



"In the middle of difficulty lies opportunity"

Albert Einstein

SPECIAL OPERATIONS FORCES ACQUISITION, TECHNOLOGY, & LOGISTICS

Campaigning with Partners for Integrated Deterrence

Ms. Lisa Sanders, Director, Science & Technology
SCIENCE & TECHNOLOGY OVERVIEW



SOF AT&L-ST VISION

Innovate for Future Threats

**Relentlessly Discover, Develop, Adapt and Employ
Next Generation Technologies that Provide SOF
an Overwhelming Competitive Advantage**

Modernization of SOF – Prepare Today to Win Tomorrow

SCIENCE & TECHNOLOGY (S&T) 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 Tech Insertion Roadmap needs, and game-changing technology development

MILESTONES

- Project Dependent

POINT OF CONTACT

- USSOCOM SOF AT&L, Engage SOF (eSOF)
(813) 826-9482

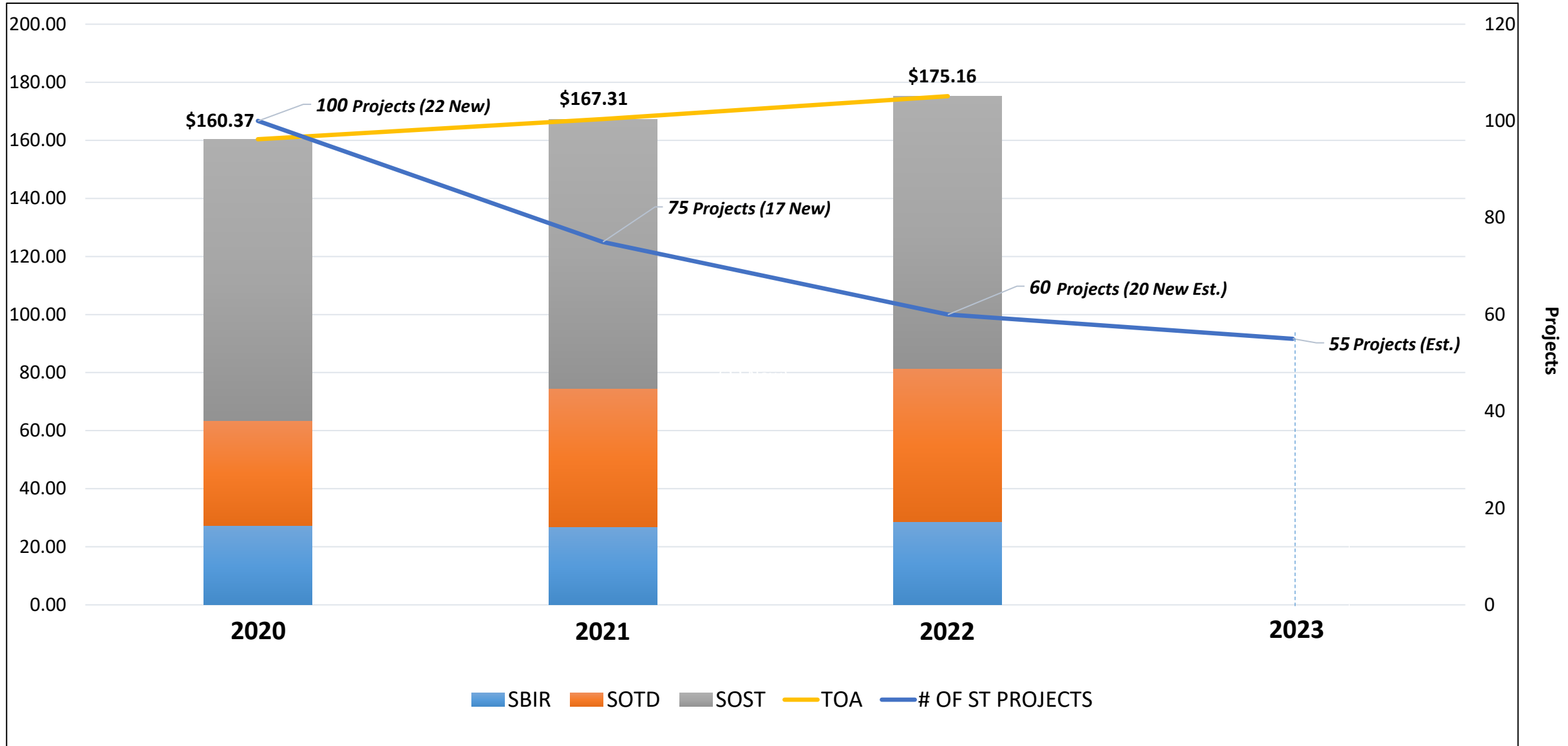
FUNDING

- FY22 BA2/BA3: \$52.6M/\$93.9M = \$146.5M

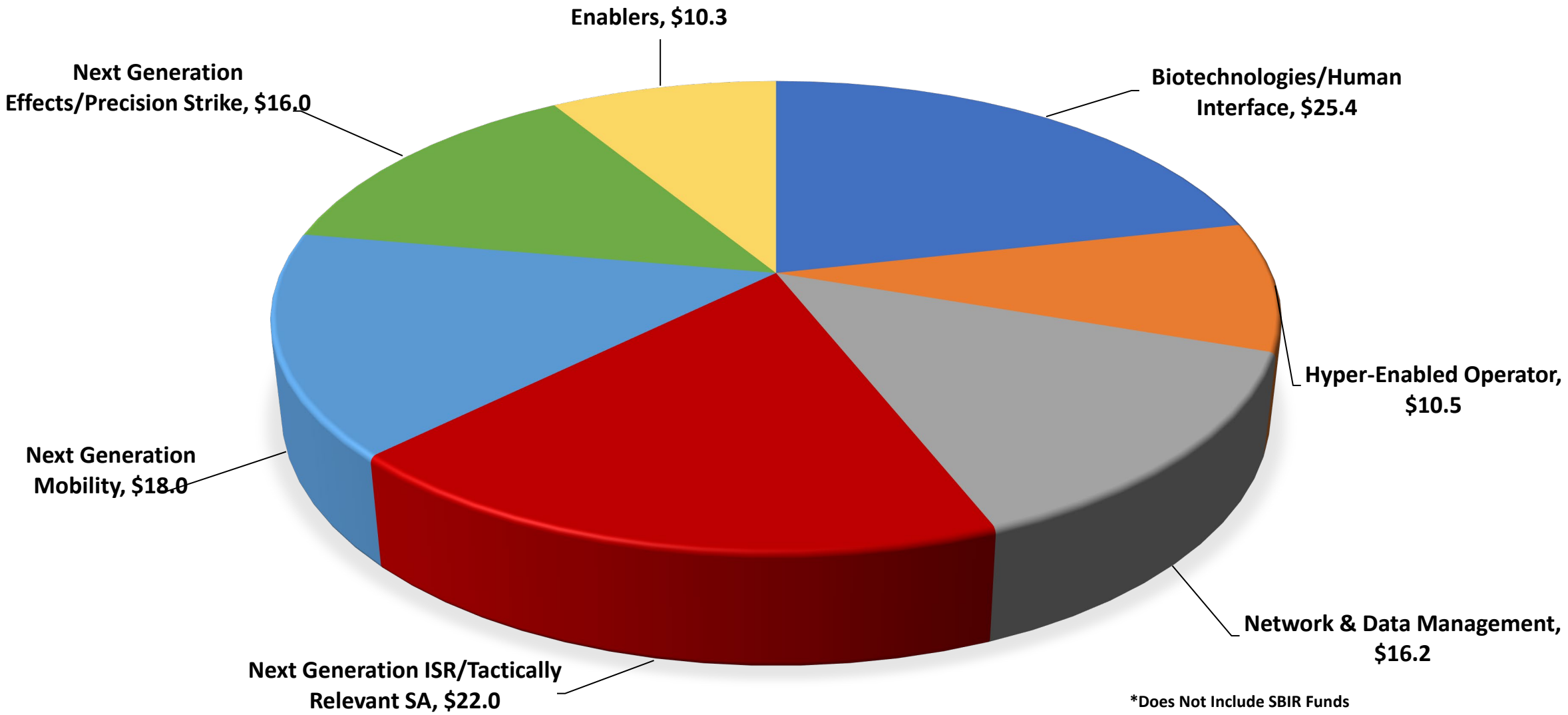
CURRENT CONTRACT/OEM

- Various

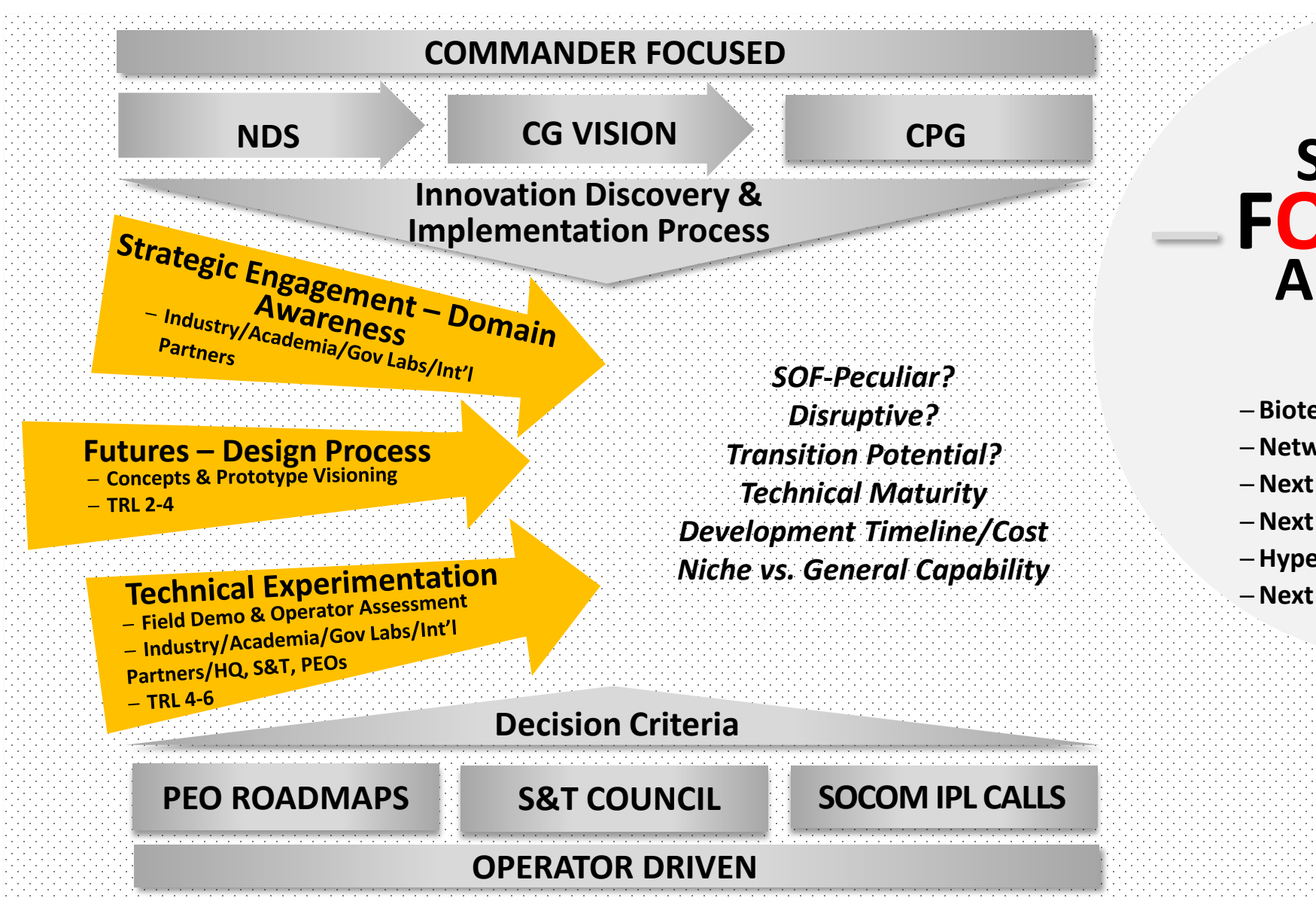
S&T PROJECTS VS FUNDING



FY22 BA-2/3 S&T PORTFOLIO BY CAPABILITY FOCUS AREA (CFA) (\$M)*



SOF PRIORITY CONSIDERATIONS



S&T FOCUS Areas

for MFP-11 6.2/6.3

- Biotechnologies/Human Interface
- Network & Data Management
- Next Gen Effects/Precision Strike
- Next Gen ISR/Tactically Relevant SA
- Hyper-Enabled Operator
- Next Gen Mobility



BIOTECHNOLOGY AND HUMAN INTERFACE CFA

BIOTECHNOLOGIES / HUMAN INTERFACE



Blood Delivery Device

2020

Human Interface

Focal Array Lens
In-Ear EEG

Human Performance

STRONGER
H2ERO
Circadian Acclimatization
Human Performance
Small Molecule
Sleep Optimization
Canine Performance
STAK

