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Navy Explosive Ordnance Disposal

Closing the Gaps
On Persistent Engagement in the New Strategic Environment

Global EOD Conference

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2 May 2013

Agenda

- EOD Force Overview
  - Navy EOD Force Application
  - Navy EOD Operating Force
- Acquisition Principles and Challenges
- Success Stories
- Summary

Navy EOD Force Application

Core Competencies EOD and UMCM

Joint Operational Access , Freedom of Maneuver, and Protection
- Underwater Mine Countermeasures (UMCM)
- Unexploded Ordnance Disposal capabilities
- Counter Weapons of Mass Destruction
- C-IED [AtN, DtD, TtF Lines of Operation]
- Support USSS VIP missions, Interagency DSCA missions
- Support to deployed naval forces including Carrier Strike Groups

Confront Irregular Challenges
- Support to Special Operations
- Theater Security Cooperation
- Foreign Internal Defense to CCDRs

Increase Battlespace Awareness
- Combined Explosives Exploitation Cell capabilities
- Weapons Technical Exploitation

CNO's TENETS

Warfighting First
Operate Forward
Be Prepared

Navy EOD Units of Action

Deployable Platoons (1off/7enl)
- Fleet and CCDR Support
- Operational Control (OPCON) to Numbered Fleet Commanders
- Man/Train/Equip in CONUS, deploy OCONUS
- Support USSS and contingency operations in CONUS when available

Shore Detachments (1 off/3-5 enl)
- USN CONUS Responders
- Direct Support to Naval Region Commander or Base Commander
- Support to local Civil Authorities upon request

Phase 0 Shape → Phase 1 Deter/Engage → Phase 2 – Seize the Initiative → Phase 3 – Dominate → Phase 4 – Stabilize → Phase 5 – Enable Civil Authority

