

# SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

*Accelerating SOF Innovation*

**CAPT Kate Dolloff** *Program Executive Officer – Maritime*

**PEO PORTFOLIO REVIEW**





# Program Executive Office – Maritime

- PEO Opening Comments and Portfolio Overview
- PM Surface Systems
- PM Combat Diving
- PM Naval Special Warfare
- PM SOF Undersea Mobility
- PM Undersea Systems
- S&T and R&D Interests
- Open Forum Questions





# Organizational Chart

**CAPTAIN BRIAN O'LAVIN**

CCA  
CCH  
CCM  
CCFLIR  
SOCR  
MPE

**CAPTAIN KATE DOLLOFF**



**CAPTAIN KEITH BARAVIK**

DDS  
DCS  
Technical Support

DCS

Combat Diving

SDV  
SWCS

**COMMANDER SCOTT DELWICHE**

**CAPTAIN CHAD MUSE**

**MR JIM KNUDSON**



# Program Executive Office Maritime (M)

## UNDERSEA SYSTEMS



SEAL Delivery Vehicle



Dry Deck Shelter



Shallow Water  
Combat Submersible



SOF Combat Diving



S351



Dry Combat Submersible

## SURFACE SYSTEMS



Combatant Craft Assault



Combatant Craft Heavy



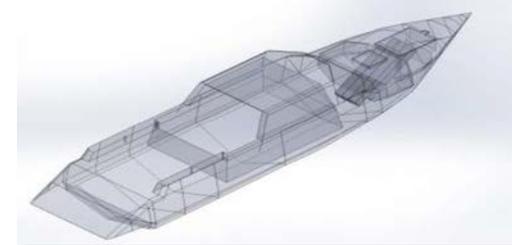
Special Operations Craft -Riverine



Combatant Craft Medium



Next Gen CCFLIR2



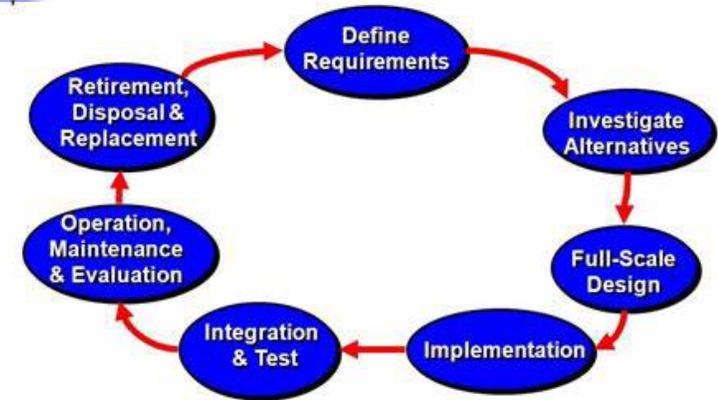
Maritime Precision  
Engagement





# Why PEO Maritime is Unique

- Typically do not receive equipment from parent service
- Majority of platforms are SOF Peculiar, built specifically to meet NSW requirements
- Full Life Cycle System Management
- Cradle to Grave – Development to Divestiture with Two Exceptions
  - MK 18 MOD 1 – service common UUV with SOF Peculiar modifications
  - Combat Diving – modified COTS, in addition to specific builds





# Other Authorities

- **Middle Tier Acquisition (MTA)**

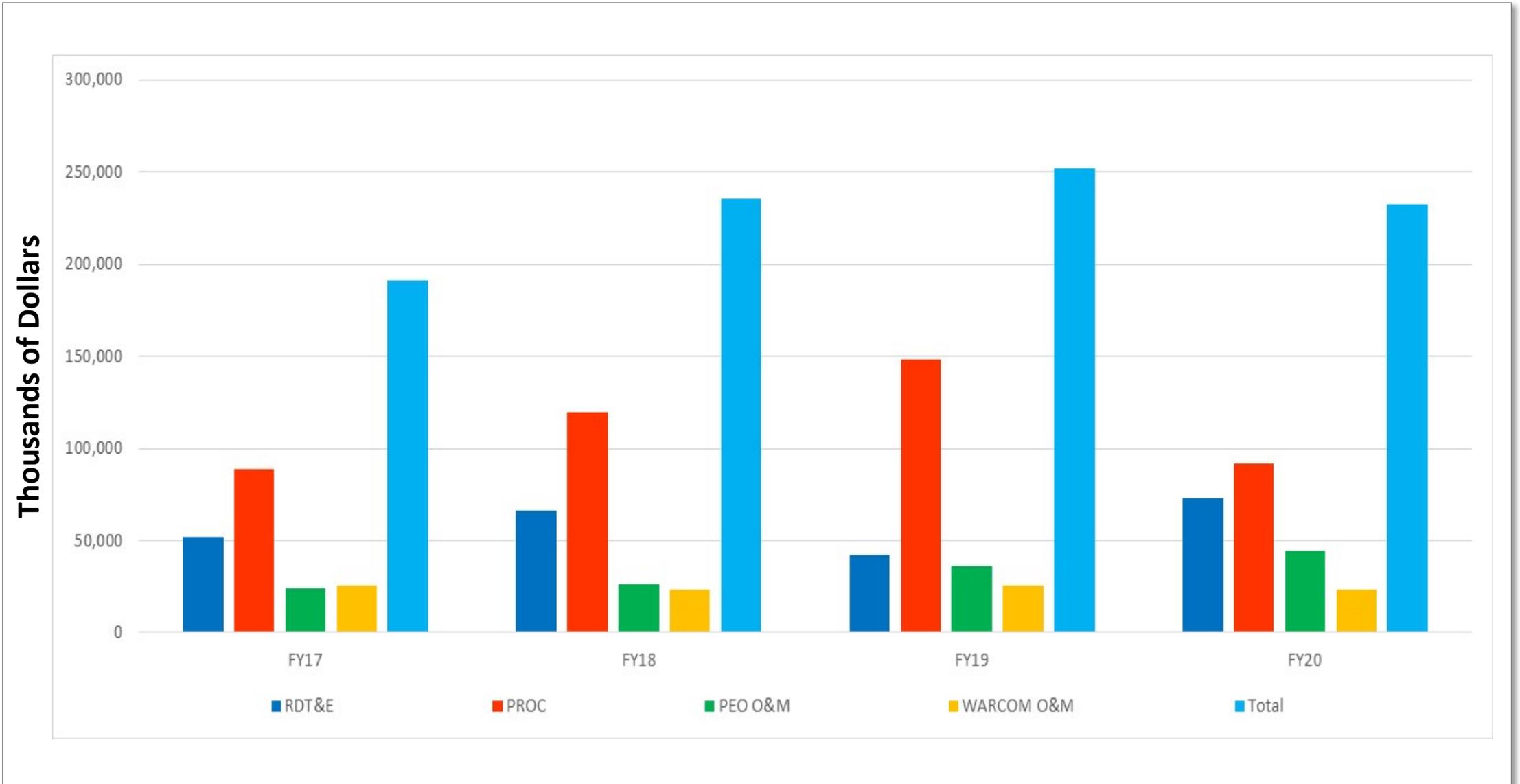
- Used to field required capability on an accelerated schedule at a reduced cost
- **Rapid Prototyping**
  - Innovative technology to rapidly develop fieldable prototypes
  - Prototypes that can be demonstrated in an operational environment
  - Provide for a residual operational capability within 5 years of an approved requirement
- **Rapid Fielding**
  - Proven technologies with minimal developments required
  - Begin production within 6 months and complete fielding within 5 years of an approved requirement

