Expeditionary Warfare

OPNAV N85

MajGen Timothy Hanifen

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Guidance…Title 10 USC

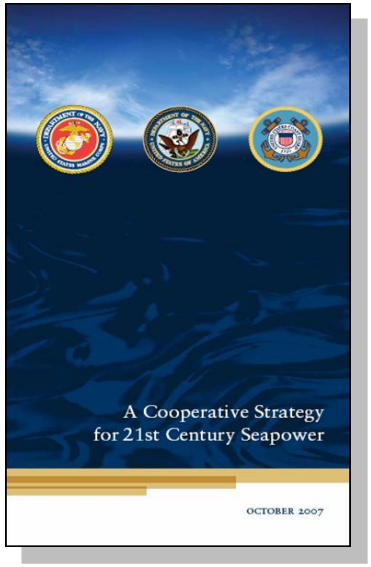
•TITLE 10 - ARMED FORCES Subtitle C - Navy and Marine Corps PART I - ORGANIZATION CHAPTER 503 - DEPARTMENT OF THE NAVY

- CHAPTER 505 - OFFICE OF THE CHIEF OF NAVAL OPERATIONS
  - Sec. 5038. Director for Expeditionary Warfare
  - (c) The principal duty of the Director for Expeditionary Warfare shall be to supervise the performance of all staff responsibilities of the Chief of Naval Operations regarding expeditionary warfare, including responsibilities regarding amphibious lift, mine warfare, naval fire support, and other missions essential to supporting expeditionary warfare.

…Maritime Strategic Concept

Strategic Imperatives:

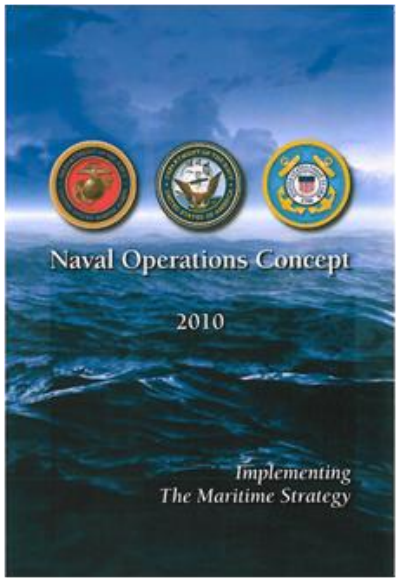
- **Regionally Concentrated, Credible Combat Power**
  - **Limit regional conflict with forward deployed, decisive maritime power.**
  - **Deter Major power war.**
  - **Win our Nation's wars.**
- **Globally Distributed, Mission-Tailored Maritime Forces**
  - **Contribute to homeland defense in depth.**
  - **Foster and sustain cooperative relationships with more international partners.**
  - **Prevent or contain local disruptions before they impact the global system**



…Naval Operational Concept 2010

Implementing the Strategy:

- **Forward Presence**
  - OIF/OEF – Counter insurgency, Infrastructure Protection, Riverine Operations.
  - CSG's & ARG/MEU
- **Deterence**
  - Opposed Transit, Anti-Access, Area Denial
- **Sea Control**
  - Combined Arms Approach- Surface, Subsurface, Air, Ground, Space, Cyber
- **Power Projection**
  - OIF/OEF- Task Force 58
- **Maritime Security**
  - Counter Piracy / MIO
  - African Partnership Station
- **Humanitarian Assistance and Disaster Response**
  - Caribbean / New Orleans



…Marine Corps Operational Concepts

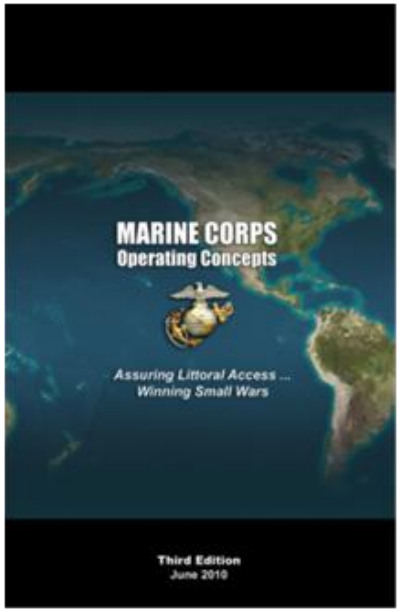
Aligning with the Marine Corps Operating Concepts:

Enhanced MAGTF Operations: conduct operations across a larger area, to conduct operations with a higher tempo, to be able to perform multiple simultaneous operations

Engagement: forward deployed and present in partner nations around the world with the goal to improve relationships, improve security and assure access when needed

Crisis Response: forward-deployed and sea-based presence, high readiness, prepositioned equipment, and task-organized forces are keys to ensure rapid crisis response.