Persistently engaged

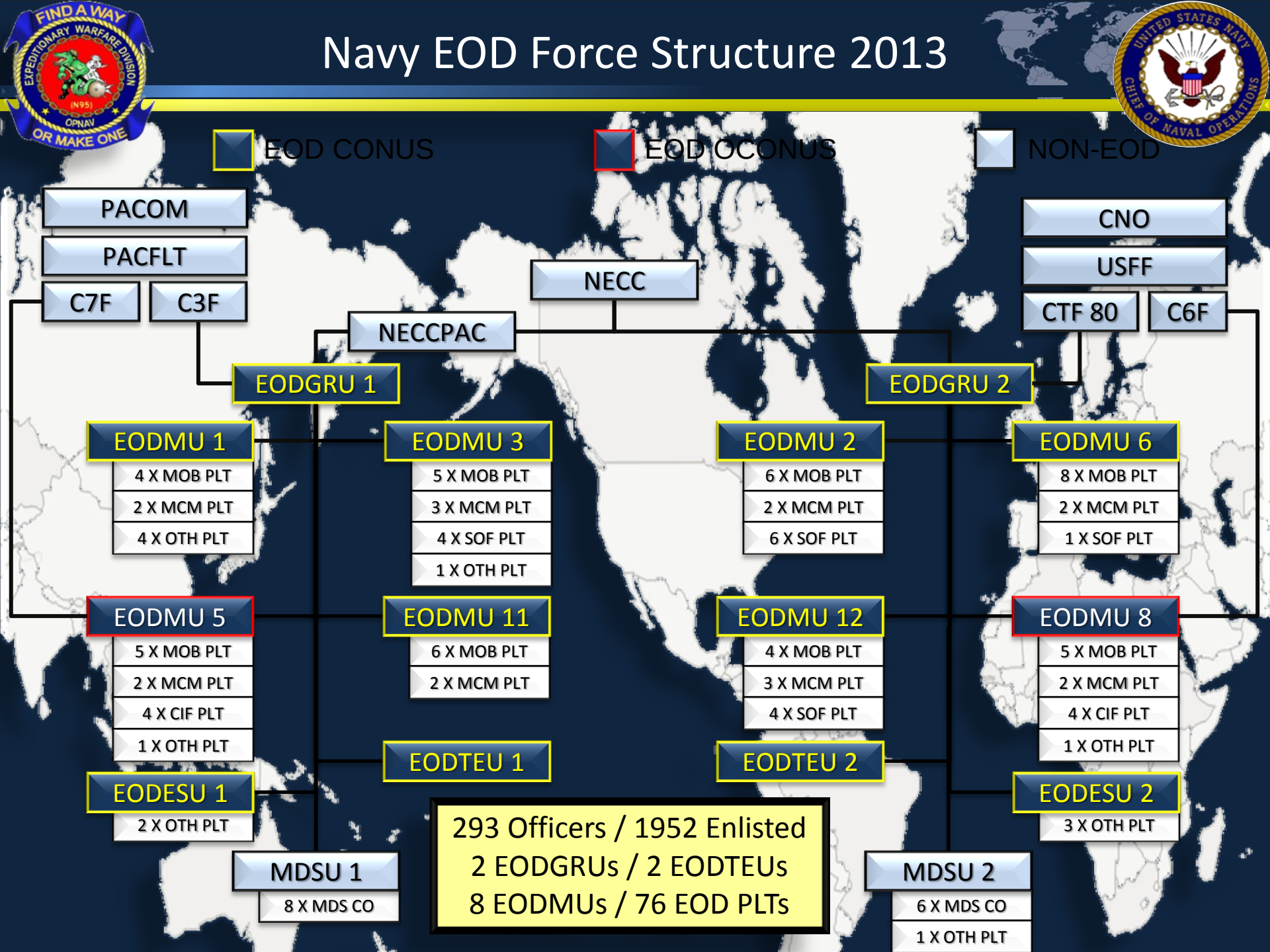
EOD Mission Areas

- Fleet Support (CSG, ESG, Shore, SpecOps Air Mobility, Diving, Limpet)
- Counter IED (DtD, AtN, TtF, CEXC, Ops/Intel Fusion)
- **Confront Irregular Challenges (CT/CP, COIN/FID, USSS-VIP, ATFP)**
- **Counter Explosive Hazards (UXO/C-WMD/Humanitarian Mine Action)**

UMCM Mission Areas

- **Deploy / employ underwater systems (Divers, Unmanned, mammals)**
- Operate in all underwater MCM domains (VSW, SW, Deep (300 fsw)
- **Find, Fix, Finish, Exploit, Analyze (Enemy mine capability)**

Navy EOD Force Structure 2013



Overarching Acquisition Principles

- Balance technology between current warfighter demand AND the future threat
  - Warfighter demand alone doesn't define the effort
  - OEF/OIF/OND – Must get inside the enemy's OODA Loop
- A streamlined RDT&E process that enables acquisition of future programs that are
  - Strong
  - Defendable
  - Responsive
  - Affordable
- Absolutely vital that the S&T process 'feed, complement, and accelerate' our acquisition process
- Identify 'common' joint systems and leverage current and projected acquisition POR initiatives

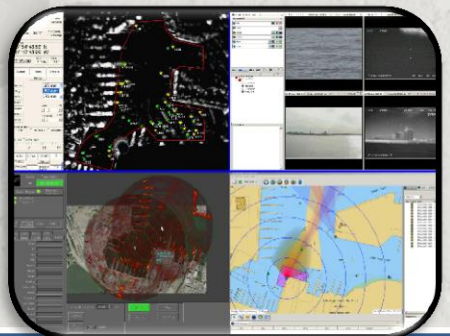
General Capabilities We Need

Flexible, Responsive, Modular, Ready for Use Systems

- Common architecture (C2)
- "Plug and play" compatibility for unique requirements
- Robust "reachback" capability
- Deployable equipment
- Stock configured for immediate use
- Platform and equipment commonality
- Solutions leverage COTS/GOTS

Consistently more rapid than the enemy's OODA-loop

- Improved sensors
- Autonomous, task-driven systems
- Detect & predict threats (UW, littorals)
- Provide persistent COP
- Joint interoperability
- Open architecture (time and cost savings)
- Multi-mission applicability



