SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

Accelerating SOF Innovation

Ms. Deb Woods  Program Executive Officer C4

COMMAND, CONTROL, COMMUNICATIONS, & COMPUTERS OVERVIEW
Vision
One Force, One Environment – Reliable, secure communications and seamless connectivity for SOF from dismounted to garrison operations

Mission
Manage the development, acquisition, fielding, new equipment training, and sustainment of C4 and Military Information Support Operations (MISO) systems

FUNDING

<table>
<thead>
<tr>
<th>Year</th>
<th>RDT&amp;E</th>
<th>PROC</th>
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<tbody>
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<td>$417M</td>
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<tr>
<td>FY20</td>
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Focus Areas

• **Acquisition Agility**
  – Non-Traditional Methods
  – Strategic Sourcing

• **Transformational Capabilities**
  – Hyper-Enabled Operator
  – Assured Communications

• **Dynamic Operational Environments**
  – Interagency and International Interoperability
  – Transregional, Multi-Domain, Multi-Functional
SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

Accelerating SOF Innovation

LtCol Shelton Richards  PM Tactical Communications, PEO C4

COMMAND, CONTROL, COMMUNICATIONS, & COMPUTERS OVERVIEW
PM Tactical Communications

- NEXT GENERATION TACTICAL COMMUNICATIONS (NGTC)
- SATELLITE DEPLOYABLE NODE (SDN)
- RADIO INTEGRATION SYSTEM (RIS)
- TACTICAL LOCAL AREA NETWORK (TACLAN)
- FIELD COMPUTING DEVICE (FCD)
- PM TACTICAL COMMUNICATIONS FUNDING

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<th>FY19</th>
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</table>
Next Generation Tactical Communications

- Provides Next Generation SOF Tactical Communications
- Capabilities Include: Real Time, Hostile and Friendly Force Information; Line of Sight (LOS) and Beyond LOS (BLOS) Communications; and Access to Situational Awareness in the Form of Intelligence Inputs, Broadcasts, and Networks
- Consists of Two Form Factors: 1) Manpack and 2) Handheld

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<thead>
<tr>
<th>ACQUISITION STRATEGY</th>
<th>PERIOD OF PERFORMANCE</th>
<th>MILESTONES</th>
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<tbody>
<tr>
<td>COTS/NDI</td>
<td>These systems are supported by multiple contracts</td>
<td>Production/Sustainment</td>
</tr>
<tr>
<td>Future capabilities: Evolutionary Technology Insertions</td>
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<td>Capital Equipment Replacement Program</td>
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<tr>
<th>POINT OF CONTACT</th>
<th>FUNDING</th>
<th>CURRENT CONTRACT/OEM</th>
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<tbody>
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- RDT&E
- Proc
Satellite Deployable Node (SDN)

- Family of deployable, super high frequency, multi-band, SATCOM systems providing deployed SOF users with the transport path for access to the SOF Information Environment
- Provides high-capacity voice, data, VTC, and video at all levels of classification
- Consists of heavy, medium, light, SATCOM on-the-move, and airborne ISR transport

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<td></td>
<td>FY19: $170.1M, FY20: $114.2M</td>
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</table>
Radio Integration System (RIS)

- Provides command, control, and communications (C3) between deployed Special Operations Force (SOF) bases and Liaison teams to SOF headquarters, and SOF support elements
- Modular: Enables the SOF operator to tailor the system to meet current mission requirements
- Scalable: Facilitates reduction in size, weight, and power requirements

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**Tactical Local Area Network (TACLAN)**

- Family of systems provides SOF commanders and forward-deployed forces advanced automated data processing and display capabilities through a common deployed tactical local area network infrastructure and Field Computing Devices (FCD)

- Provides specialized and common software applications to support a wide range of SOF mission sets from the individual and small team level to larger SOF Task Force contingents

- Seamless connectivity to multi-level secure networks to facilitate information exchange between the SOF Warfighter, and DoD information networks.

