



# SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

**Mr. Tony Davis**  
Director

SCIENCE AND TECHNOLOGY

“Somewhere something incredible  
is waiting to be known.”

*-Carl Sagan*

SCIENCE AND TECHNOLOGY

# AGENDA

- **S&T Vision**
- **S&T Strategy**
- **Industry Engagement**
- **S&T Budget**
- **Tech Insertion Roadmaps**
- **BAA Areas of Interest**
- **Technical Experimentation**
- **Project Vulcan**
- **SOFWORX**
- **CRADAs**



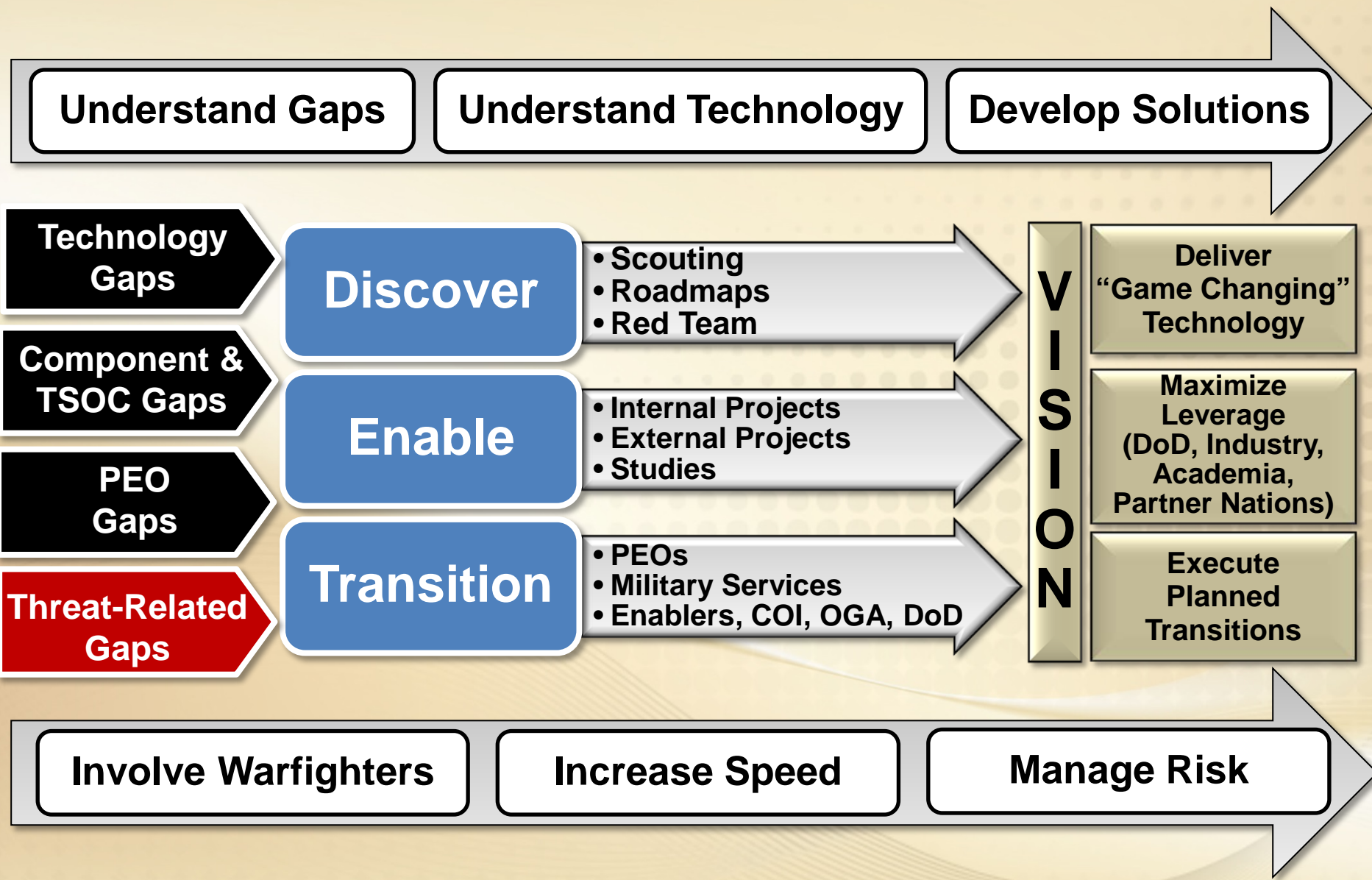
# S&T VISION



**Discover, Enable, and Transition technologies  
to provide an asymmetric advantage for  
Special Operations Forces**

# S&T STRATEGY OVERVIEW

UNCLASSIFIED



UNCLASSIFIED

# INDUSTRY ENGAGEMENT

UNCLASSIFIED

Internal

External



Tactical Assault Light Operator Suit (TALOS)



Technology & Industry Liaison Office (TILO)  
tilo@socom.mil



Technical Experimentation (TE)



Unclassified Test Bed (UTB)



Component Exercises



SOF Industry Conference (SOFIC)

Identify Technology – Provide Feedback – Advance Tech Readiness Level

Project Vulcan  
Technology Domain Awareness

Industry IR&D Outreach

Other Venues (JIFX, Ex-ART/TSOA)

Distributed Combustion Chambers

Other Applicable Conferences

# SCIENCE & TECHNOLOGY BUDGET

- **Applied Research (BA2) & Advanced Technology Development (BA3)**
  - **BA2:** Studies, Early Laboratory Hardware, Software Development Models, Concept Exploration. Technology Readiness Level (TRL) 3-5
  - **BA3:** Operational Prototypes, Advanced Technology Demonstrations, Technical Experimentation, Technology Insertions. TRL 5-7

## ACQUISITION STRATEGY

- Various (Competition, IDIQ, CRADA, Prize Challenges, etc.)
- External Leveraging (OGAs, Services, Laboratories)

## PERIOD OF PERFORMANCE

- Project Dependent
- Emphasizing Tech Discovery, PEO TIRs needs, and game-changing technology development

## MILESTONES

- Project Dependent

## POINT OF CONTACT

- 813-826-9482 (TILO)

## FUNDING

- FY16 BA2/3: \$22.57M/\$36.65M
- FY17 BA2/3: \$22.85M/\$39.76M
- Note: Does not include TTL/MISO