Specific Capabilities in Development

Non-Lethal Effects

- Stand off vessel/vehicle stopping
- Reduced size, weight, and cost of directed energy systems
- Increased range of fielded systems

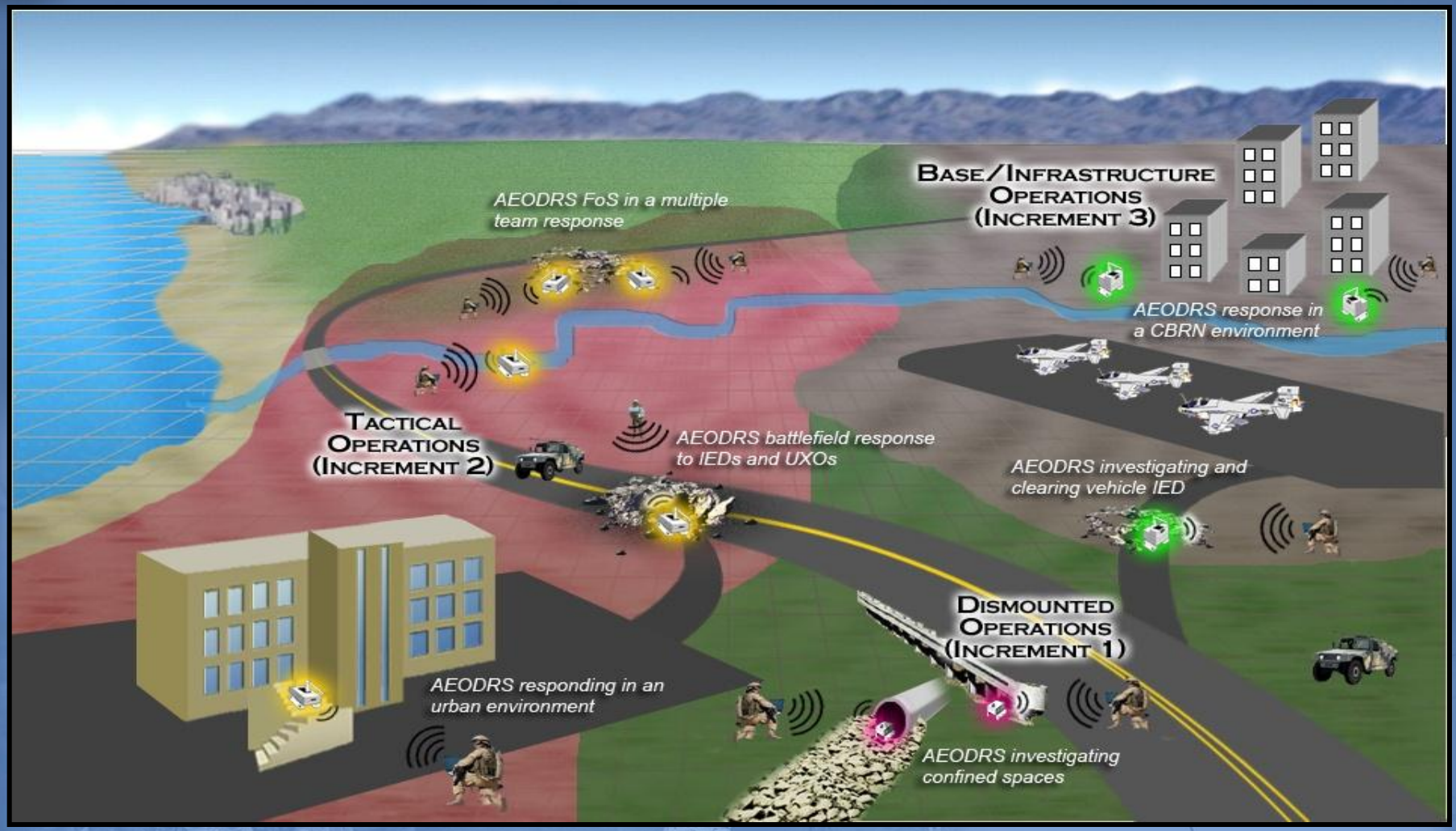
Unmanned Programs (Air and Surface)

