

SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE

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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
- PMS Naval Special Warfare
- PMS SOF Mobility
- PM Undersea Systems
- S&T and R&D Interests
- Open Forum Questions





Program Executive Office – Maritime

CAPTAIN BRIAN OLAVIN

CCA
CCH
CCM
CCFLIR
SOGR
LVADS
MPE

CAPTAIN KATE DOLLOFF



CAPTAIN JOHN NEWTON

DDS
DCS
Technical
Support

DCS

Combat Diving

SDV
SWCS

COMMANDER KEITH OSWALD

CAPTAIN CHAD MUSE

MR JIM KNUDSON



Program Executive Office – Maritime

UNDERSEA SYSTEMS



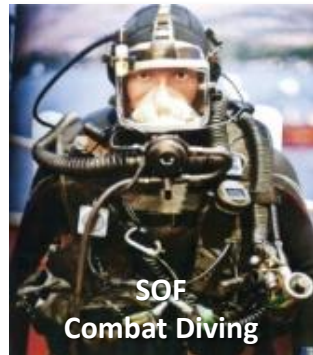
SEAL Delivery Vehicle



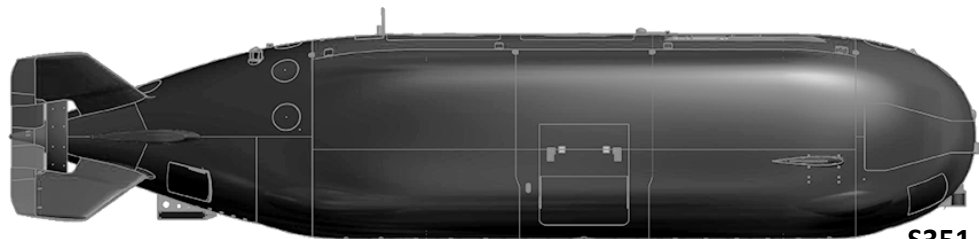
Dry Deck Shelter



Shallow Water Combat Submersible



SOF
Combat Diving



Dry Combat Submersible

S351

SURFACE SYSTEMS



Combatant Craft Assault



Combatant Craft Heavy



Special Operations
Craft - Riverine