## CURRENT CONTRACT/OEM

- Various

# PEO TECHNOLOGY INSERTION ROADMAPS

**C4**

- Stabilized Rapid Adaption of Network
- Security and Network Management/Monitoring of Mobile Ad-hoc Network
- Open Standard Airborne ISR Transport Modem

**Fixed Wing**

- High definition, 3D & multi-color EO/IR, multiple moving target tracking, FOPEN
- Crew workload reduction, machine intelligent processing/Tactical Flight Mgmt
- Situational awareness with full spectrum threat reduction and counter measures
- 105 mm cannon precision guided ammunition and fuses, loitering munitions
- High energy laser, power management, aiming and focus turret
- Multispectral sensor
- Combat ID, IFF to ID friendly and hostile in all environments

**Maritime**

- Common Operating Tactical Picture
- Low Probability of Intercept/ Detection Communications
- Wireless Intercom
- Surface System/Active Ride Control
- Maritime Personnel Signature Management Technologies
- Situational Awareness, High Visual/NIR Transmittance Window Films

# PEO TECHNOLOGY INSERTION ROADMAPS (2)

- Rotary Wing**
  - High Power Watts for Over the Horizon Communications
  - Improved RW Counter Measures
  - Advanced IR Countermeasures & Self-Protection for RW Aircraft
- SRSE**
  - Maritime Forensics Exploitation Capability
  - Hidden Chamber/Material Detection
  - Portable, Automated 3D Room/Building Mapping Device
  - Stand-off/Remote Facial Recognition & Iris Capture
  - Dustless Latent Print Collection
  - Rapid Identification of Materials for Site Exploitation
- SOF Warrior**
  - Transferrable armor for commercial vehicles
  - Helmet sensor system to monitor and record linear and rotational accelerations
  - High Sulfur Diesel Engine Capability
  - Camouflage Applique
  - Reduced IR Signature
  - Improved Gun Barrels
  - Variable Transmission & Laser Protection Eyewear
  - Tactical stand-alone ballistic plate
  - Multiple colors or spectral bands within the same sensor and SWAP
  - Thermal band Identify Friend or Foe (IFF) beacon, backwards compatible