Biomedical

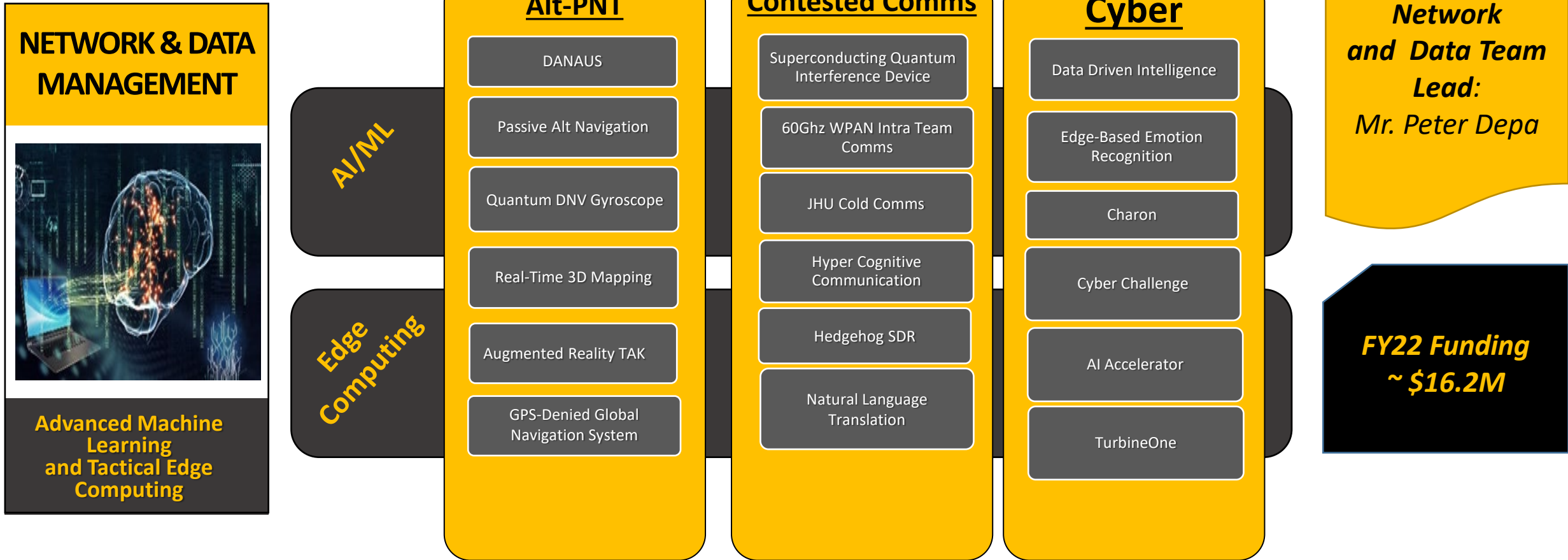
ReBlast-2
Lyophilized Cryoprecipitate
LifeFlow
FWB Donation & Performance
IR Intracranial Scanner
ATTAC
POC Coagulation
Canine Trauma
CRISPR/CAS9 Coagulation

*Biotechnology & Human Interface Lead:
Mr. Chris Wilson*

FY22 Funding ~ \$25.4M

Biotechnologies – Enhancing Austere Medicine, SOF Operator Performance and Human Systems Integration

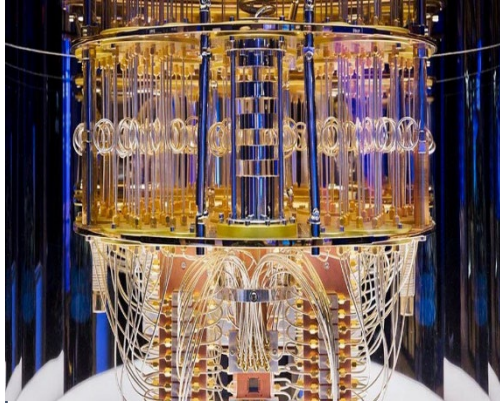
NETWORK AND DATA MANAGEMENT CFA



NDM CFA Uses AI/ML and Edge Computing Technology Development to Further SOF Capabilities in Alt PNT, Contested Comms and Defensive Cyber

NEXT GENERATION EFFECTS CFA

NEXT GENERATION EFFECTS



Offensive Non-Kinetic Warfare
Technology Development

OFFENSIVE CYBER

- Autonomous Cyber
- Cyber Physical Sensing
- Cyber Operator / Weapon

ELECTRO MAGNETIC WARFARE

- Snow Leopard
- Particle Beams
- Electro-Magnetic Attack
- HPE Counter materiel Effects
- Passive Detection & Tracking SUAS

NON-KINETIC ATTACK

- Covert Signal Injection Using Electron Accelerators (COSINEA)
- Frequency Generation
- Cooperative MIMO for Non-Kinetic Effects
- Optical Channels for Exploitation

KINETIC ATTACK (PHASING OUT)

- 9-Bang Flash Bang Grenade
- 40mm Breaching Round
- Enhanced 40mm Frag

Next Generation Effects Team

Lead:

Ms. Kaneshia Humose

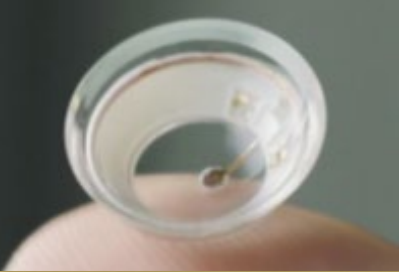
**FY22 Funding
~ \$16M**



NGE is - Non-kinetic effects that support the offensive capabilities of the SOF Operator throughout the range of military operations in all environments

NEXT GENERATION ISR CFA

ISR/TACTICALLY RELEVANT
SITUATIONAL AWARENESS



Eye Mounted Display

AI/ML for
Advanced PED

- NeBula
- Autonomy Enabled ISR
- BeWARE

Advanced
Unattended
Sensors

- Solvent OTH
- Nantendo
- Sense Through The Wall (STTW)