Power Projection: Seaborne forces are the most useful means to project large amounts of military power and the ability to operate from the sea is crucial to the Nation's power projection



The Navy and Marine Corps Team …thriving in an uncertain world









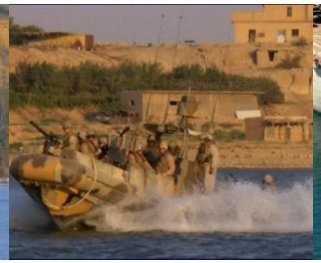


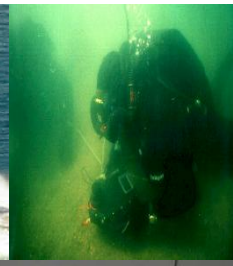

Major Combat Operations
Building Partner Capacity
Train / Advise / Assist
Forcible Entry
Relief Operations
Limited War
Hybrid
Peace Enforcement
Civil War
Show of Force
Counter Insurgency
Combating Terrorism
Non-combatant Evacuation Operations

A Flexible, Balanced Expeditionary Force to meet Operational Demands

A Balanced Strategy






"My fundamental concern is that there is not commensurate institutional support - including in the Pentagon – for the capabilities needed to win today's wars and some of their likely successors."

"We must not be so preoccupied with preparing for future conventional and strategic conflicts that we neglect to provide all the capabilities necessary to fight and win conflicts such as those the U.S. is in today."

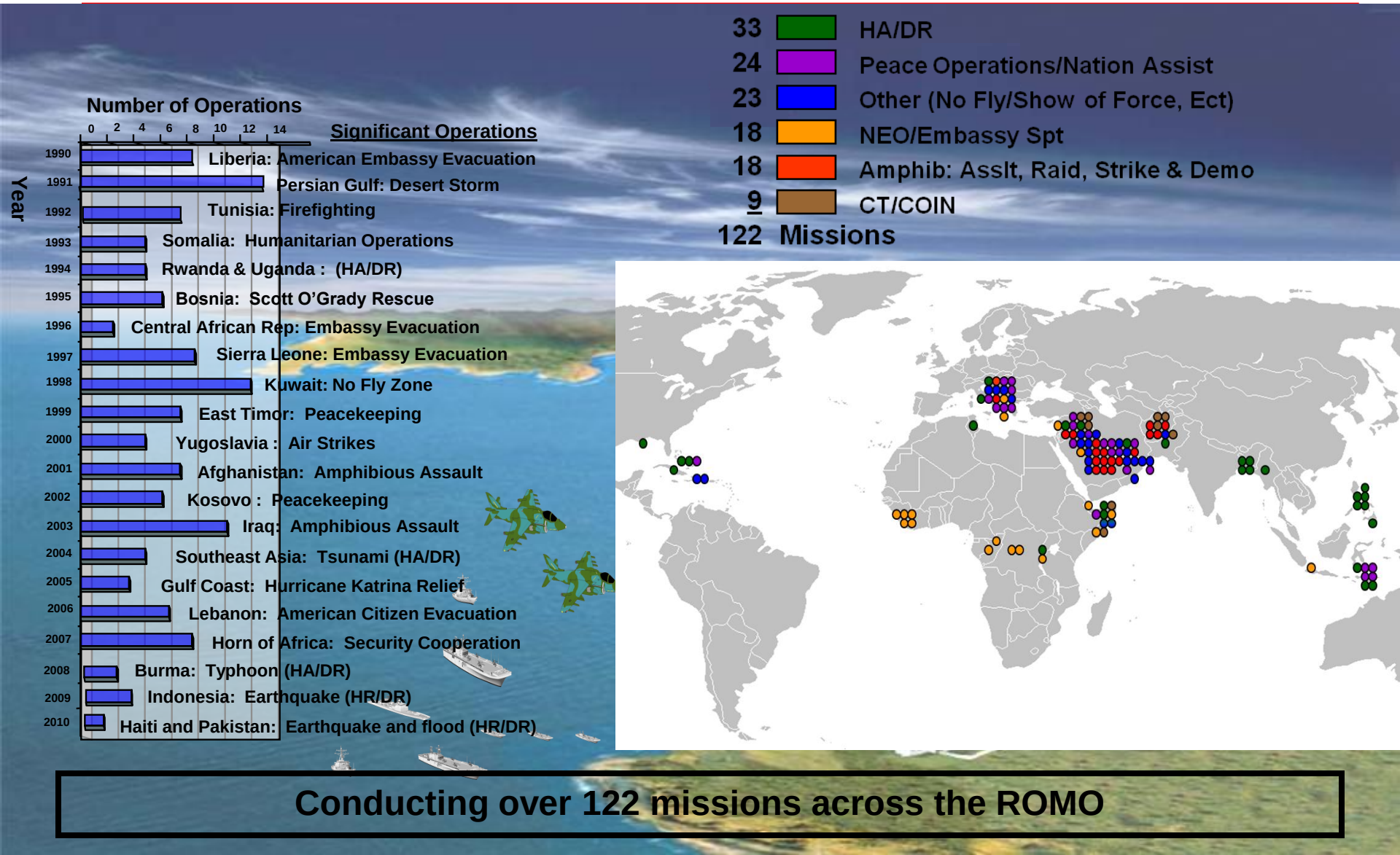
"DoD's conventional modernization programs seek a 99% solution over a period of years. Stability and counterinsurgency missions require 75% solutions over a period of months."



