



19th NDIA Expeditionary Operations Conference
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Expeditionary Warfare Division (N95)

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Recent Activity in MIW



Improvement to MCM Force Remains a Priority

- **Fleet MCM Systems**
 - Continuing installations of SQQ-32(v) 4 Surface Mine Hunting Sonar on Avenger Class MCMs
 - AQS-24B High Speed Synthetic Aperture Sonar in production
 - Quickstrike mine wing kit demonstrations
- **5th Fleet MCM Deployed Systems**
 - SeaFox: Avenger class, MH-53E, and Portable by EOD
 - Permanent crews assigned to MCMs in Bahrain
 - Mine Hunting USV (MHU)
 - MK-18 Mod 2 UUVs
- **LCS Mine Warfare Mission Systems**
 - Airborne Laser Mine Detection System (ALMDS)
 - MCM MP testing events for ALMDS, RMS and AMNS completed in October 2014
 - Unmanned Influence Sweep System (UISS) achieved Milestone B
 - Knifefish Engineering Development Model delivered for in-water testing
 - COBRA Block I
- **Assault Breaching Systems – Countermine System (CMS) defunded and JABS being considered as viable replacement**



IMCMEX Oct – Nov 2014



GOAL: Mine Countermeasures Mission Package Increment 1 Fleet Introduction

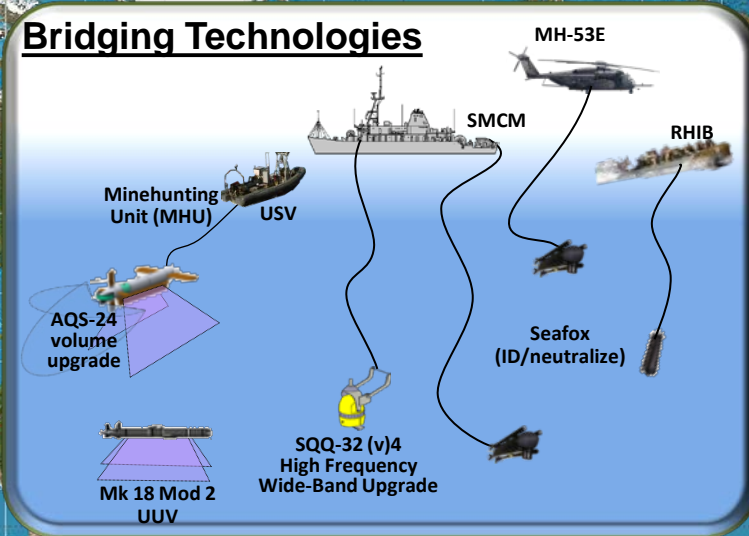
MCM Roadmap



Current MCM Force

Future Force

Bridging Technologies



MCM-1 Class



SQQ-32



SLQ-48



MH-53E



Mk-104



Mk-105



EOD



AQS-24



LCS-1



LCS-2



RMS



MH-60S

ALMDS



AMNS



UISS



AQS-20A



JABS



EOD

Knifefish UUV



COBRA

MCM VISION:

1. Reduce MCM timelines for Combatant Commanders
2. Reduce risk from sea mines to allow Joint Force mission execution
3. Integrate new and evolving technologies into the Littoral Combat Ship

Current Systems

- Dated technology
- Slow speed of advance
- Large footprint
- Manpower / Training Intensive

Future Performance

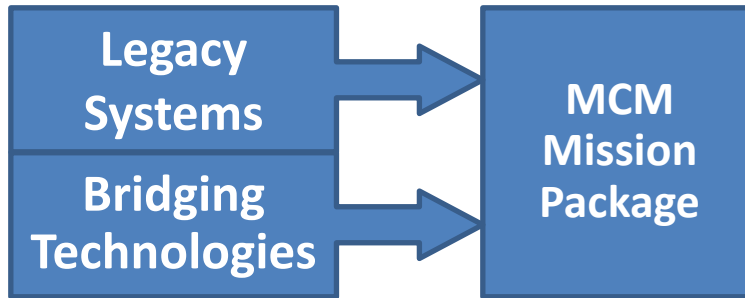
- Unmanned Systems
- Fast and Agile
- Modular
- Optimized use of Manpower

Takeaways



- **Constrained Fiscal Environment**
- **Current Readiness**
 - Maintain/Improve Ao of legacy systems
 - Support Bridging Technologies

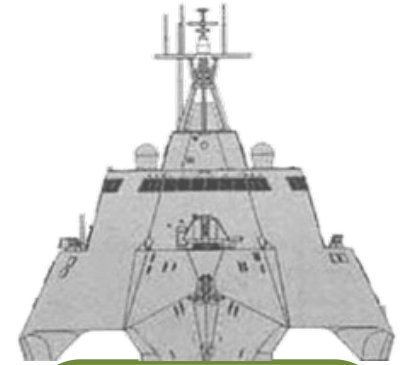
- **Transition to Future Readiness**



- **Integrated Systems**
 - Increased Kill Chain Speed
 - Long-duration unmanned systems

FUTURE MINE WARFARE

- Fewer Systems
- Greater Capability



U.S. Mine Warfare

- Hunting
- Neutralization
- Assault Breaching
- Offensive Mining
- Influence Sweep





Opportunities for Industry

- **Period of Transition and Innovation**
- **Compress time to complete Kill Chain for all MCM systems**
 - Any investment measured in terms of reduction in Kill Chain timeline
 - Includes planning systems
 - Real-time analysis
 - Multi-Mission systems (Mine Hunting and Neutralization)
- **Mine Warfare C4I (US/Coalition) and Command & Control Facilitation**
 - Common standards and interfaces—common training
 - Modular and Interoperable
 - Mission planning and analysis outputs compatible across systems
- **Affordability throughout the Life Cycle**
 - Supportable & Sustainable Systems
 - Reduced Maintenance (Can not pass inefficiencies on to Sailors)
 - Lighter/smaller systems
 - Design and Implementation of Open Architecture and Multiplatform Systems (flexibility – Interoperability)
- **Revitalize Offensive Mining Capability**



Questions?

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