Enhanced Exfiltration/
Dissemination

- SOF Space
- SDA Payload Integration
- Agile Apertures
- CIP-A

Disrupters/
Multipliers

- Tectus Eye-Mounted Display
- Differential Segmented Aperture


*Next
Generation ISR
Team Lead:
Mr. Dan
Granados*

*FY22 Funding
~ \$22M*

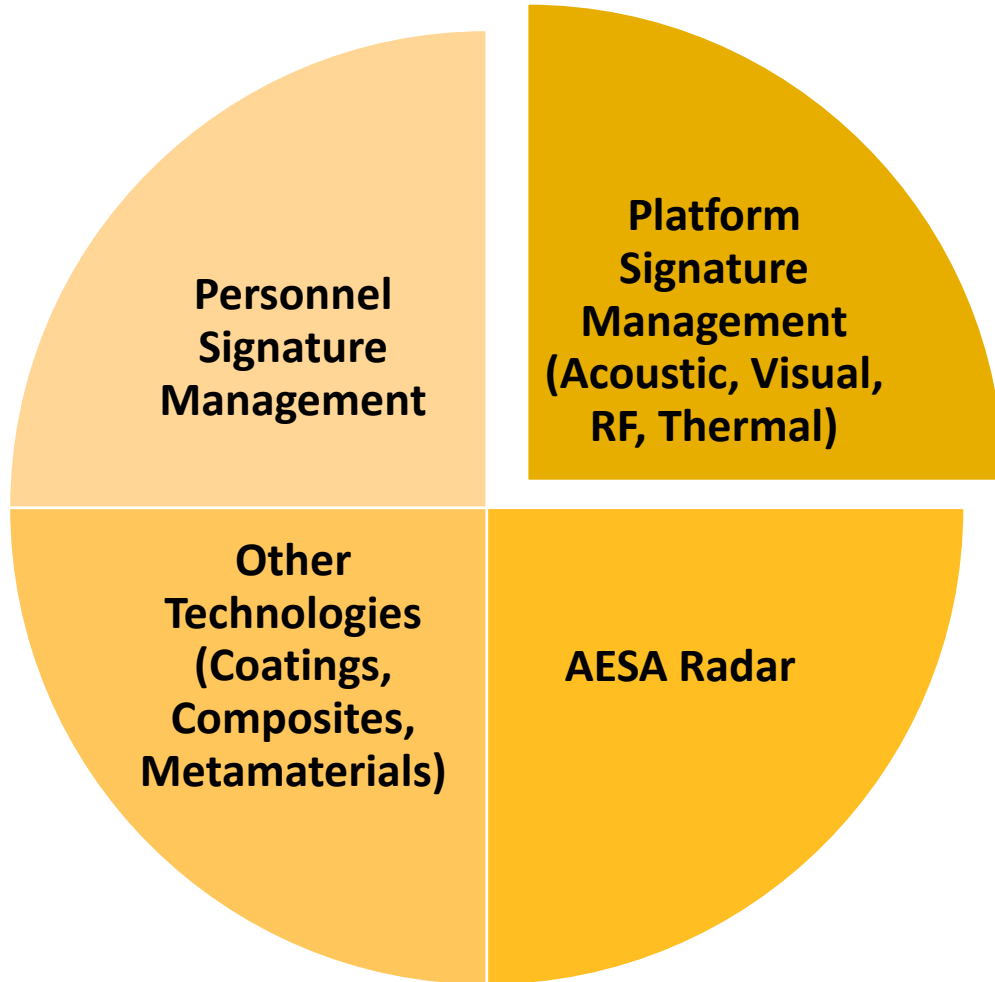
NGISR Portfolio Encompasses Tactically Relevant Situational Awareness in All Domains

NEXT GENERATION MOBILITY CFA

NEXT GENERATION MOBILITY



Signature Management



Next Gen Mobility Team Lead:
Dr. Conrad Lovell

FY22 Funding ~\$18M

NGM Supports Air, Ground, and Maritime Surface/Subsurface Technologies

JOINT ACQUISITION TASK FORCE HYPER-ENABLED OPERATOR (JATF - HEO)

PEOPLE

Logos representing the personnel and partner organizations involved in the JATF-HEO effort, including SF, NH-IV ACQ, Ranger, ACQ, EOD, CSO, SEAL, Ranger, CCT, MITRE, VES, DRAPER, UNIVERSITY OF SOUTH FLORIDA, NVIDIA, and Johns Hopkins University.

PROCESS

Habitual relationship with 7th SFG provides dedicated, consistent, persistent user involvement.

Engineering sprint efforts allow rapid development of prototypes.

Build
Test
Fix
Build

Flexible contract arrangements with key industry partners combined with “in-house” prototyping and coding expertise

Logos for partner organizations: SOFWERX, LIBERTY ALLIANCE, cybrix GROUP, and MISSION SUPPORT CENTER PINEWOOD.

PRODUCTS

Strategic
Operational
Tactical

JADC2 CFT

MC/COP

TAK

- Sensing & Edge Computing
- Architecture & Analytics
- Language Translation

Diagram illustrating the operational spectrum from Tactical to Strategic, showing the JADC2 CFT, MC/COP, and TAK products, and a list of capabilities: Sensing & Edge Computing, Architecture & Analytics, and Language Translation.

