



Maritime Mining

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Leaders in Littoral Warfare and Coastal Defense

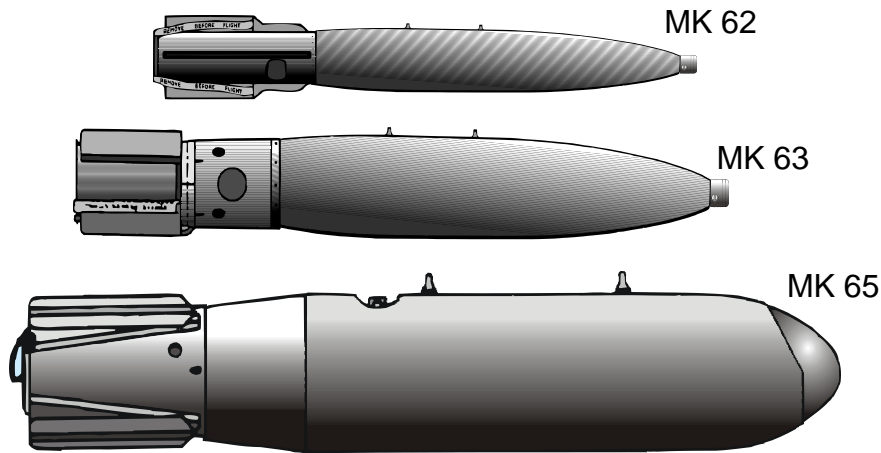
Mine Delivery Platforms



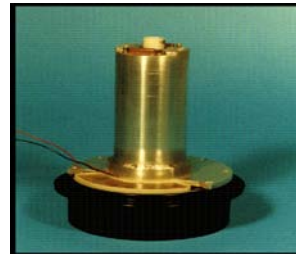
- USN
 - ✓ P-3C
 - ✓ F/A-18
 - ✓ P-8 (future)
 - ✓ **SSN 688 Class**
- USAF
 - ✓ B-1B
 - ✓ B-2
 - ✓ B-52H

Leaders in Littoral Warfare and Coastal Defense

Quick-Strike Family



Quickstrike Family of Mines



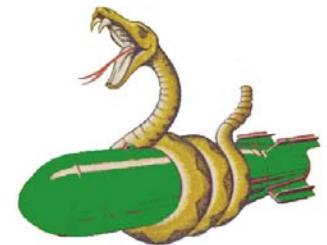
Target Detecting Device
MK 71 MOD 0

Characteristics & Status

- Magnetic, Seismic, Pressure Sensors
- MOD 3 (TDD MK 71)
 - Programmable
 - Modular
 - Pressure Sensor for all QS Mines