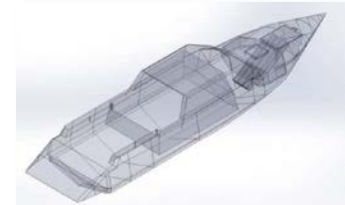
Combatant Craft Medium Mark 1



Low Velocity Air Delivery



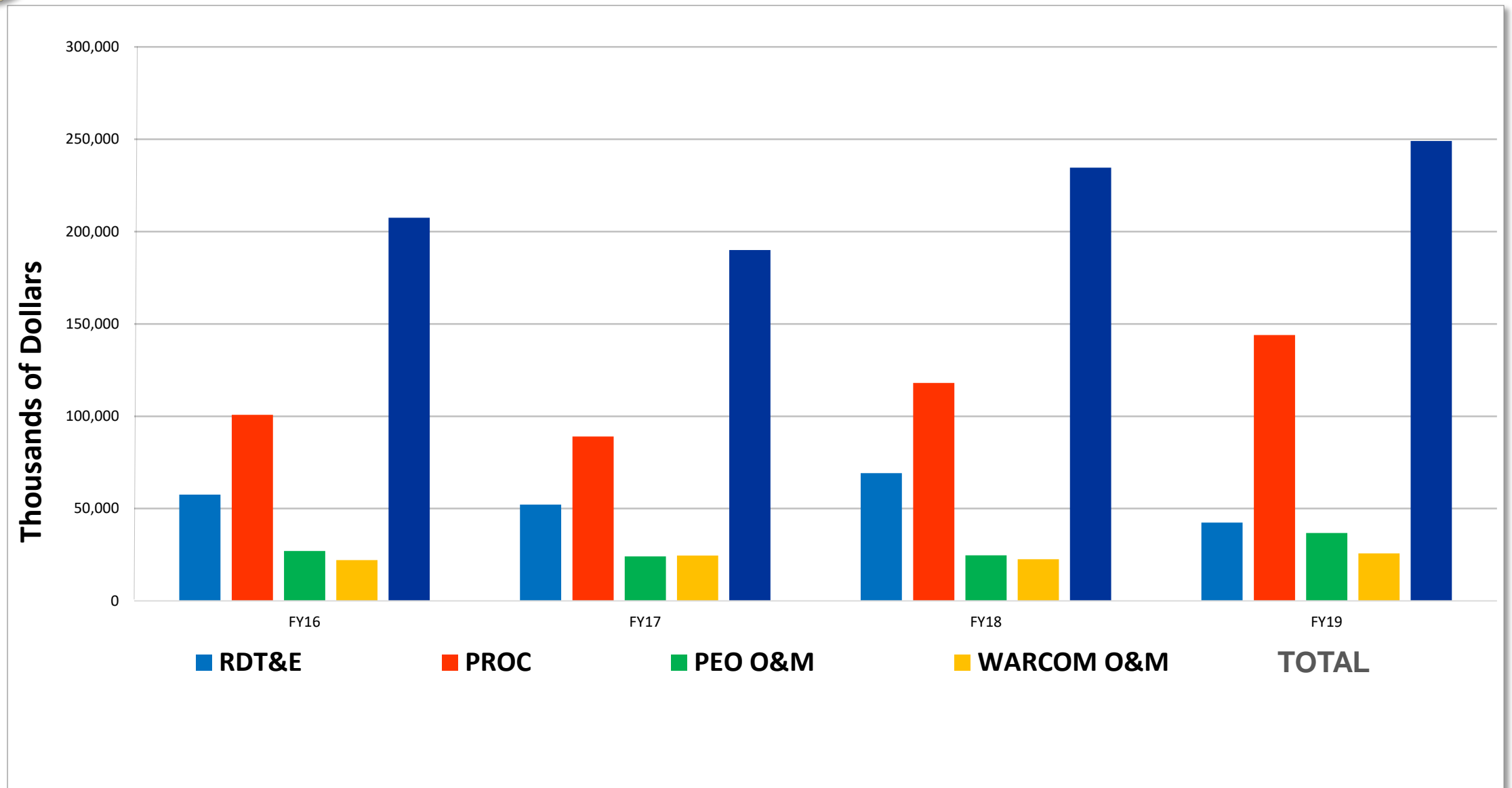
Combatant
Craft FLIR 2



Maritime
Precision
Engagement

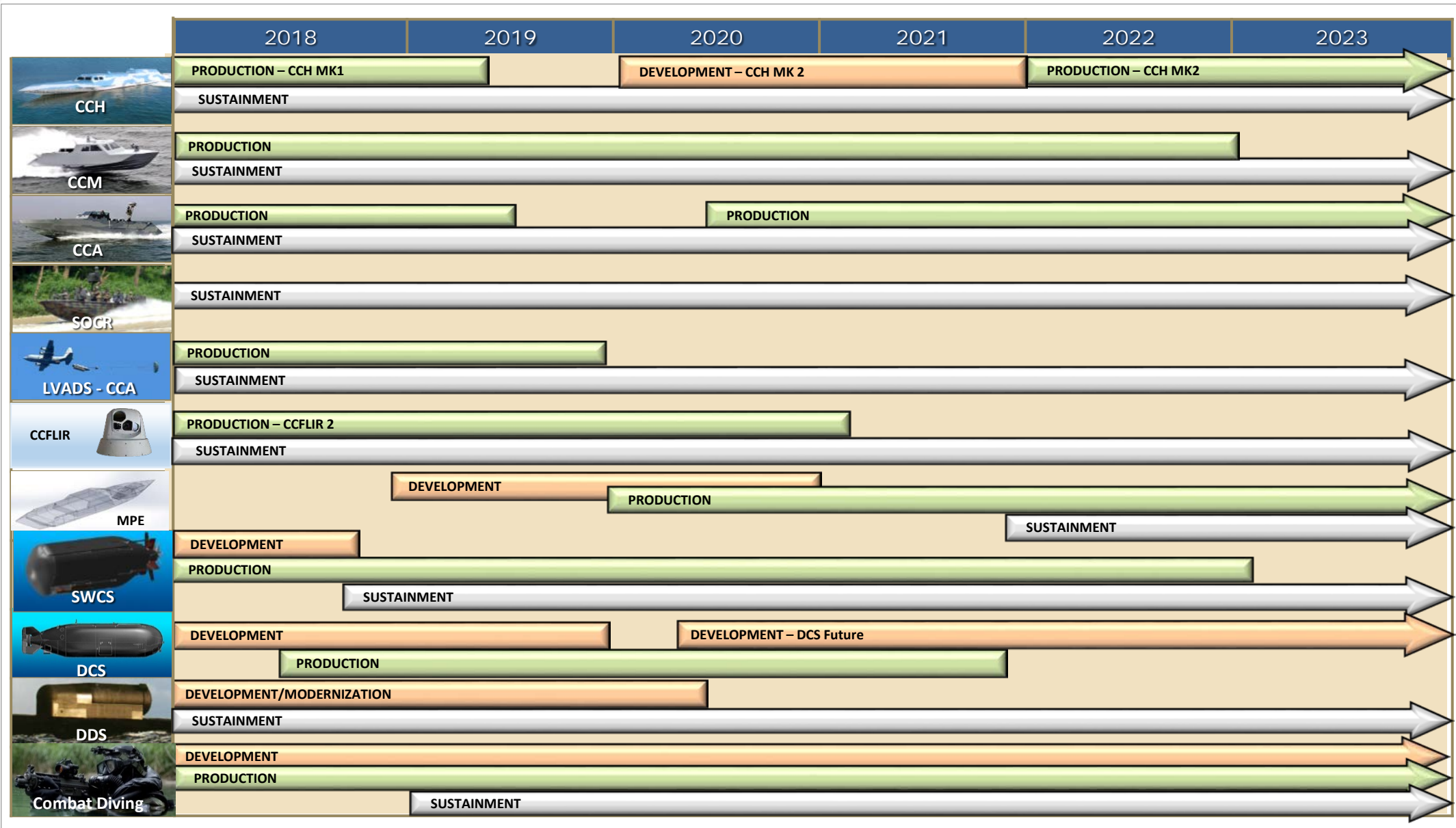


Program Executive Office – Maritime





Program Executive Office – Maritime





Program Executive Office – Maritime

- **Continue Fielding Enhanced Capability**

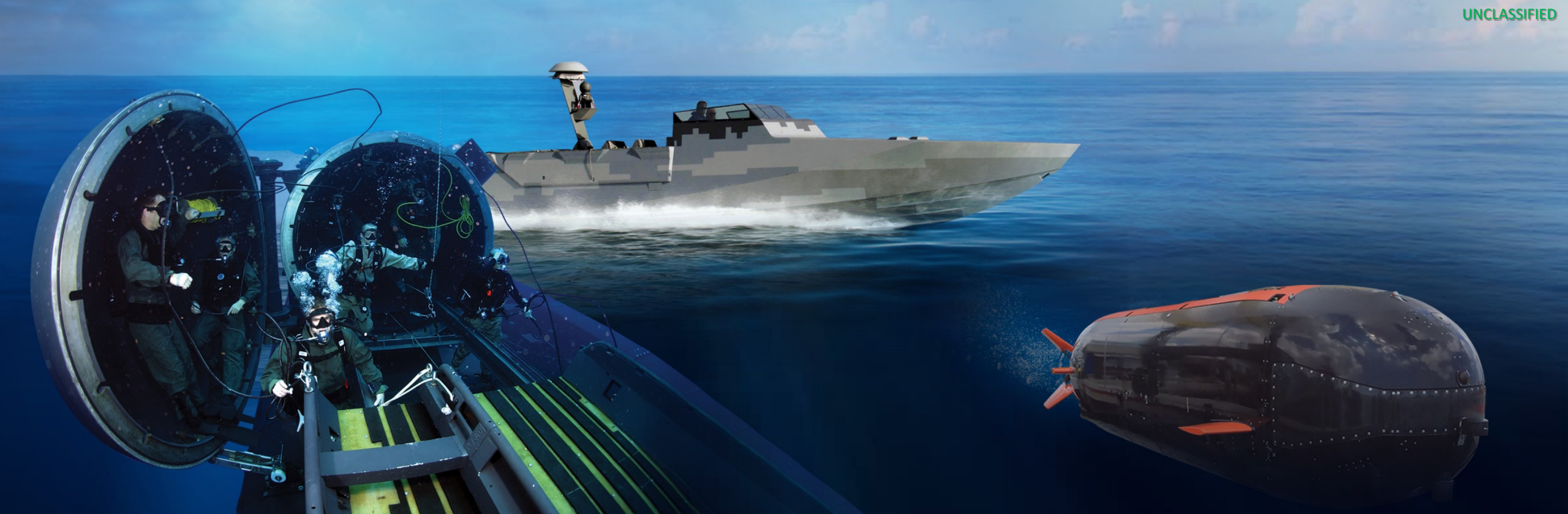
- Recapitalization/Upgrade of the Fleet
 - Combatant Craft/CCFLIR2
 - SDV to SWCS
 - Dry Deck Shelter Modernization
- New capabilities
 - Dry Combat Submersible
 - Maritime Precision Engagement
 - SOF Combat Diving

- **Areas of Interest**

- Maritime Communications
- Power & Energy
- Signature Management
- Training and Operator Performance
- Enhanced Navigation
- Improved C4ISR
- Diving Technologies
- Fleet Interoperability
- Unmanned Technologies
- Survivability and Lethality