- Improves SOF tactical situational awareness, command and control, mission planning and execution activities, and intelligence analysis and reporting

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**ACQUISITION STRATEGY**

- COTS/NDI
- Future capabilities: Evolutionary Technology Insertions

**PERIOD OF PERFORMANCE**

- These systems are supported by multiple contracts

**MILESTONES**

- Production/Sustainment
- Capital Equipment Replacement Program

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**FUNDING**

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<tr>
<td>PROC</td>
<td>$27.1M</td>
<td>$13.1M</td>
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**CURRENT CONTRACT/OEM**

- Various
Field Computing Device (FCD)

- End User Device for TACLAN suite of software
  - FCD-Rugged (FCR-R): Semi or fully ruggedized laptop/computer:
    - Fielded to the operators in static deployed positions
  - FCD-Wearable (FCD-W): Handheld Wearable Device:
    - Fielded to the dismounted mobile operator engaged in combat or reconnaissance patrols

**ACQUISITION STRATEGY**
- COTS/NDI
- Future capabilities: Evolutionary Technology Insertions

**PERIOD OF PERFORMANCE**
- These systems are supported by multiple contracts

**MILESTONES**
- Production/Sustainment
- Capital Equipment Replacement Program

**POINT OF CONTACT**
- 813.826.9482 (TILO)

**FUNDING**
- **FY19**
  - RDT&E: $4.2M
  - PROC: $27.1M
- **FY20**
  - RDT&E: $3.3M
  - PROC: $13.1M

**CURRENT CONTRACT/OEM**
- Various
Tactical Communications Areas of Interest

• Size, Weight, and Power Reduction
  – Modularity, Hardware Commonality, Reduced Complexity of Operation and Maintenance
    ▪ Antenna Profile Reduction
    ▪ Cybersecurity - Secure Communications
    ▪ Cross Domain Solutions
    ▪ Mission Module Technical Insertion
    ▪ Wireless/Tethered Personal Area Network
Tactical Communications Areas of Interest

• LOS and BLOS Radio Frequency (RF) Communications:
  – Signature reduction
  – Jam Resistant Waveforms

• High Bandwidth RF Communications
  – Intelligence, Surveillance, Reconnaissance Transmissions; Wideband High Frequency

• Multi-band, Capable of Access to Available Architectures
  – C, X, Ku, Ka Band
  – High Throughput Commercial Ka Band

• Satellite Communications (SATCOM) On-The-Move Antennas - Ground, Airborne, and Maritime
SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

Accelerating SOF Innovation

Tricia Hill  PM Enterprise Networks, PEO C4
COMMAND, CONTROL, COMMUNICATIONS, & COMPUTERS OVERVIEW
Enterprise Networks

- SCAMPI
- SOCRATES
- CIMDPS
- C4IAS
- ENTERPRISE LICENSE AGREEMENTS
- MOBILE COMMS
Enterprise Networks - Garrison

- Provides SOCOM Unclassified/Classified garrison infrastructure and end user devices
- Provides SOCOM Telecommunications system enabling network transport voice, data, and video services (all classifications)
- Provides SOCOM intelligence automation enterprise architecture ensuring interoperability with DoD, national, and service intelligence information systems
- Provides a variety of automated tools for Command and Control, collaboration, planning, analysis, processing, and dissemination

**ACQUISITION STRATEGY**
- Evolutionary acquisition strategy based on availability of COTS
- Future capabilities: Evolutionary Technology Insertions

**PERIOD OF PERFORMANCE**
- Supported by multiple contracts

**MILESTONES**
- Production/Sustainment
- Capital Equipment Replacement Program

**POINT OF CONTACT**
- 813.826.9482 (TILO)

**FUNDING**
- FY19: Proc: $91.8M, O&M: $131.7M
- FY20: Proc: $89.0M, O&M: $196.8M

**CONTRACTOR/OEM**
- Multiple
Enterprise Networks

Areas of Interest

• Neural Networks
  – Quantum Computing
  – Artificial Intelligence
  – Machine Learning
  – Advanced Analytics

• Cloud Technologies
  – Hybrid Cloud leveraging containerized solutions
  – Permission Based Blockchain
  – Desktop as a Service (DaaS)

• Communications
  – Unified Communications w/Management System
  – Classified Mobile Messaging Device (DAR encryption)
  – Software Defined Networks

• Internet of Thinking
  (Self Healing Network)

• Virtual Reality

• Edge Computing
Military Information Support Operations (MISO)