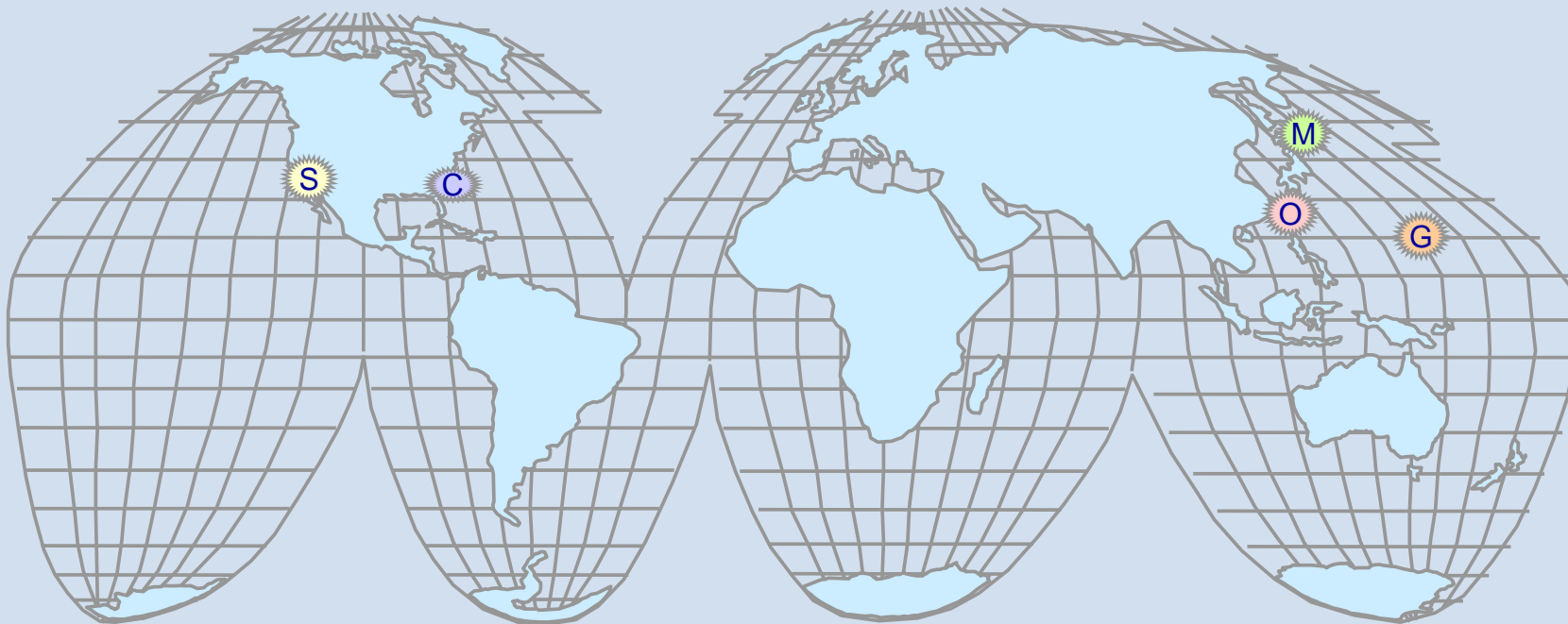
Future

- Command and Control
- Target Processing Algorithms
 - Fast, Low-Signature Surface Targets
 - Slow, Low-Signature Subsurface Targets
- Delivery
 - Stand-off Air Delivery
 - Clandestine



Mine Assembly Units

Global Support



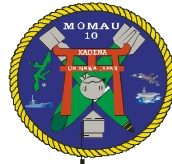
NMC UNIT

Seal Beach, CA



NMC UNIT

Charleston, SC



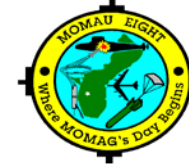
NMC UNIT

Okinawa, JA



NMC UNIT

Misawa, JA



NMC UNIT

Guam

Leaders in Littoral Warfare and Coastal Defense

Value of Sea Mining

- Low-cost Battle-Space Shaping and Force Protection
 - Keep the enemy where you want him
 - Force the enemy into areas he doesn't want to go
 - Keep the enemy out of areas he would like to go
 - Disrupt an enemy's battle plan
 - Attrite enemy forces
- Diplomatic and Military Leverage

Operational Limitations

- Delivery Options – Capability, Capacity, Risk
- Target Discrimination - Enemy, Friendly and Neutral Targets
- Friendly Force Area Maneuver Impact
- Command and Control (C²)
- Dynamic/Flexible Re-tasking or Recoverability
- Immobile weapon - Stationary minefields can be circumnavigated

