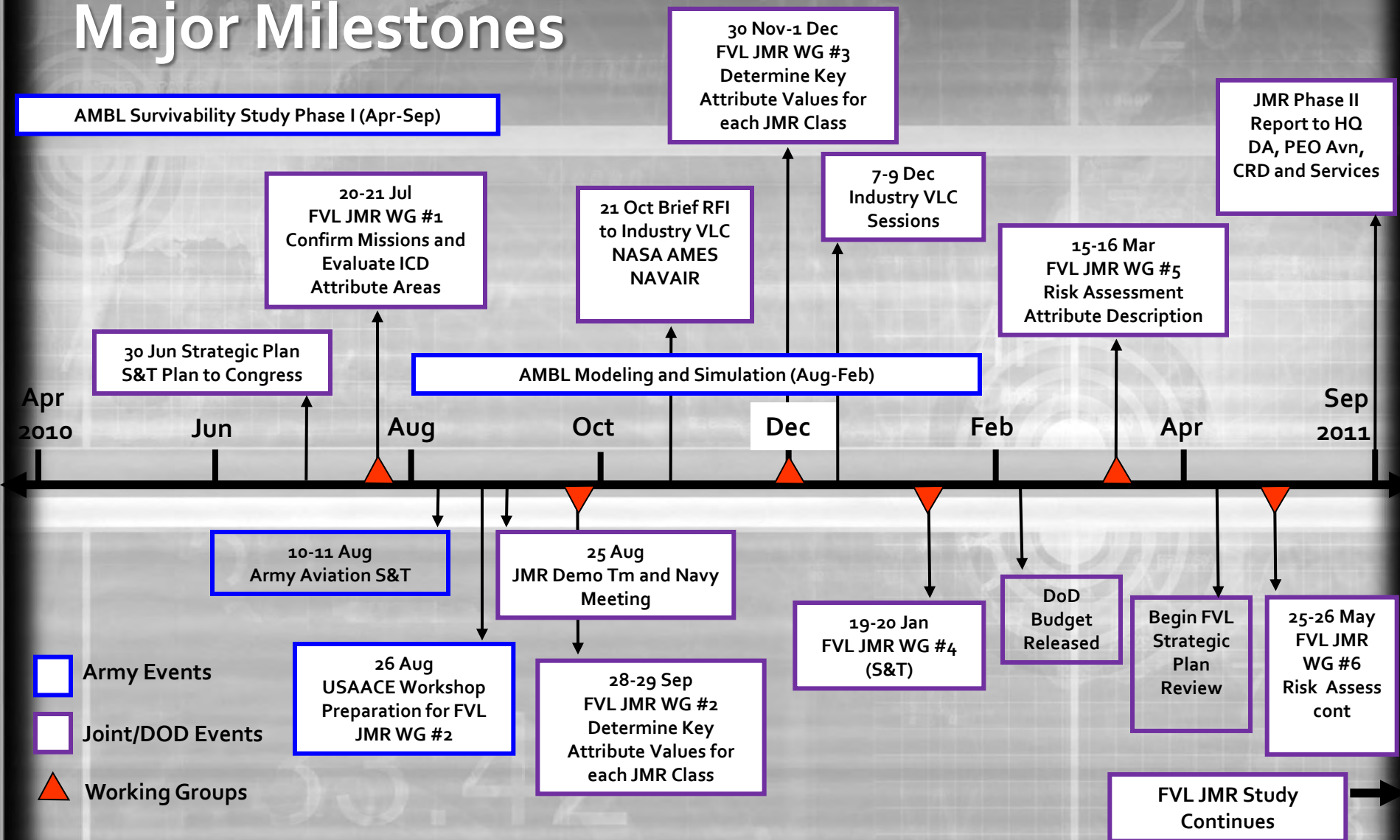
Recon
ISR
SOF
Amphib Assault
CSAR
VERTREP
MCM
VOD
Cargo/Lift
Transport

VOD
Cargo/Lift
Transport
MVM

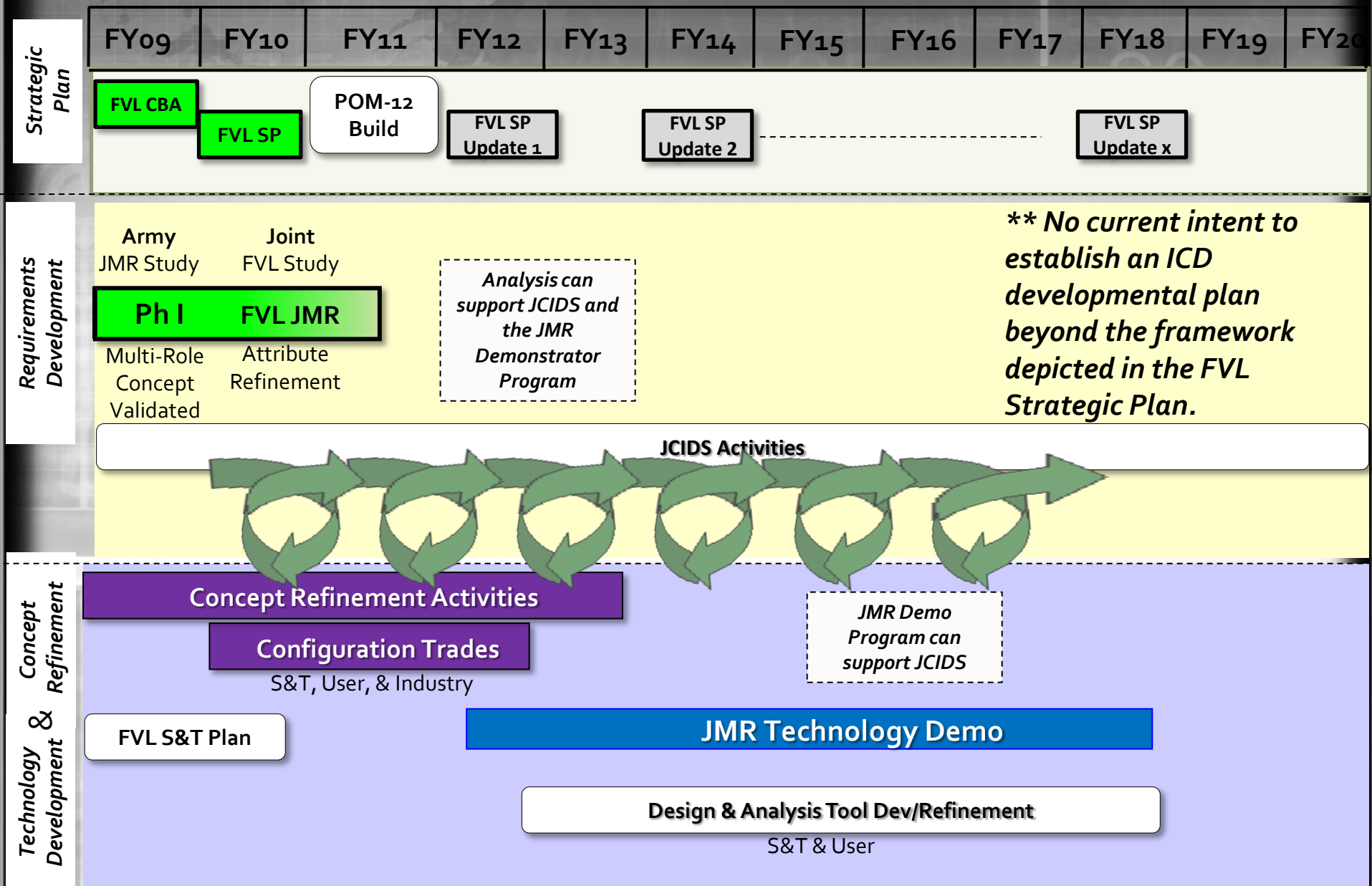
The **Ultra** category is being examined through the United States Air Force Aeronautical Systems Center (ASC) Capabilities Integration Directorate (ASC/XR) and is not included in this RFF.

FVL JMR Study Timeline

Major Milestones



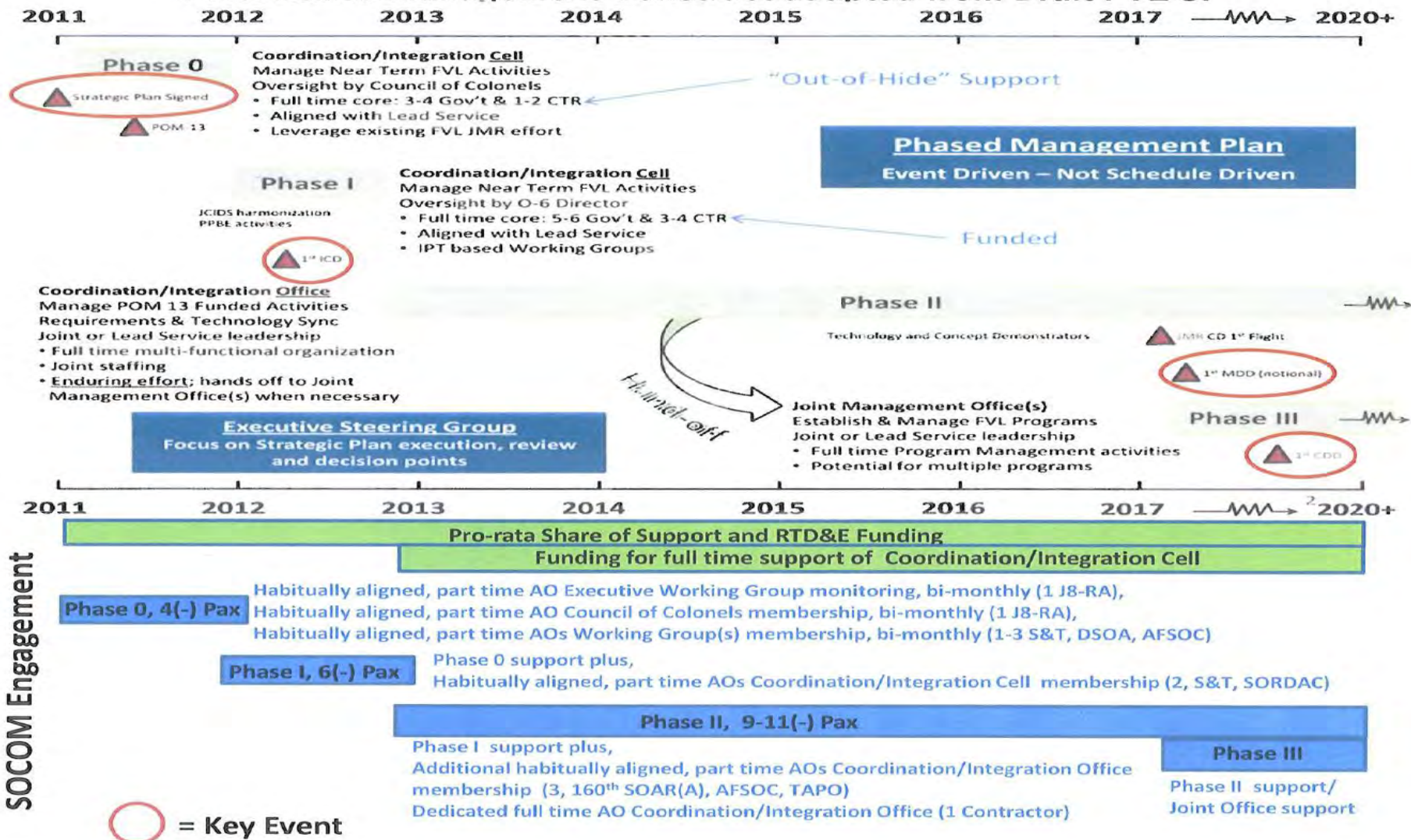
FVL Processes



SOCOM Involvement (Proposed)

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FVL Phased Management Construct adapted from Draft FVL SP



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X-49/X3/ X2 Demonstrators

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Examples of today's VL technology

Low Vibration

Active Vibration Control

Low Noise



250 Kts Speed

Low Pilot Workload



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Exceeding Current Capability

Hover altitude

150%
Increase

Mission Speed

100%
Increase

Endurance

100%
Increase

Payload

40%
Increase

Acoustic Detection

50%
Reduction

Size

15%
Reduction

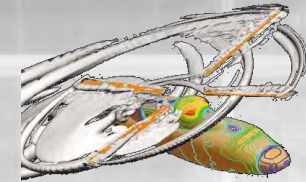
Turn Radius

50%
Reduction

OH-58D



???



40% Coverage



97% Coverage

ROTARY WING



FVL Mission Equipment

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For Example ADAS

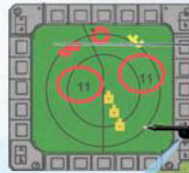
- Operating safely and swiftly in extremely dark conditions is crucial
- ADAS provides a multispectral, multifunction mission solution
- ADAS delivers expanded high resolution infrared and NIR imagery to entire crew simultaneously
- ADAS provides the only real solution concerning DVE-Brownout situations
- ADAS provides simultaneous imaging, navigation, and warning/ indication

Passive Aircraft Detection

Infrared Search and Track (IRST)

- Aircraft Acquisition
- Detection / Tracking of Enemy / Friendly Aircraft

Multi-spectral Pilotage and Navigation



Laser Warning

Hostile Fire Indicator

Missile Warning

Brownout Symbology

Missile Launch Detection (MLD)

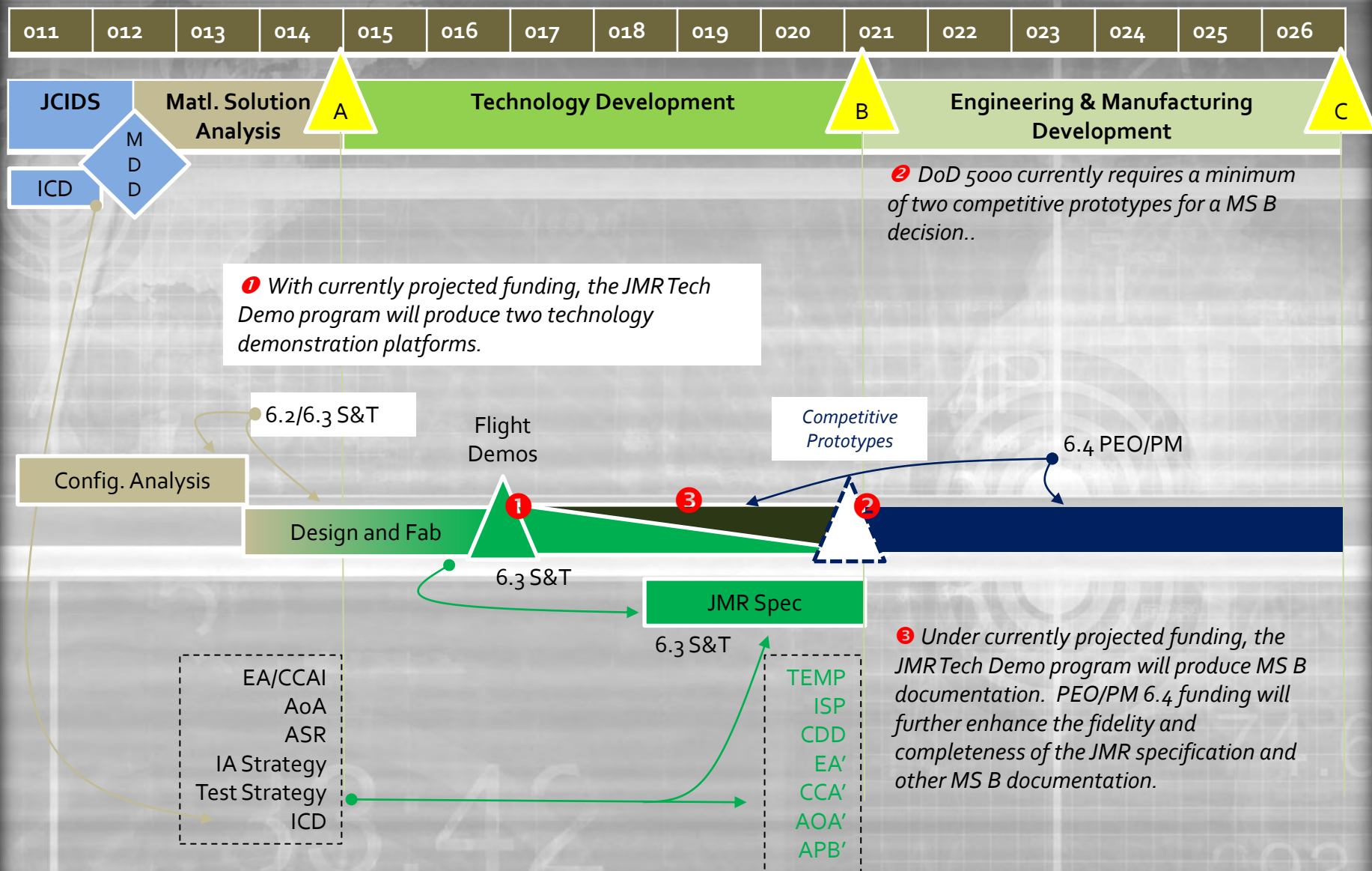
- Track (SAM & AAM)
- Ownership Alert
- Prediction of Time to Impact
- Missile / HFI Warning

HFI Declare and Characterize

- Small arms (7.62 to 30-mm)
- AAA guns (.30 caliber to 40-mm)
- RPGs
- Anti-Tank Guided Missiles

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Typical Development Timeline



X-Plane Development Timeline

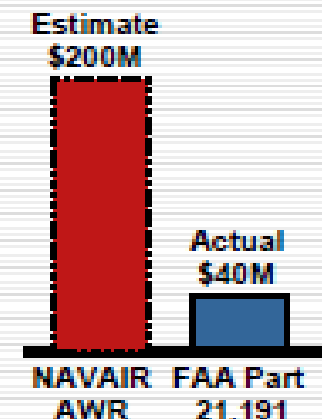
X-Plane vs "Normal" DoD Flight Program Allows Multiple Projects for Same Dollars

X-Plane Demo Program:

- ☐ Contractor with 30-50 personnel full time
- ☐ Government PM, DPM, and 5 Engineers full time
- ☐ Schedule 3-5 years, depending on scale and complexity of demo
- ☐ Cost \$30M to \$200M

"Normal" DoD Flight Development Program:

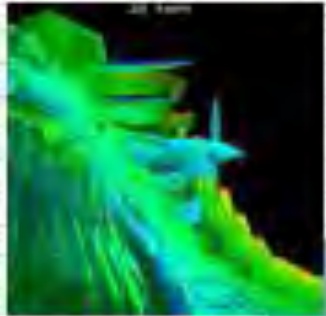
- ☐ Contractor 120 -200 personnel
- ☐ Government 48 – 80 FTE
- ☐ Schedule 6-8 years, depending on Phased breakdown
- ☐ Cost \$300M to \$1.5B



NAVAIR Decision to Transition to FAA Process
Avoided 80% of Estimated X-49 Demo Cost

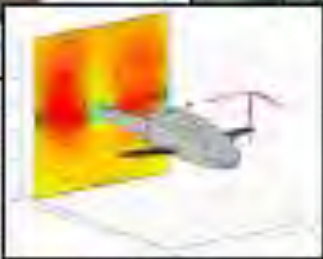
**Contractor X Plane Methods
Support Faster, Multiple Demonstrations**

X-Plane Development Validates Models



Today's tools can not predict multi-disciplinary optimization: aerodynamics, dynamics, loads, vibes, handling qualities

Iterative process of envelope expansion and tool development / calibration needed



