## RAPID CAPABILITY INSERTION

### Clandestine Tagging Tracking And Locating (CTTL):
Develops And Prototypes Innovative TTL Capabilities and Novel Reconnaissance Devices Through Applied Research And Development (R&D)

### Tactical Exploitation Of National Capabilities (TENCAP):
Serves As The Command’s TENCAP Office And Leverages Existing And Future Space-Related Technologies

### ACQUISITION STRATEGY
- Rapid Prototyping, Technology Demonstrations, Combat Evaluations

### PERIOD OF PERFORMANCE
- Project Dependent: Focus On 12-18 Month Project Development Cycle

### MILESTONES
- Project Dependent

### POINT OF CONTACT
- Technology & Industry Liaison Office
- TILO@SOCOM.mil
- 813-826-9482

### RDT&E FUNDING

<table>
<thead>
<tr>
<th>Program</th>
<th>FY15</th>
<th>FY16</th>
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<tbody>
<tr>
<td>CTTL</td>
<td>$28.7M</td>
<td>$30.9M</td>
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<tr>
<td>TENCAP</td>
<td>$.8M</td>
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### CURRENT CONTRACT/OEM
- Project Dependent
• Deliver Capability to the User Expeditiously

• Exploit Proven Techniques and Methods

• Keep Warfighters Involved Throughout the Process

• Take Risk and Manage it!
RCI Mission Statement

Provide A Centralized Structure For Focused & Efficient Planning And Execution Of Applied Research And Advanced Technology Development Funding In Order To Field Rapidly Required Capability Improvements Identified By The PM RCI Quick Look Capability Based Assessments And National Intelligence Community Competitive Technology Selection Processes

“Sustain our pursuit of game-changing capabilities….do not innovate for the sake of innovating”

Gen Votel
Commander USSOCOM
October 2014
$102K on Kickstarter
825 Backers

$8.7M on Kickstarter
219,382 Backers

“This is a card game for people who are into kittens and explosions and laser beams and sometimes goats.”

SOLVE THE PROBLEM?
HOW WILL IT BE USED?
SO WHY DO YOU CARE?

• RCI serves as entry point into Programs of Record
  – Transition is KING!

• Typical RCI Year Developer Alignment
  – 19 industry vendors on contract
  – 3 or more new contractors annually
  – 9 small businesses
  – Average 9 projects delivered to meet user requirements per year
WHAT IS SO HARD TO UNDERSTAND?
### RCI BUSINESS PROCESS

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<tr>
<th>Events</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
<th>1st Quarter</th>
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<tr>
<td><strong>Milestone Reviews &amp; Execution</strong></td>
<td>JAN</td>
<td>FEB</td>
<td>MAR</td>
<td>APR</td>
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<td>- IPT / PMR</td>
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<td>- Project Updates</td>
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<td>- User Rep Feedback</td>
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<td><strong>Requirements &amp; Project Development</strong></td>
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<td>- Re-look CBA / Gaps</td>
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<td><strong>TENCAP</strong></td>
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<tr>
<td>- TENCAP Disseminates MERIT Proposals</td>
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<tr>
<td>- TENCAP Advocates For SOF At MERIT</td>
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<td>- NRO Announces MERIT Winners</td>
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<td><strong>PEO PoR Supporting Events</strong></td>
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**IPT Membership**
- HQ SOCOM
- Components
- TSOCs
- Supporting Members
- IC Partners

**Execute MERIT Efforts**

**T & E**

**Trident Spectre**
Broad Agency Announcement (BAA)
- USSOCOM-BAAST-2015
  - SOF AT&L-SR APPENDIX (tbd)
Areas Of Interest
- Tags
- Sensors
- Biometrics/Forensics
- SIGINT
- Processing, Exploitation, and Dissemination (PED)
- TENCAP
- Technical Support Systems
THE MERIT PROCESS

1st QUARTER – Oct, Nov, Dec: CANDIDATES APPLY

- Call Out for Candidate Technology Proposals (via official msgs, emails).
- Originators submit proposals into MERIT Registry (NRO Secure Site only – JWICS).
- Cut off for Proposal Submissions – End of Nov.
- NRO Finalizes list of candidate Proposals for applicable FY bidding. Announces candidates for review by the MERIT Working Group (Services, Agencies, JCS, and Combatant Commands) (New proposals average 90 annually).