Rapid Prototyping and Proof of Concept Capability that Informs and Enhances the Larger SOF Acquisition Effort JATF Team Lead: COL Jarret Mathews

FUTURES PROGRAM

Acceleration of Innovation and Experimentation to Modernize the future of SOF
INNOVATION CYCLE



S&T FUTURES PROCESS

1. **INNOVATION FOUNDRY** | 3 Days | 60 SMEs | 20 SOF Users | 10 – 15 Concepts
Design Thinking
2. **RAPID CAPABILITY ASSESSMENT** | 5 Days | 25 SMEs | 4 SOF Users | 5 – 8 Concept Required Capabilities
Design Research and Development
3. **TECHNOLOGY DEMONSTRATION SPRINTS** | \$25K - \$250K | 2 – 12 Weeks | 5 – 10 Vendors
Rapid Prototyping and Field Demonstrations
4. **PROTOTYPE VIDEO** | 10 Weeks | 5 - 10 Concept Required Capabilities
Places Capabilities into Mock Future Operating Environment
5. **CONCEPT CAPABILITY PACKAGE** | 4 Weeks | Details Innovation Cycle Findings
Detailed findings of the Innovation Cycle which facilitate the review and understanding of the Concepts developed

CURRENT PROJECT PORTFOLIO



ARTIFICIAL INTELLIGENCE FOR SMALL UNIT MANEUVER



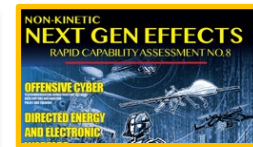
ARTIFICIAL INTELLIGENCE FOR INTELLIGENCE SURVEILLANCE AND RECONNAISSANCE



ARTIFICIAL INTELLIGENCE FOR MARITIME MANEUVER



BALLISTIC MISSILE DEFEAT



NEXT GENERATION EFFECTS NON-KINETIC

TRANSITIONS

S&T

PEO

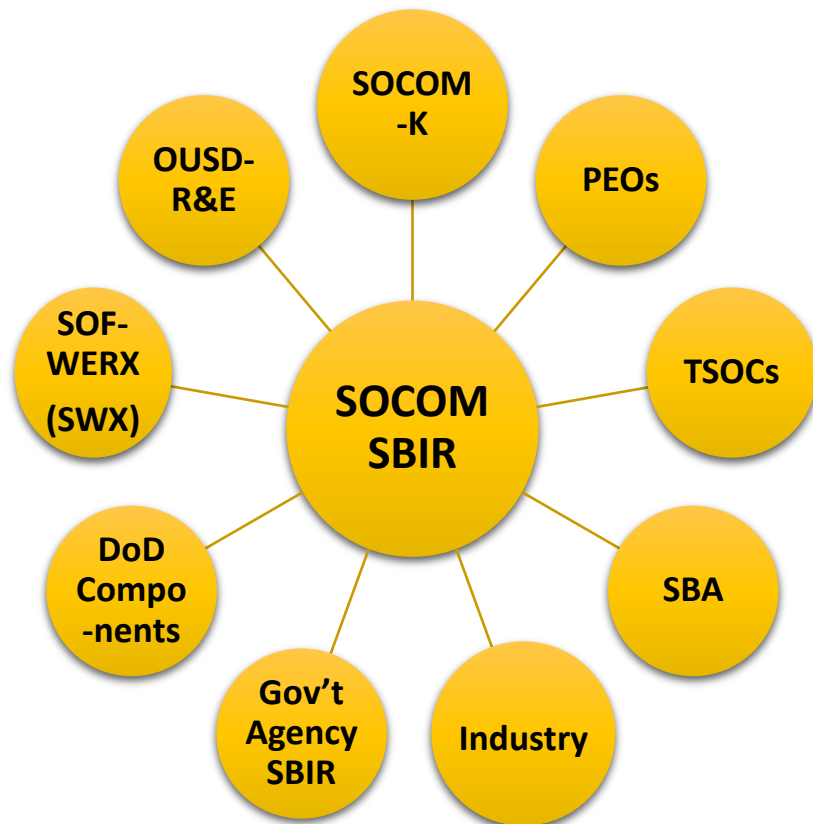
EXFOR

A Disruptive approach leveraging Forward Leaning Designers, Non-Traditional Engineers, SOF Operators, and Trusted Academics to spark Design Thinking for the Future.