Robert M. Gates, *A Balanced Strategy: Reprogramming the Pentagon for a New Age, Foreign Affairs, Jan/Feb 2009*

Amphibious Operations

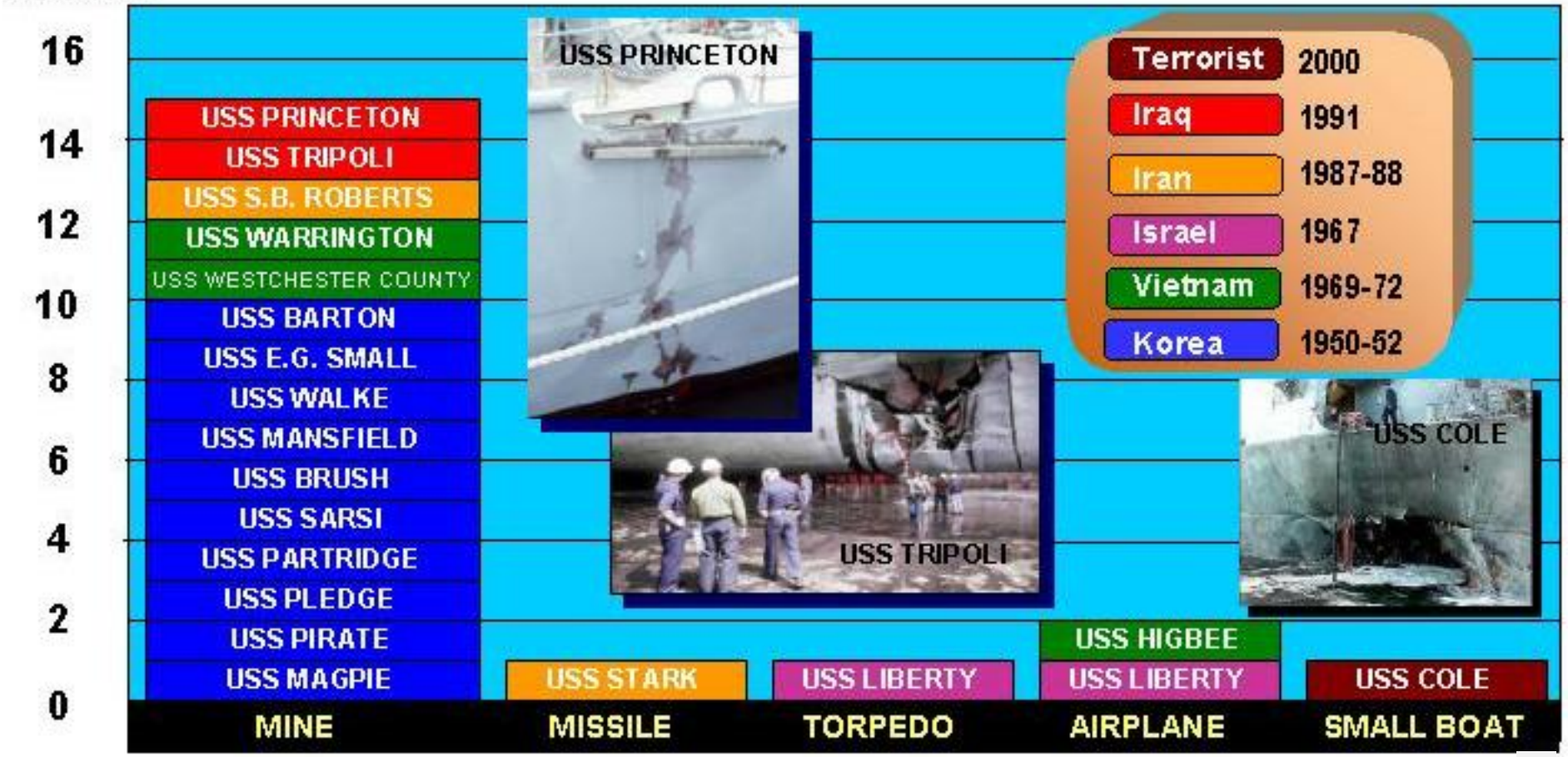
108 Operations Since 1990



Conducting over 122 missions across the ROMO

Importance of Mine Countermeasures

Ship Attacks since 1950



Mines far more of a threat than Missile, Torpedo, Aerial, & Small Boat Attack

Navy Expeditionary Combat

NECC World Wide Force Participation Since 2007

NORTHCOM

JTFEXS
PATRIOT PARTNER
GOLDEN CARGO
CONTINUING PROMISE (USNS COMFORT)
JLOTS
UNITAS GOLD
TRIDENT ARCH
JAVELIN THRUST
CITADEL GALE
DELMAR

EUCOM

OPERATIONS:
CTF-68-NCF/MESF/EOD/NEIC/MDSU
SOCEUR CIF – EOD
JTF EAST - NCF

ENGAGEMENTS/EXERCISES:
SEA BREEZE
UKRAINE MARITIME SECURITY
BLACK SEA PARTNERSHIP
LOYAL MARINER
BRILLIANT MARINER
BRILLIANT MIDAS
JOINT WARRIOR
TUNISIA

CENTCOM

OPERATIONS:
MNF-W: RIVERINE/EOD/NCF/MESF/NAVELSG/NEIC/MCAG
CJSOTF: NCF/EOD/COMCAM/ MCAG
NAVCENT/C5F: MESF/NEIC/EOD/NAVELSG

ENGAGEMENT/EXERCISES:
NATIVE FURY
EGYPT EOD CIED
JORDAN EOD CIED
BEIRUT EOD CIED
SAUDI ARABIA CIED

PACOM

OPERATIONS:
PACFLT/C7F SUPPORT - NCF/MESF/EOD/MDSU
JSOTF-P – MESF/MCAG/NCF

ENGAGEMENT/EXERCISES:
CARAT
PACIFIC PARTNERSHIP STATION