2nd QUARTER – Jan, Feb Mar: CANDIDATES REVIEWED/SELECTED

- SOCOM/TENCAP prepares spreadsheet of proposals: disseminates it to SOCOM HQ elements, components, TSOCS for evaluation.
- TENCAP conducts independent, internal analysis.
- TENCAP receives/reviews inputs from HQ Elements, components, and TSOCs; works discrepancies, user requirements, etc.
- TENCAP internally racks and stacks all proposals; recommends which technologies SOCOM should SPONSOR and/or COSPONSOR. (End of Mar)

3rd QUARTER – Apr, May, Jun: CANDIDATES COMPETE AND WINNERS ANNOUNCED

- SOCOM picks proposals to sponsor and cosponsor.
- TENCAP conducts review boards for proposals SOCOM will sponsor. Proposal authors prepare formal briefs.
- TENCAP attends formal MERIT Conference; Proposal authors brief their proposals; TENCAP ranks ALL FY proposals.
- NRO reviews proposal ratings by MERIT WG voters; compiles numerical ranking; announces results and identifies which proposals will be funded (annual average of 15) (Mid-Jun).

4th QUARTER – Jul, Aug, Sep: POST CYCLE REVIEWS – WINNERS GET ONE LAST LOOK BEFORE BEING AWARDED FUNDS

- TENCAP submits spend plans prepared by developers on SOCOM-sponsored proposals.
- TENCAP attends “Lessons Learned” MERIT WG to discuss process, improvements.
- TENCAP presents “Pre-Kick Off” briefs prepared by developers on its sponsored proposals to MERIT WG and NRO.
- FY MERIT Funds awarded (in theory, by mid-Oct.)
VALUE PROPOSITION

• SOCOM is a strong advocate for our “Sponsored” proposals
• MERIT typically funds ~ $6M+/yr for SOF supported projects
• Access to SOF users and enablers
• Broad awareness across DoD & IC
• Quick Win; 85% = 1 year efforts (< $1M)
Power of the Pen

- State facts and show relevant successes
- SOF Operational Scenario
- Competitors:
  - Who are they?
  - Why is your approach superior?

- Phasing
  - Provide clear decision gates
  - Example: SRR, PDR, CDR, Demo Event 1…

- Budget for travel…visit users and program office
- Proprietary is NOT a default setting in word or .ppt
  - Must enable clean transition and sustainment
WHO HAS THE STONES?

• Not providing timely feedback
• Ambiguous requirements
• Us vs. Them
• Sometimes...minimal upfront planning
PROGRAM MANAGER
SPECIAL RECONNAISSANCE & SURVEILLANCE

Pinhole Camera Surveillance Kit w/ Miniature Recorder & Monitor
Tracking Device
Handheld DVR Monitor

Globally Positionable
Sensors

TTL

TTL Denied

Maritime

Subterranean

SUAS Integration

Platform agnostic integration

30% - 50% Size Redux

50% - 90% Size Redux

Initial STTW

Swappble/modular components

“Smart” UGS

Multi-spectral Imagers / Illum

Advanced Stand-off STTW

FY

15
16
17
18
19
20
21
## ADVANCED TAGGING TECHNOLOGY

### GPS Denied Tracking

#### DESCRIPTION
- Triple Canopy
- Urban Environments (Multi-path) / Interior Buildings
- Blocked by Jamming or Spoofing

#### SCHEDULE
- Focus on Triple Canopy: FY 16
- Focus on Urban Environments: FY 17 - FY 18

#### TECHNOLOGY CHALLENGE
- Reduce size, weight and power requirements while increasing accuracy
- SWaP: Handheld / Body Worn; < 1 lb; Transmit Power < 400mW
- Accuracy: < 10 Meters
ADVANCED RAPID DNA TECHNOLOGY