- Modular Unmanned Surface Craft Littoral
- Nighthawk/Seahawk
- Advanced EOD Robotic System
- Advanced Composite Riverine Craft

UMCM UUV Programs

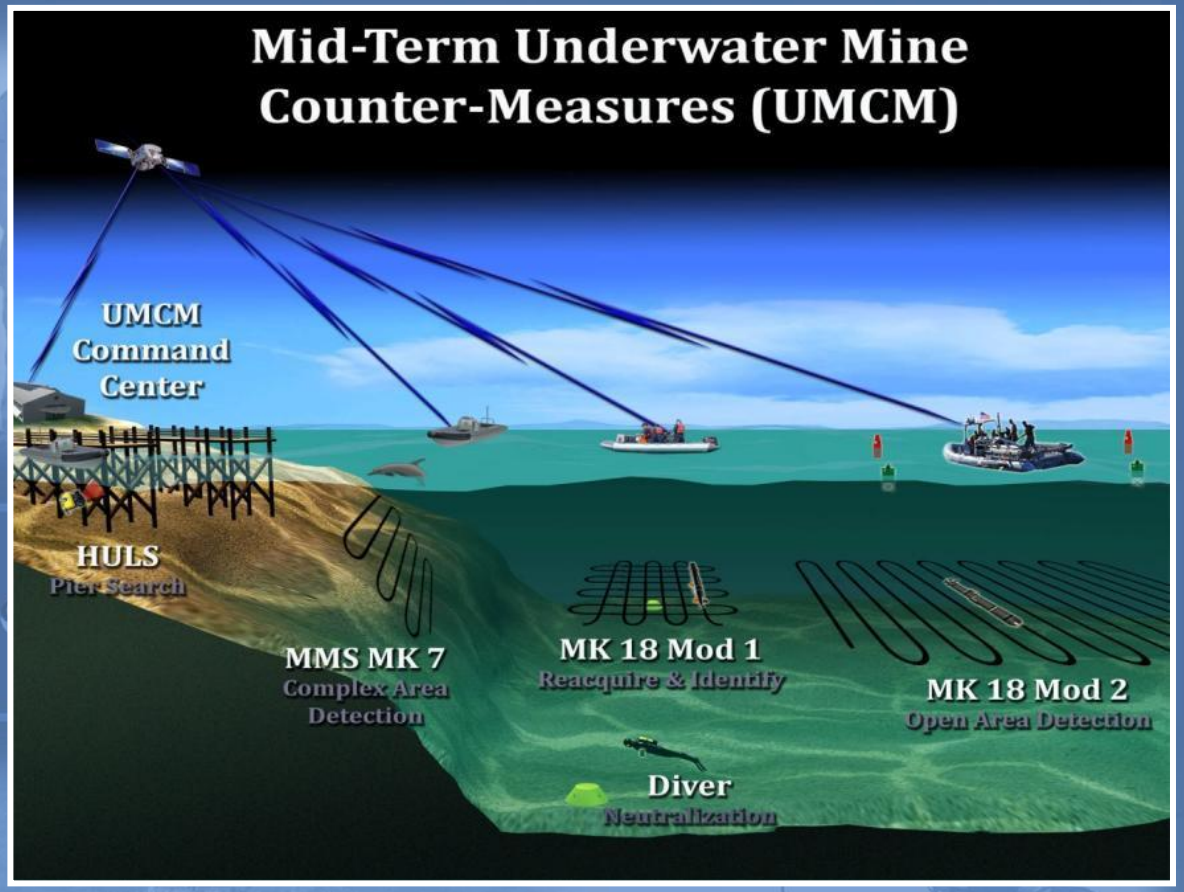
- Mine detect / classify from surf zone to high-water mark
- Organic MCM Without Cued ISR
- Limpet Mine Removal Tool
- U/W Explosive Object Recovery

Advanced EOD Robotic System (AEODRS)