COBRA GOLD
KEY RESOLVE
TALON VISION
CONTINUING PROMISE PACIFIC (USNS MERCY)
PROJECT FRIENDSHIP
FOAL EAGLE
ULCHI FOCUS LENS
FREEDOM GUARDIAN
DEEP FREEZE
MIATA
IWOJIMA MINEX
DUGONG MINEX
BALIKATAN
HONG KONG EODEX
SPITTING COBRA
EOD SMEE
TALISMAN SABER

SOUTHCOM

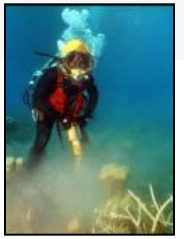
OPERATIONS:
JTF GTMO – NCF/COMCAM
NAVSOUTH - PANAMA CANAL TRANSITS – MESF

ENGAGEMENTS/ EXERCISES:
PANAMEX
JLOTS
CONTINUING PROMISE (USNS COMFORT)
BEYOND THE HORIZON
PROJECT FRIENDSHIP
SOUTHERN PARTNERSHIP STATION

AFRICOM

OPERATIONS:
JTF-HOA – NCF/MCAG/NEIC/EOD 11

ENGAGEMENT/EXERCISES:
JTF HOA
FLINTLOCK
WATC
AFRICAN PARTNERSHIP STATION
GULF OF GUINEA
CAMEROON
SEYCHELLES



Riverine Force

OIF Activities from March 2007

River/Lake Security Patrols	*923*
Quick Response Force missions	*100*
Riverine Convoy missions	*689*
Shoreline sweeps	*354*
Joint operations conducted	*240*
Iraq Security Force Patrols	*245*
Detainees screened	*389*
Boats impounded	*76*
Weapons caches found	*142*
Combined operations conducted	*156*
Unmanned aircraft hours flown	*667*
Aircraft control hours	*268*
Iraqi River Police trained	*217*
Partnership training (Mandays)	*3501*
Key Leader engagements	*165*
Allocations of micro grants ($K)	*111*