SMALL BUSINESS INNOVATION RESEARCH (SBIR)

SOCOM SBIR NETWORK



FY22 PLANNING

Planned FY22 SBIR/STTR: 55

Phases

Awarded by:

Phase I: 16

Phase II: 64

KO: 61*

SWX: 19

* Includes SOCOM and Non-SOCOM Contracting Officers (KOs)

SBIR Team Lead:
Mr. Mina Khalil

FY22 Funding
~\$25.1M (SBIR)
~\$3.5M (STTR)
~\$15 (Non-SOCOM SBIR)

STRATEGIC ENGAGEMENT

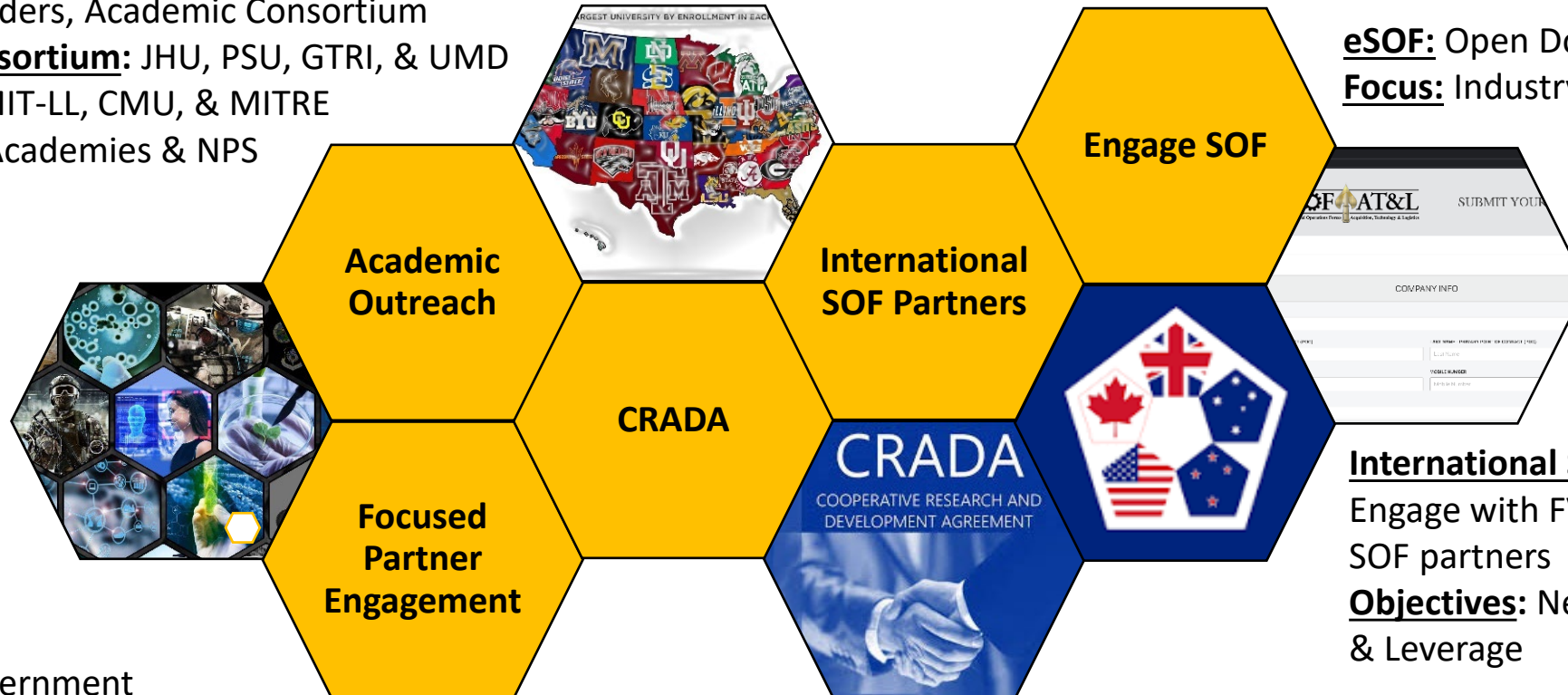
Focus: Academia, UARCs, & FFRDCs

Academic IDIQ: USF (5 year / \$85M),
14 Task Orders, Academic Consortium

UARC Consortium: JHU, PSU, GTRI, & UMD

FFRDCs: MIT-LL, CMU, & MITRE

Military: Academies & NPS



eSOF: Open Door to USSOCOM

Focus: Industry

International SOF Partners:

Engage with FVEY and
SOF partners

Objectives: Network
& Leverage

Focus: Government

Relationships: DoD Labs, DARPA,
OSD orgs, DoE Labs, Intelligence Community

Objectives: Network, Leverage, & Influence

Cooperative Research And Development

Agreements (CRADA): 234 Active

Objectives: Leverage Collaborators

TECHNICAL EXPERIMENTATION (TE)

- **TE 22-3, 6-10 June 2022 at Ft. Bragg, NC**
 - Experimentation Focus: Soldier Systems/Sense Through the Wall Technologies
 - <https://sam.gov/opp/cb59638cc0b8435faa82f1aaf85447a0/view>
(Example Only Closed for New Inputs)
- **FY23 (Tentative Schedule, Location and Themes – RFIs post ~6 months in advance):**
 - TE 23-1, 12-16 DEC 22, Avon Park, FL, Theme: S&T CFAs and Components
 - TE 23-2, 20-24 MAR 23, Avon Park, FL , Theme: Special Reconnaissance, Surveillance and Exploitation
 - TE 23-3, 5-9 JUN 23, Red Springs, NC, Theme: Soldier Systems/Standoff See-Through-The-Wall
- **Public Link:**
<https://www.socom.mil/SOF-ATL/Pages/technical-experimentation.aspx>
- **Linked  Group: SOCOM Technical Experimentation**



EXPERIMENT WITH US!