- **Other Transaction Authority (OTA)**

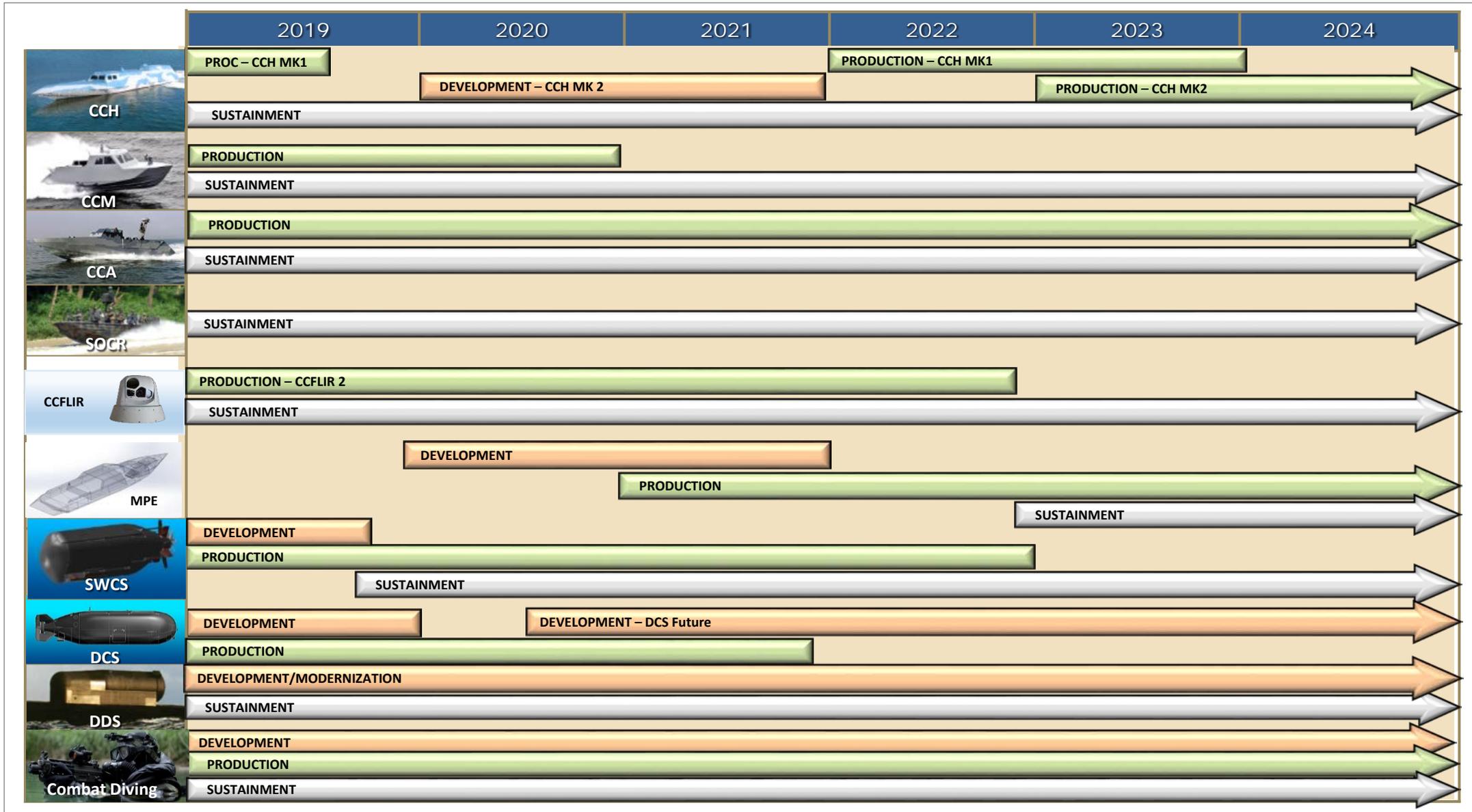
- Allow for much greater speed, flexibility, and accessibility in performing research and prototyping activities
- Allows DOD to enter into **transactions other** than contracts, grants or cooperative agreements
- Not subject to FAR/DFARS that apply to government procurement contracts
- Each military service has authority to execute OTs up to \$100M, and no limits on how many or cumulative value of such awards. Beyond \$100M, USD(AT&L) must provide authorization



# Portfolio Overview



# NSW Craft Roadmap





# Program Executive Office – Maritime

- **Continue Fielding Enhanced Capability**

- Recapitalization/Upgrade of the Fleet
  - Combatant Craft/CCFLIR2
  - SDV to SWCS
  - Dry Deck Shelter Modernization
- New capabilities
  - Dry Combat Submersible
  - Maritime Precision Engagement
  - SOF Combat Diving

- **Areas of Interest**

- Maritime Communications
- Power & Energy
- Fleet Interoperability
- Training and Operator Performance
- Enhanced Navigation
- Diver Thermal Protection
- Diver Equipment Power
- Unmanned Technologies
- Survivability and Lethality
- Payload Handling