- FLY-AWAY BROADCAST SYSTEM
- MEDIA PRODUCTION CENTER
- MISO-PRINT
- SPECIAL OPERATIONS SCIENCE & TECHNOLOGY (SOST)
- NEXT GEN LOUDSPEAKER SYSTEM
- MULTI-MISSION PAYLOAD
Next Generation Loudspeaker System

- Provides Next Generation SOF Message Dissemination Capability
- **Capabilities**: Modular/Interconnected Amplifiers And Speakers Providing High Quality Recorded Audio, Live Dissemination, And Acoustic Deception Capability.
- **Six Variants**: 1) Dismounted, 2) Mounted, 3) Scatterable Media, 4) Sonic Projection, 5) Unmanned Ground Vehicle, 6) Unmanned Aerial Vehicle
- **Technology Interest Areas**: Listen Back Capability, Sonic Projection, Remote Programming, Web Based Internet Distribution, Wireless rechargeable power sources

**ACQUISITION STRATEGY**
- Developmental – Scatterable Media
- Evolutionary – NGLS –Dismounted/Mounted
- Future capabilities: Transformative capabilities

**PERIOD OF PERFORMANCE**
- Systems supported by multiple contracts

**FUNDING**
- **FY19**
  - RDT&E: $6.6M
  - PROC: $0
- **FY20**
  - RDT&E: $866K
  - PROC: $0

**MILESTONES**
- NGLS-Mounted/Dismounted Capital Equipment Replacement Program (CERP) Evolutionary Dev
- NGLS-Scatterable Media INC 1 Dev FY19-20
- Initial look at emerging tech/future integration

**POINT OF CONTACT**
- 813.826.9482 (TILO)

**CURRENT CONTRACT/OEM**
- Sky Life
- Tyonek TEAMCOR
Fly Away Broadcast System (FABS)

• A modular and highly-deployable radio (FM), television (TV), and SMS (cellular) broadcasting system able to transmit on a wide range of frequencies and spectrums, including: FM, SW, TV VHF, TV UHF, cellular and in both digital and analog formats.

• FABS V3 is an Evolutionary Technical Insertion (ETI) of the FABS V2 tactical system creating a 97% reduction in weight from 1200 lbs. to 50 lbs. and a 90% reduction in cost from $750K to $70K.

• **Technology Interest Areas**: AM broadcast, CDMA Capability, extended range and modular antenna payload for SUAS.

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</thead>
</table>
| • Evolutionary Dev- FABS v3  
  • Transformative Development- reduced SWAP to man-packable and SUAS capability; government owned waveforms | • FABS systems supported by multiple contracts | • FABS v 3 fielded 7 Nov 2018  
• FABS v3 Sustainment  
• Next Gen FABS in Development FY 19-21 |

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| • 813.826.9482 (TILO) | FY19  
  • RDT&E $0.87M  
  • O&M $2.41M  
  FY20  
  • RDT&E $0.88M  
  • O&M $2.75M | • FABS v3 OEM-JHU  
• SPAWAR- SDN Integration/ Next Gen FABS  
• Par Gov- TAK Integration  
• Harris- Next Gen Mobility Integration |
Multi-Mission Payload (MMP)

- Provides airborne MISO broadcast Capability
- Integrated on manned (C-130, C-12) and unmanned (MQ-1C, MQ-9) aircraft
- Capabilities Include: FM radio broadcasts up to 175 nm, TV (VHF & UHF) up to 175 nm, Cellular broadcasts up to 21 nm
- Consists of Four Variants: 1) MMP-Heavy, 2) MMP-Medium, 3) MMP-Expanded, and 4) MMP-Light
- Technology Interest Areas: Size, Weight, and Power Reduction: Modularity, Hardware Commonality, Ultra-lightweight FM, TV, and Cellular Messaging Broadcast

ACQUISITION STRATEGY
- Developmental
- COTS/NDI
- Future capabilities: Evolutionary Technology Insertions

PERIOD OF PERFORMANCE
- MMP systems supported by multiple contracts

MILESTONES
- Development/Production/Sustainment

POINT OF CONTACT
- 813.826.9482 (TILO)