UMCM Background

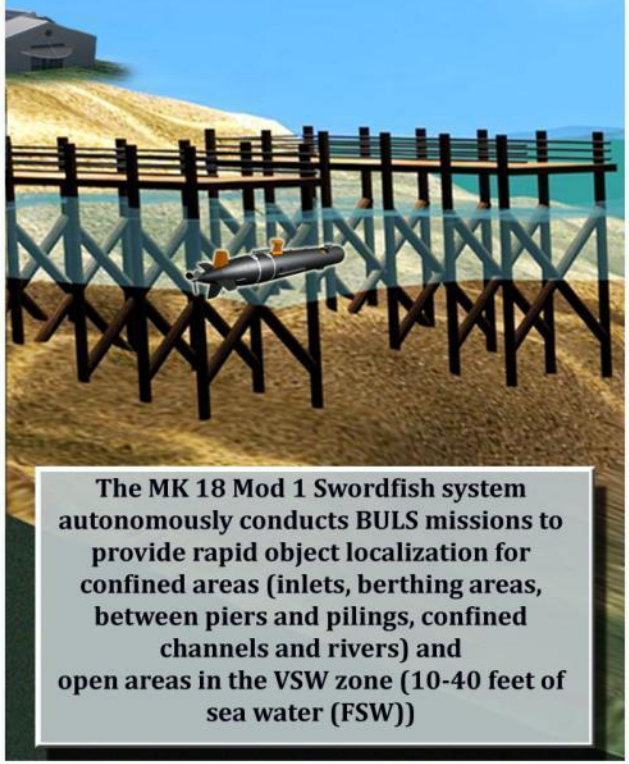
- Counter naval mines and other underwater explosives threats in near shore areas that “traditional MCM” assets do not yet address.
- UMCM Environment: Historically, those areas relegated to Navy EOD divers and combat swimmers to include:
  - Pre-assault/Advance Force VSW MCM ISO Amphibious Warfare missions
  - Underwater Explosives Threat response in Maritime Homeland Defense and other confined area scenarios.
- UUVs are applied today, wherever suitable/effective in these missions and are tactically integrated with Navy EOD diver and MMS until unmanned solutions can perform the full range of Detect-to-Engage tasks.



A tool bag approach to execute VSW MCM and M-HLD mission sets

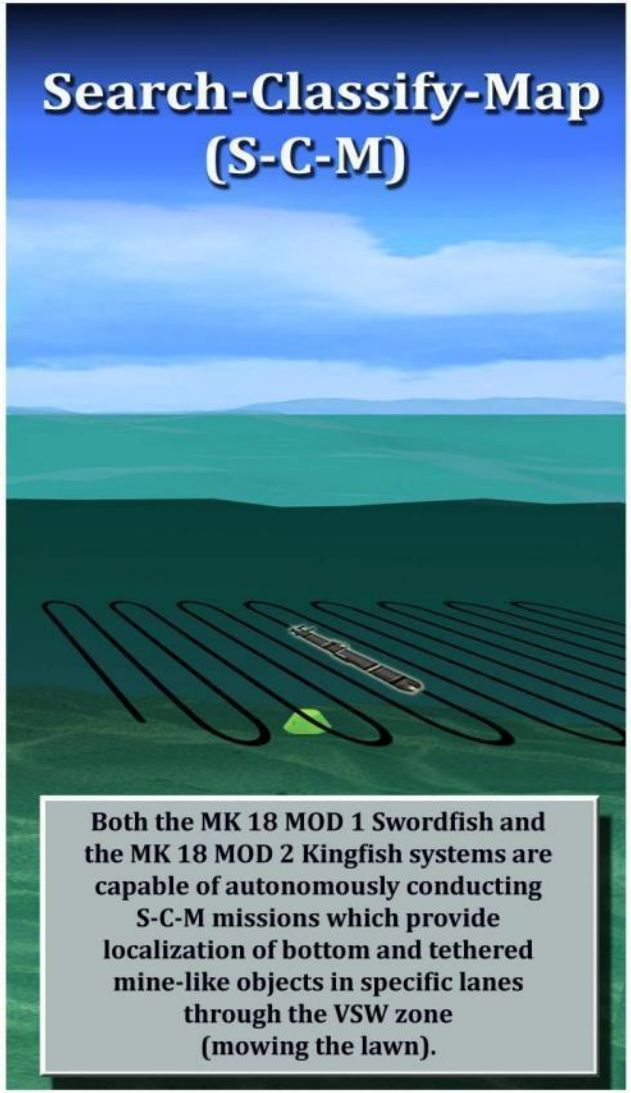
MK 18 Family of Systems (FoS) Missions Types