Over-Arching Challenges

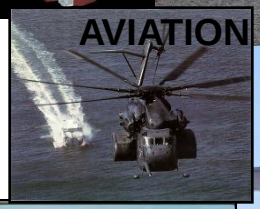
- **Shipbuilding/Modernization**
- **Evolving and improving MCM Capabilities**
- **Integration of Expeditionary Forces across the Range of Military Operations (ROMO)**
- **Synchronization of Special Warfare Capabilities**
- **Employment and Sustainment from the sea**
- **Energy Conservation**
- **Seabasing**

All of these challenges require…	**Innovative Thinking** **Acquisition Agility** **Rapid Science & Technology Integration** **Requirements Development**

Amphibious Warfare

Amphibious Fleet Transformation

- Capability Driven Recapitalization
- Supports Larger/Heavier USMC Footprint
- Full Service Life Ship Modernization
- Supports Joint Strike Fighter Ops
- Supports MV-22 Osprey Ops
- Improved Command & Control
- Improved Self-Defense
- Increased Survivability



Operations from 1- 5 miles off beach…Sea-Based Operations from 25+ miles

Amphibious Warfare Challenges

- C2 configuration (space/function) and C4I capabilities for future ships and back fitting on current shipping - focusing on LHA(R) and developing the configuration and capabilities that will allow for centralize control and serve to unify the expeditionary effort

- Combat Systems - defense of the expeditionary forces i.e. ARG

- High Speed Displacement Craft Technology – LCU(R)/ LCM(R)

- Flight Deck heat mitigation in support of JSF and MV 22

- Imbedded Shipboard Virtual Training Systems

- Diesel Engines - off the shelf, easily converted to at-sea applications for use on LCU

- Interoperability of Enhanced MSPRON capabilities with commercial national/international and allied shipping

Mine Warfare

Removing the Sailor from the Minefield
To Increase Clearance Rates

- Slow
- Heavy
- Large footprint
- Stovepiped
- Primarily CONUS-based
- Manpower Training Intensive

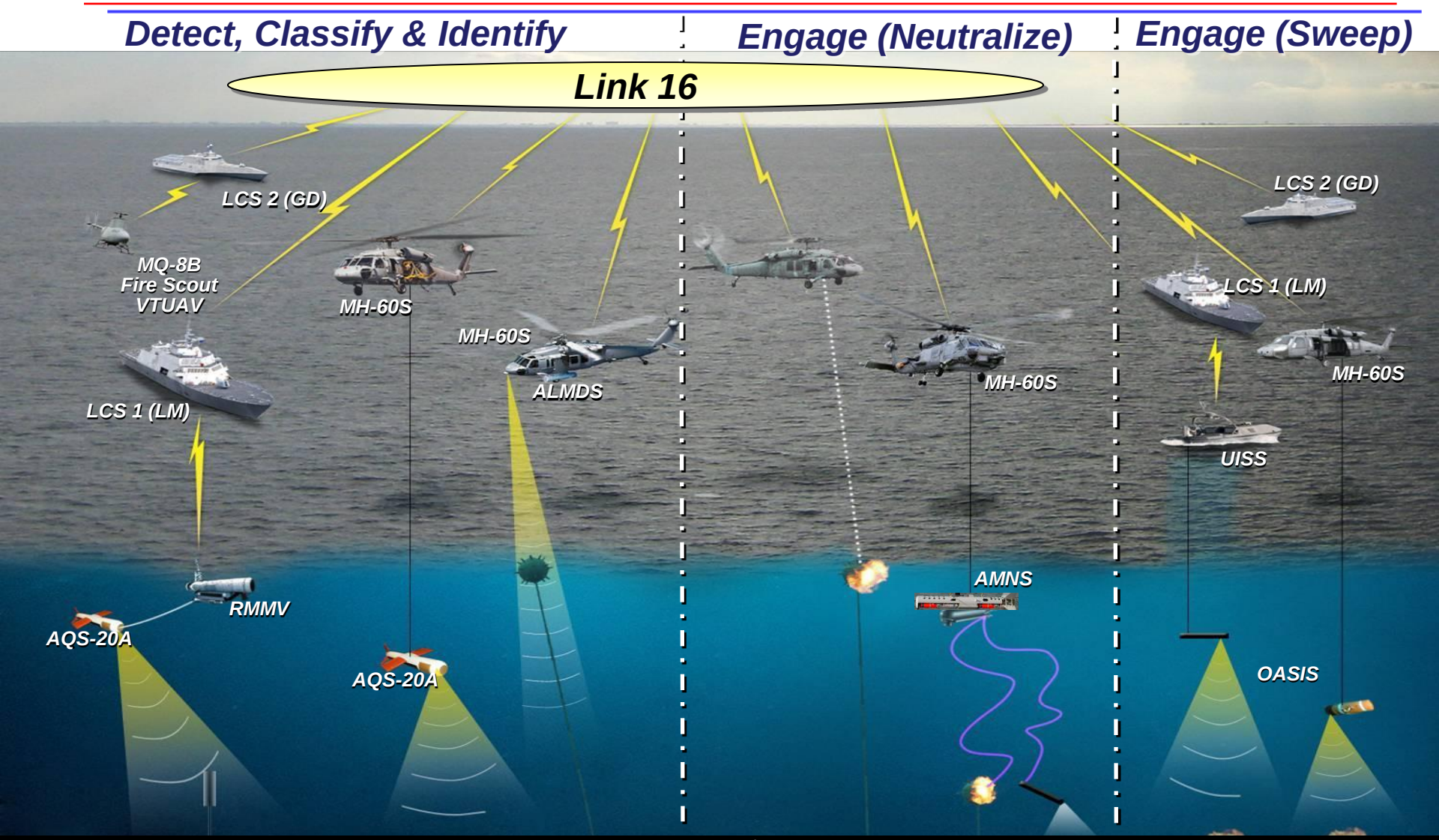
- Innovative Combination of COTS Technology for Mining and MCM
- Distributed and Netted
- Unmanned Operations
- Cooperative Behavior
- Computer Aided Detect/Classify
- Common Operational Picture
- Sea Warrior Transformation
- Closing the Technology Gaps