- **Reaching out to Industry Partners**

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



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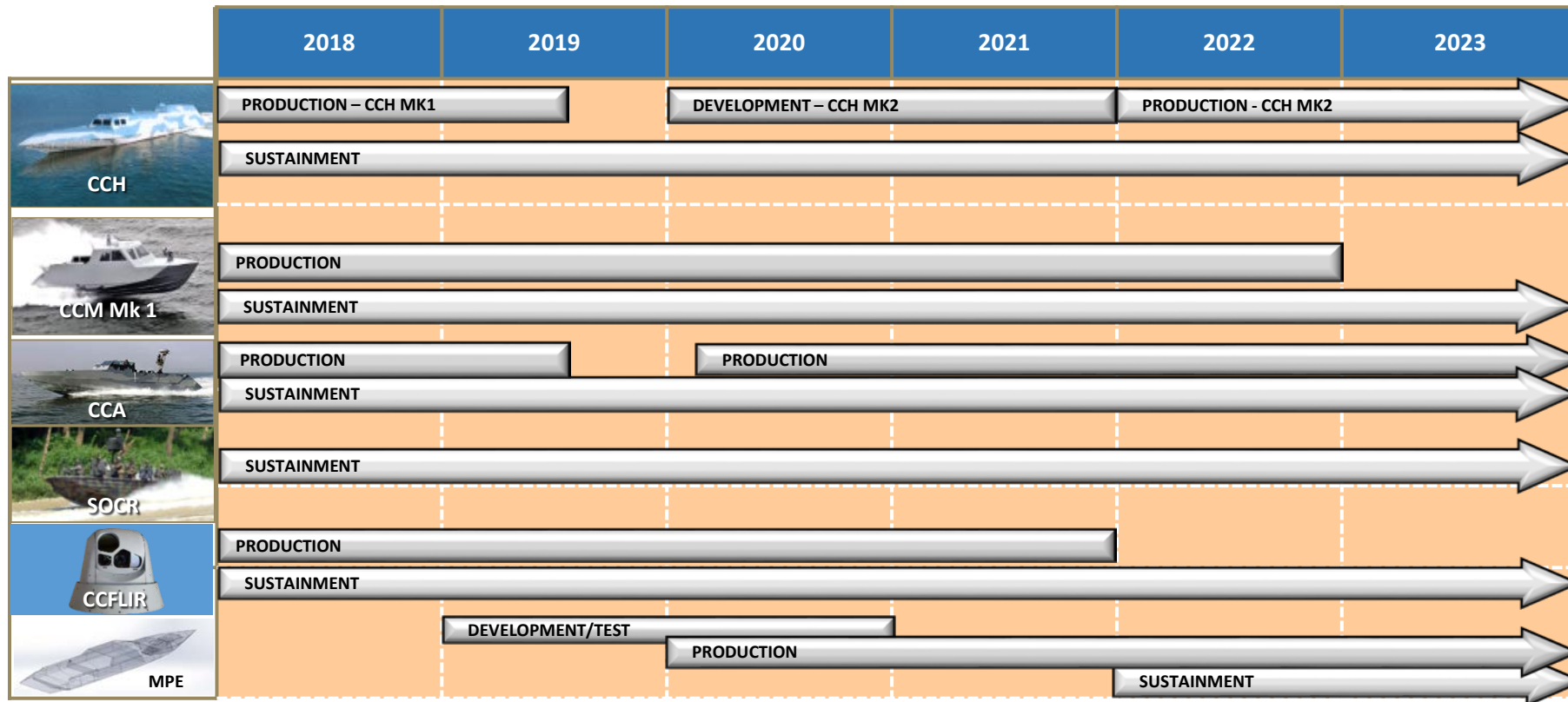
CAPT Brian O'Lavin *Program Manager Surface Systems*

PORTFOLIO REVIEW





NSW Surface Craft Roadmap





Combatant Craft Heavy (CCH): SEALION

- SEALION provides long range insertion capabilities for SOF personnel. Supports limited coastal patrol and interdiction
- SEALION I Overhaul contract awarded FY17
- SEALION III Production contract awarded FY17
- 2 of 3 Fielded



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 FY18 through FY24
- PROC FY22 through FY24
- O&M FY18 through FY24

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
- Achieved 2.0 Deployment Presence 2QTR FY18
- 17 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

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FUNDING

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

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**
- **Successful execution of the first ever Low Velocity Air Delivery System (LVADS) from an AFSOC MC-130-J**
- **24 of 32 Fielded**



ACQUISITION STRATEGY

- 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)

- The CCFLIR capability 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
- 5 of 58 Fielded



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 FY18 through FY24

CURRENT CONTRACT/OEM

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



Maritime Precision Engagement (MPE)

- MPE is a 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
- Requirement validated by USSOCOM – March 2018
- Government initiated feasibility study in support of CCM and CCH



ACQUISITION STRATEGY

- Full and Open Competition of a Government design

PERIOD OF PERFORMANCE

- TBD

MILESTONES

- TBD

POINT OF CONTACT

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

FUNDING

- RDT&E FY19 through FY23
- PROC FY20 through FY24
- O&M FY20 through FY24

CURRENT CONTRACT/OEM

- TBD
- NSWC Dahlgren – Feasibility Study
- NSWC Carderock – Feasibility Study

Combatant Craft Mission Equipment (CCME)

- 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
- Successfully integrated Mk50 SOF Mods
- Completed paint upgrade effort to reduce cost, increase sustainability, and improve performance



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 FY18 through FY24

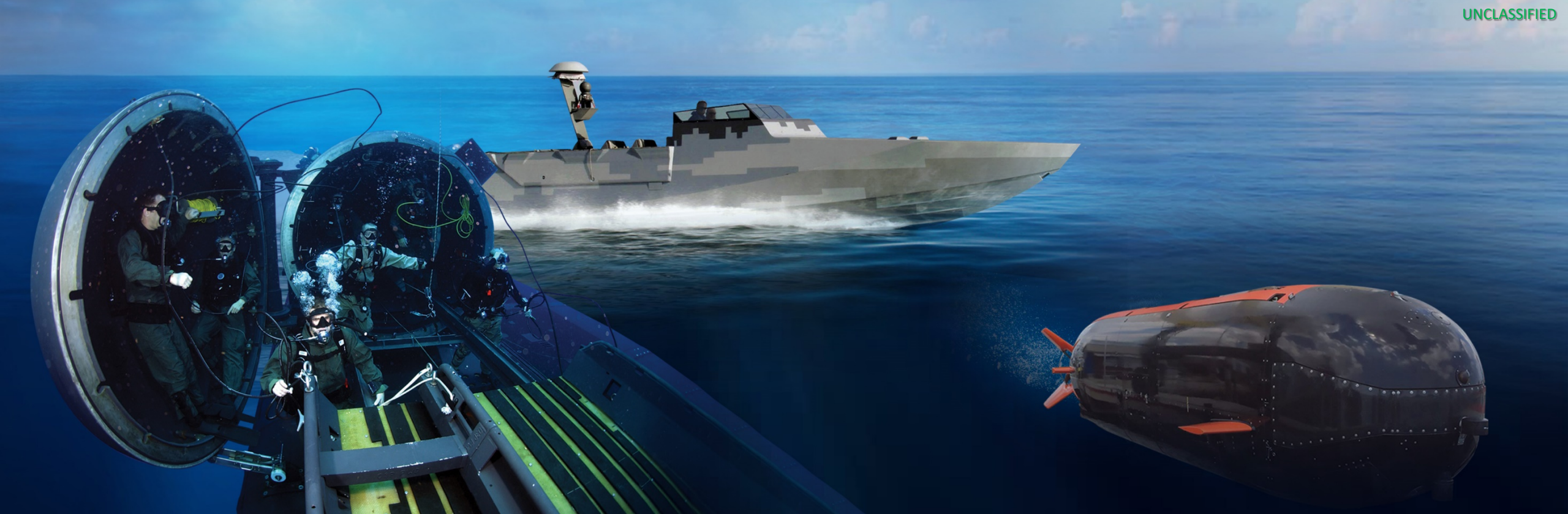
CURRENT CONTRACT/OEM

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



Surface Systems Technology Areas of Interest

- **SATCOM on the Move**
- **Wireless Intercoms Interoperable with NSA Type I Certified Radios**
- **Communications**
- **Improved Antenna Technology**
- **Enhanced Radar Systems**
- **Shock & Vibration Mitigation**
- **Precision Guided Munition**
- **Extended Range Operations**
- **Navigation in GPS Denied Environments**
- **Enhanced Armor (lightweight)**
- **Threat Awareness / Warning**
- **Underwater Mapping**
- **VTOL UAS for Launch and Recovery on Combatant Craft**