FUNDING
- FY19
  - RDT&E $3.2M
  - PROC $9.6M
- FY20
  - RDT&E $1.2M
  - PROC $13.3M

CURRENT CONTRACT/OEM
- Various
**MISO Special Operations Science & Technology**

- **Advanced Technology Demonstrations delivering opportunities and solutions in emerging technologies that radically increase capability of PSYOP forces**
  - Apply Human Language Technology tools to increase capability and reduce human resource burden
  - Provide artificial intelligence & machine learning technologies for Target Audience Analysis and Evaluation
  - Enhance defensive capabilities with media manipulation & forensic tools
  - Provide data analytic tools that decrease the manpower & amount of time each analyst spends manually aggregating and analyzing pieces of data
  - Integrate resources from government, academia, and industry

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<tbody>
<tr>
<td>• Advanced Technology Demonstrations</td>
<td>• Supported by multiple contracts through 2020</td>
<td>• Not Applicable</td>
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<tr>
<td>• Emerging Technology Research and Prototypes</td>
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<tr>
<td>• OTAs, PIAs, BAAAs, SBIR</td>
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**DISTRIBUTION A: APPROVED FOR PUBLIC RELEASE**
Media Production Center

• **Capabilities Include:** A set of independent but inter-related multi-media production, editing, mission planning software, and archiving capabilities providing Military Information Support Operations to PSYOP units and other select organizations with options for imagery, audio, animation, and audio/video (AV) products of varying degrees of technical complexity and operational responsiveness

• **Consists of Three Form Factors:**
  1. Light, 2. Medium, and 3. Heavy

• Technology Interest Areas include artificial intelligence, machine learning, advanced language translation, media manipulation, and digital forensic tools

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<td>• Commodity Purchase Program</td>
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<td>• COTS</td>
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<tr>
<td>• 18FEB to 17FEB Annual</td>
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<td>• PROC $0</td>
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<tr>
<td>• O&amp;M $3.8M</td>
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<tr>
<td>• Annual Life Cycle Support Maintenance task orders supported by SOFSA/Lockheed Martin/Kodak &amp; Charles River Analytics</td>
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Military Information Support Operations Print (MISO-P)

- The Military Information Support Operations Print System (MISOP) is a family of print systems designed to support the MISO print requirements of a GCC using the latest commercial digital press technologies. This Family of Systems supports from small units up to an entire theater of operations.

- The MISO Print FoS consists of four variants: the tactical MISOP-Light, the MISOP-Medium (Fixed) - installed at a fixed site in Qatar supporting SOCCENT operations, a deployable MISOP-Medium version, and the strategic MISOP-Heavy system at Fort Bragg, NC.

- MISOP utilizes commercially available digital presses and auxiliary equipment for the creation, editing, and production of MISO print products.

### ACQUISITION STRATEGY
- Commodity Purchase Program
- COTS

### PERIOD OF PERFORMANCE
- 18FEB to 17FEB Annual

### POINT OF CONTACT
- 813.826.9482 (TILO)

### MILESTONES
- Sustainment
- Capital Equipment Replacement Program

### FUNDING

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### CURRENT CONTRACT/OEM
- Annual Life Cycle Support Maintenance task order supported by SOFSA/Lockheed Martin/Kodak
Special Operation Mission Planning and Execution

**EXECUTION PLANNING (XPlan)**

**TACTICAL ASSAULT KIT (TAK)**

**MISSION PLANNING SUPPORT ENGINEERS, DT, INTEGRATION, SETA**

**PERFORMANCE PLANNING**

**TACTICAL APPLICATIONS**

**PM SOMPE FUNDING**

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Vertical Display of Airframe Performance (VDAP)

Helicopter Landing Zone (HLZ) Analysis

Aircraft Weapons and Electronics (AWE)

Ground Guidance (GG)
Execution Plan (XPlan)

- Replaces PSPS, provides common & SOF-unique, Air, Ground and Maritime tactical / route Planning
- Increases speed of planning, provides intelligence data, weather info, mission briefing info
- Supports Time-sensitive and Deliberate Mission Planning
- Mission Planning, Preview / Rehearsal in 2D and 3D
- Mission Execution and Situational Awareness for SOF Operations
- 3rd Party tools / Plug-ins