Bottom Underwater Localization Systems (BULS)



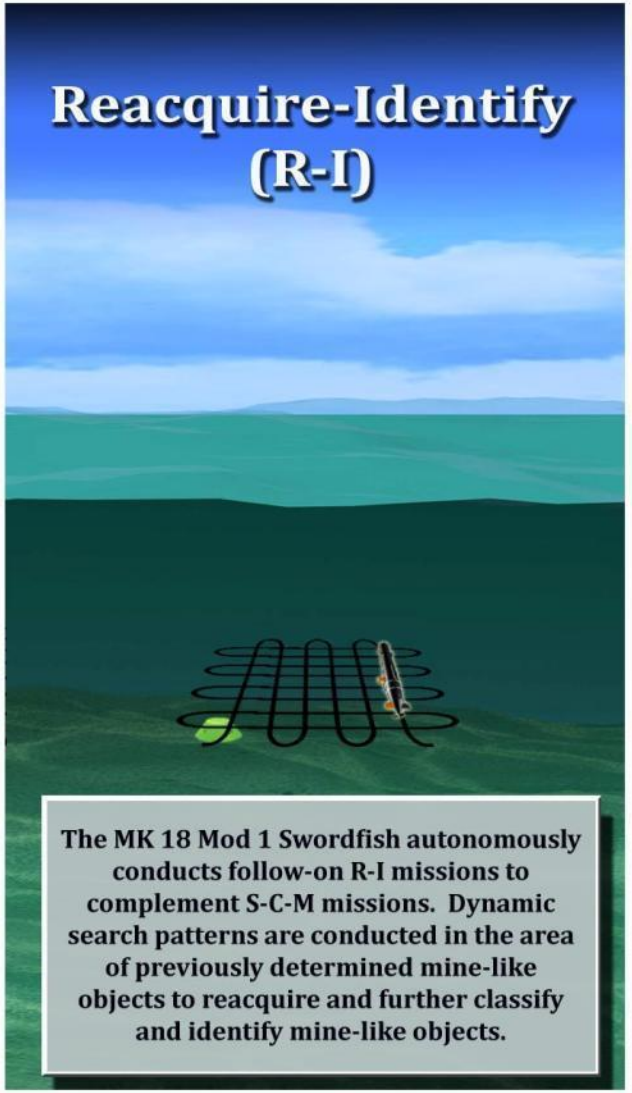
The MK 18 Mod 1 Swordfish system autonomously conducts BULS missions to provide rapid object localization for confined areas (inlets, berthing areas, between piers and pilings, confined channels and rivers) and open areas in the VSW zone (10-40 feet of sea water (FSW))

Search-Classify-Map (S-C-M)



Both the MK 18 MOD 1 Swordfish and the MK 18 MOD 2 Kingfish systems are capable of autonomously conducting S-C-M missions which provide localization of bottom and tethered mine-like objects in specific lanes through the VSW zone (mowing the lawn).

Reacquire-Identify (R-I)



The MK 18 Mod 1 Swordfish autonomously conducts follow-on R-I missions to complement S-C-M missions. Dynamic search patterns are conducted in the area of previously determined mine-like objects to reacquire and further classify and identify mine-like objects.

Summary

- EOD must have systems with common architecture, modular components, standardized interfaces, and intuitive human controls
- Recent conflicts driving requirements and funding
- Coordinated, combined acquisition needed to reduce cost
- Contractor and Government business environments very competitive
- EOD is and will continue to be a large user of robotics

Questions