Flight Test Data Critical for Validating High Fidelity Models

Building X Planes Refines Tools and Validates Them

Future Rotary Wing Concepts

Where We Want to Be

- ☐ OPV – Optional Piloted Vehicles with BLOS data links
- ☐ Perfect Compound Helicopter/Higher Speeds
- ☐ More Composites / Lighter Weight/Stiffer Construction/Higher Resonant Frequencies
- ☐ Low Observable/Low Acoustic “silent mode”
 - Low Acoustic Signature Gears and Transmissions
 - Active Acoustic Suppression “Bose Headphones”
- ☐ ADAS



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Future Rotary Wing Concepts (Cont)



- ☐ Small Arms/RPG Shields
- ☐ Manned/Unmanned Teaming: Control UAV Helos From Manned Helo Teammate
- ☐ Dynamically Shapeable Rotor Blades- Change for Different Fight Conditions
- ☐ Color Changing Paint



Way Ahead

Planning for the next five years:

- MH-60M Modernization
- MH-47G Plus 8 New Build
- MH-47G 2.3 Block Upgrade
- A/MH-6M 3.0 Block Upgrade
- Hostile Fire Indicating System (HFIS)
- Aircraft Occupant Ballistic Protection System (AOBPS)
- Reduce Optical Signature Emission Solution (ROSES)
- Secure Real-Time Video (SRTV)
- Degraded Visual Environment (DVE) - brown out/white out conditions
- Lightweight Fire and Forget Weapon
- Upgrade Legacy Simulators



Questions



Special Operations Forces Industry Conference

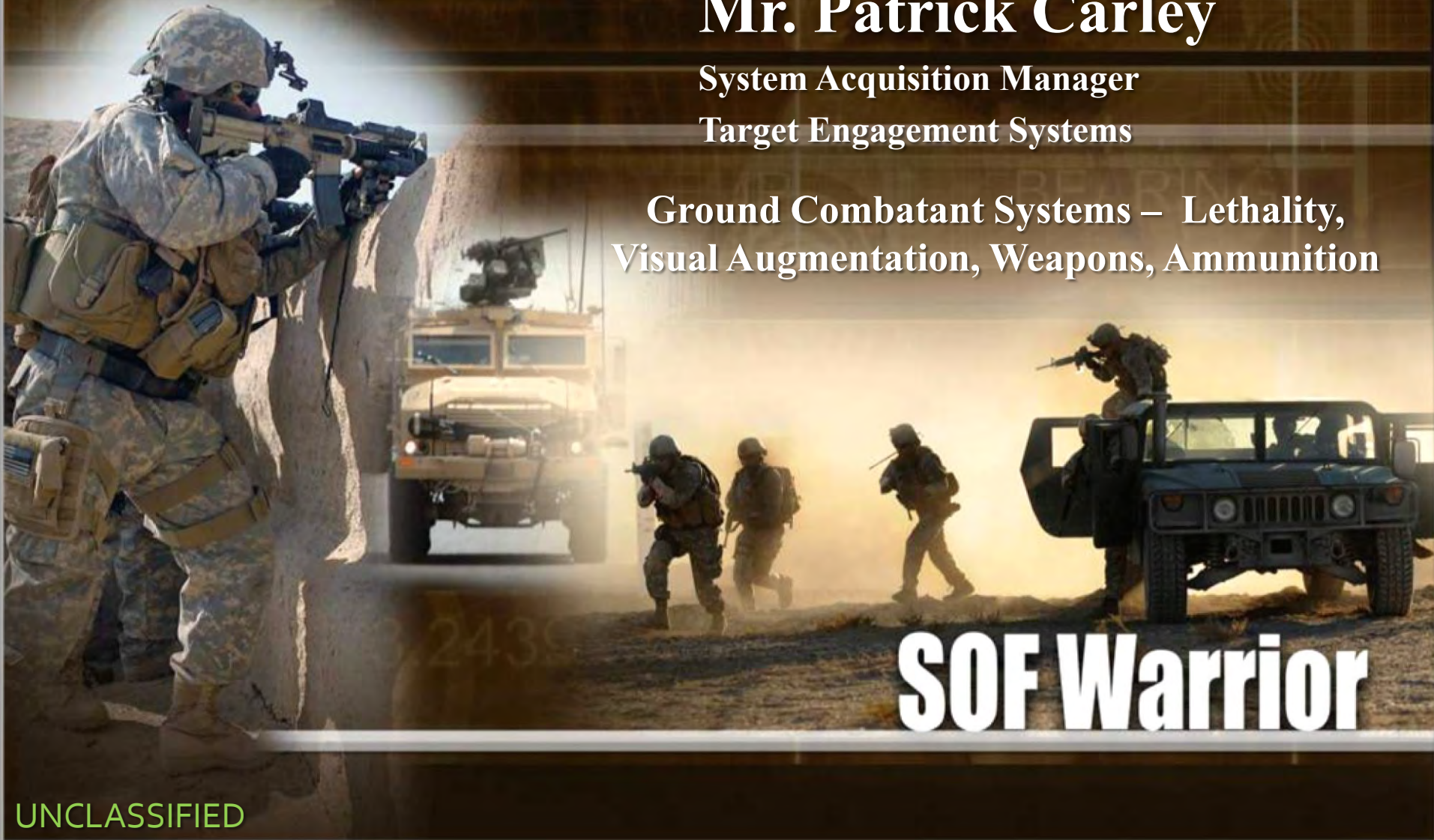
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Mr. Patrick Carley

System Acquisition Manager
Target Engagement Systems

Ground Combatant Systems – Lethality,
Visual Augmentation, Weapons, Ammunition



SOF Warrior

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Target Engagement Systems Mission

Develop, procure and sustain Weapon, Ammunition and Visual Augmentation capabilities for specific missions when Service solutions do not meet SOF requirements.

SOF Unique Attributes/Focus:

- **VAS: REGAIN THE NIGHT** from Sophisticated Threats
- **Weapons: Improve suppressors (flash, sound & glint) for REDUCED SIGNATURE** to obtain/maintain **LOW VISIBILITY**
- **Ammunition: COVERTNESS** through Flash-less powder, subsonic munitions; accurate across all temperatures

SOF WARRIOR



Target Engagement Systems Portfolio



AN/PVS-15 Night Vision Goggle
w/ Clip-on Thermal Imager

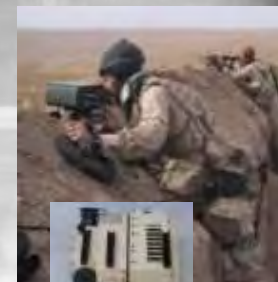


MK13 Sniper Rifle w/ INOD

- **Visual Augmentation Systems**
 - Helmet Mounted: PVS-15A, Clip-On Thermal Imager, Digital Fusion Goggles, Panoramic
 - Weapon Mounted: Clip-On Night Vision Devices, Direct Optic Magnified Sights, Red Dot Aiming
 - Handheld: Thermal Imagers, Laser Markers



Handheld
Laser Marker



SOF Laser
Acquisition Marker

- **Weapons and Accessories**
 - Combat Assault Rifles
 - Machine Guns
 - Sniper Rifles
 - Laser Pointers, Illuminators, and Suppressors

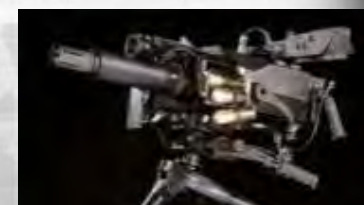


Combat Assault Rifle

- **Ammunition, Demolitions and Breaching**
 - Small Caliber Ammunition
 - Shoulder Fired Systems
 - Aviation Ammunition
 - Demolition kit



AC-130 ammo



Advanced Lightweight
Grenade Launcher

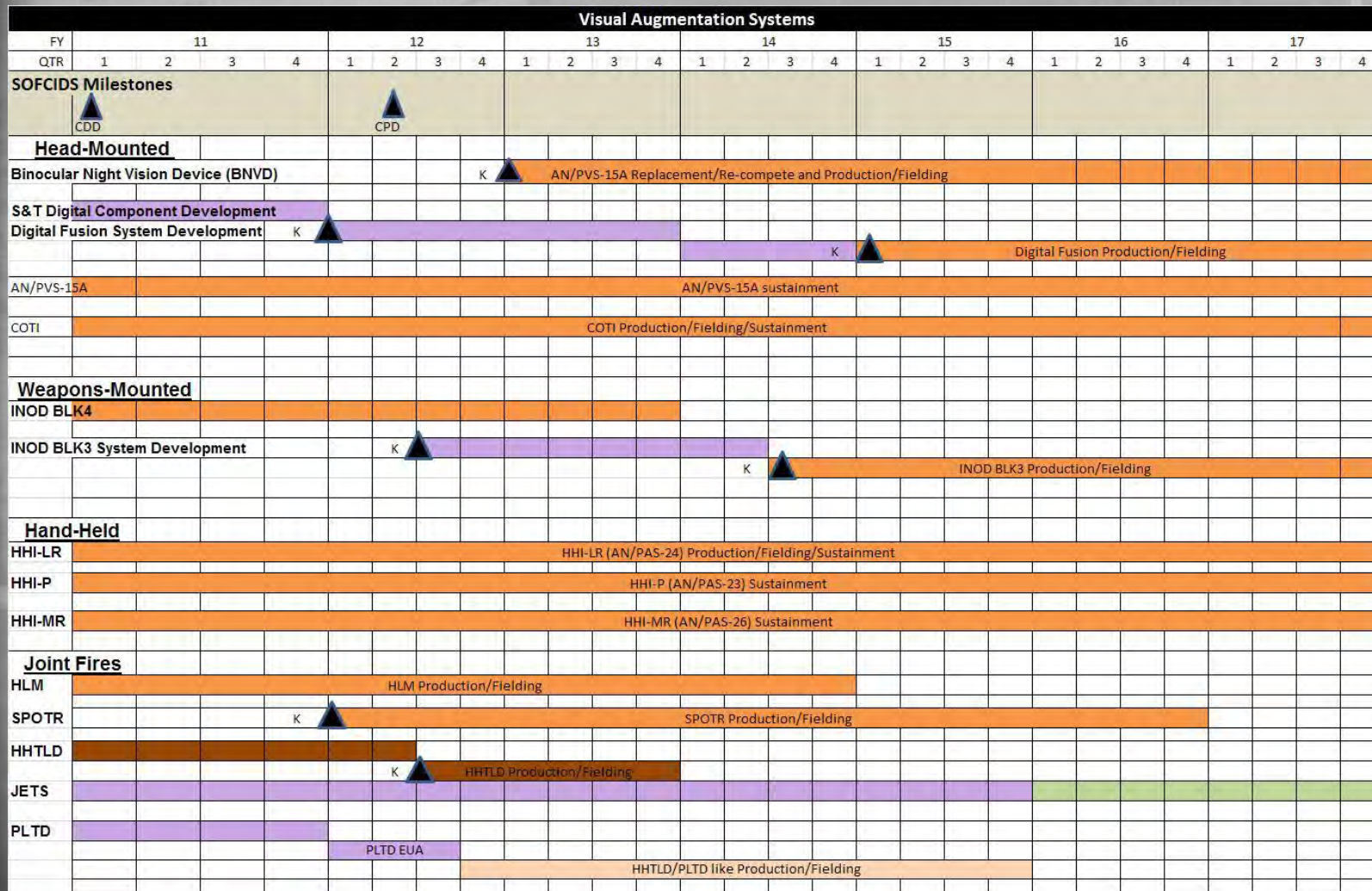


Multi-Purpose Anti-Armor
Anti-Personnel Weapon System

SOF WARRIOR



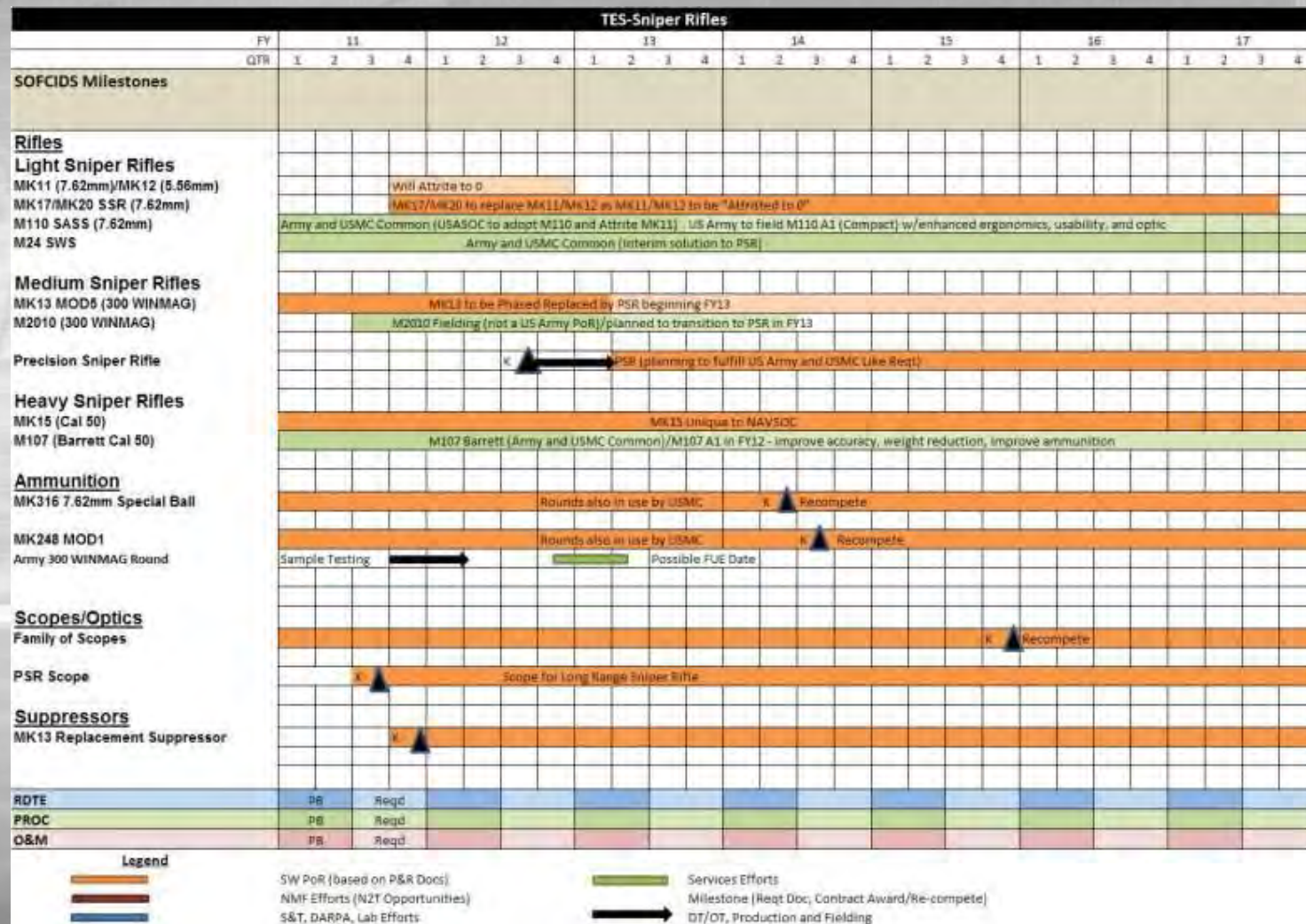
VAS Roadmap



SOF WARRIOR



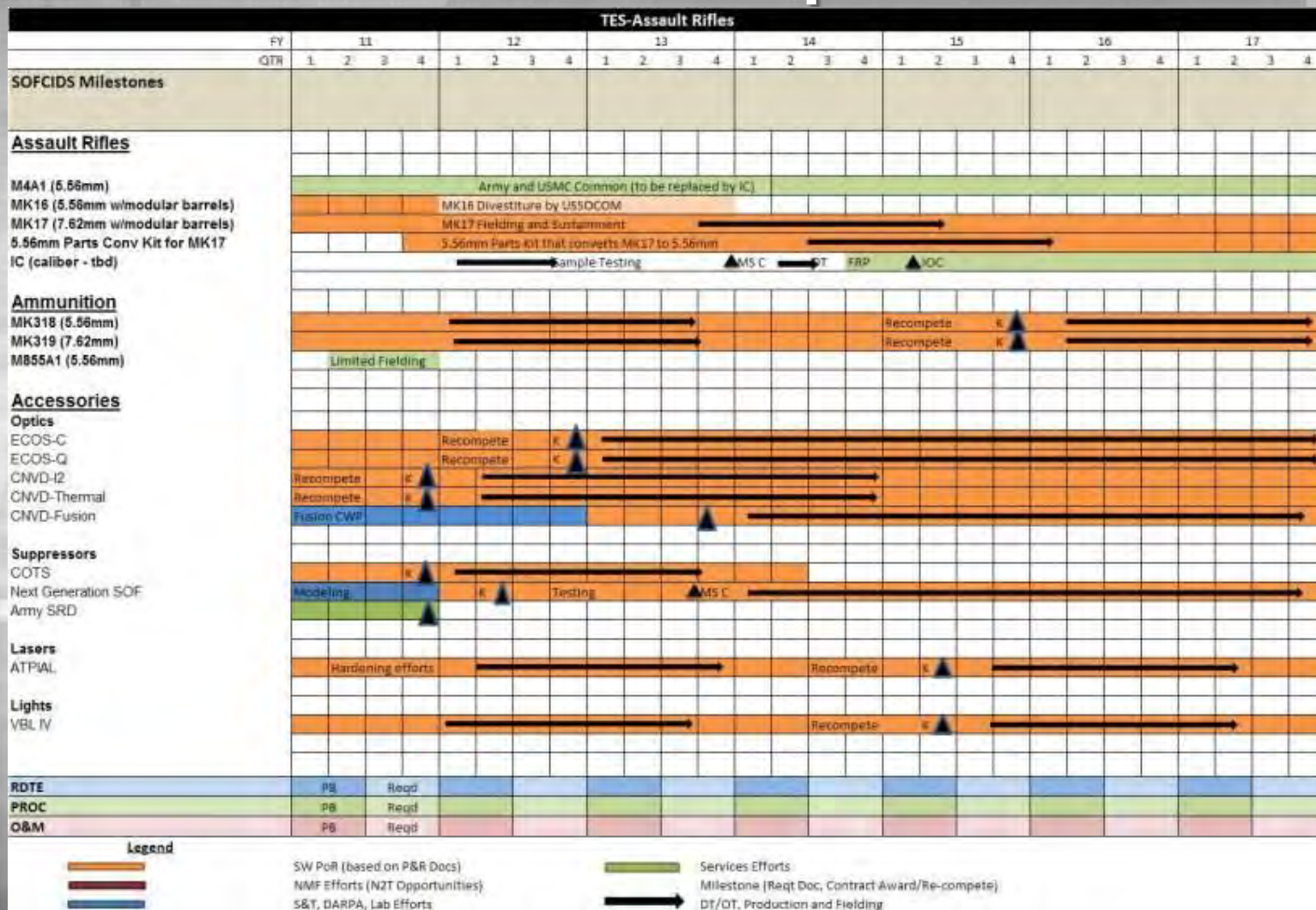
Sniper Rifles Roadmap



SOF WARRIOR



Assault Rifles Roadmap



SOF WARRIOR



Opportunities: Next 12-18 Months

- **Visual Augmentation Systems**
 - Binocular Night Vision Device
 - Improved Night Observation Device
 - Spot-Recognition Device
- **Weapons & Accessories**
 - Precision Sniper Rifle
 - Enhanced Carbine Optical System – Long Range
 - Enhanced Carbine Optical System – Close Range
- **Ammunition**
 - Foreign Non-standard Materiel