- Fast and Agile
- Precise
- Lethal
- Modular
- Organic
- Optimized Manpower Requirements

MCM VISION:

Field a Common Set of Unmanned, Modular MCM Systems Employable from a Variety of Host Platforms or Shore Sites that can Quickly Counter the Spectrum of Mines to Enable Assured Access with Minimum Risk from Mines

LCS Mine Countermeasures Concept



OASIS: Organic Airborne and Surface Influence Sweep / **AMNS**: Airborne Mine Neutralization System
RMMV: Remote Multi Mission Vehicle / **UISS**: Unmanned Influence Sweep System / **ALMDS**: Airborne Laser Mine Detection System

Mine Warfare Challenges

- Revitalizing U.S. Naval Mining Capability--let's give our adversaries this problem

- Low Cost Innovative Field Expedient/COTS solutions for MCM

- Solving the Mine Clearance Issue in the cluttered VSW environment

- Increase Speed of Kill Chain for all MCM Systems via Single Pass Detect-To-Engage

Low Cost Field Expedient/COTS Solutions

for High Capacity Mining and Clearance

Expeditionary Combat

Developing a Fully Integrated Dual-Use Force

Naval Construction (Seabees)

Maritime Expeditionary Security

Riverine Forces

Expeditionary Logistics

- **Investments in high-demand/ low density SFA-capable forces**
- **Common, upgraded C4I infrastructure**
- **Small boat standardization**
- **Evolving Force Structure**
- **Continued EOD technology development**
- **Robust non-lethal capabilities**

NECC Forces Link Maritime & Land Domains Across the Challenging Littoral Battlespace

Expeditionary Combat Challenges

- Integrating technologies
  - Robust, common C2 infrastructure
  - Improved "networkable" sensors
  - Upgraded tactical radios, expeditionary satellite communications,
  - GDFS replacement.

- Unmanned systems (UUVs, USVs, & robotics) beyond simple observation/surveillance such as Advanced EOD Robot System
  - Open architecture (cost effective upgrades)
  - Reduction of personnel requirements,

- Non lethal weapons that provide our sailors additional options along the escalation of force continuum
  - Directed energy systems (lasers, high power microwave, & radio frequency systems)
  - Extend the range of currently fielded systems

Naval Special Warfare

Sustained/Improved Service-Common Support

SCAN EAGLE UAS

LEGACY TACTICAL COMMS

LEGACY COMBATANT CRAFT

INLAND OPERATIONS

- **Capability Driven Recapitalization**
- **Support NSW movement towards SFA**
- **Ensure NSW compatibility with Fleet assets**
- **Exploit Navy-SOF system commonality**
- **Improve tactical ISR capabilities**
- **Improve Command & Control**