# USSOCOM BAAST 2015 APPENDIX F

## AREAS OF INTEREST (1)

### Bio-Med

- Occupational and Environmental Health Surveillance
- Tactical Portable Oxygen Generator

### C4

- Low Visibility/Low Profile/Conformal/Multi-Spectral Antennas
- Low Profile/Low Visibility Phased Array Radio Detection and Ranging (RADAR)

### Human Performance

- Optimizing Human Performance at High Altitude and/or Under Stress

### Mobility

- Armored Vehicle Extrication
- Multi-Terrain Vehicle
- Transparent Ballistic Protection

# USSOCOM BAAST 2015 APPENDIX F

## AREAS OF INTEREST (2)

- Optics**
  - Undetectable Aiming Laser
  - Advanced Sensors
- Other**
  - Automated Interview Transcription
- Power & Energy**
  - Undersea Manned Power System
  - Portable Power for Extended Casualty Evacuation
- Protect**
  - Advanced Tactical Standalone (TSA) Body Armor
  - Adaptive Fibers
- SSE**
  - Document and Media Exploitation (DOMEX) Tool
  - Handheld Rapid DNA Device

# USAMRAA BAA 2015-1 AREAS OF INTEREST (1)

USAMRAA Extramural Biomedical Research and Development BAA 2015-1 for USSOCOM is posted on [fbo.gov](http://fbo.gov) and [grants.gov](http://grants.gov)

- Other**
  - Medical Simulation and Training Technologies
  - Prolonged Field Care
- Damage Control Resuscitation**
  - Global Treatment Strategies
  - Analgesia
  - Far Forward Blood, Blood Components, & Injectable Hemostatics
  - Austere Surgical Stabilization
- Portable Lab Diagnostics**
  - Biological
  - Occupational and Environmental Health (OEH) Hazards

# USAMRAA BAA 2015-1 AREAS OF INTEREST (2)

**Force Health Protection  
and Environmental  
Medicine**

- **Optimal Acclimatization Strategy**
- **Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) Rapid Diagnostics, Treatment, and Prophylaxis**
- **Chelation Solution**

**Damage Control  
Resuscitation**

- **Environmental Extremes**
- **Sensory Optimization and Protection**
- **Trauma Resuscitation**
- **Non-Traditional Anesthesia Protocols**
- **Pre and Post Trauma Training/Behavioral Issues**

# TECHNICAL EXPERIMENTATION (TE)

- **TE 15-3, 16-19 June 2015, Atterbury-Muscatatuck Center for Complex Operations, Indiana**
  - Experimentation Focus: Urban/Unconventional Warfare
- **TE 15-4, 3-7 August 2015, Naval Amphibious Base, Coronado, California**
  - Experimentation Focus: Combat Swimmer/Diver
  - RFI open on [fbo.gov](http://fbo.gov)
- **TE USSOCOM Public Link:**  
<http://www.socom.mil/sordac/Pages/ExpWithUS.aspx>
- **LinkedIn Group:**  
[SOCOM Technical Experimentation](#)



# PROJECT VULCAN

- Pilot deployment of a TDA-based innovation platform jointly funded by the DoD IACs and SOF AT&L
- Links technology options in DoD, defense industry, and the broader commercial and academic R&D communities to the needs of SOF for better, cheaper, faster capability development