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

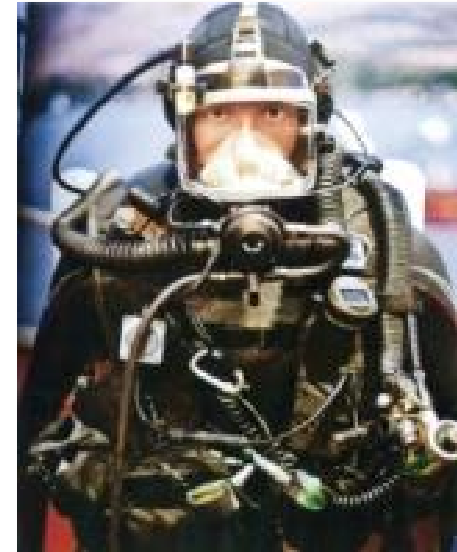
PORTFOLIO REVIEW





SOF Combat Diving

- Supports the individual diver as well as integration into PEO Maritime systems
- Planned efforts target equipment such as, maritime protection, propulsion, navigation and communication
- Supports future development for Undersea Mobility involving wet or dry submersibles



ACQUISITION STRATEGY

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

PERIOD OF PERFORMANCE

- Planned FY18-FY24

MILESTONES

- Various Based on Projects

POINT OF CONTACT

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

FUNDING

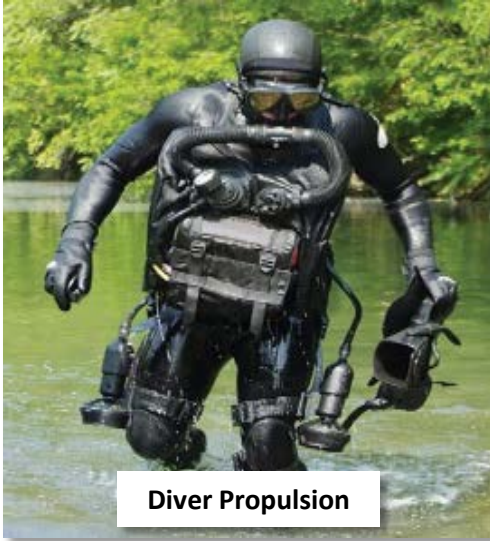
- RDT&E FY18 through FY24
- PROC FY18 through FY24
- O&M FY19 through FY24

CURRENT CONTRACT/OEM

- DLA Troop Support, Philadelphia, PA
- Rini Technologies, Oviedo, FL



SOF Combat Diving



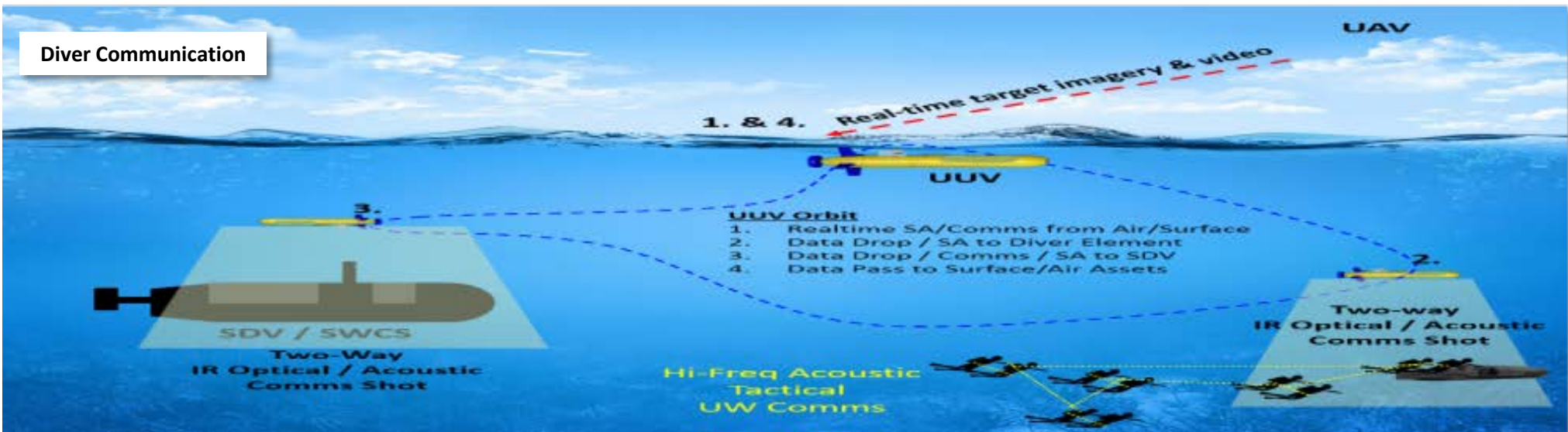
Diver Propulsion



Maritime Environmental Protection



Diver Navigation





Combat Diver Big 4

- **Survivability**

- Increased environmental protection
- Underwater Breathing Apparatus with reduced breathing resistance
- Increased dive duration
- Reduced operator signature (noise)
- Compact/incorporated systems

- **Maneuverability**

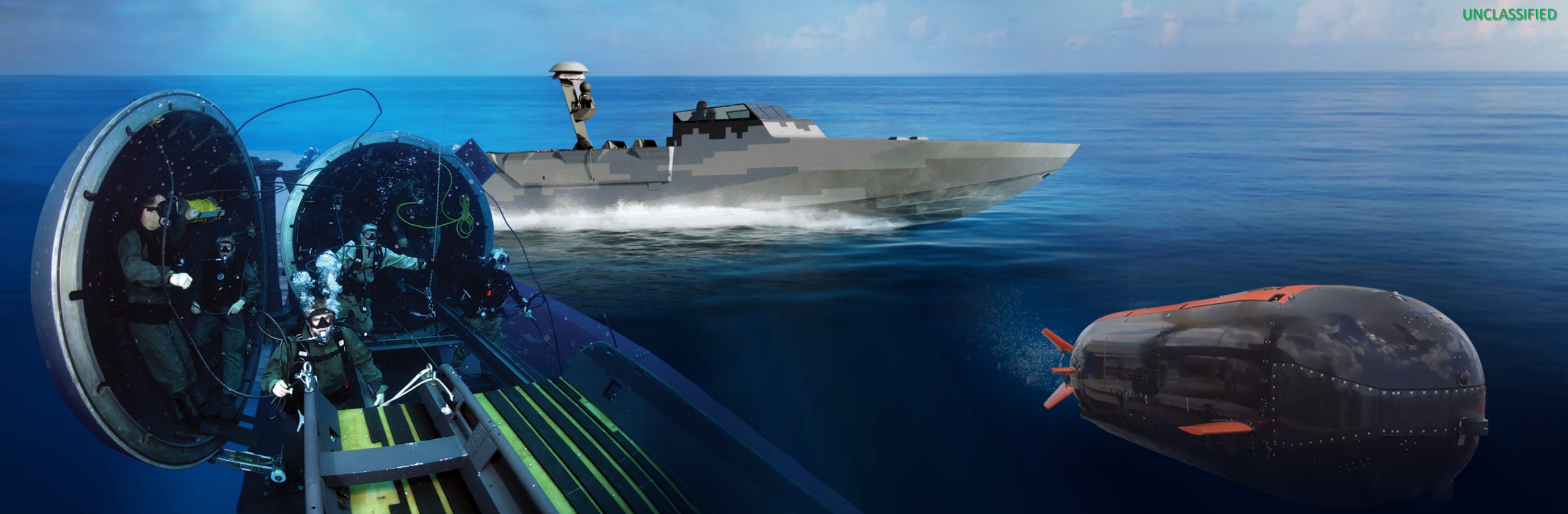
- Individual and multi-diver capability
- Modularity
- Compact size/weight reduction
- Flexible delivery capability (sub, ship, A/C)

