Special Operations Forces

Industry Conference

Program Manager
– Intelligence Systems

SPECIAL RECONNAISSANCE, SURVEILLANCE, AND EXPLOITATION
Joint Threat Warning System (JTWS)

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

**Acquisition Strategy**
- Spiral Development & Evolutionary Technology Insertions

**Period of Performance**
- In Sustainment, Continuous Capital Equipment Replacement

**Funding**
- FY12: $72.2M
- FY13: $62.8M

**Milestones**
- Post-Milestone C, Sustainment & Capital Equipment Replacement

**Current Contract/OEM**
- Multiple - Contact TILO

**Point of Contact**
- (813) 826-7486
JTWS Family Of Systems

JTWS

JTWS Ground SIGINT Kit (GSK)
JTWS Air
JTWS Maritime
JTWS Team Transportable

Air (UAV/UV)

RDT&E

JTWS SIGINT Payload Systems Developed/Fielded in Conjunction With SORDAC PEO Fixed Wing

Joint Threat Warning System Component Architecture and Framework (JCAF)

SPECIAL RECONNAISSANCE, SURVEILLANCE, AND EXPLOITATION
### Distributed Common Ground System For Special Operations Forces (DCGS-SOF)

- **Operates As Part of Defense Intelligence Information Enterprise & SOF Information Enterprise**
- **Provides Framework, Data, Services & Applications For SOF Garrison/Deployed Processing Exploitation Dissemination, Advanced Analytics & SOF ISR Enterprise**

### Acquisition Strategy
- Partner With SIE & Intelligence Community & DCGS Family Of Systems Programs Of Record; Evolutionary Technology Inserts

### Period of Performance
- **Project Dependent**

### Funding
- **FY12:** $33.9M
- **FY13:** $44.1M

### Milestones
- **Milestone C For Enterprise; Sustainment & Capital Equipment Replacement For SIGINT & Full Motion Video PED**

### Current Contract/OEM
- **Multiple - Contact TILO**

### Point of Contact
- **(813) 826-7443**
Special Operations Forces Planning, Rehearsal, Execution Program (SOFPREP)

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

**Acquisition Strategy**
- Evolutionary Technology Insertions

**Point of Contact**
- (813) 826-7478

**Period of Performance**
- In Sustainment, Continuous Capital Equipment Replacement

**Funding**
- FY12: $5.8M
- FY13: $6.9M

**Milestones**
- Post-Milestone C, Sustainment & Capital Equipment Replacement

**Current Contract/OEM**
- Multiple - Contact TILO
Integrated Survey Program (ISP)

- Technical Surveys & Multi-Media Production

**Acquisition Strategy**
- Evolutionary Technology Insertions

**Period of Performance**
- In Sustainment, Continuous Capital Equipment Replacement

**Funding**
- FY12: $1.3M
- FY13: $1.4M

**Milestones**
- Post-Milestone C, Sustainment & Capital Equipment Replacement

**Point of Contact**
- (813) 826-7478

**Current Contract/OEM**
- Multiple - Contact TILO
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
- Unmanned Aerial System Payloads
Technology Areas of Interest

- 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
What We Need From Industry

• 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
  • 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
What We Need From Industry

• 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 Difference Of Arrival (T/FDOA) Sensors; Geo-Location Algorithms
What We Need From Industry

- 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
What We Need From Industry

• 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
What We Need From Industry

• Unmanned Aerial System Payloads
  • Current State Of The Technology
    » One Platform Payloads, Inflexible Products; Focused Use
  • Ongoing Efforts
    » Reduce Payload Size, Weight And Power (SWAP); Expand Platform Integration; Versatile HW/SW
  • Where We Want To Be
    » Common Low-SWAP Adaptable SIGINT Equipment
    » Same Payload That Is Adaptable Across Multiple Platforms
• Potential Game Changers
  » Miniature T/FDOA-capable Receivers; Versatile Antenna “Toolkits”; Integrated SIGINT & FMV payloads
What We Need From Industry

• 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
What We Need From Industry

• 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
What We Need From Industry

- Full Motion Video (FMV) Exploitation
  - Current State Of The Technology
    » Human Analysis, Few Automated Tools
  - Ongoing Efforts
    » High Definition (HD) FMV Upgrades To PED Cells
    » 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
What We Need From Industry

- 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
    » Support To SENSORWeb Joint Capability Technology Demonstration (JCTD)
  - 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 – SENSORWeb Capability
- Potential Game Changers
  » Automated, Real-Time Detection, Identification, And Geo-location Of Target Of Interest, Auto-Project/Predict Movements
  » Cloud-to-Cloud Communications
  » Stand-Alone All Source Intelligence Fusion (ASIF) capability