- **Reaching out to Industry Partners**

- Requests for Proposal
- Requests for Information
- Broad Area Announcements
- SOFWERX Collaboration events
- S&T Test & Evaluation events
- Industry Days



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**CAPT Brian O'Lavin** *Program Manager Surface Systems*

**PORTFOLIO REVIEW**





# Combatant Craft Heavy (CCH): SEALION

- Provides long range insertion capabilities for SOF personnel. Supports limited coastal patrol and interdiction
- SEALION I Overhaul on-going
- SEALION III Production on-going
- 2 of 3 Fielded
- CCH Mk 2 market research initiated - Mar 2019



## ACQUISITION STRATEGY

- Two tech demonstrators transferred from USN
- SEALION III sole source award

## PERIOD OF PERFORMANCE

- FY16 through FY19

## MILESTONES

- IOC: FY14
- FOC: FY19

## POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482

## FUNDING

- RDT&E FY19 through FY25
- PROC FY22 through FY24
- O&M FY19 through FY25

## CURRENT CONTRACT/OEM

- Vigor Works, LLC (OEM)
- SOFSA / Lockheed Martin (CLS)



# Combatant Craft Medium (CCM) MK 1

- Multi-role surface combatant craft with the primary mission of inserting and extracting SOF in medium threat environments
- Began initial craft deliveries to East Coast operational unit
- 25 of 30 Fielded



## ACQUISITION STRATEGY

- Small business set aside using competitive prototyping

## PERIOD OF PERFORMANCE

- FY15 through FY22

## MILESTONES

- IOC: FY15
- FOC: FY22

## POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482

## FUNDING

- RDT&E FY19 through FY25
- PROC FY18 through FY24
- O&M FY19 through FY25

## CURRENT CONTRACT/OEM

- Vigor Works, LLC (OEM)
- SOFSA / Lockheed Martin (CLS)



# Combatant Craft Assault (CCA)

- Medium Range, maritime assault, interdiction, insertion and extraction platform. Provides expanded range, speed, and payload capacity over existing Naval Special Warfare Combatant craft of similar size
- Follow-on production contract being developed for Capital Equipment Replacement Program
- 29 of 32 Fielded



## ACQUISITION STRATEGY

- New Production Contract in Development
- Post-production and contractor logistical support with SOFSA

## PERIOD OF PERFORMANCE

- FY16 through FY20

## MILESTONES

- IOC: FY15
- FOC: FY20

## POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482

## FUNDING

- RDT&E FY18 through FY24
- PROC FY18 through FY24
- O&M FY18 through FY24

## CURRENT CONTRACT/OEM

- US Marine Inc. (OEM)
- SOFSA / Lockheed Martin (CLS)



# Combatant Craft Forward Looking Infrared (CCFLIR)

- Provides Special Operations Forces (SOF) with a multi-sensor, electro-optic system that enhances SOF effectiveness by improving their ability to detect, recognize, identify, range, track, and highlight objects of interest in a maritime environment
- Deployed initial LRIP
- Integration into CCA, CCM, and CCH platforms
- 10 of 58 Delivered



## ACQUISITION STRATEGY

- Full and Open Competition completed FY15
- Modified GOTS technology

## PERIOD OF PERFORMANCE

- FY15 through FY24

## MILESTONES

- IOC: FY18
- FOC: TBD

## POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482

## FUNDING

- RDT&E None
- PROC FY18 through FY21
- O&M FY19 through FY25

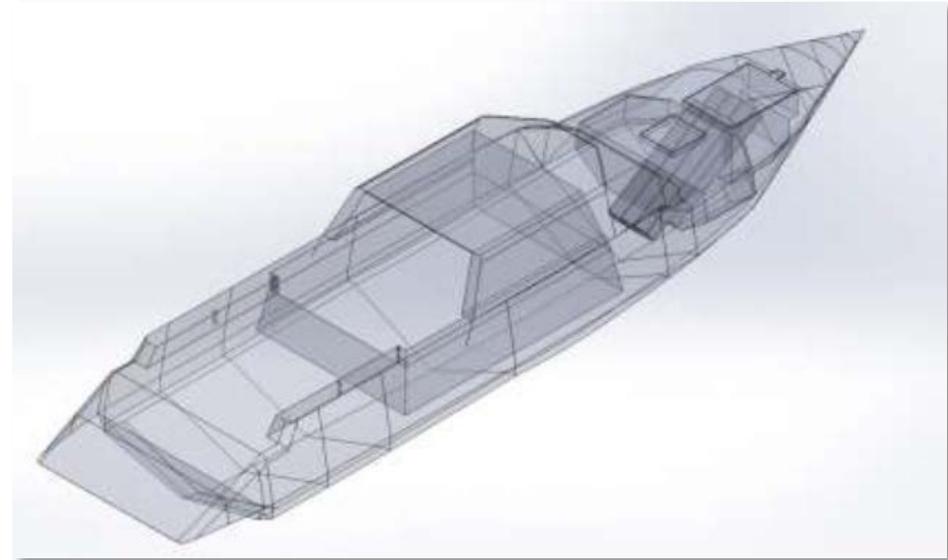
## CURRENT CONTRACT/OEM

- FLIR Systems, Inc. (OEM)
- NSWC Crane – Sustainment



# Maritime Precision Engagement (MPE)

- Family of Standoff, Loitering, Man-in-the-loop Weapons Systems Deployed on Combatant Craft and Capable of Targeting Individuals, Groups, Vehicles, High Value Targets, and Small Oceangoing Craft with Low Collateral Damage. The program consists of combatant craft alterations, launcher systems, and munitions
- Program kick-off meeting and PIPT established – Feb 2019
- Government initiated feasibility study in support of CCM and CCH



ACQUISITION STRATEGY	PERIOD OF PERFORMANCE	MILESTONES
<ul style="list-style-type: none"> <li>• Full and Open Competition of a Government design</li> </ul>	<ul style="list-style-type: none"> <li>• TBD</li> </ul>	<ul style="list-style-type: none"> <li>• TBD</li> </ul>
POINT OF CONTACT	FUNDING	CURRENT CONTRACT/OEM
<ul style="list-style-type: none"> <li>• USSOCOM SOF AT&amp;L, Technology &amp; Industry Liaison Office (TILO) (813) 826-9482</li> </ul>	<ul style="list-style-type: none"> <li>• RDT&amp;E      FY19 through FY24</li> <li>• PROC        FY21 through FY24</li> <li>• O&amp;M        FY22 through FY24</li> </ul>	<ul style="list-style-type: none"> <li>• TBD</li> <li>• NSWC Dahlgren – Feasibility Study</li> <li>• NSWC Carderock – Feasibility Study</li> </ul>