- **Communications**

- Smart phone capabilities in the water column
- Diver situational awareness both in and out of the water column
- Communications to and from divers and all host/support platforms both in and out of the water column

- **Navigation**

- GPS tracking from the water column
- “Blue Force Tracker” undersea
- Modular



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CAPT Chad Muse *Program Manager Naval Special Warfare*

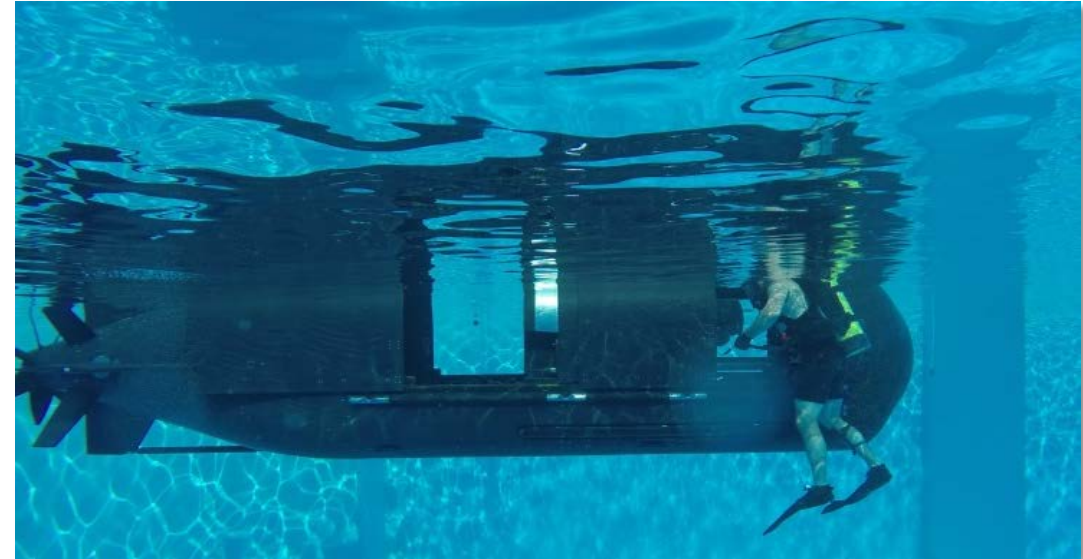
PORTFOLIO REVIEW





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

PERIOD OF PERFORMANCE

- June 2011 – April 2020

MILESTONES

- IOC: FY18

POINT OF CONTACT

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

FUNDING

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

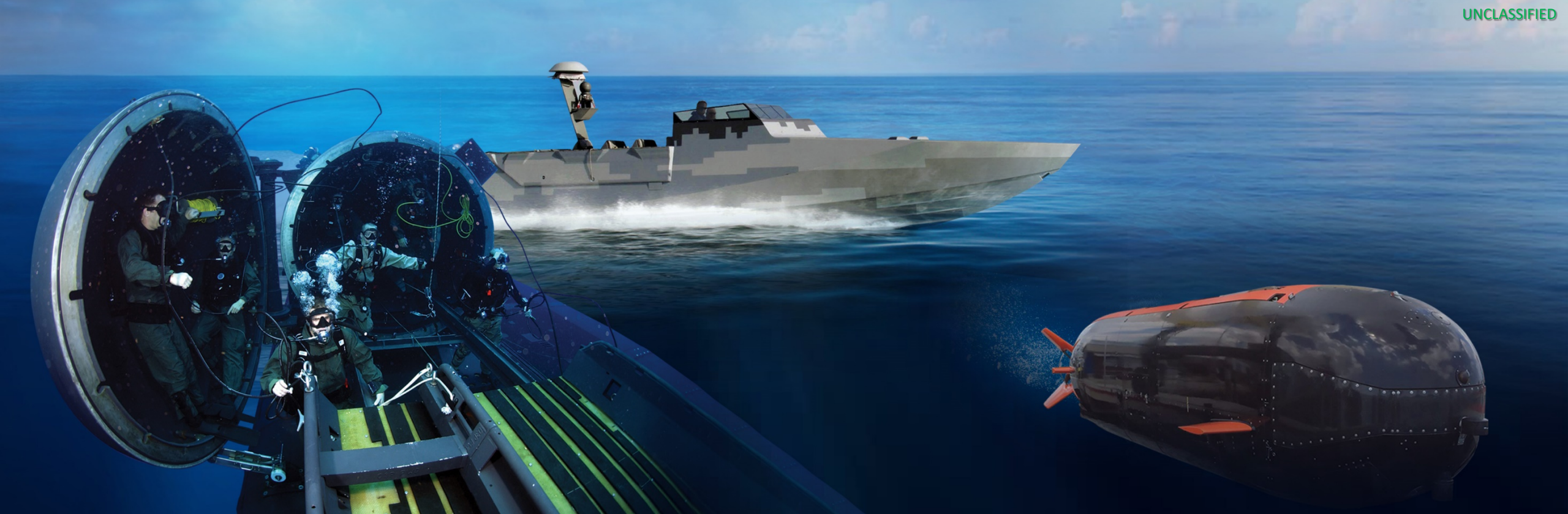
CURRENT CONTRACT/OEM

- Teledyne Brown Engineering, Huntsville, AL



Shallow Water Combat Submersible (SWCS)

- **SWCS vs SDV Size/Weight Differences**
 - SWCS is 12” longer and 6” taller
 - 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
 - Bow Thrusters
- **Project Status**
 - Boat 1 & 2 Delivery: May & June 2018
 - Boat 3 & 4 Delivery: September 2019
 - Boat 5 award: May 2018
- **SWCS Related DDS Field Changes**
 - FC-107 (Data Connection from Battery Management System to Hangar)
 - FC-156 (Portable track and Cradle)
 - FC-160 Rev C (Hangar Rearrangement/Hydraulics)
 - FC-174 (Track and Cradle)



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CAPT John Newton *Program Manager SOF Mobility*