Participant Nominations
<https://events.sofwerx.org/if11/>

SOF Operations in a World of Omnipresent Sensor Networks*
@ SWX, Tampa, FL

Participant Nominations
<https://events.sofwerx.org/if12/>

Joint/Partner Communications in a Contested/Austere Environment*
@ SWX, Tampa, FL

Participant Nominations
<https://events.sofwerx.org/if13/>

Understand & Exploit the Information Domain – 2040*
@ SWX, Tampa, FL

Upcoming Innovation Foundry (IF) Events (*Topics to Be Validated)



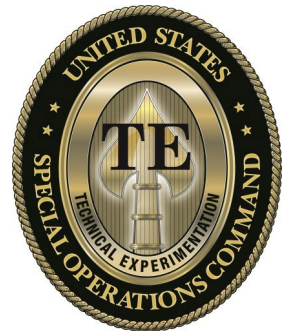
Soldier Systems/See Through Walls
Red Springs, NC

Experiment White Papers
<https://vulcan-sof.com>

Next Gen Effects/Contested Communications
Avon Park, FL

Experiment White Papers
<https://vulcan-sof.com>

Special Reconnaissance for Integrated Deterrence
Avon Park, FL



Upcoming Technical Experiment (TE) Events

ENGAGEMENT TOOLS

ACTIVITY	OPPORTUNITY	ENGAGEMENT
SOF Futures Innovation Foundry Events Mr. Brian Sisco, Futures Lead brian.sisco@socom.mil	<ul style="list-style-type: none"> S&T has developed an S&T Futures Process S&T conducts “Innovation Foundry” events to enable SOF’s ability to accomplish their missions 10-15 years in the future 	<ul style="list-style-type: none"> S&T plans to conduct 2-3 SOF Futures Innovation Foundry Events per Fiscal Year Innovation Foundry events will provide opportunities for attending and injecting disruptive technology solutions for SOF
Small Business Innovation Research (SBIR)/ Small Business Technology Transfer (STTR) Mr. Mina Khalil, SBIR/STTR PM SBIR@socom.mil	<ul style="list-style-type: none"> S&T manages SOCOM’s SBIR/STTR programs Stimulates innovation for small businesses 3 Phases, Phase I is a Study (\$150K), Phase II Prototype (\$1.5M), Phase III Commercialization 	<ul style="list-style-type: none"> https://www.socom.mil/SOF-ATL/Pages/sbir.aspx USSOCOM participates in three SBIR/STTR Topics Call per year (April, August, and December timeframes)
Technical Experimentation (TE) Events Mr. Dan Bernard, TE Lead tech_exp@socom.mil	<ul style="list-style-type: none"> Conducts 3-4 US-based events every fiscal year each with different theme(s) Industry opportunity to engage and demonstrate technology/concepts and get direct feedback from SOF Operators/Acquisition Professionals 	<ul style="list-style-type: none"> Normally 1 TE Event/QTR, TE Request for Information (RFI) posted on Beta.SAM.gov for each TE Event Go to https://www.socom.mil/SOF-ATL/Pages/technical-experimentation.aspx
Cooperative Research & Development Agreements (CRADA) Mr. Vince Seiferd, Strategic Engagement Lead discovery@socom.mil	<ul style="list-style-type: none"> SOCOM employs Overarching and Specific (Traditional) CRADAs Legal agreement to provide general and specific access to USSOCOM needs 	<ul style="list-style-type: none"> Allows for the formulation and execution of Individual Work Plans (IWP) between the Collaborator – PEO/Directorate within SOF AT&L
Broad Agency Announcements (BAA) Mr. Brad Penn, PM S&T BAAST20@socom.mil	<ul style="list-style-type: none"> SOCOM S&T Directorate/PEOs develop and post BAAs to SAM.gov that provide Areas of Interest (AOI) to Industry and other External Organizations. 	<ul style="list-style-type: none"> S&T has posted a 5-year BAA that will be periodically updated with Areas of Interest (AOI) Extramural Biomedical and Human Performance BAA currently posted through US Army
Engage SOF (eSOF) Mrs. Shelvin Watts, eSOF POC eSOF@socom.mil	<ul style="list-style-type: none"> Conduit for the SOF AT&L Enterprise Matches your company’s product/service/capability to the appropriate personnel within the command and schedules discussions or demos 	<ul style="list-style-type: none"> Go to https://www.socom.mil/SOF-ATL/Pages/eSOF-before-you-submit.aspx for information and link to USSOCOM Areas of Interest and for the eSOF Submitting Your Idea Form



QUESTIONS?