SOF WARRIOR





Binocular Night Vision Devices

- Contract for procurement of binocular Night Vision Goggle that is equal or better than the current AN/PVS-15A
- Reduced size and weight (<1.5lbs) desired
- Must be compatible with AN/PAS-29 (COTI)
- Must be compatible with existing SOF helmet mounts (dovetail interface)

Acquisition Strategy

Full and Open Competition
IDIQ Contract

Period of Performance

5 Years

Milestones

RFP Release : 3Q FY12

Point of Contact

PEO-SW
813.826.1963

Funding

\$50M

Current Contract/OEM

N/A



Improved Night Observation Devices

- Contract for development and procurement of Improved Night Vision Sniper Scope that is better than the current AN/PVS-26
- Reduced weight (<4.0 lbs)
- Compatible with all sniper weapons and scopes
- Threshold engagement range of 800M, objective of 2000M, in all lighting conditions
- Will allow operator to observe environmental conditions at a minimum of 500M, objective 1000M, in all lighting conditions

Acquisition Strategy

Full and Open Competition
IDIQ Contract

Period of Performance

5 Years

Milestones

RFP Release : 3Q FY12

Point of Contact

PEO-SW
813.826.1963

Funding

\$50M

Current Contract/OEM

N/A



Spot-Recognition Device

- Procure Scope to be used with Handheld Laser Marker (HLM) to see Spot on Target
- HLM is a lightweight, coded 1064nm laser marker that allows for target handoff
- Annual procurements vary based on USSOCOM Component requirements



Acquisition Strategy

Full and Open Competition
IDIQ Contract

Period of Performance

5 Years

Milestones

RFP Release : 3Q FY11
Award: 1Q FY12

Point of Contact

PEO-SW
813.826.1963

Funding

\$45M

Current Contract/OEM

N/A



Precision Sniper Rifle

- Phased replacement for the MK13 (.300 WinMag) long range sniper rifle
- Weapon and ammo evaluated as a system
- Annual procurements vary based on USSOCOM Component requirements

Acquisition Strategy

Full and Open Competition
IDIQ Contract

Period of Performance

10 Years

Milestones

RFP Release : 3QFY11
Award: 3QFY12

Point of Contact

PEO-SW
813.826.5584

Funding

\$252M

Current Contract/OEM

N/A



Enhanced Carbine Optical System – Long Range

- Contract for procurement of a Long Range Sight for Carbine/Combat Assault Rifles
- Variable power ($\leq 1.1x$ to $\geq 8x$) in the form of continuous zoom or switchable
- Compatible with MK 17 Combat Assault Rifle and current Clip-on Night Vision Devices (CNVD)

Acquisition Strategy

Full and Open Competition
IDIQ Contract

Period of Performance

5 Years

Milestones

RFP Release : 1QFY12

Point of Contact

PEO-SW
813.826.5584

Funding

\$50M

Current Contract/OEM

N/A



Enhanced Carbine Optical System – Close Range

- Contract for procurement of a miniaturized primary Close Range Sight for Carbine/Combat Assault Rifles and secondary weapons
- Reduced size, weight, and power from current SU-231
- 1x magnification with both eyes open operation

Acquisition Strategy

Full and Open Competition
IDIQ Contract

Period of Performance

5 Years

Milestones

RFP Release : 1QFY12

Point of Contact

PEO-SW
813.826.5584

Funding

\$50M

Current Contract/OEM

N/A



Foreign Non-standard Materiel

- **Blanket Purchase Agreement to procure various foreign weapons and ammunition**
- **Annual procurements vary based on USSOCOM Component requirements**

Acquisition Strategy

Full and Open Competition
IDIQ Contract

Period of Performance

5 Years

Milestones

RFP Release : 1QFY12

Point of Contact

PEO-SW
813.826.6938

Funding

\$25M

Current Contract/OEM

N/A

Questions



SOF WARRIOR



Special Operations Forces Industry Conference

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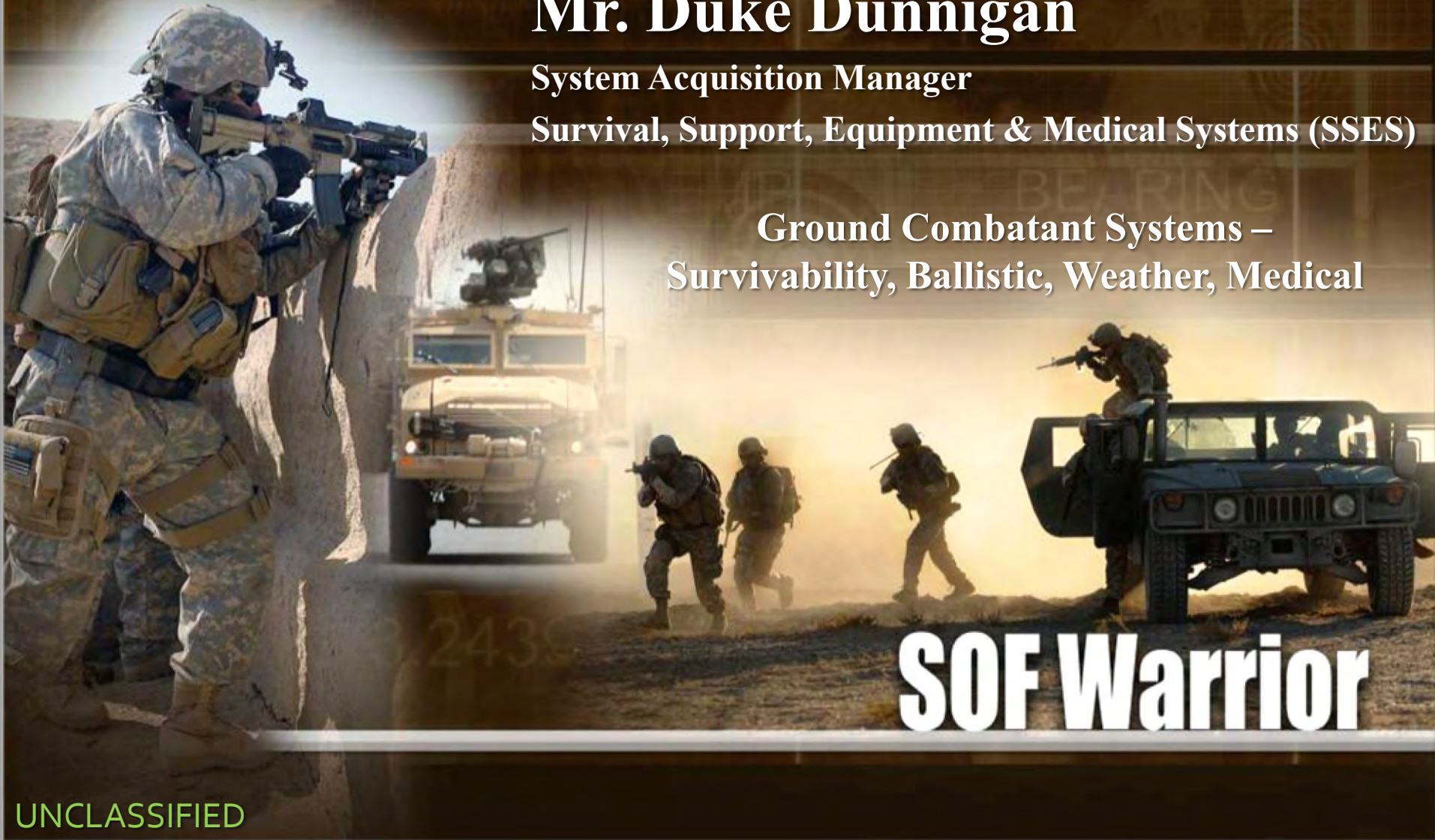
Mr. Duke Dunnigan

System Acquisition Manager

Survival, Support, Equipment & Medical Systems (SSES)

Ground Combatant Systems –
Survivability, Ballistic, Weather, Medical

SOF Warrior



UNCLASSIFIED

SSES Mission

Develop, procure and sustain SOF-peculiar individual equipment and medical capabilities when Service-common solutions do not meet SOF requirements.

Provide operators a variety of equipment options they can tailor to their unique mission needs.



1SG Colin Rich
MICH Helmet Saved His Life
July 2004 Photograph

SOF WARRIOR



Acquisition Approach

- **Option 1: Maximize Service Common or COTS material solution**
 - Fastest, least expensive way to satisfy a new SOF requirement
 - Integrate SOF needs into Services' requirements/development process
- **Option 2: Modify Service Common or COTS material solution**
 - Minimum modifications/testing
 - Rapid fielding
 - Fastest way to develop a truly SOF-peculiar capability
- **Option 3: Develop and field a SOF-peculiar material solution**
 - Use only when above two options are not viable
 - Focused on SOF-peculiar missions
 - After fielding, transition to Services

SOF WARRIOR



SOF-SSES Program Management Focus Areas

Survivability Protection Systems

- Ballistics
- Lasers
- Environment (Geography and Weather)

Individual Clothing/Equipment

- Protect SOF Operator & Manage Load in Complex Environments

Tactical Combat Casualty Care

- Self/Buddy Aid
- Combat Medic Aid
- Casualty Evacuation

Integrated Logistics Support Cradle-to-Grave Support

- Fielding-Training-Sustaining-Maintaining-Modernizing-Disposing

Our SOF Operators are the focus of all our efforts to acquire, test, field, sustain, and improve USSOCOM Survival, Support, Individual Equipment & Medical Systems



SOF WARRIOR



SSES Portfolio

Survivability & Individual Equipment



Medical Equipment

Operator Kit



Medic Kit



Casualty Evacuation Kit



SOF WARRIOR



SSES FY10 Accomplishments

- **Acquired and Equipped:**
 - Over 3,900 Sets of Protective Combat Uniforms
 - Over 9,000 Sets of Third Generation Body Armor and Related Equipment
 - Over 6,400 Modular Integrated Communications Headsets for Ground and Maritime Applications
 - Over 13,900 SOF Unique Backpacks
 - Over 6,000 Operator First Aid Kits
 - Over 1,100 Medic Kits
- **CASEVAC Competition**
 - \$49M contract award; three vendors competing in FY11 down select
 - Provides enhanced life-saving capabilities for SOF operators between point of wounding and hospital care

SOF WARRIOR



Enduring SOF Acquisition Challenge

Scalable/Modular Systems
tailorable for SOF-unique missions

Low Visibility / Covert: Small team
survival depends on it

Diverse Environments: High
Altitude to Under Sea

Remote Operations: Systems must
enhance Self Sufficiency

Must balance with:

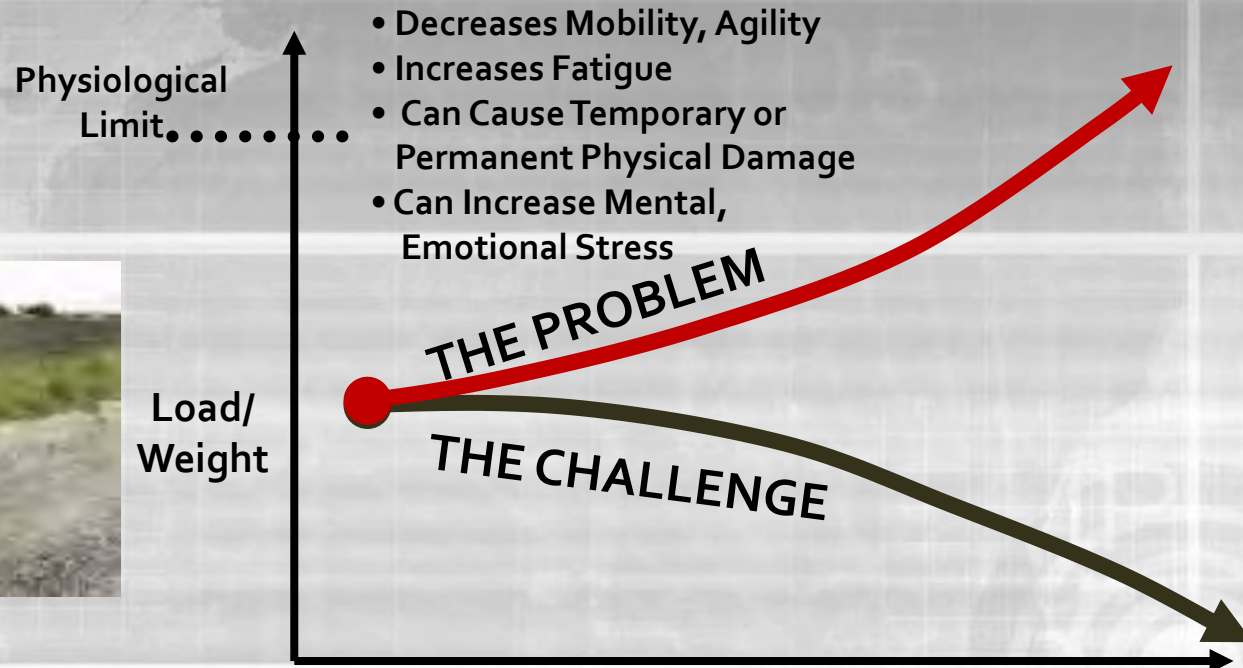
- Affordability
- Rapid Fielding
- Operator agility



SOF WARRIOR



Operator /Medic Physical Load Challenge



"On the field of battle man is not only a thinking animal, he is a beast of burden. He is given great weights to carry. But unlike the mule, the jeep, or any other carrier, his chief function in war does not begin until the time he delivers that burden to the appointed ground...In fact we have always done better by a mule than by a man. We were careful not to load the mule with more than a third of his weight."

S.L.A. Marshall, The Soldier's Load and the Mobility of a Nation, 1950

SOF WARRIOR



Capability Gaps (1)



Technology Gap - Survivability

1

- Reduce Body Armor & Combat Helmet Weight
- Higher Strength, Lighter Weight Materials & Fabrics
- Modular, Scalable Designs
- Smart Sensors to Check Plates
- High Performance Helmet Pads
- Multi-spectral Eye Protection
- Transparent Shields Providing Rifle Ballistic Protection
- Man Portable Hide Sites to protect 5-Man Team From Visual, Near IR and Thermal Detection

1

2

3

SOF WARRIOR



Capability Gaps (2)



2

Durability – Longer Lasting Fabrics

Stealth - Materials and Treatments That Defeat Existing IR Technologies & Have Good Breathability

Adaptability: Smart Materials That React/Adapt to Weather

Ergonomics: Design for Better Interoperability and Weight

Distribution: Backpacks, Load Carriage Systems

1

2

3

Technology Gap
Individual Clothing & Equipment

SOF WARRIOR



Capability Gaps (3)

3

Technology Gap
Tactical Combat Casualty Care

- Traumatic Bleeding Control
- Miniaturized Multi-Patient Remote Health Monitoring Equipment
- High Strength, Light Weight Litters
- First Aid, Buddy Aid, Medic Aid Modernization
- Transdermal Nutrients to Enhance Human Performance

1

2

3

SOF WARRIOR





Family of Ballistic Plates:

- An opportunity to modernize through sustainment
 - Variants: SPEAR GEN III, Low Vis, swimmer
 - Lighter weight, less mass, less volume and comparable protection to legacy system is our challenge to industry
 - An important factor in source selection
- Front/back plates, modular supplementary plates
 - Sides, abdomen, lower back, groin, shoulder



Acquisition Strategy

Full and Open Competition
IDIQ

Period of Performance

5 Years

Milestones

RFP Release : Mar 2012
Award : Jan 2013

Point of Contact

PEO SW
PM SOF-SSS

Funding

Estimated \$49M ceiling
Annual procurements based
on Component requirements

Current Contract/OEM

Ceradyne



Soft Armor

- An opportunity to modernize through sustainment
 - Increase in fragmentation resistance and dispersal of impact energy transmitted to the wearer
 - Higher strength fiber materials: lighter weight, less bulk
 - Water/ moisture resistant – maintains effectiveness and extends shelf life
 - User friendly sensor to detect moisture contamination



Acquisition Strategy

Full and Open Competition
IDIQ

Period of Performance

5 Years

Milestones

RFP Release: Mar 2011
Award: Nov 2011

Point of Contact

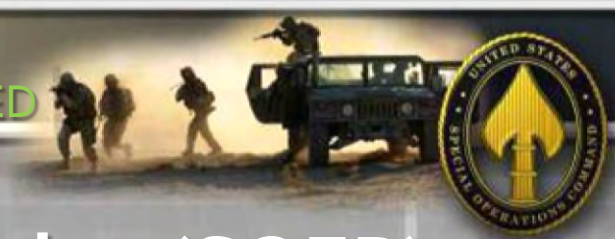
PEO SW
PM SOF-SSS

Funding

Estimated \$49M ceiling
Annual procurements based on Component requirements

Current Contract/OEM

BAE
Safariland



Special Operations Eye Protection (SOEP)

- One device – multiple capabilities:
 - Ballistic protection
 - Transitional lens, anti-fogging
 - Blowing sand protection
 - Laser protection equal to or greater than current capability
- Protect without diminishing operators ability to perceive his environment and the threat



Acquisition Strategy

Full and Open Competition
IDIQ

Period of Performance

5 Years

Milestones

RFP Release: Jun 2011
Award: Jan 2012

Point of Contact

PEO SW
PM SOF-SSSES

Funding

Estimated \$49M ceiling
Annual procurements based
on Component requirements

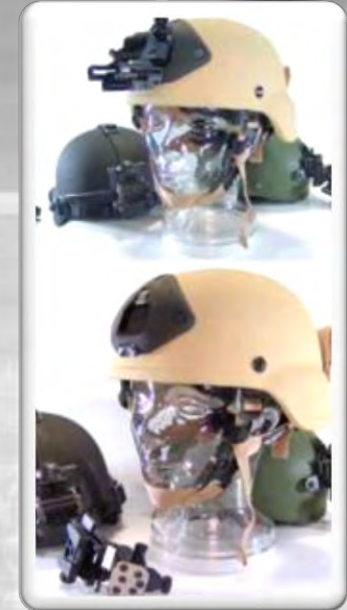
Current Contract/OEM

Oakley



Visual Augmentation Systems Helmet Mount Assembly

- **Helmet Mount Assembly to attach a Night Vision system directly to the front of the MICH (Modular Integrated Communications Helmet) family of helmets**
 - Low profile
 - Fully adjustable
 - Flip-up/flip-down capability



Acquisition Strategy

Full and Open Competition
IDIQ

Period of Performance

5 Years

Milestones

RFP Release Nov 2012
Award May 2013

Point of Contact

PEO SW
PM SOF-SSSES

Funding

Estimated \$49M ceiling
Annual procurements based
on Component requirements

Current Contract/OEM

Norotos
Wilcox



Family of Armor Vests

- The vest is the cornerstone of the SOF Operator's ballistic protection system
 - Variants: maritime, land, low visibility
 - System design factors important to SOCOM:
 - ✓ Single pull release
 - ✓ Buoyancy
 - ✓ Designed for easy ingress/ egress with tactical vehicles
 - ✓ Scalable: soft armor, hard armor plates, supplementary armor (side, groin, shoulder)
 - ✓ Interoperable with Load Carriage System, hydration systems and backpacks



Acquisition Strategy

Full and Open Competition
IDIQ

Period of Performance

5 Years

Milestones

RFP Release: TBD
Award: TBD

Point of Contact

PEO SW
PM SOF-SSS

Funding

Estimated \$49M ceiling
Annual procurements based
on Component requirements

Current Contract/OEM

BAE
Safariland
Eagle



Backpacks – Load Carrying

- Variants: Reconnaissance, mountain reconnaissance, assault, and patrol
- Design attributes:
 - Improved load distribution
 - Non- hygroscopic materials
 - Low profile – low visibility
 - Light weight-high strength fiber



Acquisition Strategy

Full and Open Competition
IDIQ

Period of Performance

5 Years

Milestones

RFP Release: Aug 2011
Award: Mar 2012

Point of Contact

PEO SW
PM SOF-SSS

Funding

Estimated \$49M ceiling
Annual procurements based
on Component requirements

Current Contract/OEM

Mystery Ranch
S.O. Tech
Granite Gear



Land & Maritime Communications

- Family of communications headsets and ancillary equipment
 - Provides SOF Operators with an ability to communicate over a myriad of radios while conducting land, vehicle, and maritime operations
- Design needs:
 - Reduced weight/ size
 - Improved integration of eyewear with circum-aural headsets
 - 66ft 3-hour diveable
 - Improved hearing in high noise backgrounds
 - Improved steady state and impulse stimulus hearing protection



Acquisition Strategy

Full and Open Competition
IDIQ

Period of Performance

5 Years

Milestones

RFP Release: FY12
Award: FY13

Point of Contact

PEO SW
PM SOF-SSSES

Funding

Estimated \$49M ceiling
Annual procurements based on Component requirements

Current Contract/OEM

Television Equipment
Associates

Questions ?