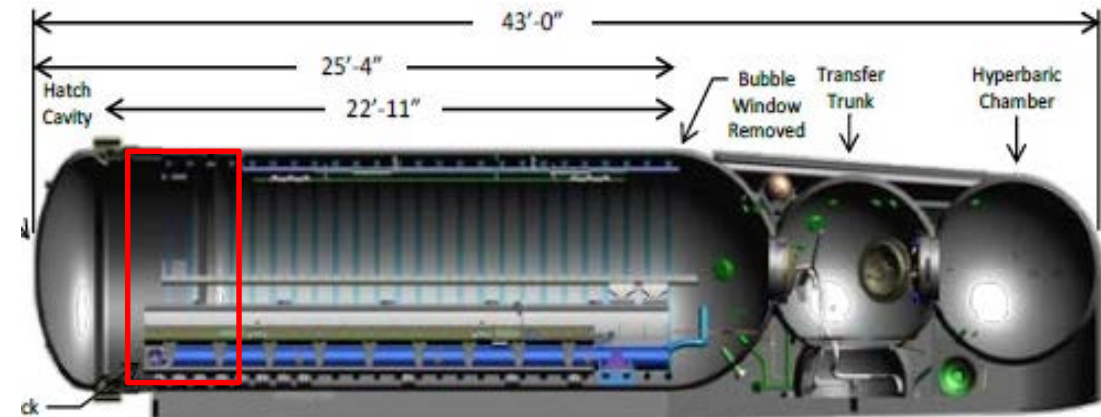
PORTFOLIO REVIEW





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 2013

PERIOD OF PERFORMANCE

- July 2013 – July 2018

MILESTONES

- Mod DDS production start May 2018
- Re-compete contract award July 2018
- 6 DDS retire from 2042 thru 2051

POINT OF CONTACT

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

FUNDING

- RDT&E FY18 through FY22
- PROC FY18 through FY24
- O&M FY18 through FY24

CURRENT CONTRACT/OEM

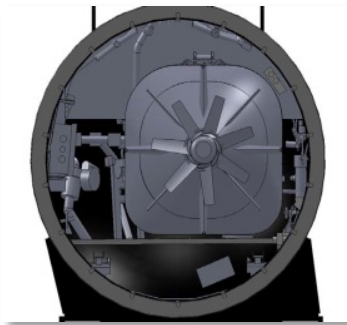
- Oceaneering International Inc. – Marine Services Division
- (OII-MSD)



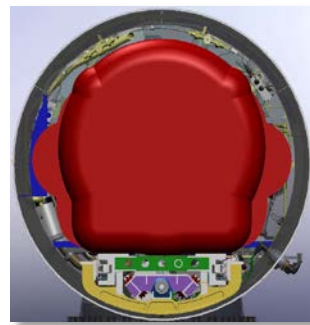
Dry Deck Shelter

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 Sept 2016
 - Critical Design Review completed Dec 2017
 - Technical Data Package approval by May 2018
 - Tech Demonstrator Production – Start May 2018
- **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))



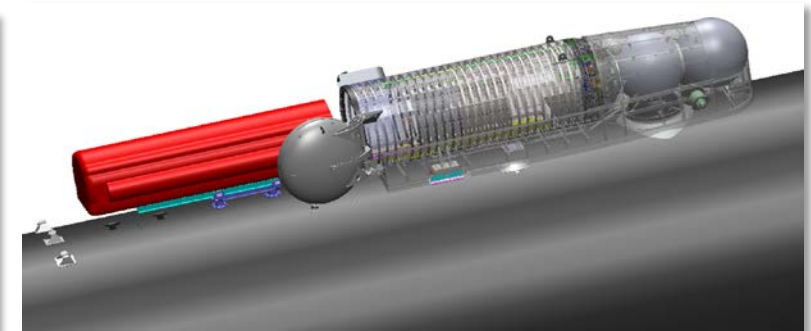
Legacy DDS
with SWCS



Mod DDS w/
Notional Payload



Mod DDS P-LARS
Prototype



Mod DDS w/
Notional Payload



Dry Deck Shelter – Project Improvement

DDS “Next”

- Host Sub (HOSUB) interoperability
- DDS Enhancements

ACQUISITION STRATEGY

- DDS Maintenance Contract (open competition)
- Contract awarded in 2013

FUNDING

- | | |
|---------|-------------------|
| • RDT&E | FY18 through FY22 |
| • PROC | FY18 through FY24 |
| • O&M | FY18 through FY24 |

POINT OF CONTACT

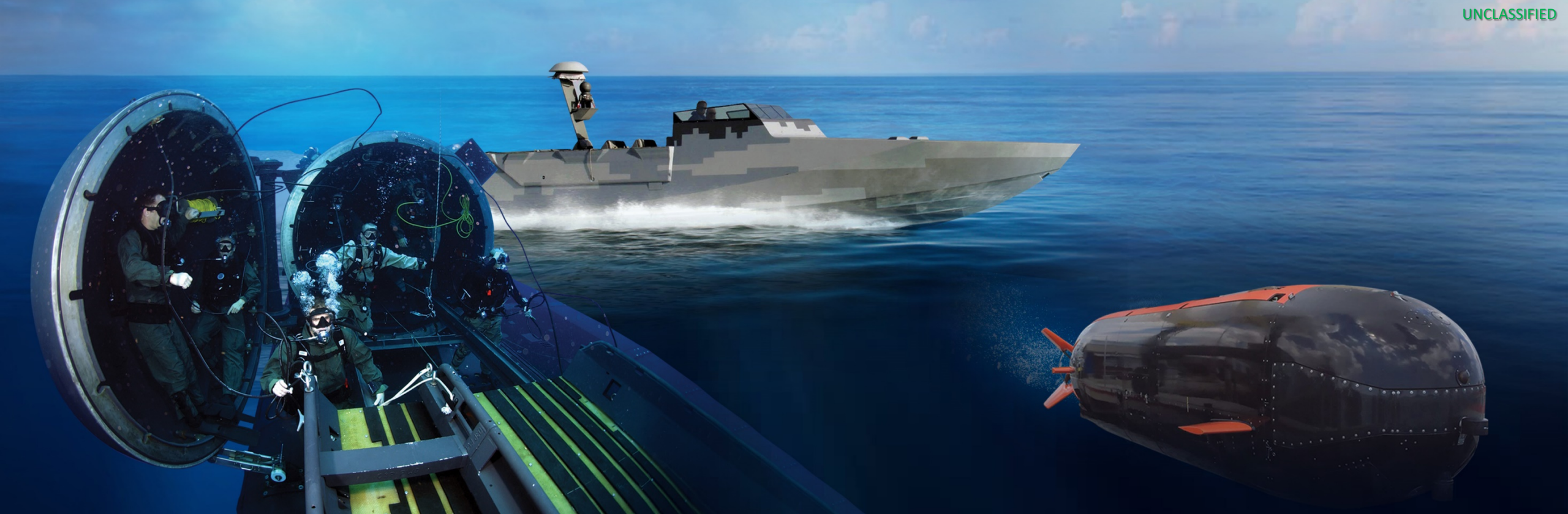
- USSOCOM SOF AT&L, Technology & Industry Liaison Office (TILO) (813) 826-9482

Host Sub (HOSUB) interoperability

- DATA Transfer between DDS & HOSUB
- Power Distribution between DDS & HOSUB
- Interior Communication between DDS & HOSUB

DDS Enhancements

- External Camera w/ Display on HOSUB
- Ground Fault Detector
- CO2 Scrubber Heater
- Payload Docking Sonar System