# Combatant Craft Mission Equipment (CCME)

- Provides advanced technologies to correct system deficiencies, improve asset life, and augment mission requirements. It provides rapid response solutions to support SOF combatant craft systems, sub-systems, and their evolving requirements
- Initiated Maritime Tactical Mission Network effort



## ACQUISITION STRATEGY

- Marimize High TRL Technologies across the family of combatant craft through BAAs, SIBRs, and existing government contracts

## PERIOD OF PERFORMANCE

- Varies

## MILESTONES

- Varies

## POINT OF CONTACT

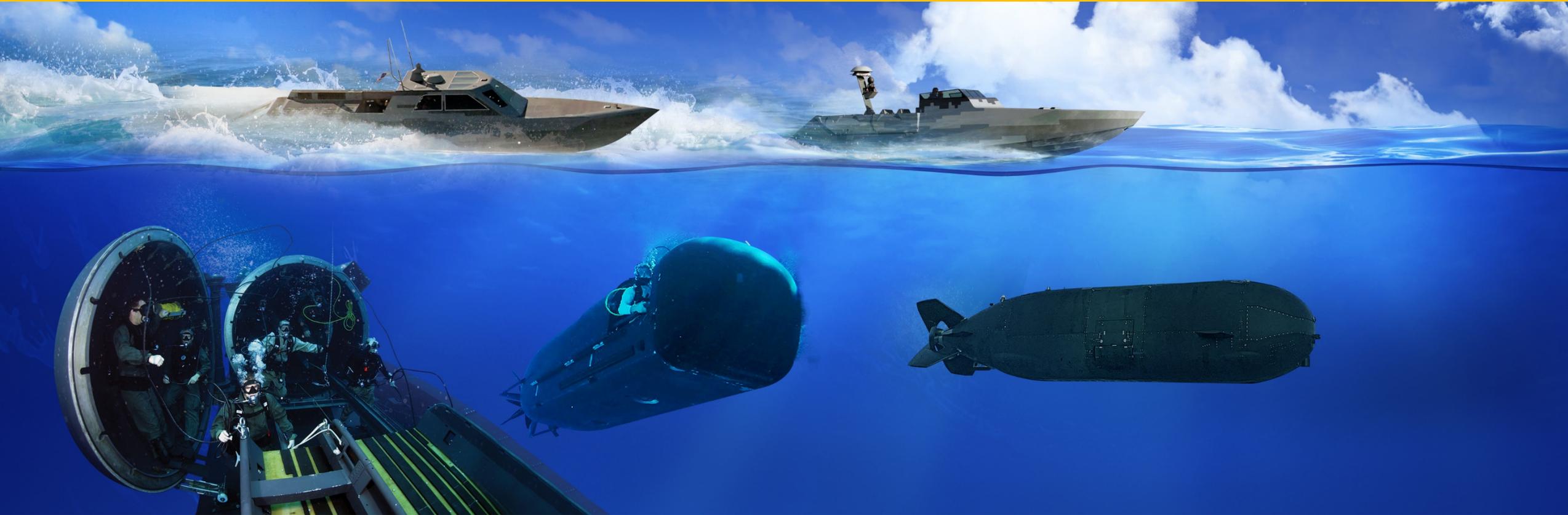
- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482

## FUNDING

- RDT&E      FY19 through FY24

## CURRENT CONTRACT/OEM

- NIWC Atlantic
- NAVAIR
- NSWC - Carderock
- NAWC – Aircraft Division



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**Mr. Jim Knudson** *Program Manager Special Operations Forces Combat Diving*

**PORTFOLIO REVIEW**





# SOF Combat Diving

- Supports the individual diver, as well as integration into PEO-Maritime systems
- Current efforts target equipment in the areas of maritime environmental protection, propulsion, navigation, and communication
- Supports development of future efforts for undersea mobility involving wet and/or dry submersibles



## ACQUISITION STRATEGY

- Utilization of existing contracts, other government agencies, and new contracts competitively selected

## PERIOD OF PERFORMANCE

- Planned FY19 through FY25

## MILESTONES

- Various Based on Projects

## POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482

## FUNDING

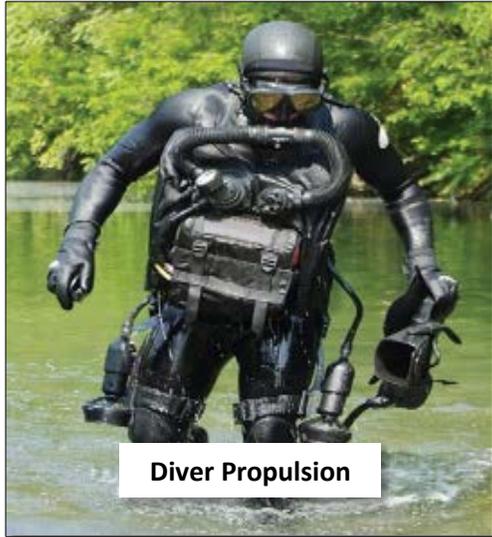
- RDT&E FY19 through FY25
- PROC FY19 through FY25
- O&M FY19 through FY25