## Core Functions

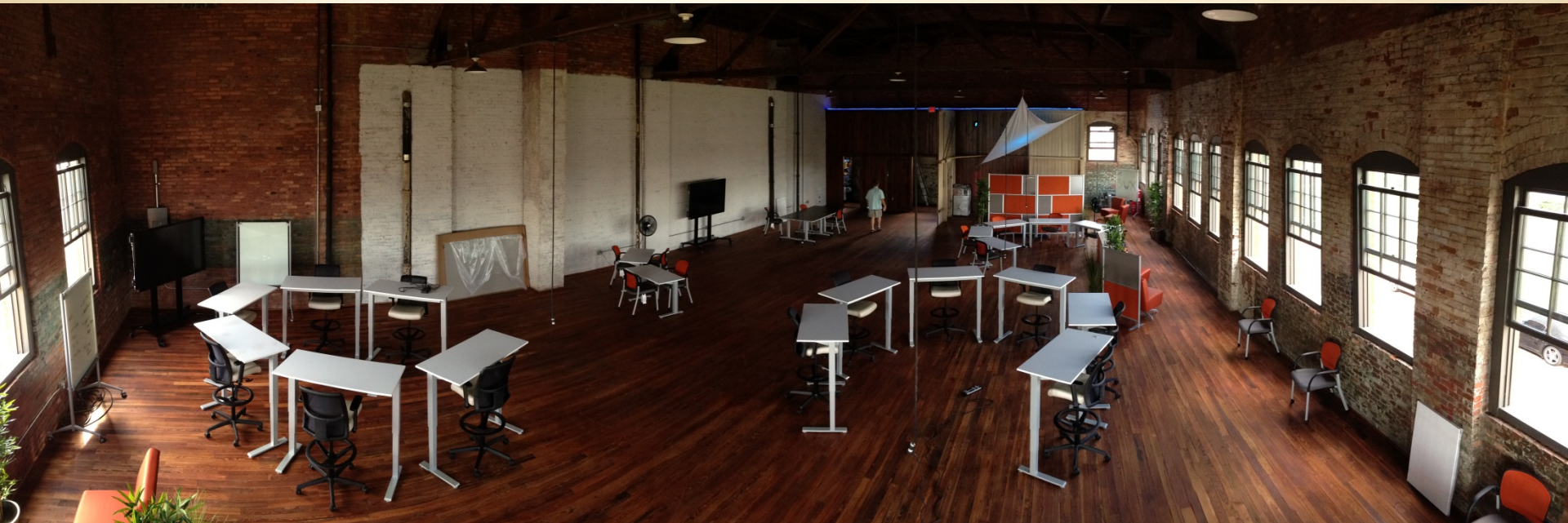
- 1 Connect distributed DoD innovation efforts and stakeholders
- 2 Inform defense acquisition priorities and planning
- 3 Build innovative prototypes through technology reuse



TDA links the resources needed to scale defense product innovation

# SOFWORX (SWX)

- Promote industry engagement
- Conduct rapid innovation and design thinking sessions with government, academia, and industry experts
- Host technology sprints to rapidly overcome hard to solve problems
- Conduct rapid prototyping session to build out ideas and designs and better inform future builds and engineering decisions



# COOPERATIVE R&D AGREEMENTS (CRADAs)

- **A CRADA is:**

- A legal agreement for Research, Development, Test, & Evaluation (RDT&E)
- A collaborative effort with non-federal party (parties)
- Parties may provide and share personnel, services, facilities, equipment, or other resources in conducting the RDT&E
- Non-federal party may also provide funds; statute prohibits government from providing funds to non-federal party
- Since collaborating party does not receive federal funds, normal government procurement requirements do not apply
- End objective – advance Science and Technology that meets USSOCOM mission requirements but also has viability in other potential commercial applications





# TWO DISTINCT CRADAs FOR SOF AT&L

## OVERARCHING CRADA

- Formulated to provide general access to gaps and needs to foster collaboration
- SOFA T&L AE signed – Company coordination and acceptance – generally 30 days
- CRADA allows for formulation & execution of Joint/Individual Work Plans (JWP/IWPs) between the Collaborator(s) and any PEO/Directorate within SOFA T&L
- JWPs/IWPs staffed, approved, and signed - Target 30 days for staffing
- Collaborator(s) may request meetings to begin JWP/IWP development

## SPECIFIC (TRADITIONAL) CRADA

- Formulated to provide a collaboration on a specific technology
- Follows USSOCOM D70-1, Appendix Q procedures
- Standard template
- Specifically between Collaborator and single PEO/Directorate
- Writing and staffing is generally 90 - 120 days



# QUESTIONS?

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