SMALL TACTICAL UAS

COMMON TACTICAL COMMS

COMMON COMBATANT CRAFT

MARITIME/SFA OPERATIONS

OIF/OEF Centric **Post-OIF/OEF Engagement**

Naval Special Warfare Challenges

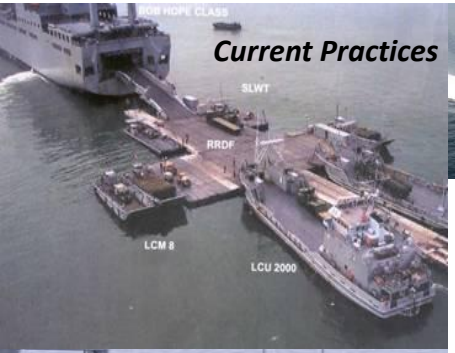
- Common Combatant Craft
  - A common hull form that meets Navy and SOF requirements

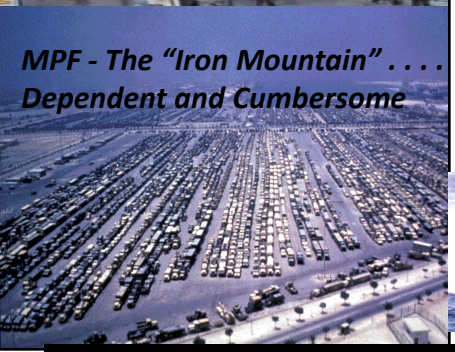
- Modular Armor
  - Evolving armor for people and equipment to meet the threat of the operational environment

- Naval Expeditionary Package for AFSB
  - Support SOF,NECC and USMC forces from various AFSB (LCS,JHSV,MLP)

- Power Sources
  - Power density is never small even for the large demand

Seabasing via Enhanced MPSRON





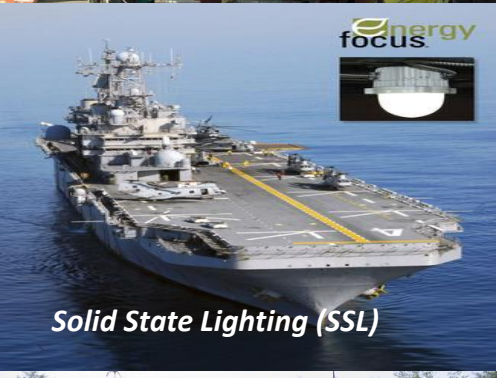
- **Delivery of equipment and supplies through restricted access environments (arrival and assembly ashore)**
- **Rapid employment of forces from OTH**
- **Transfer of equipment at sea in non-anchorage depths**
- **Selectively offloadable, tailorable force packages**
- **Employable in emergent, partnership and combat across complete ROMO**

Flexibility To Influence Events Ashore Or At Sea, Particularly When Denied Access Or A Small Footprint Ashore Desired

Seabasing/Enhanced MPSRON Challenges

- Station Keeping Systems/Technologies
  - Advanced Mooring Systems, Dynamic Positioning
- Equipment and Cargo Handling/movement
  - Automated Warehousing, Robotic Technologies
- Modular Causeway Enhancements
  - Interfaces, Increased Interoperability with other system/platforms
- Interface Ramp Technologies
  - Enhanced Sea-State Capabilities
- Environmental and Ship Motion Forecasting Technologies

Expeditionary Energy Initiatives



- **Actively leveraging promising energy technologies and innovative practices.**
- **Developing a Expeditionary Power Management and Distribution System.**
- **Integrated Propulsion Power plants and hybrid electric drive.**
- **Integration of bio-fuel into ships and aircraft**

"In order to lower our reliance on fossil fuels, we need to improve the efficiencies of systems and develop platforms that operate as a system of systems, are integrated together, and reduce our tactical vulnerability."
SECNAV Mabus, Naval Energy Forum, 14 Oct 2009

Expeditionary Energy Challenges

- Integrated Power Systems (IPS) for Expeditionary Boats

- Alternative Power Generation and Management Systems for Expeditionary Field Applications
  - Technology not fully mature in USN
  - Cost growth and investment
  - Commercial design conversions

- Ship Design
  - Cost of design change for hull form
  - Timely incorporation of IPS into the design
  - Risk trade-offs; power dense generation vs magnetic signature

- Tactical Vehicles and Equipment
  - No accurate means to assess contingency fuel use
  - Most procurement are joint or commercial
  - Fuel efficient version has a higher initial investment and unit cost