## CURRENT CONTRACT/OEM

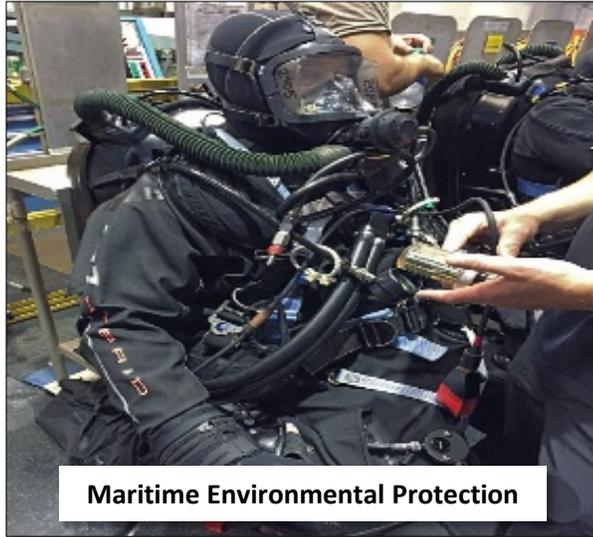
- DLA Troop Support, Philadelphia, PA



# SOF Combat Diving



Diver Propulsion

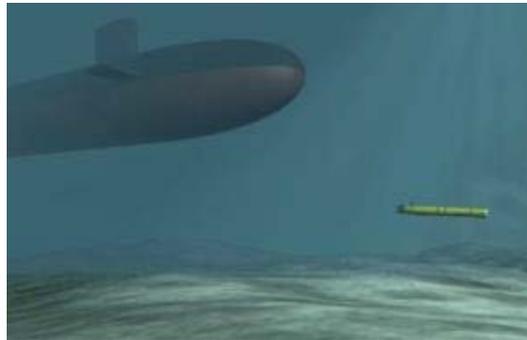
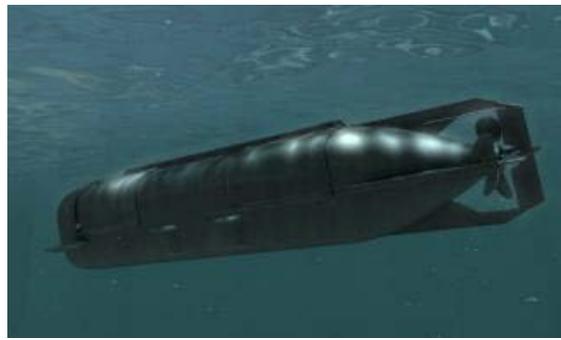


Maritime Environmental Protection



Diver Navigation

Diver Communication





# SOF Combat Diving Requirement Areas

- **Maritime Environmental Protection**

- Increased thermal regulation
  - Heating and cooling
  - Active and passive
- Full face mask protection
  - For use with closed-circuit rebreather
  - Incorporates voice communications
- Chemical, Biological, Radiological, and Nuclear or Explosive (CBRNE) protection

- **Navigation**

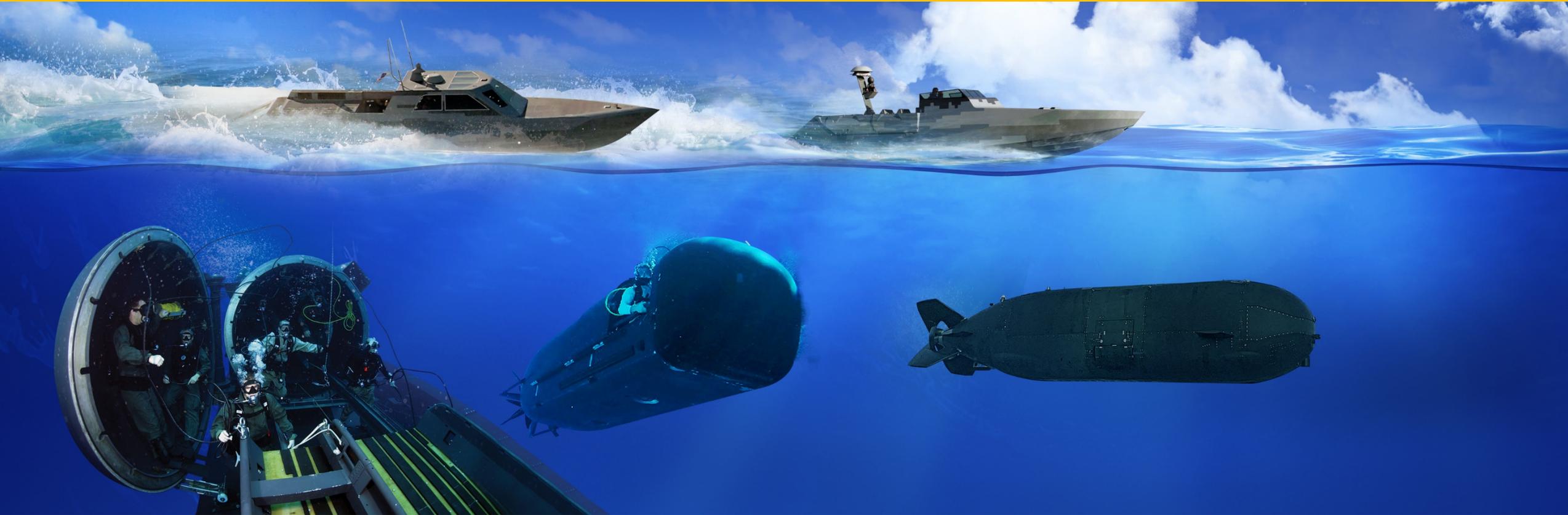
- Situational awareness
- Navigational accuracy (positioning)

- **Propulsion**

- Individual, collective, and hands-free capability
- Compact size/weight reduction
- Flexible delivery capability (sub, ship)
- Commonality

- **Communications**

- Acoustic and Optical
  - Data/text
  - Voice (air/HeO2)
  - Full motion video



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**CAPT Chad Muse** *Program Manager Naval Special Warfare*

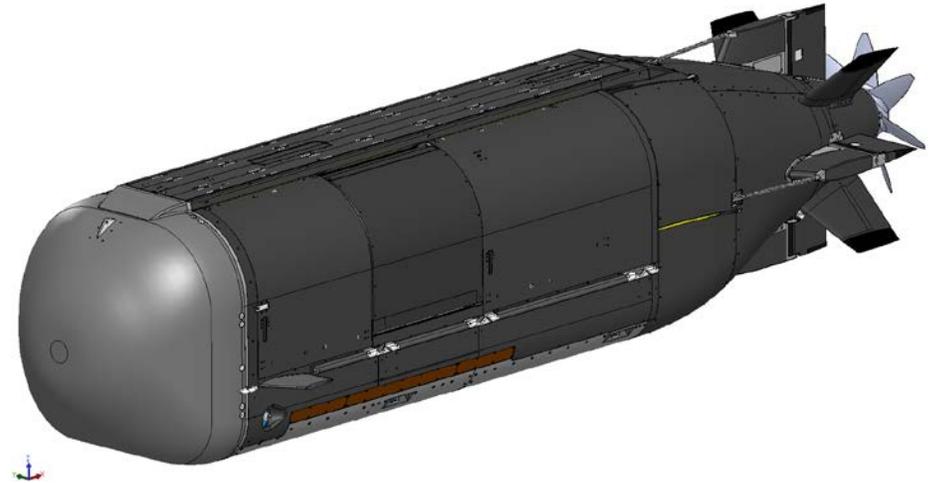
**PORTFOLIO REVIEW**





# Shallow Water Combat Submersible (SWCS)

- Next generation free-flooding wet combat manned submersible to transport Special Operations Forces (SOF) personnel and equipment in hostile waters for a variety of missions
- SWCS replaces the current SDV Mk 8, Mod 1 vehicle