**SOF Warfighters
Are Counting On Us!**

SOF WARRIOR



Special Operations Forces Industry Conference

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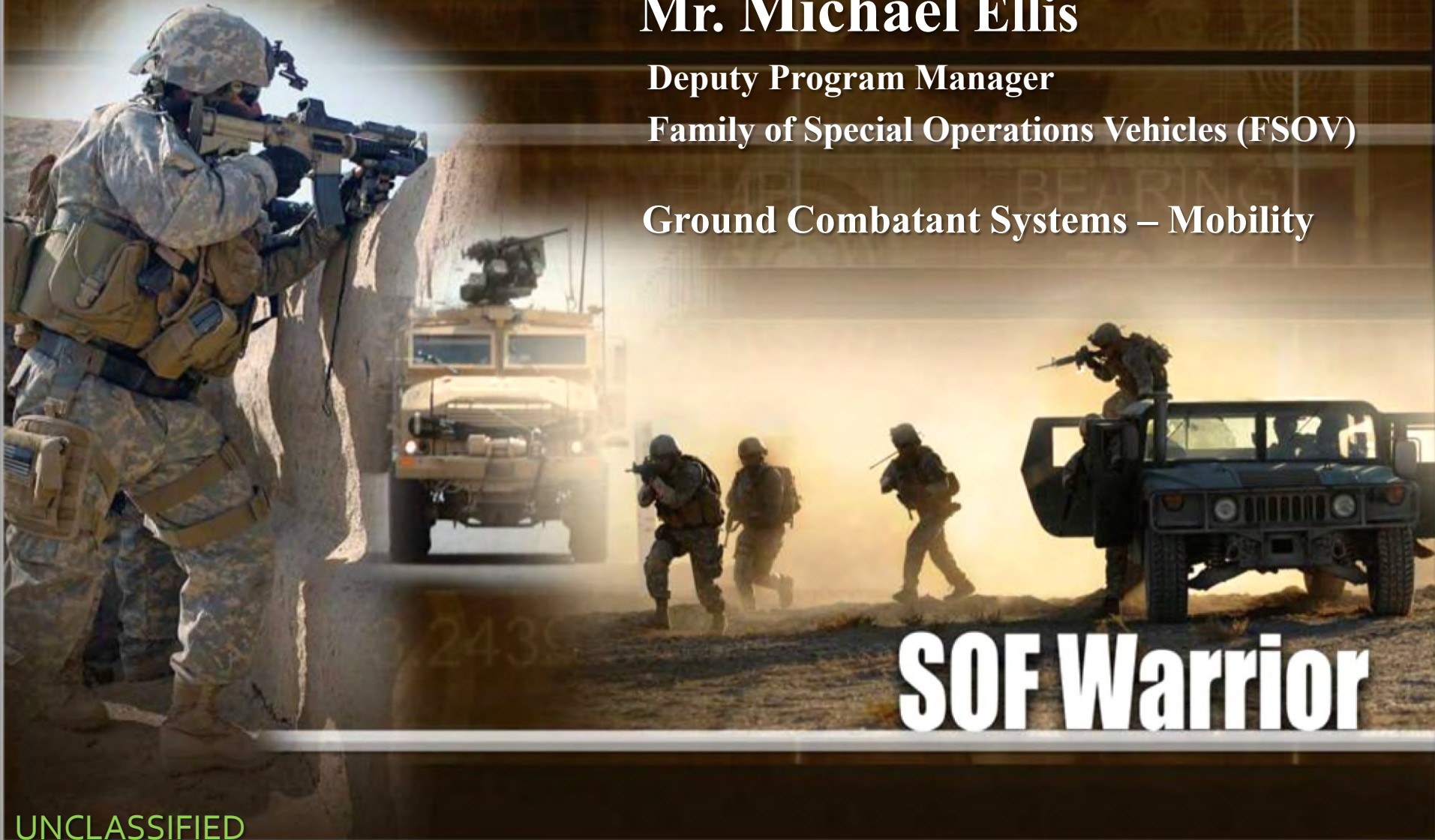


Mr. Michael Ellis

Deputy Program Manager

Family of Special Operations Vehicles (FSOV)

Ground Combatant Systems – Mobility



SOF Warrior

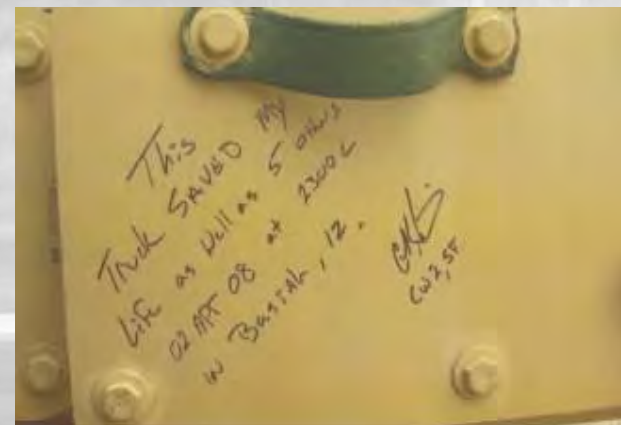
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PM FOSOV Mission

Develop, procure and sustain wheeled mobility capabilities for specific missions when Service solutions do not meet SOF requirements.



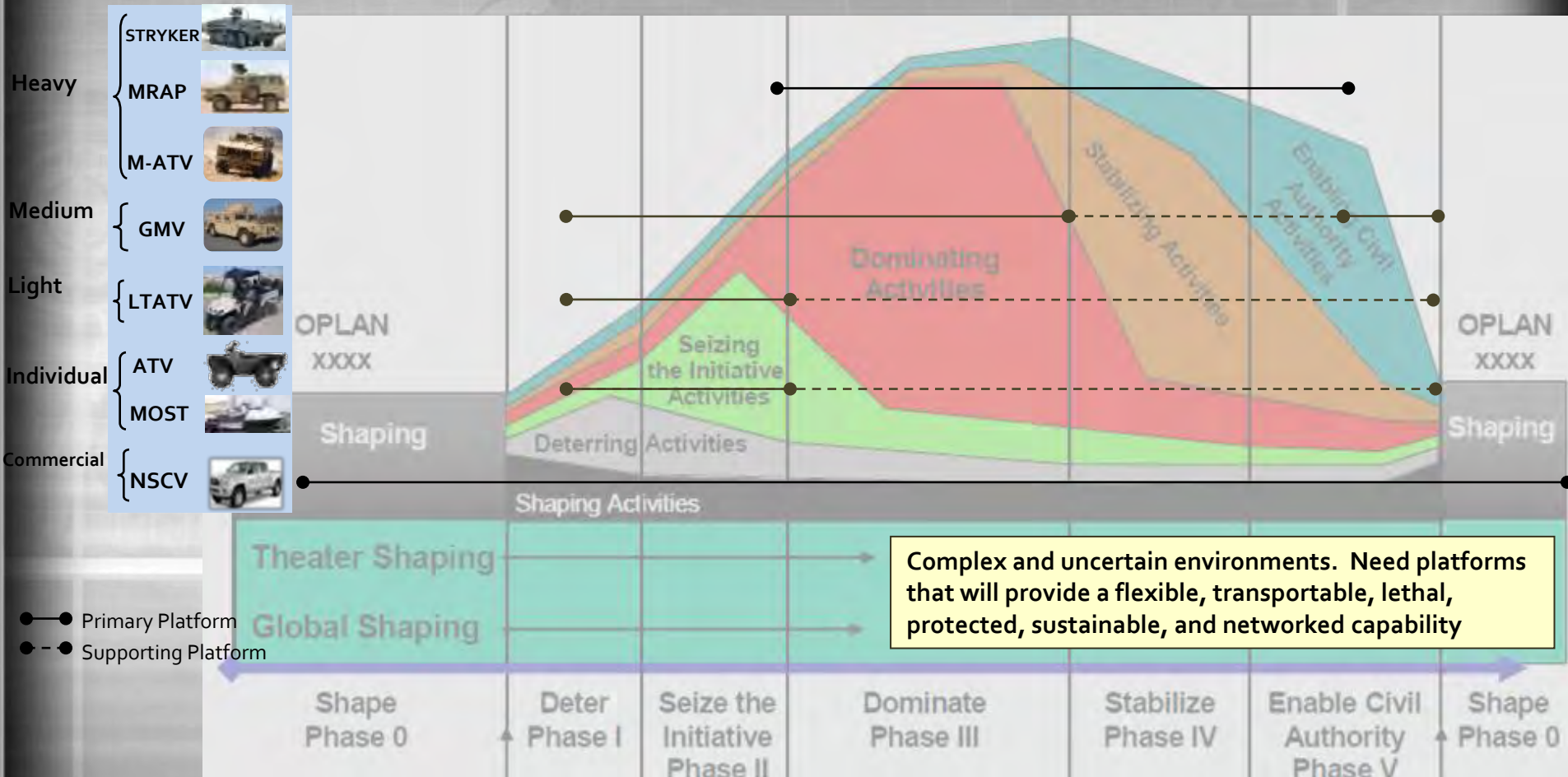
3,000 SOF Modified
and
SOF Specific vehicles



SOF WARRIOR



Scope of the Tactical Mobility Requirement



SOF WARRIOR



FOSOV Portfolio

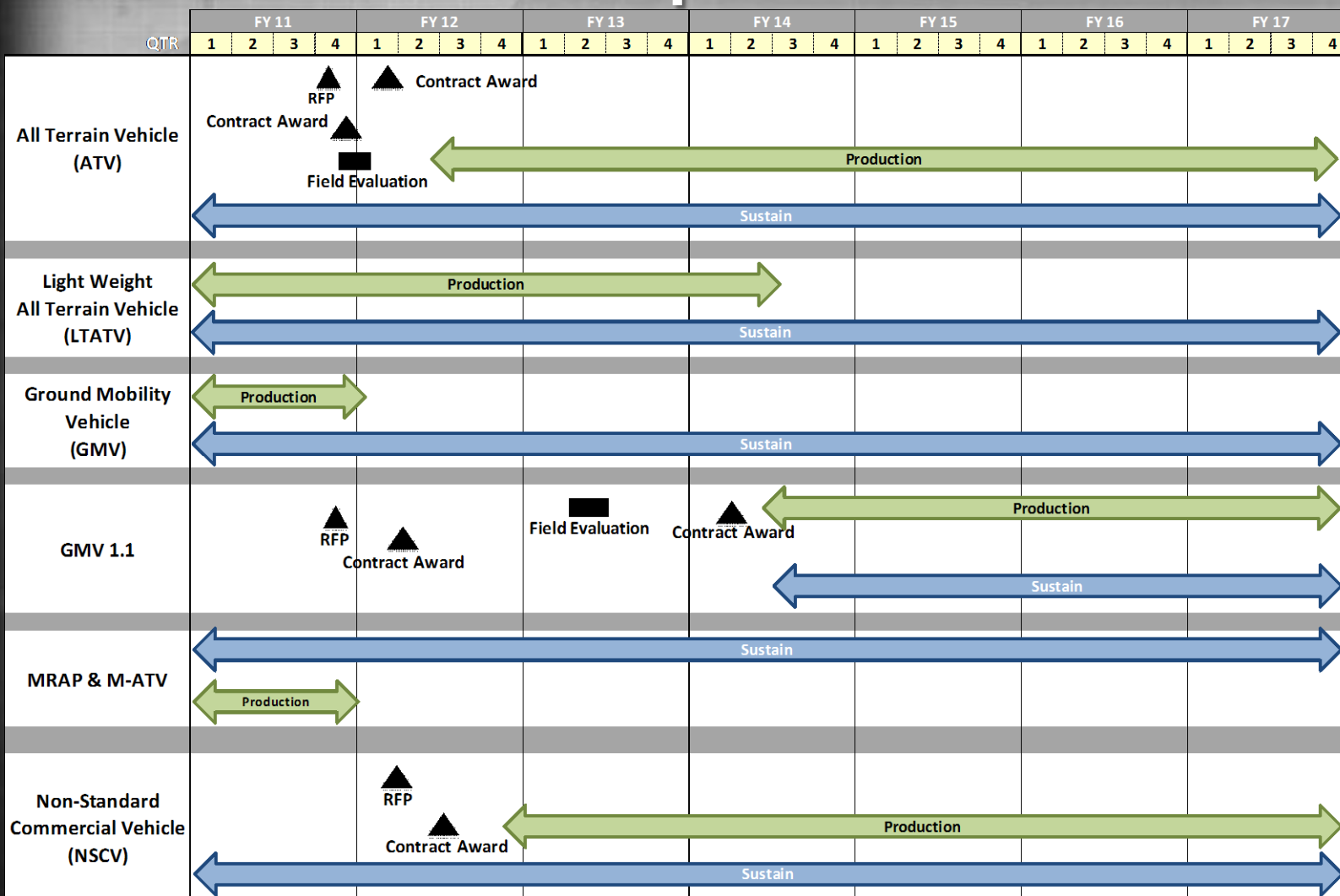


- 640 + modified-Commercial Off-the-Shelf All-Terrain Vehicles
- 360 + modified-Commercial Off-the-Shelf Light Tactical All Terrain Vehicles
- 1,097 + Special Operations Modified Ground Mobility Vehicles (HMMWV-based)
- 1,100 + Heavy Vehicles (MRAP & M-ATV)
- 165 + Non-Standard Commercial Vehicles

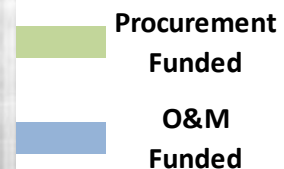
SOF WARRIOR



FOSOV Road Map



Legend



SOF WARRIOR



Acquisition Philosophy

- **Maximize utilization of Service Common material solution**
 - Fully integrated in the requirements/development process
- **Integration at the System Level for Operational Capability**
 - Plug and play C4I
 - Weapons integration
 - Ballistic/Blast protection upgrades
 - Modularity, flexibility of modification, speed of delivery for mission
- **Build SOF Specific material solution**
 - Procure and sustain when above two options are unavailable
 - Limited resources
 - Focused on SOF-specific missions

SOF WARRIOR





All Terrain Vehicles

- Replace aging ATV fleet with “off-the-shelf” vehicles
- Projected annual procurement quantity of 245 ATVs until the Full Operational Capability (FOC) of 1,183 vehicles is attained.

Acquisition Strategy

Full and Open Competition
Pre-award Field Evaluation
IDIQ Contract

Period of Performance

5 Years (1 base w/ 4 option years)

Milestones

RFP Release : Aug 11
Contract Award (Test Vehicles): Oct 11
Field Evaluation: Oct-Nov 11
Contract Award: Dec 11

Point of Contact

PM FOSOV

Funding

\$6M per year (estimate)

Current Contract/OEM

Polaris: MV-700

ATV Requirements

| <u>Attribute</u> | <u>Threshold</u> | <u>Objective</u> |
|------------------|---|---------------------------|
| Range | 75 miles at GVWR | 150 miles at GVWR |
| Controls | Motorcycle Handlebar | |
| Acceleration | 0-30 mph in 7 sec at GVWR | 0-45 mph in 7 sec at GVWR |
| Transportability | Internal (CV-22 & MH-47) Air-droppable Integral Tie Downs | |
| Mobility | 4x4 Drive System | |
| Environment | All geography 10K feet altitude & -25°F to +130°F Temp Range | |
| Performance | At GVWR (hard surface) <ul style="list-style-type: none"> •Maintain 45 mph •Maintain 40 mph on 5% grade | 2,000 mile MMBOMF |
| Payload | 450 lbs | 900 lbs |
| Curb Weight | 900 lbs | 700 lbs |

SOF WARRIOR





Ground Mobility Vehicle (GMV 1.1)

- New requirement for a MH-47 internally transportable, “roll off” mission ready, medium weight vehicle.
- Multiple IDIQ contract awards for test quantities prior to a full-rate production decision.
- Projected full-rate procurement quantity of ~200 vehicles per year.

Acquisition Strategy

Full and Open Competition
 IDIQ Contract
 Multiple Awards for Test Vehicles
 Full-Rate Production “Down Select”

Period of Performance

5 Years (1 base w/ 4 option years)

Milestones

RFP Release : Sep 11
 Test Qty Production Award: Apr 12
 Field Evaluation: Jan 13
 Full Rate Production Award: Jan 14

Point of Contact

PM FOSOV

Funding

\$375M (estimate)

Current Contract/OEM

None

GMV1.1 Requirements

- **Protection**
 - Modular, lightweight armor solutions
 - Signature management in a variety of environments
- **Design / Ergonomics**
 - Embark/debark a MH-47 with primary weapons ready to fire in less than 60 seconds
 - Capacity for 3 primary passengers (driver, gunner & vehicle commander) and provisions for 2 secondary passengers
 - 360-degree crew visibility while minimizing dead space
 - Safe and comfortable seat design
 - Primary weapons station can continuously traverse 360 degrees
- **C4I Capacity**
 - Modular architecture
 - Enhanced navigation software with Identification Friend or Foe (IFF) and Command & Control (C2) Functions
 - Consolidated Communications System

SOF WARRIOR

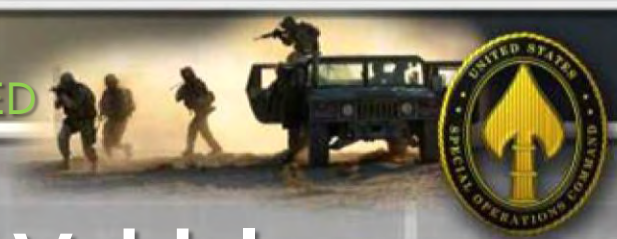


GMV1.1 Requirements (continued)

- **Mobility**
 - Transportable internally via MH-47 (10K lbs; including 2,126 lb of equipment)
 - Carries a 4,139 lbs combat payload (3 personnel with equipment and supplies)
 - Operational profile:
 - 70% on secondary roads and trails
 - 30% primary roads
 - All-wheel drive and capable of negotiating an 18-inch vertical step
 - Minimum 250-mile range using internal fuel tanks that are no more than 75% full
 - Sustain 70 mph over improved roads
- **Desirable future technologies**
 - Multi-fuel capability
 - Simulators to save in training costs
 - Next-generation, enhanced situational awareness tools
- **Sustainment**
 - Modular maintenance/parts
 - Maintainable by operators in austere environments with minimal assistance

SOF WARRIOR





Non-Standard Commercial Vehicles

- Provide SOF operators with covert mobility by acquiring commercial vehicles that are representative of indigenous operating environments and modified to meet SOF-unique requirements.
- Estimated contract ceiling of \$200M for a total of ~750 vehicles.