- Bio-Fuel
  - Choices of biofuel; Algae vs Camelina & derivatives
  - Production challenges; crop yield vs cost
  - Qualification process

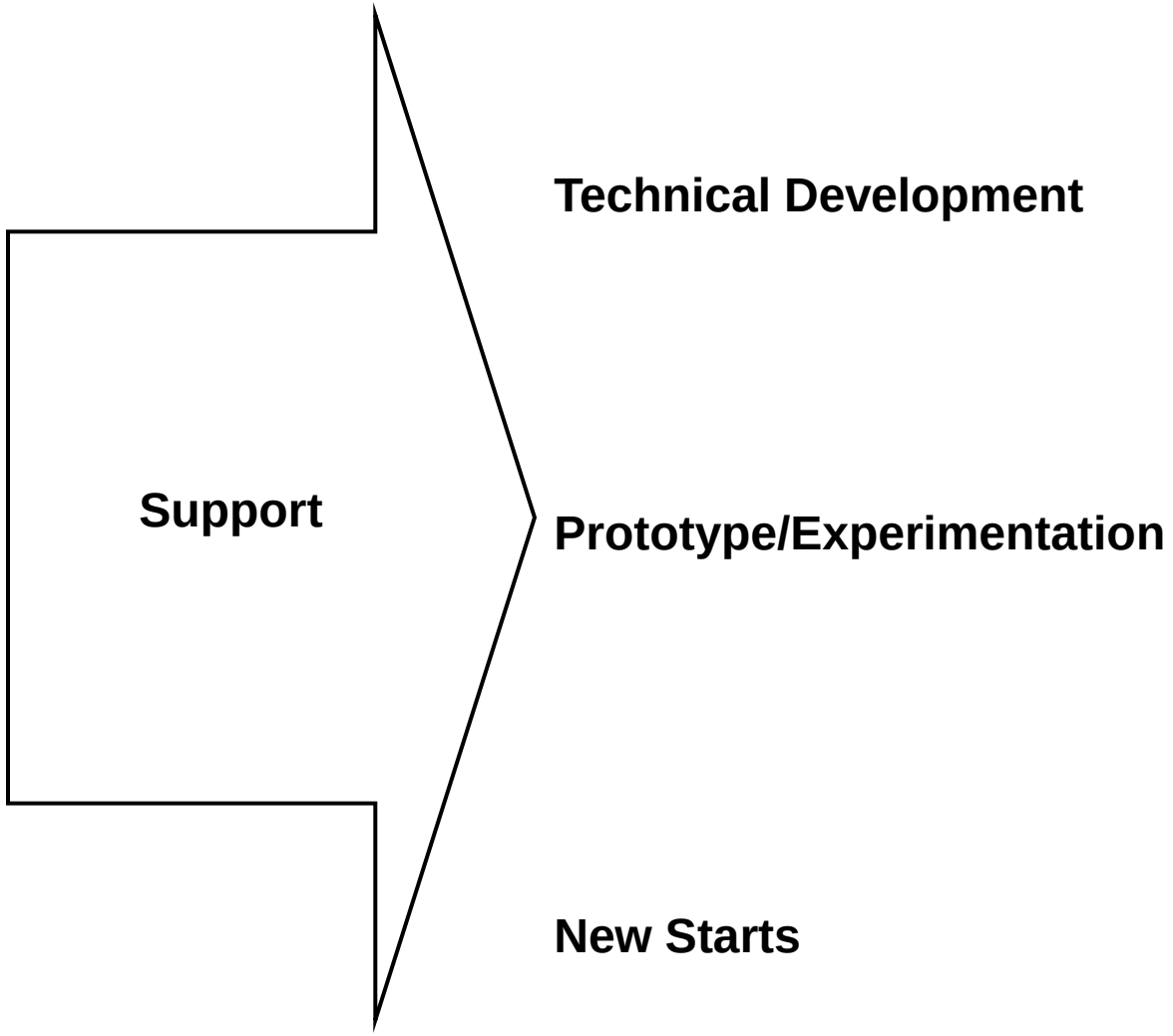
How To Reach Us

N851
-Mr. Jon Wright
jon.r.wright@navy.mil
(703)

N852
- LtCol M. Greeno
michael.greeno@navy.mil
(703) 697-9795

N853
Col C. Arantz
christopher.arantz@navy.mil
(703) 614-0395

N857
Mr. W. Williams
wellington.williams@navy.mil
(703) 692-1511



Discussion