### ACQUISITION STRATEGY
- Joint Development Army / SOF
- GOTS / COTS/
- Future capabilities: Evolutionary Technology Insertions

### PERIOD OF PERFORMANCE
- Developed and supported by multiple contracts

### MILESTONES
- Development/Production/Sustainment

### POINT OF CONTACT
- 813.826.9482 (TILO)

### FUNDING

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### CURRENT CONTRACT/OEM
- Various – Nova Technologies, KBRwyle / CAS, GeoWeb 3D
Tactical Assault Kit (TAK)

- Map-Based, Situational Awareness (SA) Software Application for a Common Operating Picture (COP)
- Provides Blue Force Tracking (BFT) & Tactical Capabilities for Special Operations Forces (SOF)
- 40+ Organizations involved including Military, Civilian, Law Enforcement and Industry Partners
- Includes: DHS, JSOC, FBI, Secret Service
- Approved To Operate (ATO) on both TACLAN and PM Nett-Warrior Kits
- Core + plug-ins for tailored capability

**ACQUISITION STRATEGY**
- Joint Developmental / GOTS
- Future capabilities: Evolutionary Technology Insertions

**PERIOD OF PERFORMANCE**
- Supported by multiple contracts

**MILESTONES**
- Production/Sustainment

**POINT OF CONTACT**
- 813.826.9482 (TILO)

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<tr>
<td>O&amp;M</td>
<td>$4.1M</td>
<td>$4.3M</td>
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**CURRENT CONTRACT/OEM**
- Various
Performance Planning Tools

- Current - Flight Performance Models (FPMs) Interface with Performance Planning Calculators – PPC & PX3
- Future – One Common Performance Calculator (CPC)
- Weight and Balance (W&B) – Calculates for aircraft specific configurations, determines if within the allowable range
- Fleet of Rotary Wing and Fixed Wing aircraft - 20 Configurations
  - MC-130H, AC-130W, AC-130U, MC/EC/AC-130J, C-145A
  - C-146A, U-28A, MC-12C, MQ-9A

ACQUISITION STRATEGY
- Developmental / GOTS
- Future capabilities: Evolutionary Technology Insertions

PERIOD OF PERFORMANCE
- Supported by multiple contracts

MILESTONES
- Development/Production/Sustainment

POINT OF CONTACT
- 813.826.9482 (TILO)

FUNDING
- FY19
  - RDTE: $2.0M
  - O&M: $.75M
- FY20
  - RDTE: $2.2M
  - O&M: $1.1M

CURRENT CONTRACT/OEM
- Various
Tactical Planning Applications

- **HLZ Analysis Tool** provides “Hasty” landing area suitability
- **Collaborative Mission Planning (CMP)**
  - Synchronize CONOP Management and COA Analysis
- **Visual Display of Aircraft Performance (VDAP)**
  - FPM output to map – Automates Go-No go decision
- **XDrop** - Airdrop planning (Bundle, CDS or Personnel)
- **Aircraft Weapons and Electronics (AWE)** interface
- **Ground Guidance**

**ACQUISITION STRATEGY**
- Developmental / COTS / GOTS
- Future capabilities: Evolutionary Technology Insertions

**PERIOD OF PERFORMANCE**
- Supported by multiple contracts

**MILESTONES**
- Development/Production/Sustainment

**POINT OF CONTACT**
- 813.826.9482 (TILO)

**FUNDING**

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**CURRENT CONTRACT/OEM**
- Various
Mission Planning & Execution Areas of Interest

• Innovation in Mission Planning automation
• Auto-Routing - Best altitudes, directional airways, detection, terrain-following, diplomatic clearance, NOTAMS retrieval, divert bases etc.
• Big Data - Hosting and dissemination, access, sharing
• Device Agnostic – Getting away from platform or OS specific applications
• Intuitive user interface - Design vs. high complexity (KISS principle)
• Use of Augmented & Virtual Reality (AR) & (VR)
• Cybersecurity - Reducing vulnerabilities during build process, streamlining certification, accreditation across all systems
• Supporting the balance between connected and denied area operations
• Real-time Collaborative Planning and Rehearsal – Across all component systems (co-located and geographically separated)