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CDR Keith Oswald *Program Manager UnderSea Systems*

PORTFOLIO REVIEW

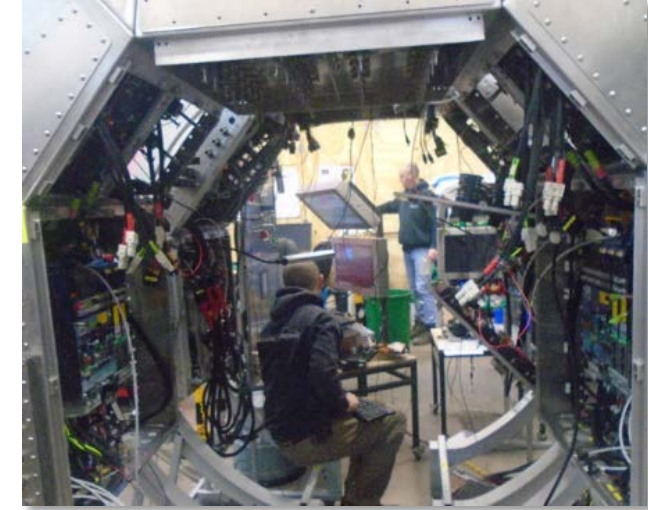
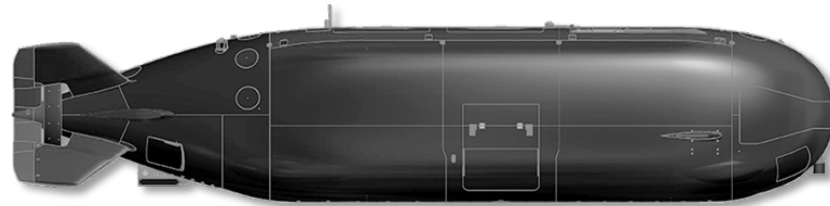




Dry Combat Submersible (DCS)



Pressure Vessel Ready for Final Assembly



Electrical Cabinets Ready for Testing

ACQUISITION STRATEGY

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

PERIOD OF PERFORMANCE

- DCS 1: 13 July 2016 to 13 February 2019
- DCS 2/3: Pending Exercise of Options

MILESTONES

- IOC 1st QTR FY20
- FOC 2nd QTR FY22

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FUNDING

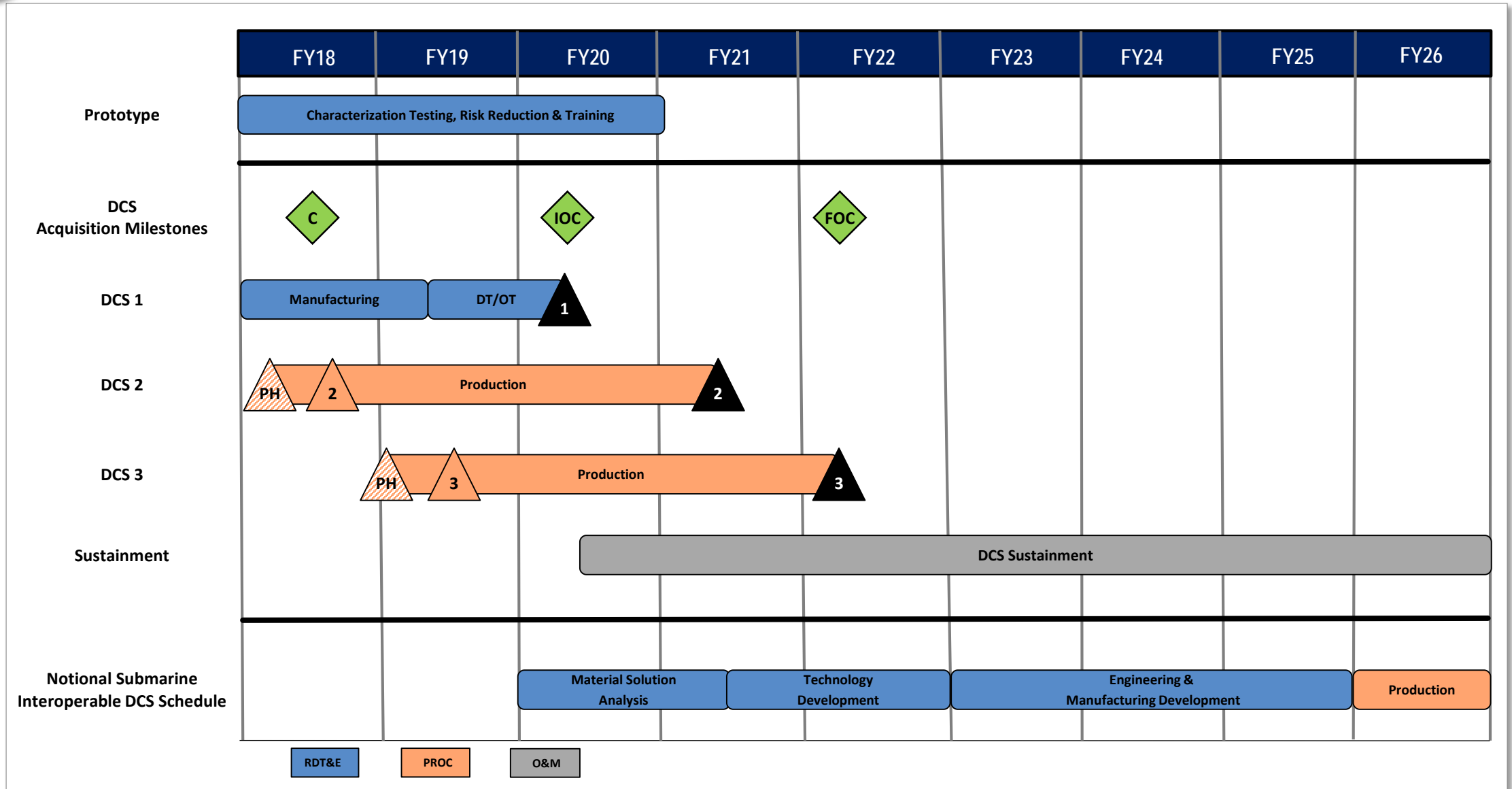
- RDT&E FY18 through FY24
- PROC FY18 through FY20
- O&M FY20 through FY24

CURRENT CONTRACT/OEM

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



Undersea Systems -Schedule & Forecast





DCS Future Projects

Submarine interoperable dry submersible

- Hosted by US Navy submarines
- Min 6 personnel (2 pilots / 4 mission specialist)