Rapid DNA Application in a Portable Handheld Device Form Factor

**Current Rapid DNA Form Factors**

- Portable, ruggedized handheld device, battery powered for use by EAC and Operators
- Robust shelf stable reagents (12 months)
- Affordable devices
- Results in 30 minutes or less
- Maximum weight 5 lbs or less
- Cost per single test run less than $250.00
- Generate profiles with 16 or more loci
- Flexibility and ease of use by Operators vice Law Enforcement driven requirements
- Capable of incorporating on-board Watchlists

**DESCRIPTION**

- Rapid DNA is a significant addition to SOF Exploitation Capabilities
- Greatly shortens the results response time
- End State: DNA is as ubiquitous as fingerprints
- Current Form Factors are too large, expensive and “delicate” for SOF uses

**SCHEDULE**

- Ongoing Technology Development And Field Evaluation: FY 15 - FY 16
- Operator Prototype Development: FY 16 - FY 18
- Laboratory and Field Evaluation: FY 18 - FY 20
PROGRAM MANAGER
INTELLIGENCE SYSTEMS

Multi-Protocol and Function Sys
Maritime Antenna Kit
Adv Speech Processing
Passive Cyber

Technical Collection Platforms Integrated out to the Tactical Edge

All Source Analytic Env – Garrison & Deployed
Multi-View FMV PED Tech Dev
Fusion of C2, Intel and M&S Data with Human Domain in a Standard & Shareable Geospatial Foundation

Exascale Pattern Analysis Across Global SOF Network

GEOINT / M&S Cloud Migration & Integration
Dynamic Collection & Rendering of High Resolution 3D to Sub-Centimeter Level
Forward Deployed Mission Rehearsal / Augmented Reality Scene Visualization

GEOINT Data Sharing Web & Data Services
3D Interior & Exterior Integration CAD / BIM / GIS
Optimize Capabilities for Tactical Collection

FY 15 16 17 18 19 20 21
### Maritime Antenna Kit

**DESCRIPTION**

- Need high-gain, broad spectrum antenna that automatically maintains orientation/elevation toward a fixed position
- Enable operations at greater standoff distance
- Platform agnostic/rapid installation (carry-on/carry-off)
- Endure rigorous maritime environment
- Combines directional RF survey/transmit low-profile antenna package

**SCHEDULE**

| Ongoing Technology Development And Field Evaluation: | FY 15 - FY 16 |
| Operator Evaluation: | FY 16 - FY 17 |
| IOC: | FY 17 |

**TECHNOLOGY CHALLENGE**

- Higher gain antennas typically have narrow beam-width
- Narrow-beam antennas are difficult to orientate while on small vessels due to environmental effects (pitch/roll)
- System will accept a target coordinate and maintain orientation automatically
- Kit includes mounting methods, cables and adapters that enables expedited installation on a wide variety of boats
“Within research portfolios, Federal agencies are encouraged to identify and pursue clearly defined "Grand Challenges"—ambitious goals that require advances in science, technology and innovation to achieve and to support high-risk, high-return research.

Agencies should consider, where appropriate and authorized, supplementing traditional R&D "push" mechanisms (e.g., grants and contracts) with "pull" mechanisms -results-based market incentives designed to overcome market failures, engage a wide range of solvers, and catalyze innovation, such as incentive prizes and advanced market commitments."

Dr. John P. Holdren
OMB Director, Office of S&T Policy
Memo re: S&T Priorities for FY16 Budget
TAKE-AWAYS

- Shift in Thinking
- Fail Faster (Risk Management)
- Direct contract with users and PoRs
- Capture Lessons Learned
- DoD/IC Collaboration

Focused RDT&E Managed at PEO/PM Level
QUESTIONS