## ACQUISITION STRATEGY

- Full and open competition
- Contract awarded in 2011
- Follow-On Production Contract to be Awarded FY19

## PERIOD OF PERFORMANCE

- FY11 through FY20
- FY19 through FY24

## MILESTONES

- IOC: Planned for FY19
- FOC: Planned for FY22

## POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482

## FUNDING

- RDT&E FY18 through FY24
- PROC FY18 through FY24
- O&M FY18 through FY24

## CURRENT CONTRACT/OEM

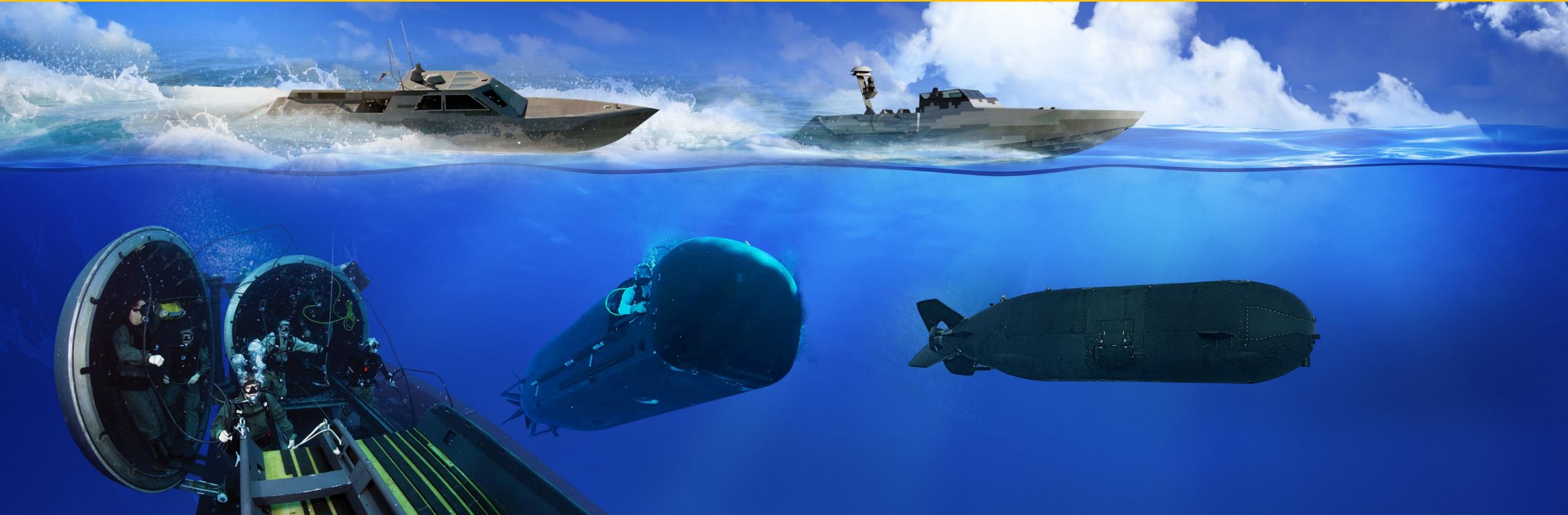
- Teledyne Brown Engineering, Huntsville, AL



# Shallow Water Combat Submersible (SWCS)

- **SWCS vs SDV Size/Weight Differences**
  - SWCS is 12" longer, 6" taller and wider
  - SWCS is 4000lbs > SDV
- **SWCS Enhancements over SDV**
  - Intel Core i7 Processors, Secure SSD, GB Ethernet Backbone
  - Improved Software and User Interface
  - Higher Accuracy Navigation
  - Increased cargo and payload capacity
- **Project Status**
  - Boats 1 & 2: Delivered May & Jun 2018
  - Boats 3 & 4: Delivery Sep 2019
  - Boat 5: Delivery Apr 2020
  - Boats 6 – 10: Planned FY21 through FY22





# SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

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**CAPT Keith Baravik** *Program Manager SOF Undersea Mobility*

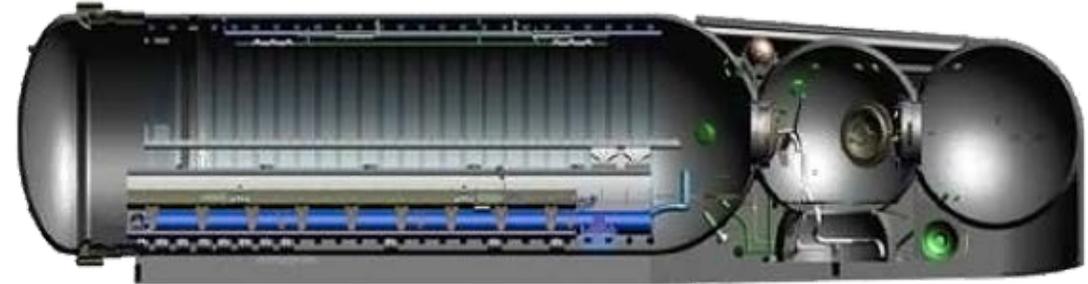
**PORTFOLIO REVIEW**





# Dry Deck Shelter

- The Dry Deck Shelter (DDS) is a certified diving system that attaches to modified Submarines. The program provides material safety certification, maintenance, modernization (Field Changes) and minor modifications for the DDS
- Maintenance and modernization contract to include Restricted Availabilities (RAVs) Regular Overhauls (ROHs) and Configuration Changes