ACQUISITION STRATEGY

- Market Research
- Acquisition Strategy: In Progress

FUNDING

- RDT&E FY20 through FY24

POINT OF CONTACT

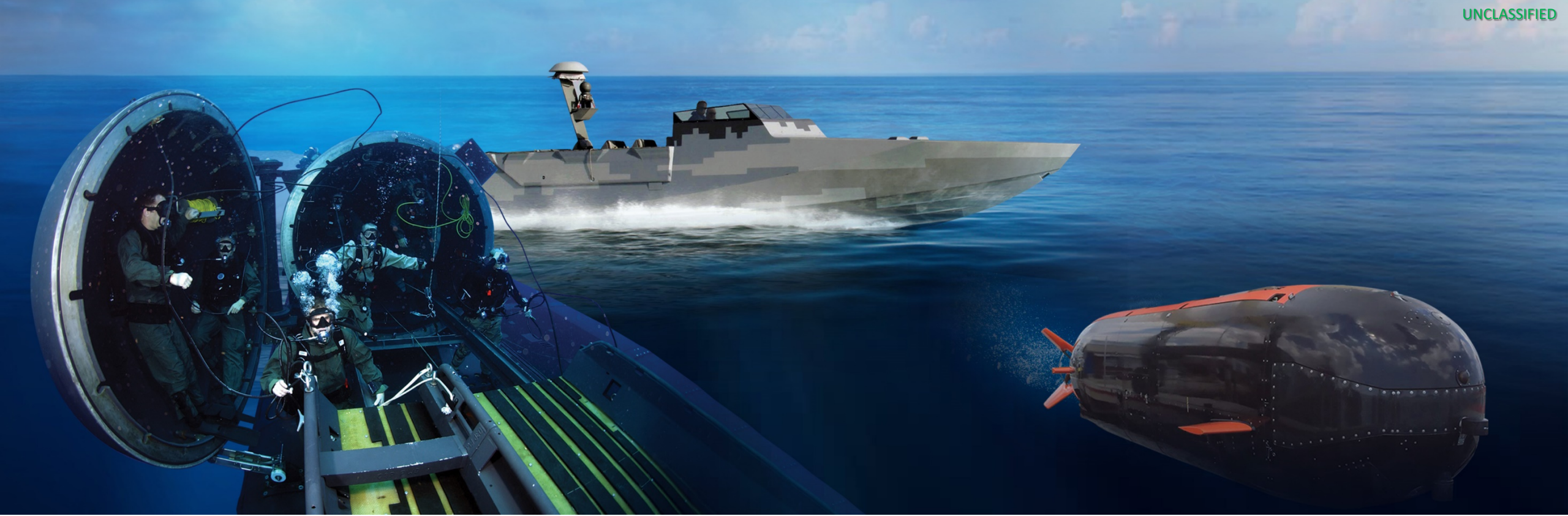
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Submarine interoperability:

- Launch & recovery
- External attachment solutions
- Wet-matable underwater connections (power, air, comms, etc)

DCS enhancements:

- Undersea communications
- Upgraded sensor suites
- Navigation
- Battery technology (safety / capability)
- C4ISR
- Training & logistics



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Mr. John Bailey *Maritime Chief Engineer*
PORTFOLIO REVIEW





S&T / R&D Investment & Opportunities for Industry

- In FY20-24, PEO-M has requested significant additional RDTE funding to build capability in the areas listed below
- FY18-19 investments will align to FY20-24 thrust areas; significant interaction with industry, academia, government labs, and other potential partners is anticipated throughout FY18-19



ACQUISITION STRATEGY

- Leverage both existing and new contracts. Use IDIQ / RFP / BAA / SBIR / STTR
- 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

FY18 – FY19 Planned Investment

- Maritime Communications
- Power & Energy
- Signature Management
- Maritime Precision Engagement
- Strategic Initiatives

FUNDING

- RDTE FY18 through FY19
- RDTE Requested Increase FY20 through FY24

FY20-FY24 Planned Investment

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



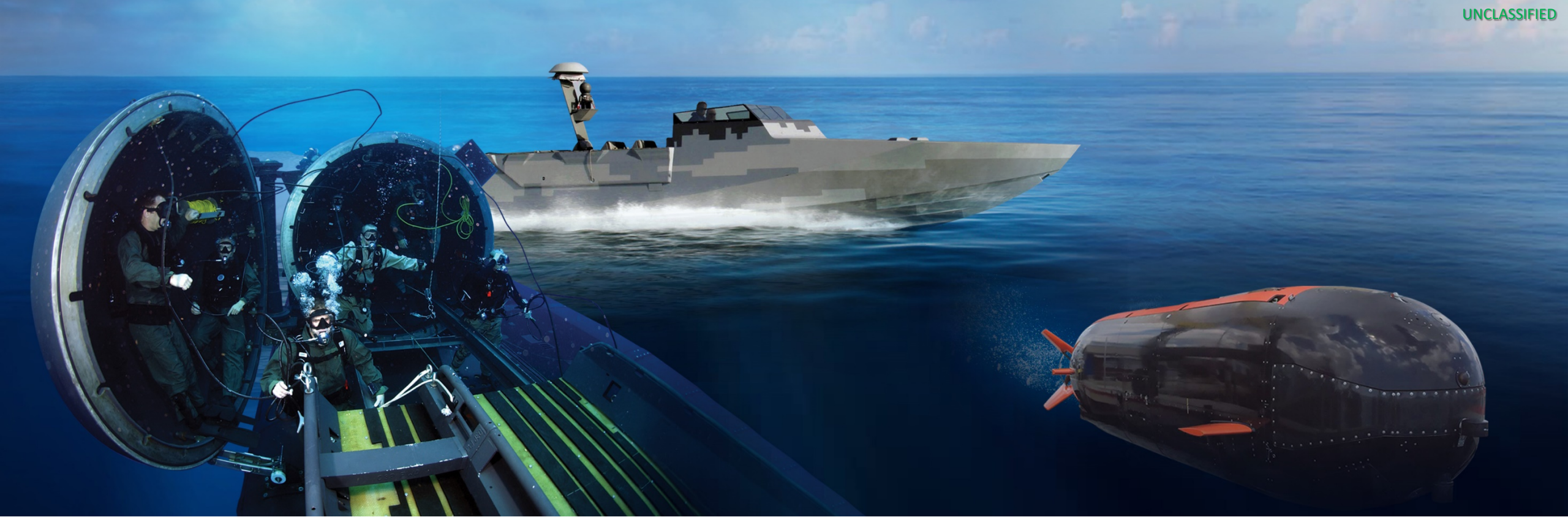
Planned Investments

- **Maritime Communications**
 - Above & Under Water; Thru interface
 - Open Architectures / Initial Capabilities Document / Standards
- **Power & Energy**
 - Pace the State of the Art
 - Safe For Use Aboard Navy Platforms
 - Li-Ion: NAVSEA INST 9310.1c
- **Signature Management**
 - Highly Technical and Complex Field; Significant Barriers to Entry
 - Most Likely Avenue of Entry for New Performers Will Be Thru SOCOM S&T
- **Strategic Initiatives & Fleet Interoperability**
 - Maximize Ability to Operate in Conjunction With, and Deploy From, US Navy Assets
- **Unmanned Technologies**
 - Leverage Services to Greatest Extent Possible
 - Apply SOCOM Funding for SOF Peculiar Capabilities



Planned Investments

- **Enhanced Navigation**
 - Modify Service or SOCOM Common PNT Solutions for Maritime Use
 - Develop Unique Underwater Navigation Technologies as Necessary
- **Improved C4ISR Capabilities**
 - Situational Awareness Enhancements
 - Marinized Intelligence, Surveillance and Reconnaissance Packages
- **Diver Technologies**
 - Continued Transformation to System of Systems
 - Platform Integration of Diver Technology
- **Surface Craft Survivability & Lethality**
 - Lightweight Armor
 - Improved Weapons Systems
- **Training & Operator Performance**
 - Virtual & Augmented Reality Technology
 - Integrated Simulator / Trainers



QUESTIONS?