Acquisition Strategy

Full and Open Competition
IDIQ Contract

Period of Performance

5 Years (1 base w/ 4 option years)

Milestones

RFP Release : Dec 11
Contract Award: Apr 12

Point of Contact

PM FOSOV

Funding

\$21M per year (estimate)

Current Contract/OEM

Various

NSCV Requirements

Commercial vehicles that include some combination of the following SOF modifications:

- Armor
- C4ISR wiring, mounts and antennas
- Roof Rack
- Run Flat Tires
- Winch
- Additional power outlets
- Upgraded Suspension
- Heavy duty brakes

SOF WARRIOR



Questions



PM FOSOV: Enabling Users to Meet Their Objectives and Return Home Safely

SOF WARRIOR



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Col Duke Richardson

Program Executive Officer – Fixed Wing

Portfolio Review and APBI

Fixed Wing

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Acquisition Principles

- ◆ Deliver Capability to the User Expeditiously
- ◆ Exploit Proven Techniques and Methods
- ◆ Keep Warfighters Involved Throughout the Process
- ◆ Unconventional Thinking Is a Key ENABLER
- ◆ Credibility Enables Freedom of Action
- ◆ Take Risk and Manage It!



FIXED WING

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SOF Acquisition Truths

FAST *does not equal* **UNDISCIPLINED**

MORE BUREAUCRACY *does not ensure a* **BETTER PRODUCT**

RISK *must be* **MANAGED NOT AVOIDED**

FASTER *does not have to increase* **COST/RISK**

COMPETITION *can be done* **QUICKLY**

UNCONVENTIONAL THINKING *is an* **ENABLER**

CREDIBILITY AND TRANSPARENCY *enable* **FREEDOM OF ACTION**

ACCELERATING THE FORCE IS OUR ACQUISITION KPP



FIXED WING

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Find – Infiltrate - Finish

MOBILITY

- ♦ CV-22
- ♦ Non-Standard Aviation Systems
- ♦ EC-130J
- ♦ MC-130E Talon
- ♦ MC-130P Shadow
- ♦ MC-130J
- ♦ MC-130H Talon II
- ♦ MC-130W Combat Spear



MISSION SYSTEMS

- ♦ Directional Infrared Countermeasures
- ♦ Silent Knight Radar
- ♦ Training and Mission Planning



ISR

- ♦ SUAS
- ♦ MEUAS
- ♦ EUAS
- ♦ MQ-1 / MQ-9
- ♦ Special Mission Aircraft



STRIKE

- ♦ AC-130H Spectre
- ♦ AC-130U Spooky
- ♦ AC-130J
- ♦ MC-130W Dragon Spear
- ♦ SOPGM

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CV-22 SOF Osprey

- ◆ Mission: Provides Long-Range, High Speed, All Weather, Infiltration, Exfiltration, and Resupply of SOF Teams in Hostile, Denied, and Political Sensitive Areas in a Single Period of Darkness
- ◆ Urgent Deployment Acquisition Initiative – Enhanced Situational Awareness (ESA) Will Provide Interoperability with SOF C2 Nodes, SOF A/C, and SOF Ground Teams
- ◆ BOI: 50 FOC: FY16
- ◆ Total on Hand: 18



Technology Upgrades/Current Efforts

- ◆ Block 10 Retrofit
- ◆ Block 20 Development/Production
- ◆ Joint Performance Based Logistics (JPBL) for Long Term Sustainment
- ◆ Low Cost Mods

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Non-Standard Aviation (NSAV)



- ◆ Provides Short Takeoff and Landing (STOL), Light and Medium Category, Intra-Theater Cargo Aircraft to Support TSOC World-Wide Mobility Requirements
- ◆ Provides Increased SOF Flexibility and Capability in Supporting Austere and Remote Locations Not Serviced by Reliable and Safe Commercial Aviation Service

- ◆ BOI: 38 (21 Light, 17 Medium)

Technology Interest Areas

- ◆ Modular Mission Equipment



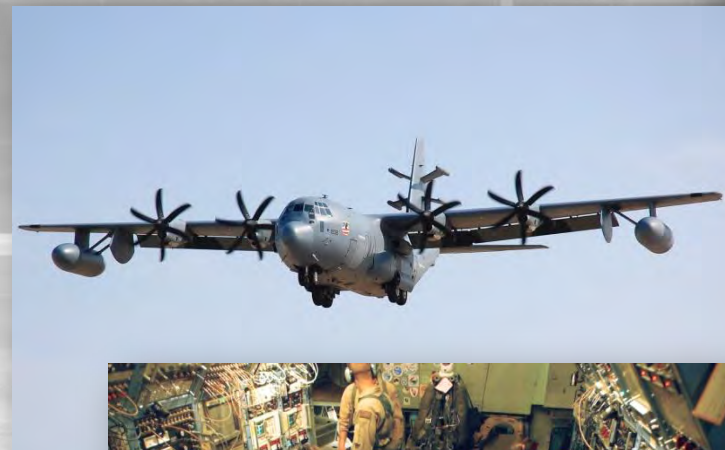
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SOF C-130 EC-130J Commando Solo

- ◆ Airborne Military Information Support Operations (MISO) Broadcast Platform
- ◆ Broadcasts TV and Radio Programs to Military and Civilian Target Audiences in Support of COCOM Information Operations Campaigns
- ◆ 193rd Special Operations Wing (AFSOC)
 - ◆ Pennsylvania ANG



Technology Upgrades/Current Efforts

- ◆ Digital Solo
- ◆ Narrow Band/Broad Band (NB3)

- ◆ BOI: 7
- ◆ Total on Hand: 7



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AC/MC-130 Recapitalization

CDR USSOCOM Memo, 30 Jun 09

"Our goal is to ultimately recapitalize our fleet of AC-130 and MC-130 aircraft. Our current program of record recapitalizes our fleet of 37 MC-130E/P SOF tankers by 2016 with MC-130Js. We intend to further recapitalize and expand our fleet of 25 AC-130H/U to 33 Precision Strike Package-equipped aircraft. In the future, we will also need to recapitalize our 32 MC-130W/Hs."

| MDS | | Qty | Avg Age (2010) |
|---------|--|-----|----------------|
| MC-130E |  | 10 | 46 |
| MC-130P |  | 23 | 43 |
| MC-130H |  | 20 | 23 |
| MC-130W |  | 12 | 22 |
| AC-130H |  | 8 | 41 |
| AC-130U |  | 17 | 21 |

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SOF C-130 Tankers (MC-130E/P/J)

- ◆ Provides Day/Night Mobility in Politically Denied/Sensitive Areas



Technology Upgrades/Current Efforts

- ◆ Variable Speed Drogue (VSD)
- ◆ MC-130 E & P Recap Program (MC-130J) including Increments 1 & 2
Special Mission Processor (Inc 3)
- ◆ Defensive Systems

- ◆ BOI: 14 MC-130E; 23 MC-130P
- ◆ Total on Hand: 9 MC-130E; 23 MC-130P

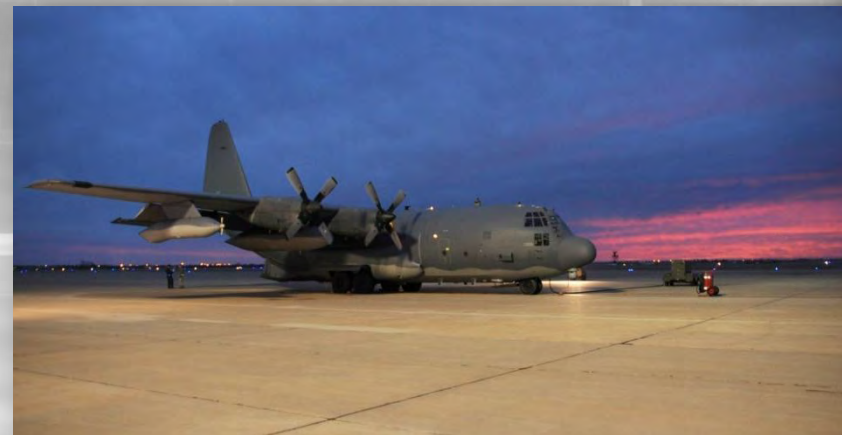
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SOF C-130 Penetrators (MC-130H/W/J)

- ◆ Provides Day/Night Mobility in Politically Denied/Sensitive Areas
- ◆ Provides Deep Penetrating Helo Refueling During SOF Operations



Technology Upgrades/Current Efforts

- ◆ MC-130H/W Recap Program (MC-130J) including Increments 1 & 2
- ◆ Special Mission Processor (Increment 3)
- ◆ TF/TA Radar
- ◆ Defensive Systems
- ◆ BOI: 12 MC-130W; 20 MC-130H
- ◆ Total on Hand: 12 MC-130W; 20 MC-130H

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SOF C-130 Strike (AC-130H/U/J)

- ◆ Provides Close Air Support, Air Interdiction, and Armed Reconnaissance



Technology Upgrades/Current Efforts

- ◆ AC-130H Recap program (AC-130J)
 - ◆ Special Mission Processor (Inc 3)
 - ◆ Precision Strike Package (PSP)
 - ◆ AAQ-39 Sensor Upgrade (GMS-2)
 - ◆ Defensive Systems
-
- ◆ BOI: 8 AC-130H; 17 AC-130U
 - ◆ Total on Hand: 8 AC-130H; 17 AC-130U

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Precision Strike Package

Dragon Spear (MC-130W)

- ◆ Provides Limited Day/Night Mobility
- ◆ Provides Armed Over-Watch Capability
- ◆ Precision Guided Munitions
- ◆ Medium-Caliber Gun



SOPGMs



Dual EO/IR Sensors



SOF Comms Suite



Medium-Caliber Gun



*Crew Workstations
Fire Control System
Mission Management*

◆ BOI: 12

◆ Total on Hand: 10

Technology Upgrades/Current Efforts

- ◆ Dragon Spear Precision Strike Package (PSP)

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Precision Strike Package AC-130J

- ◆ Provide Close Air Support, Armed Recon, and Armed Over-Watch Capability
- ◆ Precision Guided Munitions
- ◆ Medium-Caliber Gun



SOPGMs



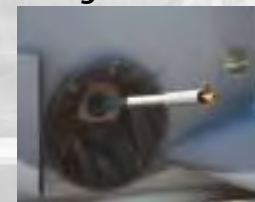
Dual EO/IR Sensors



SOF Comms Suite



*Crew Workstations
Fire Control System
Mission Management*



Medium-Caliber Gun

Technology Upgrades/Current Efforts

- ◆ Tactical Payload Integration
- ◆ Precision Strike Package (PSP)

- ◆ BOI: 16
- ◆ Total on Hand: 0

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Small Unmanned Aircraft Systems (SUAS)

- ◆ Provides Rapidly Deployable Multi-Intelligence ISR Capability In Denied Environments
- ◆ Capabilities
 - ◆ 2+ Hour Endurance
 - ◆ 1,200 Ft AGL Surveillance Altitude
 - ◆ 14,000 Ft MSL Flight Altitude
 - ◆ Flexible Support For Land and Maritime Operations
 - ◆ Ease of Mobility (Man-Portable)
 - ◆ Digitally Stabilized Gimbaled Payload; Dual EO/IR



- ◆ BOI: 90

Technology Upgrades/Current Efforts

- ◆ Digital Data Link (DDL) Retrofits
- ◆ Improved Image Processing
- ◆ Greater Endurance



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Mid-Endurance Unmanned Aircraft System

- ◆ Provides World-Wide Contractor Owned and Operated ISR Services
- ◆ Capabilities:
 - ◆ Target Development and Video Capture
 - ◆ Route Reconnaissance



Technology Interest Areas

- ◆ Next Generation IR Camera
- ◆ Dual EO/IR
- ◆ Encrypted Digital Data Link



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Expeditionary Unmanned Aircraft Systems

- ◆ Provides a Dedicated Land-Based ISR Capability to SOF Task Groups and Squadrons

- ◆ Capabilities:

- ◆ 6 Hour Endurance with 100 Pound Payload
- ◆ 70 nm Data Link Range
- ◆ 10,000 Ft MSL Flight Altitude
- ◆ Fully Automatic Take-Off and Landing
- ◆ EO/IR Sensor with Laser Illuminator
- ◆ Transport Full System in ≤ 2 C-130s



Technology Upgrades/Current Efforts

- ◆ Payload Enhancements

- ◆ BOI: 1.5
- ◆ Total on Hand: 1

*A System Consists of 6 Air Vehicles and 2 Ground Control Stations

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Medium Altitude Long Endurance Tactical (MALET)

- ◆ Provides Persistent Intelligence, Surveillance, Reconnaissance, and Targeting (ISR-T)
- ◆ Capabilities
 - ◆ 18-24 hour endurance
 - ◆ BLOS
 - ◆ Altitude: 25K ft MQ-1; 50K ft MQ-9,
 - ◆ Range: 770 miles MQ-1; 1,150 miles MQ-9
 - ◆ Payload: 750 lbs MQ-1; 3,800 lbs MQ-9
 - ◆ Transmission of Full-Motion Video
 - ◆ Geographic Location of Ground Elements



Technology Interest Areas

- ◆ Payload Enhancements
 - ◆ Multiple secure radios
 - ◆ Additional EO/IR sensor
-
- ◆ BOI: 32 MQ-1; 25 MQ-9
 - ◆ Total on Hand: 29 MQ-1; 11 MQ-9



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Training And Mission Planning

◆ Training Programs of Record

- ◆ Simulator Block Updates (SBUD)
- ◆ MC-130W Simulators
- ◆ AC-130U Sensor Part Task Trainer (SPTT)
- ◆ AC-130U Electronic Warfare Officer (EWO) Station
- ◆ U-28A Aircrew Training System (ATS)



◆ Mission Planning Programs of Record

- ◆ Special Operations Mission Planning Environment (SOMPE)



Technology Upgrades/Current Efforts

- ◆ Desk Top Trainers/Deployable Task Trainers
- ◆ 3D/Virtual Reality/Gaming Technology
- ◆ Migration To Joint Mission Planning System



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Silent Knight Radar

- ◆ Provides a SOF-Common Terrain-Following, Terrain-Avoidance (TF/TA) Multi-Mode Radar



Current Efforts:

- ◆ Continue Engineering and Manufacturing Development
- ◆ Continue Prototype Radar Integration and Testing
- ◆ Continue Contractor Flight Testing
- ◆ Install MH-47G/MH-60M Integration Kits
- ◆ Refine Developmental Test Plans

Technology Upgrades:

- ◆ Digital Map/Radar Blending
- ◆ Solid State Transmitter

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Upcoming Acquisitions

- ◆ Mid-Endurance Unmanned Aircraft System (MEUAS) II
- ◆ SOF Common TF/TA Radar for MC-130J
- ◆ Small UAS Payloads
- ◆ AC-130J PSP Integration
- ◆ AC/MC-130J Defensive Systems



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MEUAS II

- ◆ World-Wide Mid-Endurance Unmanned Aircraft System Providing Intelligence Gathering, Target Surveillance, and Reconnaissance (ISR) Services
- ◆ Turn-Key Operation – 24/7 ISR Product Availability Up To 900 Flight Hours Per Site Per Month
- ◆ Currently Five Detachments Providing 2,000 Flight Hours Per Month – Driven by Operational Needs

Acquisition Strategy

Full and Open Competition for Contractor Owned Contractor Operated Turn-Key ISR Services

Period of Performance

Firm Fixed Price, 5 Year Indefinite Delivery Indefinite Quantity (IDIQ)

Milestones

| | |
|----------------|--------------------------|
| RFP Release | 8 Apr 2011 |
| Contract Award | 1 st Qtr 2012 |

Point of Contact

USSOCOM SORDAC-FW

Funding

Supplemental / OCO O&M
Varies Annually

Current Contract/OEM

MEUAS / Boeing



MC-130J Terrain Following/Terrain Avoidance Radar System (MCTF)

- ◆ Provides Low Probability of Intercept/Low Probability of Detect TF/TA capability for new MC-130J Talon III aircraft
- ◆ Two Phase Approach - Single Line-of-Sight Radar in Phase I; Second Line-of-Sight in Phase II

Acquisition Strategy

Full and Open Competition for Development of Phase I with hooks for Phase II

Period of Performance

Cost Plus Type contract for Development, Firm Fixed Price for Production

Milestones

| | |
|----------------|--------------|
| RFP Release | 3rd Qtr 2011 |
| Contract Award | 1st Qtr 2012 |

Point of Contact

USSOCOM SORDAC-FW

Funding

MFP-11 RDT&E and PROCUREMENT
Varies Annually

Current Contract/OEM

MC-130J / Lockheed Martin



Small UAS Payloads

- ◆ Identify, develop, integrate and test SOF-unique mission kits for group 1-3 UAS
- ◆ Test EW payloads that provide added capabilities to find, fix and finish time-sensitive, high-value targets

Acquisition Strategy

Partner with Naval Special Warfare and integrate and test on USSOCOM UAS

Period of Performance

TBD

Milestones

RFP Release
Contract Award

TBD
TBD

Point of Contact

USSOCOM SORDAC-FW

Funding

MFP-11 RDT&E and Procurement

Current Contract/OEM

FY12 New Start



AC-130J Precision Strike Package Integration

- ◆ Mission Equipment Integration onto MC-130J to Convert to AC-130J Configuration
- ◆ Aircraft Modifications to Accommodate Gun System, Sensors, PGMs, Operator Consoles, & Comms

Acquisition Strategy

TBD

Period of Performance

FY13+

Milestones

| | |
|----------------|-----|
| Study/AoA | TBD |
| RFP Release | TBD |
| Contract Award | TBD |

Point of Contact

USSOCOM SORDAC-FW

Funding

MFP-11 RDT&E and PROCUREMENT
Varies Annually

Current Contract/OEM

New Start



AC/MC-130J Defensive Systems

- ◆ Improve MC-130J Defensive Systems and Situational Awareness
- ◆ Requirement built on TERESA, ASACM, and LAIRCM CDDs

Acquisition Strategy

Full and Open Competition

Period of Performance

Cost Plus Type contract for Development,
Firm Fixed Price for Production

Milestones

| | |
|----------------|--------------|
| Study/AoA | 4th Qtr 2011 |
| RFP Release | TBD |
| Contract Award | TBD |

Point of Contact

USSOCOM SORDAC-FW

Funding

MFP-4 and MFP-11 RDT&E and
PROCUREMENT
Varies Annually

Current Contract/OEM

MC-130J / Lockheed Martin

Special Operations Forces Industry Conference

Ms. Caryn Bain
MISO/CA Division Chief
MISO
Portfolio Review

**C4 Command, Control,
Communications, and Computers**



MISO/CA Program Families



FABS V2



SOMS-B V2

Broadcast



Print



Manpack



Ground Vehicle / Watercraft Variant

NGLS



MPC

| | | | | | |
|---------------|--------------------------------------|-----------------------|-----------------------------------|---|-------------------|
| Planning I | Target Audience Analysis II | Series Dev. III | Product Dev. & Design IV | Approval V Product Distribution & Dissemination VI | Evaluation VII |
|---------------|--------------------------------------|-----------------------|-----------------------------------|---|-------------------|

PACE

| | | | | | |
|----------|------------|---------------|----------|------------|---------|
| Planning | Collection | Consolidation | Analysis | Production | Sharing |
|----------|------------|---------------|----------|------------|---------|