## ACQUISITION STRATEGY

- DDS Maintenance Contract (open competition)
- Contract awarded in 2018

## PERIOD OF PERFORMANCE

- Sep 2018 – Sep 2023

## MILESTONES

- 6 DDS retire from 2042 through 2051

## POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482

## FUNDING

- RDT&E      FY19 through FY22
- PROC        FY19 through FY25
- O&M        FY19 through FY25

## CURRENT CONTRACT/OEM

- Oceaneering International Inc. – Marine Services Division (OII-MSD)



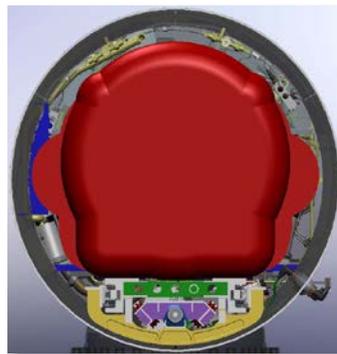
# Dry Deck Shelter

## Dry Deck Shelter Modernization Project

- **Mod DDS Configuration Changes**
  - Field Change (FC) 167 – Remotely Operated Hangar Outer Door
  - FC 168 – Extend Shelter 50 inches
  - FC 169 – Increased capacity Payload Launch and Recovery System
  - FC 170 – Remote Control from the Host Submarine
- **Mod DDS Objectives**
  - Increase payload volume by 30%
  - Increase weight capacity by 300%
  - Remote hangar operation from Virginia Class host submarine
  - Reduce risk to host submarine
  - Reduce operator fatigue
- **Project Status**
  - Preliminary Design Review completed Sep 2016
  - Critical Design Review completed Dec 2017
  - Technical Data Package approval by Jul 2019
  - Tech Demonstrator Production – ECD Jan 2020
- **Target Payloads**
  - Naval Special Warfare (NSW)
  - Shallow Water Combat Submersible (SWCS)
  - Future Dry Combat Submersible (DCS)
  - Large Displacement Unmanned Undersea Vehicle (LDUUV)
  - Littoral Battlespace Sensing-AUV, Submarine (LBS-AUV(S))



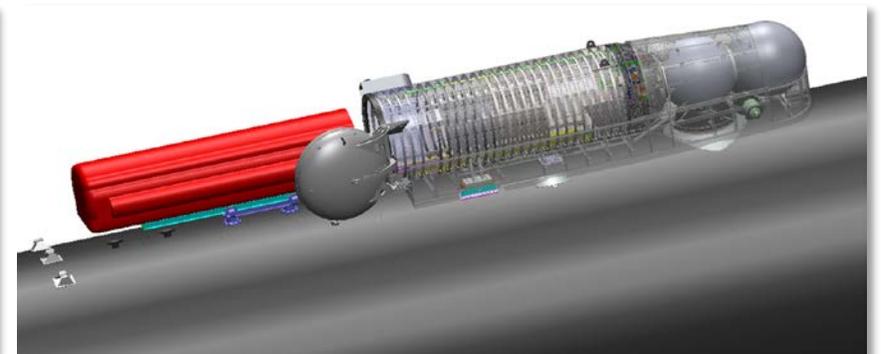
Legacy DDS  
with SWCS



Mod DDS w/  
Notional Payload



Mod DDS P-LARS  
Prototype



Mod DDS w/  
Notional Payload



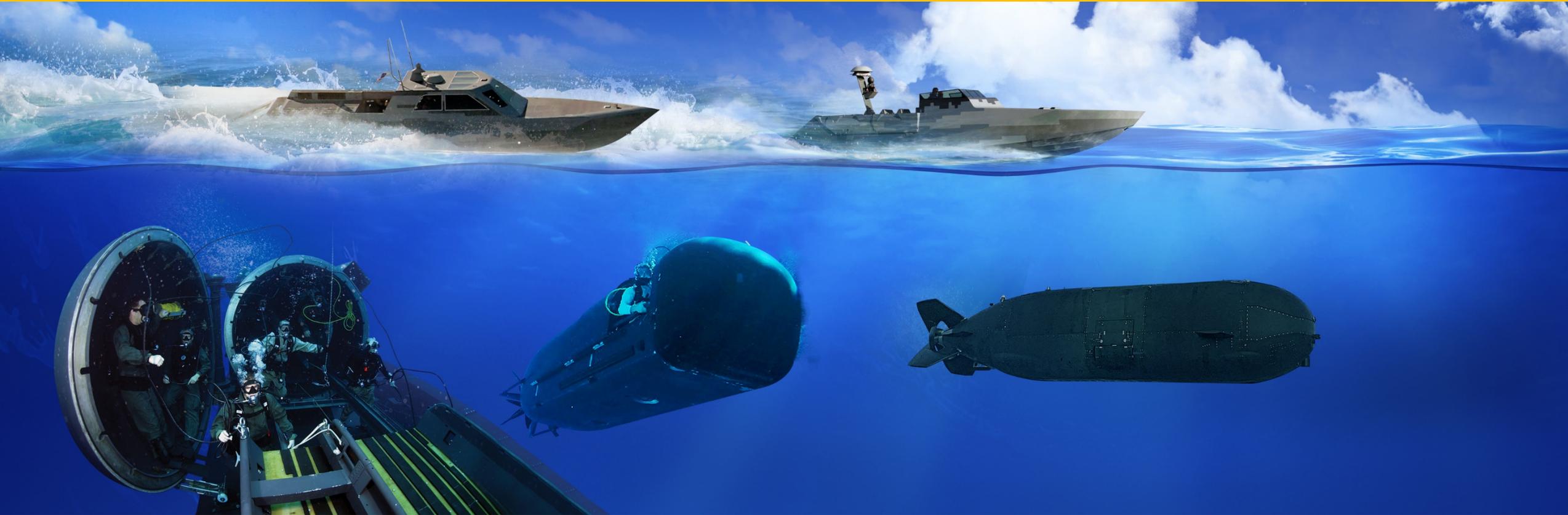
# Dry Deck Shelter – Future Efforts

## **DDS Enhancements**

- Increase Payload capability to support SWCS
- Modifications of DDS to support SOF stowage
- SOF Carry-on Hardware approvals