CIMDPS



**MPC-Light
MPC-Medium**



Deployable Production Kits

C4 Command, Control,
Communications, and Computers



MISO Broadcast Systems

Current System

FABS V2



Future Needs

- Man Transportable AM Antenna To Support Broadcast Ranges
 - AM 30 Miles
- Miniaturization of the FABS V2 Core Equipment
 - Transportable By Commercial Air
 - Must Weigh Less than 100lbs (Threshold) and 70lbs (Objective)

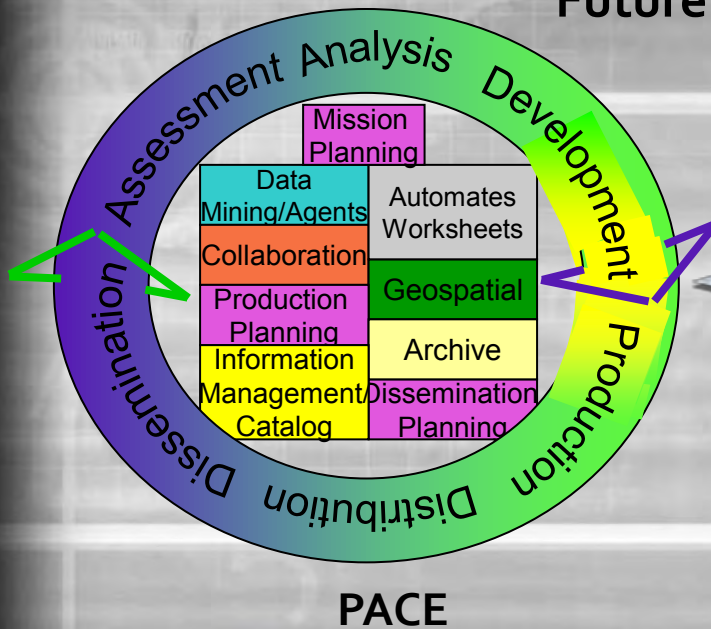


C4 Command, Control,
Communications, and Computers



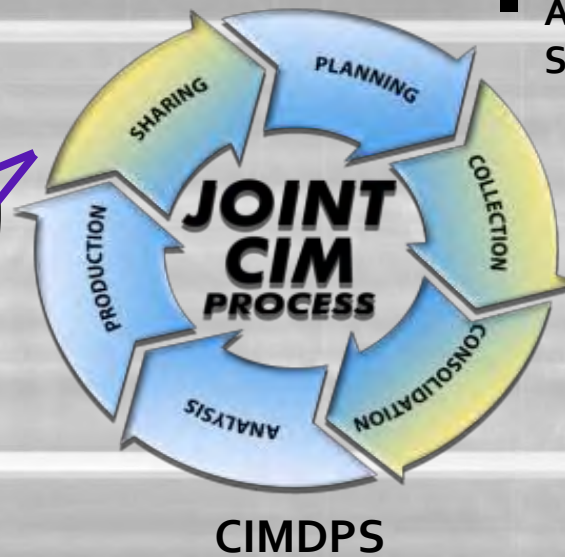
PACE and CIMDPS

Future Systems



Future Needs

- Advanced Algorithms for Cognitive Science and Applications in:
 - Trends and Themes Over Time
 - Data Mining
 - Behavior Modeling
 - Measures of Effectiveness



C4 Command, Control,
Communications, and Computers



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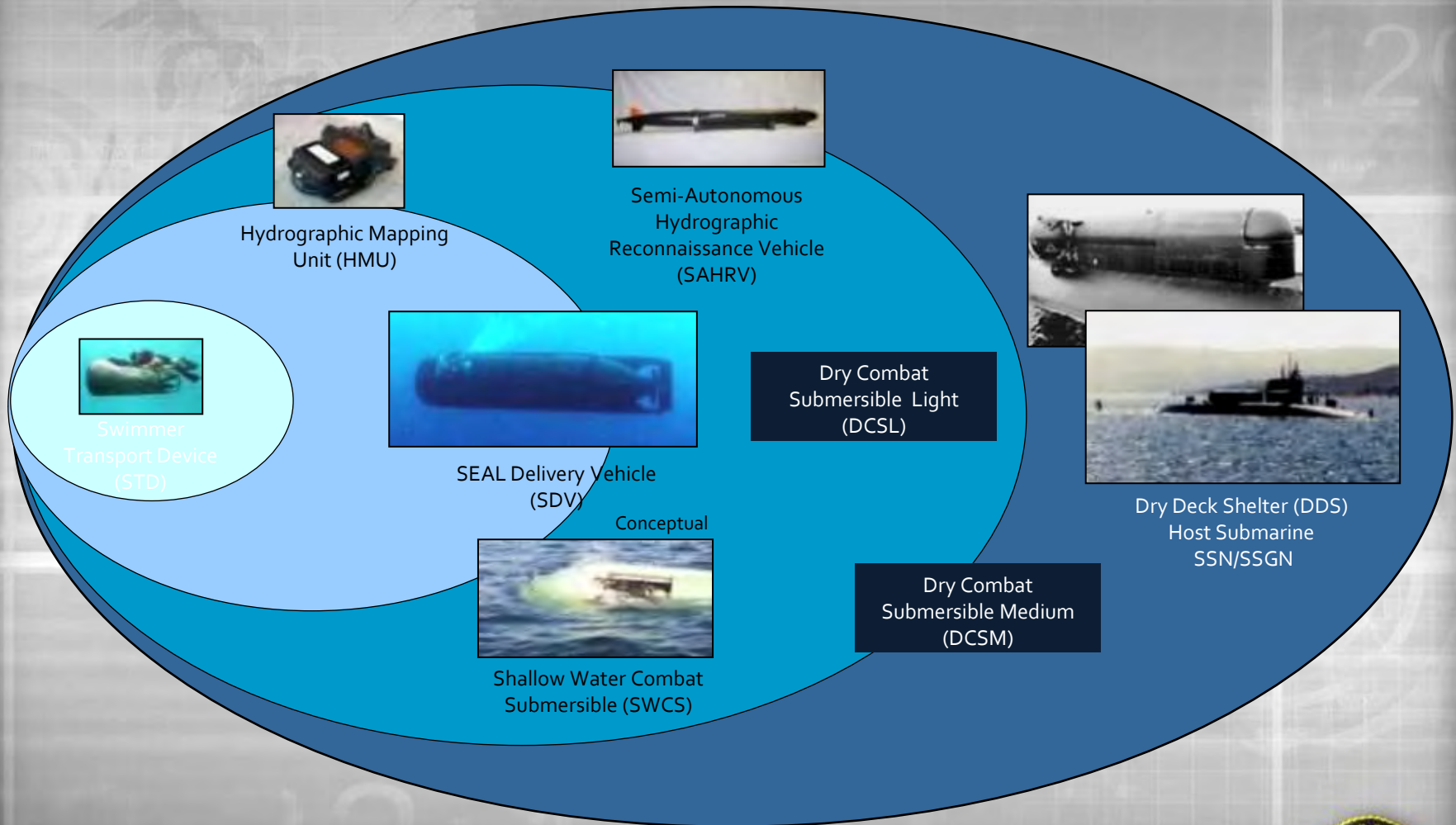
CAPT Rich Blank

Program Executive Officer-Maritime

Portfolio Review and APBI

Maritime Systems

Undersea Mobility Systems



SEAL Delivery Vehicle (SDV MK8)

Wet Submersible Capable of Clandestine Operations and Insertion/Extraction of 6 SEALs and Mission Equipment in a Hostile and/or Denied Environment



Technology Upgrades/Current Efforts:

- Improved Onboard Computer Systems
- Increase Sonar Capability
- Increased Battery Endurance
- Diver Thermal Protection



Dry Deck Shelter (DDS)

Certified Diving System That Attaches to Modified Host Submarines and Supports SDV, Combat Rubber Raiding Craft and Mass Diver Lock In/Out Operations While Submerged

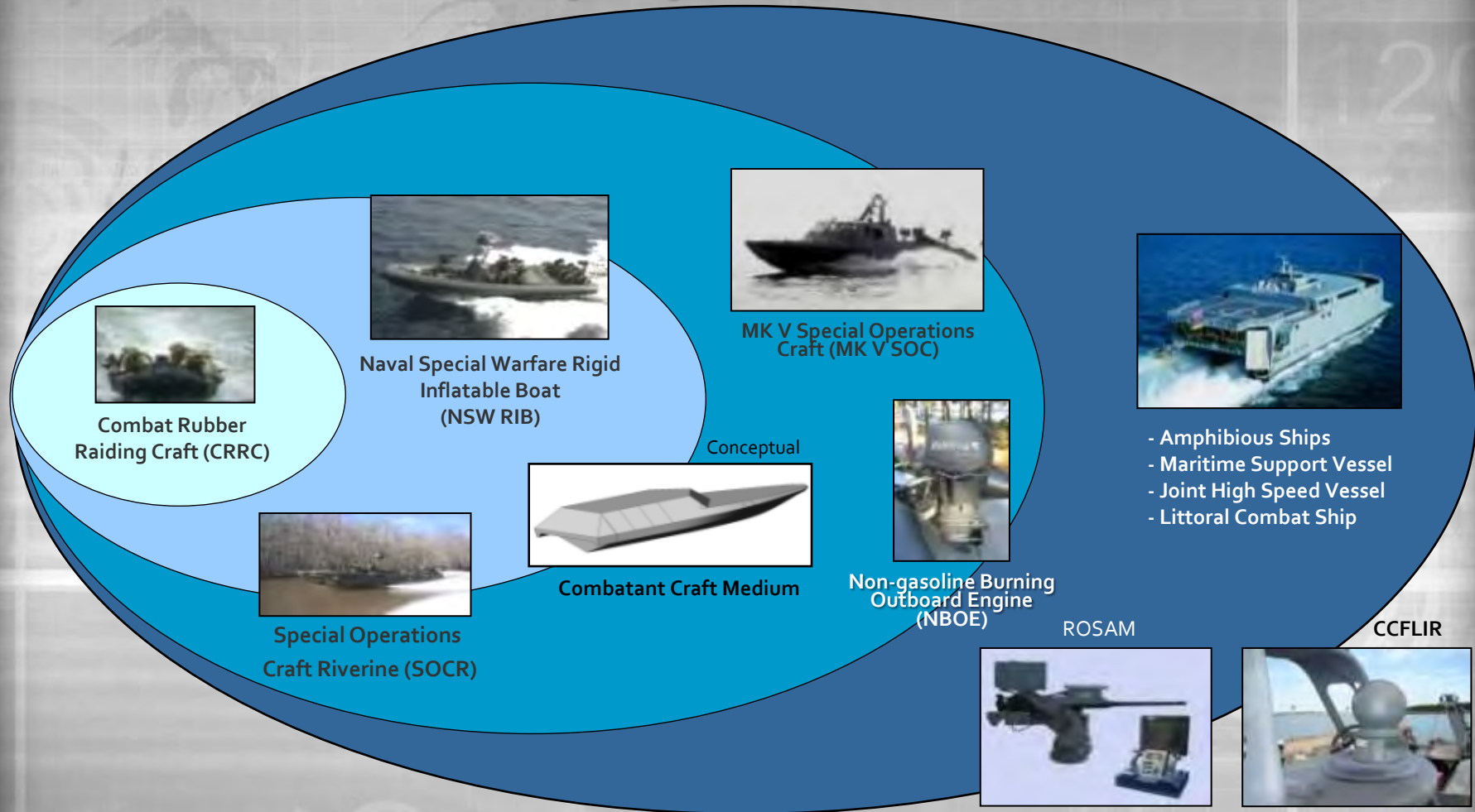


Technology Upgrades/Current Efforts:

- 15 Year Service Life Extension Study
- Next-Generation DDS Study
- Improved Track and Cradle System
- Modifications to Support Shallow Water Combat Submersible (SWCS)



Surface Mobility Systems



MK V Special Operations Craft (MK V SOC)



Medium Range Insertion and Extraction of SOF in Low to Medium Threat Environment.
Also Supports Limited Coastal Patrol and Interdiction Missions

Technology Upgrades/Current Efforts:

- Shock Mitigation Technology
- Navigation Computer Upgrades
- Rover IV – Remote Operated Video Enhanced Receiver Integration



Naval Special Warfare Rigid Inflatable Boat (NSW RIB)



Short Range, Ship-to-Shore
Insertion/ Extraction of SOF
Personnel in a Low to
Medium Threat
Environment

Technology Upgrades/Current Efforts:

- Integration of Improvements to Combatant Craft Forward Looking Infrared



Special Operations Craft Riverine



Short Range Insertion and
Extraction of SOF and Waterborne
Special Reconnaissance in a
Riverine and/or Littoral
Environment

Technology Upgrades/Current Efforts:

- Advanced Lightweight Armor Protection
- Integration of Improvements to Combatant Craft Forward Looking Infrared



Non-Gasoline Burning Outboard Engine (NBOE)

Non-Gasoline Burning Outboard Engine for SOF
Combat Rubber Raiding Craft (CRRC) Operations.
Capable of Being Launched from Submerged
Submarines and Able to Burn a Variety of
Aviation Fuels



Technology Upgrades/Current Efforts:

- Block 1 – 55 HP Multi-Fuel Engine
- Block 2 – 30 HP Multi-Fuel Engine
- Block 3 – 30 HP, Light Weight,
Submersible, Multi-Fuel Engine



Combatant Craft Forward Looking Infrared



Ruggedized, Marinized, Light Weight, Gyro Stabilized, Cryogenically Cooled, Color & Infrared Camera, Laser Range Finder & Pointer



Technology Upgrades/Current Efforts:

- Software Upgrades to Reduce Display Clutter/ Enable all Output Protocols/Improved Tracker Function
- Implementation of Joy Stick Control Unit (All NSW Craft)
- R&D Efforts: 360 Degree Situational Awareness/Larger Focal Plane Arrays/Multispectral Arrays
- Integration with ROSAM to Improve User Interface



Competitive Acquisitions

Near Term:

- **Dry Combat Submersibles**
 - Fill the Requirement for a Dry, One Atmosphere, Diver Lock-Out Submersible
- **Shallow Water Combat Submersible (SWCS)**
 - Replacement for SEAL Delivery Vehicle
- **Dry Deck Shelter Extension**
 - Supports Future Dry Combat Submersible Effort
- **Combatant Craft Medium (CCM)**
 - Partial Replacement for Naval Special Warfare Rigid Inflatable Boat and MKV SOC

Mid-Term:

- **Special Operations Craft Riverine Replacement**
 - Replaces Existing Riverine Craft
- **Combatant Craft Forward Looking Infrared (CCFLIR) System**
 - Replaces Existing CCFLIR System
- **Security Forces Assistance (SFA) Craft**





Dry Combat Submersibles (DCS)

- Manned, Dry Combat Submersibles that Provide a Clandestine Mobility Platform for SOF
- Will Leverage Proven Sub-Systems and Equipment from ASDS, SDV, and SWCS
- Rapid Competitive Prototyping to Refine Technical Requirements and Reduce Risk

Acquisition Strategy

- BAA for Rapid Prototyping
- Multiple Contract Awards
- BAA Release Planned for 4th Qtr FY11

Period of Performance

- FY-11-FY14

Milestones

- Milestone A in 3rd Qtr FY11
- Milestone B in 2nd Qtr FY14

Point of Contact

- USSOCOM PM Undersea Systems
813.826.3193

Funding

TBD

Current Contract/OEM

TBD



Shallow Water Combat Submersible (SWCS)

- Family of Manned Submersibles with an Evolutionary Acquisition Approach with Enhanced Capabilities to Conduct SOF Insertion and Extraction in Hostile and/or Denied Environments
- SWCS Block 1 is a Wet Combat Submersible that will Replace the SEAL Delivery Vehicle Mk VIII Mod 1

Acquisition Strategy

- Full and Open Competition
- RFP Released Mar 2010
- Two Phase 1 Contracts Awarded Oct 2010
- Down-select Contract Award in 3rd Qtr FY11

Period of Performance

- FY11 through FY16

Milestones

- Milestone B in 4th Qtr FY10
- Milestone C in 1st Qtr FY14

Point of Contact

- NAVSEA PMS-NSW, Washington Navy Yard, DC
- USSOCOM PEO-Maritime
813.826.9509

Funding

- TBD

Current Contract/OEM

- Teledyne-Brown Engineering
- The Columbia Group



Dry Deck Shelter Extension (DDS)

- The Dry Deck Shelter Extension (DDSX) is an ~ 50 Inch Extension Modification to the Current DDS System with a Additional Design Modifications to Accommodate the SWCS Block 2 Dry Submersible Also Known as the Dry Combat Submersible Light.

Acquisition Strategy

- Full and Open Competition for 4 Systems
- Draft RFP to be Released Jul 2011
- RFP to be Released Oct 2011
- Down-select Contract Award in 4th Qtr FY12

Period of Performance

- FY11 through FY16

Milestones

- Milestone B in 2nd Qtr FY12
- Milestone C in 4th Qtr FY14

Point of Contact

- NAVSEA PMS-399, Washington Navy Yard, DC
- USSOCOM PEO-Maritime
813.826.1975

Funding

TBD

Current Contract/OEM

- Oceaneering International Inc.



Combatant Craft Medium (CCM)

- Multi-Role Surface Combatant Craft with the Primary Mission to Insert and Extract SOF in Medium Threat Environment
- USAF C-17 Transportable, Crew of 4 and Capable of Transporting 14-19 Passengers
- Partially Replaces Naval Special Warfare Rigid Inflatable Boat Capabilities and Approaches the Payload and Range of MK V Special Operations Craft

Acquisition Strategy

- Full and Open Competition
- Requirement for 30 craft

Period of Performance

- Contract Award in FY11 with a 10 Year Period of Performance

Milestones

TBD

Point of Contact

- USSOCOM SORDAC, Combatant Craft Medium Program Management Office
813.282.8795

Funding

- TBD

Current Contract/OEM

N/A



Special Operations Craft Riverine Replacement (SOCR)

- Riverine Surface Craft with the Primary Mission to Insert and Extract SOF Forces
- Secondary Mission of Reconnaissance and Surveillance
- SOCR Replacement will Use Present Technology in Terms of Hull Structure, Power Train, On-Board/Off-Board Sensors, and Armor to Increase Current Capabilities

Acquisition Strategy

- Full and Open Competition
- Projected Requirement for 24 Systems

Period of Performance

- FY14 through FY19

Milestones

- TBD

Point of Contact

- USSOCOM SORDAC, Combatant Craft Medium Program Management Office
813.826.3193

Funding

- TBD

Current Contract/OEM

- United States Marine, Inc.



Combatant Craft Forward Looking Infrared Replacement

- **Situational Awareness System That Will Expand on the Capabilities of the Current CCFLIR by Using Additional Sensors to Provide Better Situational Picture**
- **CCFLIR Replacement Will Be Used on All SOF Family of Mobility Systems Including the MK V SOC, CCM, and SOCR Next**

Acquisition Strategy

- Full and Open Competition
- Requirement for All Combatant Craft

Period of Performance

- FY13 through FY19

Milestones

- TBD

Point of Contact

- USSOCOM SORDAC, Combatant Craft Medium Program Management Office
813.826.3193

Funding

- TBD

Current Contract/OEM

- FLIR Systems Boston



Security Forces Assistance Craft (SFA)

- SFA Will Be Used in a Low and Permissive Threat Environment
- Used for Joint Training with Partner Nations
- Commercial-Off-The-Shelf Procurement

Acquisition Strategy

- Commercial-Off-the-Shelf (Non- Development Item)
- Requirement for 12 SFA Light and 5 SFA Patrol Coastal Variant

Period of Performance

- FY 10-FY14

Milestones

Not Applicable – Commodity Procurement

Point of Contact

USSOCOM, SORDAC, Program Manager
Combatant Craft Program Management Office
813.826.3193

Funding

- \$2M - \$5M

Current Contract/OEM

TBD

Technology/Capability Areas of Interest

- Undersea Vehicle Energy Storage Systems
- Advanced Surface Craft Power Systems
- Combat Swimmer Thermal Protection Systems
- Lightweight, Small Volume, CO₂ Removal Technology for Underwater Breathing Apparatus and Undersea Platforms
- Lightweight, Submersible, Multi-Fuel Outboard Engine
- Secure Wireless Intercom System
- High Speed Communications
- Low-Cost Dry Submersible Hull, Mechanical & Electrical Technology
- Dynamic Ride Impact Mitigation



Special Operations Forces Industry Conference

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Ms. Lisa Sanders

Deputy Director

Science & Technology Directorate

Portfolio Review and APBI



Science & Technology

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Commander's Guidance & Direction for USSOCOM S&T / S&T Vision

- Develop a coherent capability-based research and development effort focused on placing new capabilities in the hands of SOF operators
- Conduct technology discovery, coordinate research and development activities, rapidly integrate technology developments, and rapidly insert new capabilities for equipment and techniques across the force

A Special Operations force, empowered with the newest technologies and capabilities, able to operate in any environment, work effectively with partners, and defeat all adversaries



S&T Integrated Priority List (STIPL)

- STIPLs focus on SOCOM S&T needs while complementing the SOCOM IPL
- FY13-17 S&T Priorities (Not in Order)
 - Extended Duration Incapacitation
 - Comprehensive Signature Management across electromagnetic spectrum
 - Understand and exploit the battlefield
 - “Own the Night”



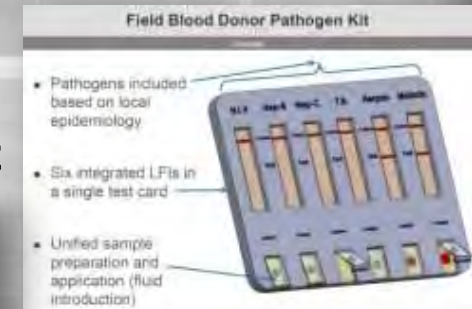
Applied Research (BA2) and Advanced Technology Development (BA3)

• BA2

- TRL 3-5
- Studies, Early lab hardware, software development models

• BA3

- TRL 5-7
- Prototypes, demonstrations



Acquisition Strategy

Full and open competition
Technology Development Opportunities
with Manageable Risk and Clear
Near-term Value

Period of Performance

Project Dependent: Typically 1-2 years

Milestones

Project Dependent

Points of Contact

SORDAC-ST
813-826-9489

Funding

FY10: \$15.718M / \$35.045M
FY11: \$23.636M / \$9.502M
FY12: \$13.467M / \$6.835M

Current Contract/OEM

Various Projects



Rapid Exploitation of Innovative Technologies for SOF (REITS)

- High risk, high payoff projects
- Focuses on rapidly inserting new technologies and capabilities into the battlefield
- Takes items and adapts, modifies, integrates, and assesses ability to rapidly meet SOF operational needs



Acquisition Strategy

Attract innovative solutions from industry through Broad Agency Announcement (BAA) process and/or existing contract vehicles

Period of Performance

Project Dependent: Typically 1-18 months

Milestones

Project dependent—solution identified, prototype tested, safety certification, operational insertion and use

Point of Contact

SORDAC-ST
813-826-9489

Funding

FY10: \$5.140M
FY11: \$5.000M
FY12: \$10.310M

Current Contract/OEM

Various Projects



Other funding sources

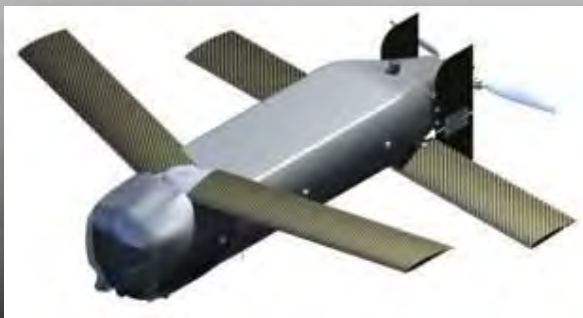
- **Small Business Innovation Research (SBIR)**
 - Phase 1: Competitively awarded topics, \$100K for feasibility studies
 - Phase 2: Sole source to Phase 1 contractors, approx \$1M per contractor
 - Phase 3: Sole source, requires program funds, no \$ limit
- **Leveraging (OSD, Service Research Labs, DARPA, Department of Energy, OGA)**





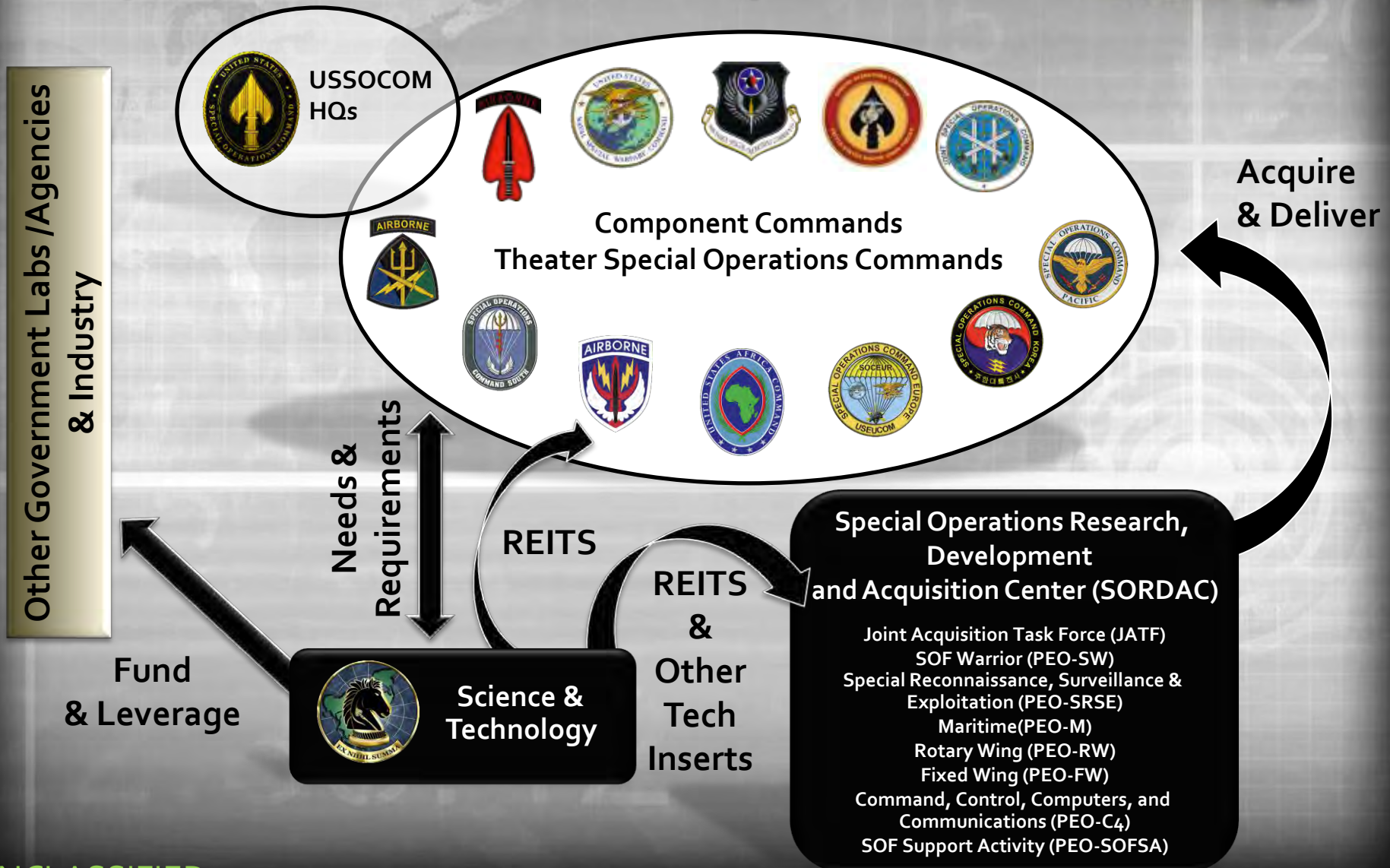
S&T Commodity Alignment

- **Four Primary Commodities**
 - Soldier Systems
 - Mobility & Materials
 - RF & Antennas
 - Power & Energy
- **Two Cross-Commodity Focus Areas**
 - Experimentation & JCTDs
 - SBIR Management





Capabilities to the SOF Operator



Questions?



SCIENCE & TECHNOLOGY

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Col Duke Richardson

Program Executive Officer –
Fixed Wing

Lt Col Steve Wiggins

AFSOC/A5R

Enhanced Capabilities

Fixed Wing

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Find – Infiltrate - Finish

MOBILITY

- ♦ CV-22
- ♦ Non-Standard Aviation Systems
- ♦ EC-130J
- ♦ MC-130E Talon
- ♦ MC-130P Shadow
- ♦ MC-130J
- ♦ MC-130H Talon II
- ♦ MC-130W Combat Spear



MISSION SYSTEMS

- ♦ Directional Infrared Countermeasures
- ♦ Silent Knight Radar
- ♦ Training and Mission Planning



ISR

- ♦ SUAS
- ♦ MEUAS
- ♦ EUAS
- ♦ MQ-1 / MQ-9
- ♦ Special Mission Aircraft



STRIKE

- ♦ AC-130H Spectre
- ♦ AC-130U Spooky
- ♦ AC-130J
- ♦ MC-130W Dragon Spear
- ♦ SOPGM



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Major Areas of Interest

- ◆ Cost of Ownership
- ◆ Aircraft Self Protection
- ◆ High-Resolution NVG-Compatible Airworthy Displays
- ◆ Improved TF/TA Capabilities and Techniques
- ◆ Time-Sensitive, Interoperable Mission Planning
- ◆ Training System Enhancements
- ◆ Digital Broadcasting of EC-130J
- ◆ Improved EO/IR Sensors
- ◆ Lightweight Cabin and Flight Deck Armor for SOF C-130
- ◆ UAS Endurance
- ◆ UAS Data Links
- ◆ Austere UAS Launch and Recovery
- ◆ Plug-and-Play UAS Payloads
- ◆ ISR Payloads with Ability to Auto Detect, Track, and Identify Targets
- ◆ BLOS for Manned and Unmanned Aircraft
- ◆ Reduced UAS Signatures
- ◆ Fuel Saving Methods and Equipment
- ◆ Cooperative Sensing and Targeting
- ◆ Enhanced Strike Capability



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NSAS

FY12 Planned Efforts

◆ Medium NSAv Procurement



Technology Upgrades/ Current Efforts

- ◆ Block 20 NSAv-Medium Upgrade
- ◆ Low-Cost Mods
- ◆ Upgraded Communication Suite



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SOF C-130

FY12 Planned Efforts

- ♦ SOF C-130 Low-Cost Mods Program
- ♦ Special Mission Processor (Increment 3)
- ♦ TF/TA Radar for MC-130J
- ♦ LAIRCM Next Gen
- ♦ APQ-170 SLEP
- ♦ Complete NB3 for EC-130J



Technology Upgrades/Current Efforts

- ♦ AC-130U/MC-130H MCRP
- ♦ Defensive Systems
- ♦ Enhanced Situational Awareness
- ♦ CNS/ATM for Legacy Aircraft
- ♦ Digital Solo for EC-130J



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Precision Strike Package

DRAGON SPEAR/AC-130J

FY12 Planned Efforts

- ◆ Dragon Spear Transition To Sustainment
- ◆ Precision Strike Package Integration
- ◆ Airframe Modification Studies



*Crew Workstations
Fire Control System
Mission Management*



SOPGMs



Dual EO/IR Sensors



SOF Comms Suite



Medium-Caliber Gun

Technology Upgrades/Current Efforts

- ◆ All-Weather Weapons Capability
- ◆ Expand Ordnance Package
- ◆ Upgrade Sensor Suite

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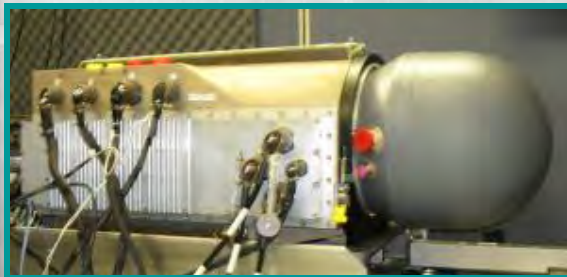
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Mission Systems

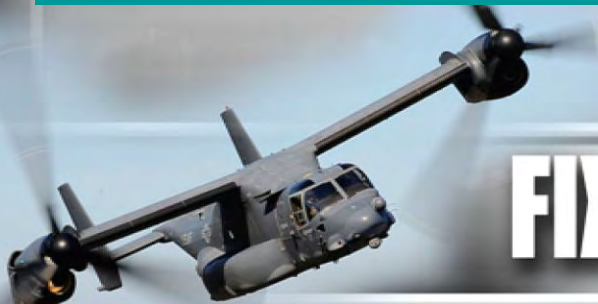
FY12 Planned Efforts

- ◆ Continue Simulator Block Updates (SBUD)
- ◆ Continue Mission Planning Improvements
- ◆ Continue Silent Knight Radar Engineering Manufacturing and Development
- ◆ Transition Directional Infrared Countermeasures (DIRCM) Sustainment Management to Air Force



Technology Upgrades/Current Efforts

- ◆ Migration To Joint Mission Planning System
- ◆ Desk Top Trainers/Deployable Task Trainers
- ◆ 3D/Virtual Reality/Gaming Technology
- ◆ Multi-Mode Radar (MMR) / Digital Map Blending
- ◆ MMR Solid State Transmitter



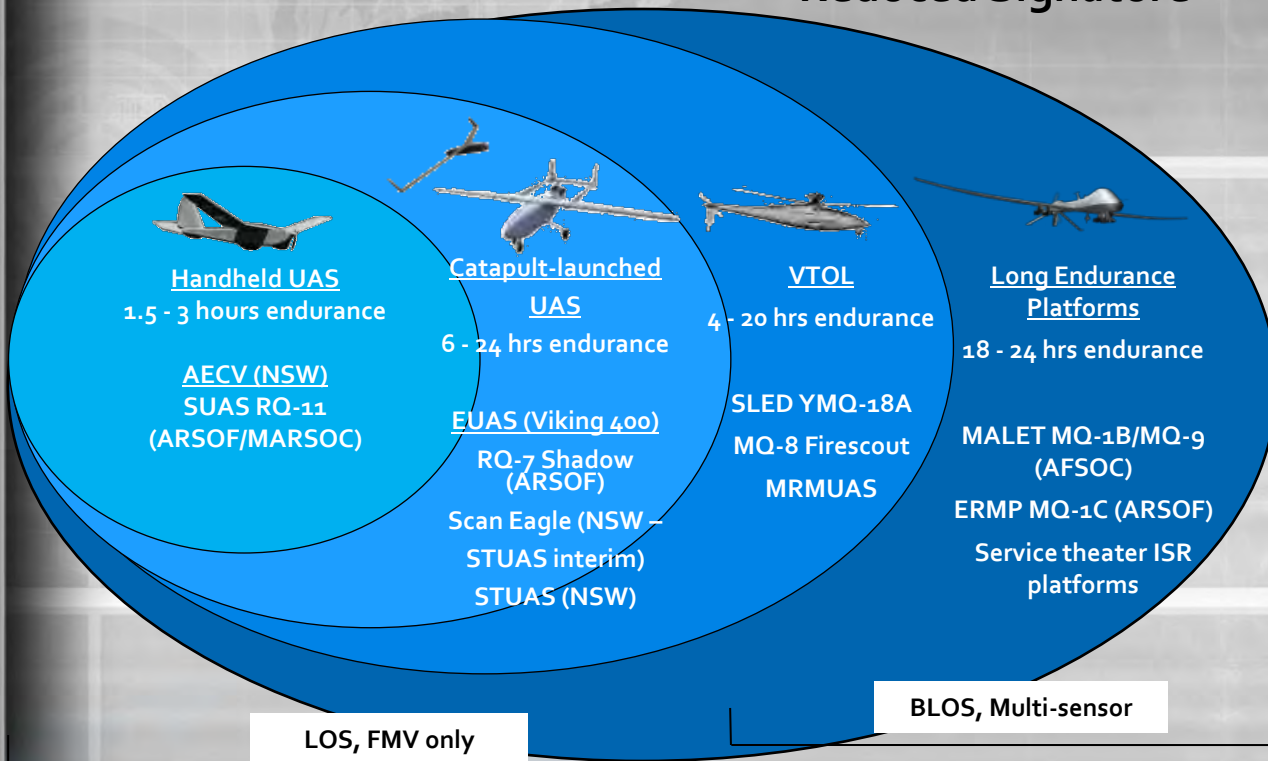
FIXED WING

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Unmanned Aerial Systems

UAS Requirement: Penetrate Denied Areas with Element of Surprise and a Reduced Signature



Payloads Need to Provide

- ◆ Intelligence, Surveillance, Reconnaissance, & Targeting
- ◆ Communications Relay
- ◆ Weapons Delivery

Areas of Interest: Payload Enhancements, Improved EO/IR Capability, Real-time Situational Awareness, Reduced Operator Workload

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CV-22 SOF Osprey

FY 12 Planned Efforts

- ♦ Complete Block 10 Retrofit
- ♦ Block 20 Upgrades and Corrections of Deficiencies
- ♦ Low-Cost SOF Mods
- ♦ Continue Joint Performance Based Logistics (JPBL) Phase I (Integrated Logistics Elements)
- ♦ Start JPBL Phase II Supply Chain Management



Technology Upgrades/Current Efforts

- ♦ DIRCM Retrofit (GLTAs)
- ♦ SIRFC Upgrades (Cabling, Power, Anti-Ice)
- ♦ Block 20 Avionics Upgrades (TF, Digital Mapping, HMD)
- ♦ Low-Cost Mods



FIXED WING

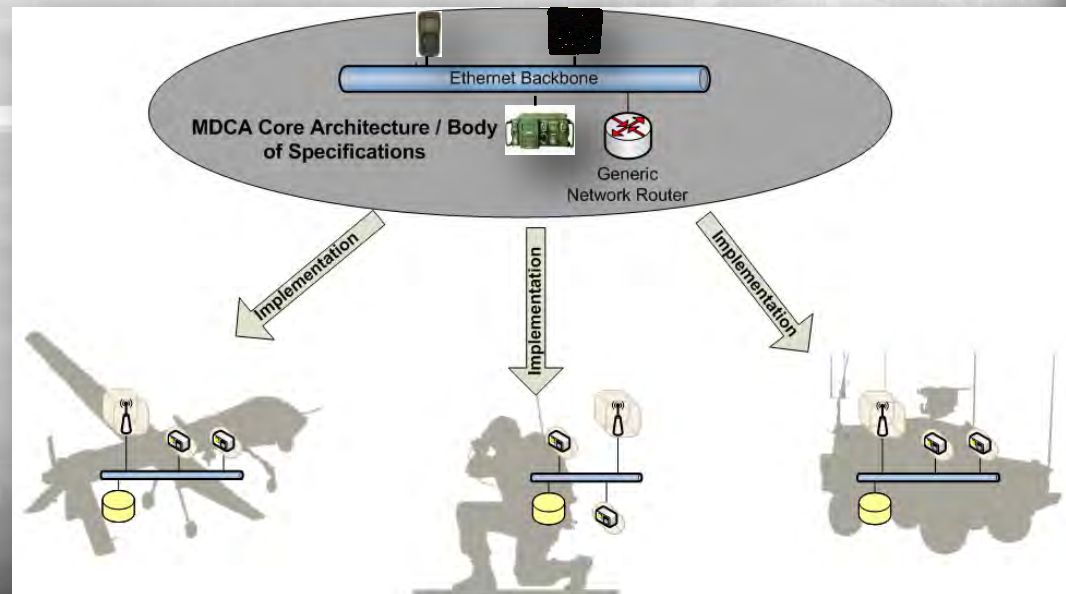
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Mobile Distributed C4ISR Architecture