## **Host Sub (HOSUB) interoperability**

- Initial fit-up of DDS to VACL Hosts
- Cross Fit of DDS to support multiple VACL Hosts
- Improve services from Host to DDS in support of Carry-on Hardware



# SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

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CDR Scott Delwiche *Program Manager UnderSea Systems*

**PORTFOLIO REVIEW**





# Dry Combat Submersible (DCS)



First Splash - Builder's Trials, Plymouth UK



Underway - Builder's Trials, Plymouth UK



Preparing for Builder's Trials in US

## ACQUISITION STRATEGY

- Full and Open Competition for Production Representative System with Options for Up to Two Additional Systems

## PERIOD OF PERFORMANCE

- Jul 2016 through May 2021

## MILESTONES

- IOC: 3Q FY20
- FOC: 2Q FY22

## POINT OF CONTACT

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482

## FUNDING

- RDT&E FY18 through FY24
- PROC FY18 through FY20
- O&M FY21 through FY24

## CURRENT CONTRACT/OEM

- Lockheed Martin RMS (Prime)
- Submergence Group, LLC (Major Sub)
- MSubs Ltd. (Major Sub)



# DCS Future Projects

## DCS-Next - Submarine Interoperable Dry Submersible

- Hosted by US Navy Submarines
- Min 6 personnel (2 Pilots / 4 Mission Specialist)

## Submarine Interoperability

- Launch & recovery
- Internal/External attachment solutions
- Wet-Mate underwater connections (power, air, comms, etc.)
- Submerged Towing



# SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

*Accelerating SOF Innovation*

**Mr. John Bailey** *Maritime Chief Engineer*

**PORTFOLIO REVIEW**





# S&T / R&D Opportunities for Industry

- In FY20-24, PEO-M shall request significant additional RDTE funding to build capability in the areas listed below
- PEO-M is actively seeking opportunities to invest in innovative technology development efforts and to partner with industry



## ACQUISITION STRATEGY

- Leverage both existing and new contracts. Use IDIQ / RFP / BAA / SBIR / STTR / OTA
- Open architectures – maximize opportunity for rapid integration of new technology

## Point of Contact

- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482

## Potential FY20 Engagement Opportunities

- SOF Combat Diving TE Event
- SOCOM S&T BAA
- OTAs
- SOFWERX Engagements

## FUNDING

- RDT&E      FY20 through FY24

## FY20-FY24 Technology Interest Areas

- Maritime Communications
- Power & Energy
- Enhanced Survivability
- Strategic Initiatives & Fleet Interoperability
- Unmanned Technologies
- Enhanced Navigation
- Improved C4ISR Capabilities
- Diver Technologies
- Surface Craft Lethality
- Training & Operator Performance



# Opportunities

- **Broad Agency Announcements (BAA) & Requests For Information (RFI)**

- **USSOCOM Science & Technology (S&T) Directorate**



- **Office of the Secretary of Defense Programs**

- **Small Business Innovation Research (SBIR)**
- **Small Business Technology Transfer (STTR)**
- **Foreign Comparative Test (FCT)**



- **Other Transaction Authorities**

- **Undersea Technology Innovation Consortium - UTIC**



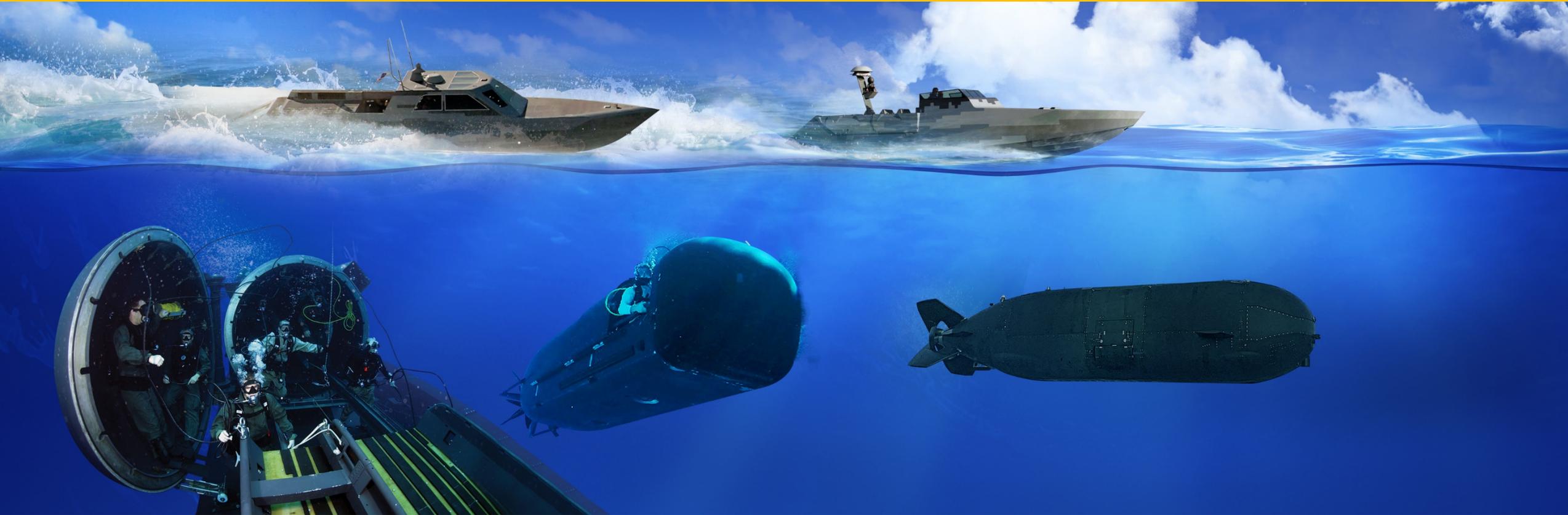
- **Cooperative Research And Development Agreements (CRADAs)**



# Opportunities

- Collaborative Efforts with Government Laboratories, University Affiliated Research Centers, Federally Funded Research & Development Centers, Land Grant Universities, etc.
- USSOCOM S&T Technical Experimentation Events
- USSOCOM Acquisition Agility Events – SOFWERX
- USSOCOM S&T Technology Scouting
  - [www.vulcan-SOF.com](http://www.vulcan-SOF.com)
- Technology & Industry Liaison Office – TILO





# QUESTIONS?