- Defines an open-standards based architecture for use on USSOCOM integrated systems
 - Collaborate with Industry on open standards and architecture
 - Reduce SWaP, number of human/machine interfaces
 - Reuse common architecture on multiple platforms
- MDCA Test Bench
 - Demonstrates device interoperability using MDCA standards
 - Executes test scripts and generates reports





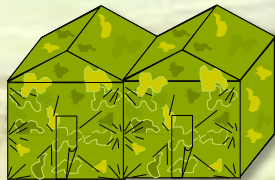
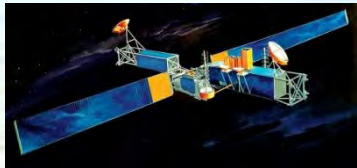
Miniaturized/Conformal Antennas

- **Broad Band**
 - HF, VHF, UHF, KA, KU, X...
- **Increased Gain and Efficiency**
- **Reduced Size and Weight**
 - Improved Aerodynamics
 - Smaller aperture
 - Low / No visibility
- **Omni & Steerable**
- **Innovative Applications**
 - Spray on
 - Decal
 - Concealed / Concealable
 - Low Cost





Electronic Protection



Configurations

- Dismounted
- Mounted
- UAS
- Meshed

Tasks/Actions

- Detect
- Identify
- Locate
- Defeat

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Low-Cost Dry Submersible Technology & Dry Combat Submersible Light

Mr. Stephen Armstrong
Program Manager, Undersea Systems
SORDAC-M-U
19 May 2011



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Low-Cost Dry Submersible Hull, Mechanical & Electrical Technology Development Objective

- **Current status:**

- SOF Combatant Submersibles consist of low-cost wet swimmer delivery vehicles and a larger dry submersible
- Dry submersible design and construction must meet stringent underwater vehicle and hyperbaric system safety standards overseen by independent certification/classification agencies (e.g. NAVSEA, ABS)
 - Wet vehicle performance is inherently limited by the human factors limits associated with diving
 - USSOCOM's first dry submersible, the ASDS had a design and construction cost of \$200-400M, approaching that of a warship; a significant portion of that cost in construction of the HM&E sub-systems



Low-Cost Dry Submersible Hull, Mechanical & Electrical Technology Development Objective

- **Where we want to be:**
 - SOF is interested in dry submersible HM&E technologies that can be certified/classified and, when integrated, can result in dry combat submersibles that are affordable to design and construct
 - SOF will leverage existing technology, practices, and standards used by the International Commercial/Research Submersible Industry



Dry Combat Submersible (DCS)

Multiple Classes

- **Dry Combat Submersible Light (DCSL)**
 - Operate from a modified Dry Deck Shelter (DDS)
 - Operable from host ships
 - Design largely constrained by DDS
 - Limits Passengers, Cargo & Battery Size
- **Dry Combat Submersible Medium (DCSM)**
 - Greater passenger, cargo & battery capacity than DCSL
 - Operable from host ships
 - Potentially operable from future submarine shelters if built by the Navy



DCSL Technology Development Phase

- Milestone A Decision to be approved 3QFY11 to proceed into the Technology Development (TD) phase
- Demonstrate critical technology elements on prototypes
- TD Phase:
 - Multiple Concept Design Study Contracts through Broad Agency Announcement
 - Rapidly design, construct, and test multiple prototypes



DCSL Draft Long-Range Acquisition Strategy

- If successful demonstration of DCSL Key Performance Parameters and System Attributes thresholds on at least one prototype submersible, then Milestone B/C
- Combined EMD/LRIP
 - RFP, Competition
 - Authorize design and construction of the lead DCSL system
 - Convert 1 prototype into an operational system
- Full Rate Production: Up to 6 additional systems



DCSL TD Phase

| BAA Opens ~1 Jul | 1 Month | | 2-3 Months | | ~18 Months | 6 Months | |
|---|---|-------------|-------------------------------|-------------|---------------------------------------|-------------------|--|
| Tech Data Package | BAA Open White Papers | Down Select | Concept Designs | Down Select | Rapid Prototype Design & Construction | DT/EOA | DCSL Acquisition Program |
| <ul style="list-style-type: none"> •Top Level Requirement •Draft DCSL Spec •Notional NAVSEA Certification Plan (P 9290) •NAVSEA Tech Review Timeframes •Extended DDS Envelope •GFE ICDs •Lessons Learned | <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> | | <hr/> <hr/> <hr/> <hr/> <hr/> | | <hr/> <hr/> <hr/> | <hr/> <hr/> <hr/> | <ul style="list-style-type: none"> • MS B/C (LRIP) •Prototype Modification <ul style="list-style-type: none"> •NAVSEA Certification •LRIP •FRP |



Estimated Draft DCSL Specification Requirements

- Operate from submarines equipped with extended Dry Deck Shelter
 - Maximum length overall $\leq 24'$
 - Maximum vehicle weight $\leq 30,000$ lbs
- Personnel & Cargo (325 lbs, 19.5 ft³ each):
 - Threshold: Pilot, Co-Pilot, and 4 SOF Operators
 - Objective: Pilot and 8 SOF Operators
- Endurance (continuous speed ≥ 5 knots)
 - Threshold: Classified, Objective: Classified
- Silver-Zinc or Lead-Acid Batteries Only (CFE)



Safety Certification MOA

- MOA Established with NAVSEASYSCOM (March 2011)
- Submersibles operating with submarines
 - NAVSEA 05 is Technical Authority
 - NAVSEA 07 is Safety Certification Authority
 - DCSL production systems
- Submersibles not operating with submarines
 - USSOCOM is Technical & Certification Authorities
 - User Operational Evaluation System Prototypes



DCSL Work Breakdown Structure (WBS) TD Phase

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1. Prime Mission Product (PMP)

- 100 Hull Structure
- 200 Propulsion Plant
- 300 Electric Plant
- 400 Command Communications and Surveillance
- 500 Auxiliary Systems
- 600 Outfit and Furnishings
- 700 Armament (Not used)
- 800 Total Submersible Integration/Engineering
- 900 Submersible Assembly and Support Services
- 1000 Submersible Classification
- 1100 Engineering Change Orders

2. System Engineering and Program Management

3. System Test and Evaluation

4. Training

5. Data

6. Support Equipment

7. Initial Spares and Repair Parts

8. Government In-House

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TD Phase Design to Cost Goal

- **Draft Cost Goal for DCSL Prototype Design & Construction: \$19.2M**
 - For Prime Mission Product (WBS 1.0100-1.1100)
 - Includes overhead and profit
 - Excludes government furnished equipment
 - Does Not Include program management/systems engineering, training, test, data, support equipment, and spares & repair parts
 - GFE Will Be primarily military-unique electronics (WBS 1.400)
 - Maximize Commonality with SWCS I sub-systems



Conclusion

- Integration of “proven” operational prototypes will provide effective risk reduction, and improved capability and safety of operations
- DCSL technology development project will leverage the technologies and equipment developed and lessons learned in other combat submersible programs



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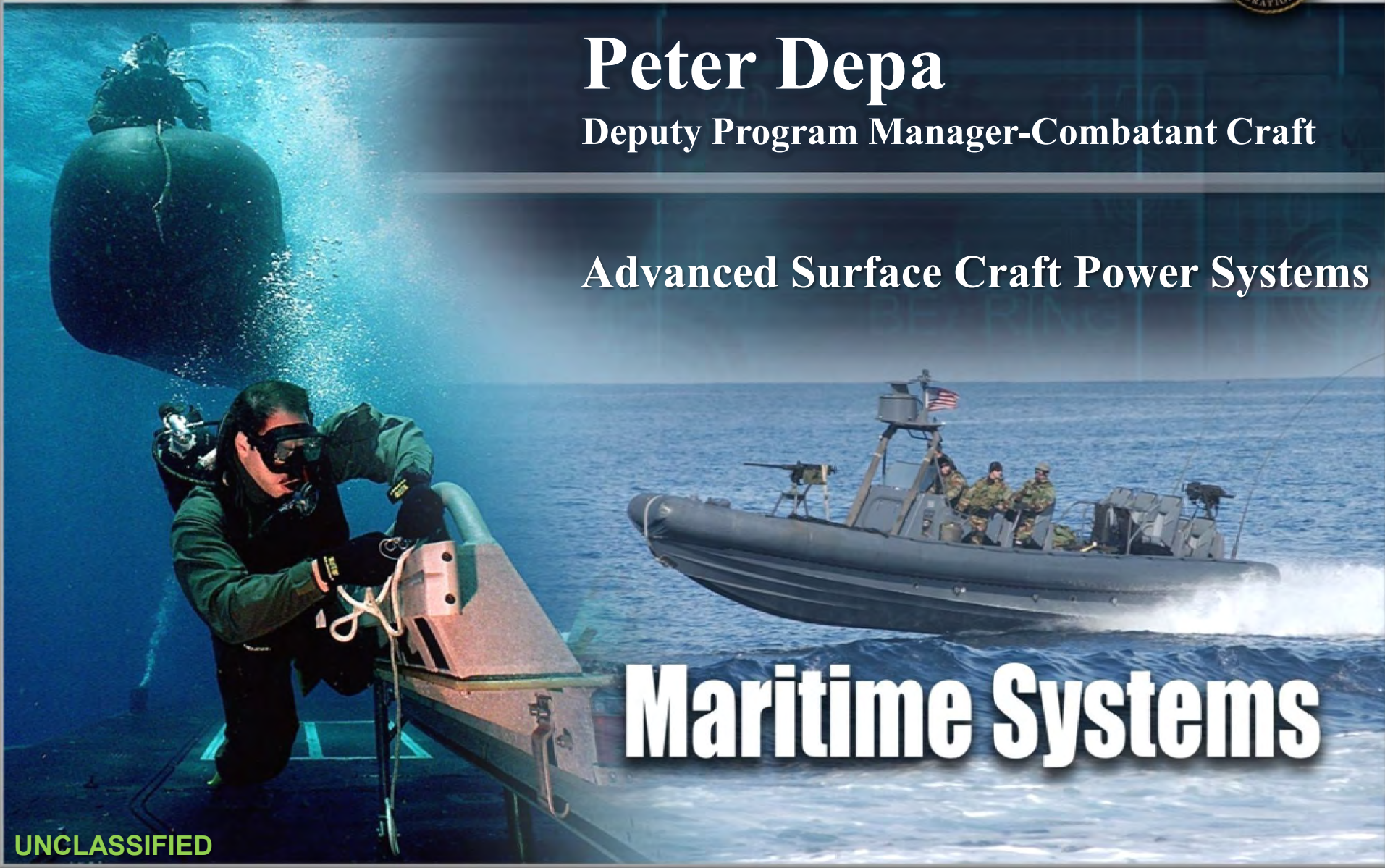


Peter Depa

Deputy Program Manager-Combatant Craft

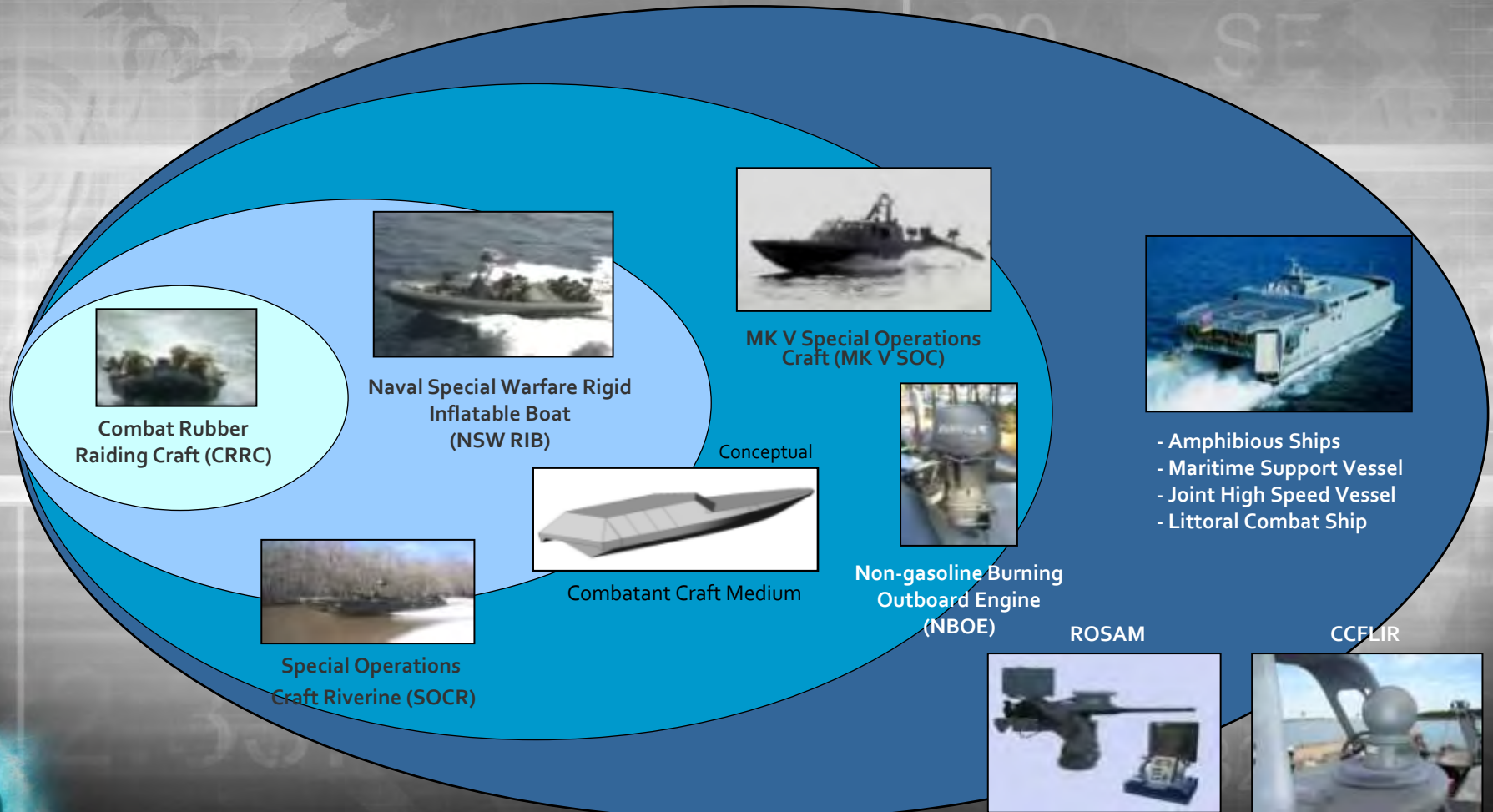
Advanced Surface Craft Power Systems

Maritime Systems



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Surface Mobility Systems



Maritime Systems



Technology Areas of Interest

- Advanced Surface Craft Power Systems
- Lightweight, Submersible, Multi-Fuel Outboard Engine



Maritime Systems



Advanced Surface Craft Power Systems

- **Current Status:**
 - SOF combatant craft require advanced power systems that provide significantly better power/weight ratios (e.g., maximum hp/lb) at top speed and significantly better fuel efficiency (e.g., (lb/hp-h)) at the most efficient speed (cruise speed).
 - Current craft engines have a power/weight ratio of approximately 0.38 hp/lb at maximum speed and a specific fuel consumption of 0.35 lb/hp-h at cruise speed.



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Advanced Surface Craft Power Systems

- Where We Want to Be:
 - Power/weight ratio of 1.0 hp/lb and/or a fuel efficiency of 0.1 lb/hp-h at cruise speed.
 - 2000 hours between overhauls
 - Burn High Sulfur Fuel.



Maritime Systems



Lightweight, Submersible Multi-Fuel Outboard Engine

- **Current Status:**

- **Combat swimmers currently use lightweight, submersible 30 hp Improved Military Amphibious Reconnaissance System (IMARS) gasoline outboard engines.**
 - The IMARS is projected to become obsolete due to parts unavailability
 - DOD has directed the phase out of gasoline fueled engines from all shipboard operations to improve shipboard safety and simplify logistics
- **Currently fielded 55 hp multi-fuel engine weighs 250 lbs**



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Lightweight, Submersible Multi-Fuel Outboard Engine

- Where We Want to Be:
 - SOF has a requirement for a 30 hp multi-fuel engine that will:
 - Operate on JP5, JP8, kerosene, and as an emergency fuel, marine diesel.
 - Weigh no more than 150 lbs.
 - Fit through a 30-inch diameter circular hatch.
 - Be capable of being submerged to a minimum depth of 66 feet seawater for a period of 18 hours, then brought to the surface and started within 10 minutes.



Maritime Systems





Target Engagement

- Reduced SWaP Clip On Night Scopes to DVO
- Low Signature Target Marking, Designation, and Illumination
- Enhanced Capabilities to Provide Determination of Intent
- Suppression of Weapons Signatures
 - Blast
 - Visual
 - Acoustic
 - Thermal
- Enhanced Effects On Target
 - Lethality
 - Suppressive Effects



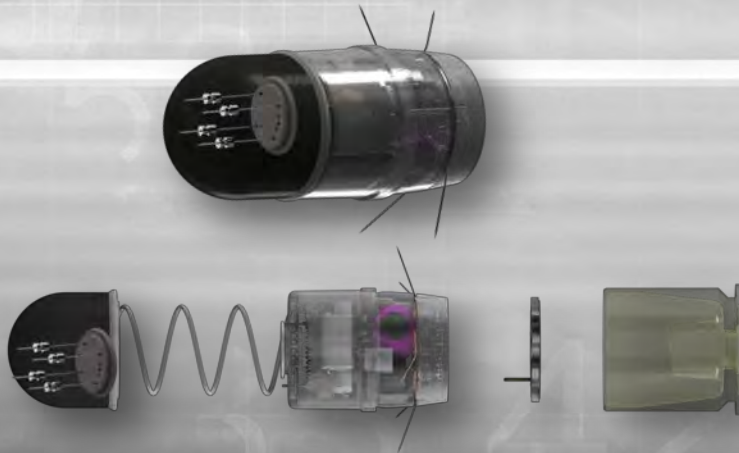
Visual Augmentation

- **Reduced Size, Weight, and Power (SWaP)**
- **Digital Solution to Night Vision Goggles**
 - Affordable and Producible High Performance Focal Plane Array Equivalent to Aviation Grade I² Tubes with Acceptable SWAP
 - Enabling Technologies: Micro-displays, FPGAs for Image Processing, Low Power Electronics, Batteries
- **Low Signature Operation Requires Enabling Technologies**
- **Fusion**
 - Multiple Bands to Enhance Lethality and Situational Awareness
 - Simple and Intuitive Presentation without Loss of Content
 - Real-Time, Low Power Computing and Displays
 - Data Import and Export



SOF Non-Lethal Priorities

- Extended Duration Incapacitation at Standoff Ranges
- Stop / Interdict Vehicles and Vessels
- Area / Access Denial – Isolate an Objective
- Clear Buildings / Structures Including Standoff Capability





Advanced Energetics

- **Improved Breaching Capabilities**
 - New / novel materials
 - Innovative geometry / application of existing material
 - Improved initiating methods / technologies
 - Increased target characterization accuracy
- **Scalable Target Defeat**
 - Change energy output on target