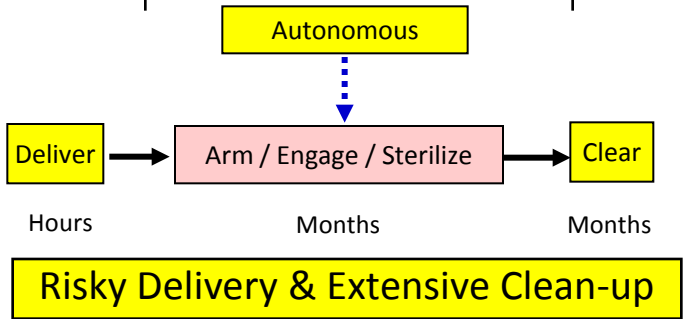
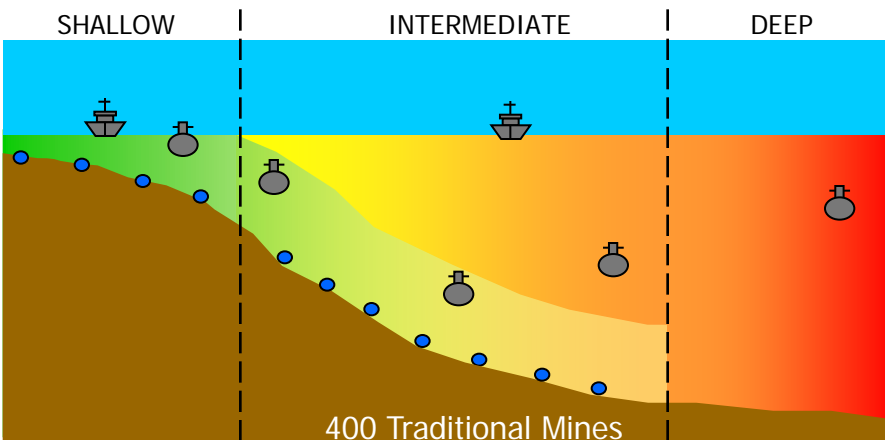
Traditional Mining (strategic, autonomous, overt)



Quickstrike



SLMM (through FY12)



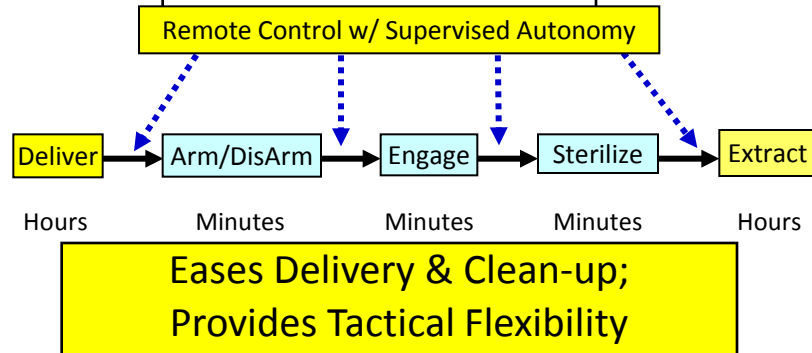
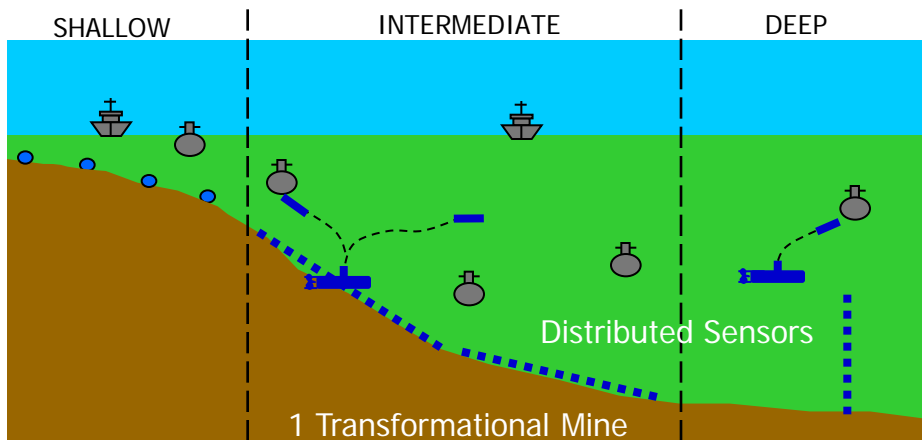
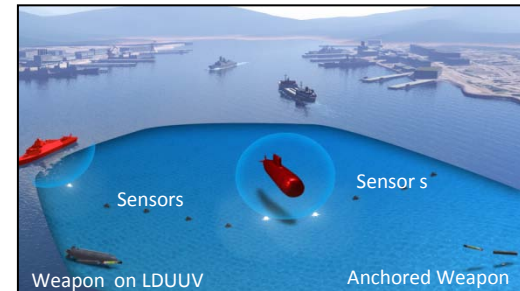
Transformational AUWS (tactical, controlled, clandestine)



LDUUV w/Sensors & Weapons

Three Products:

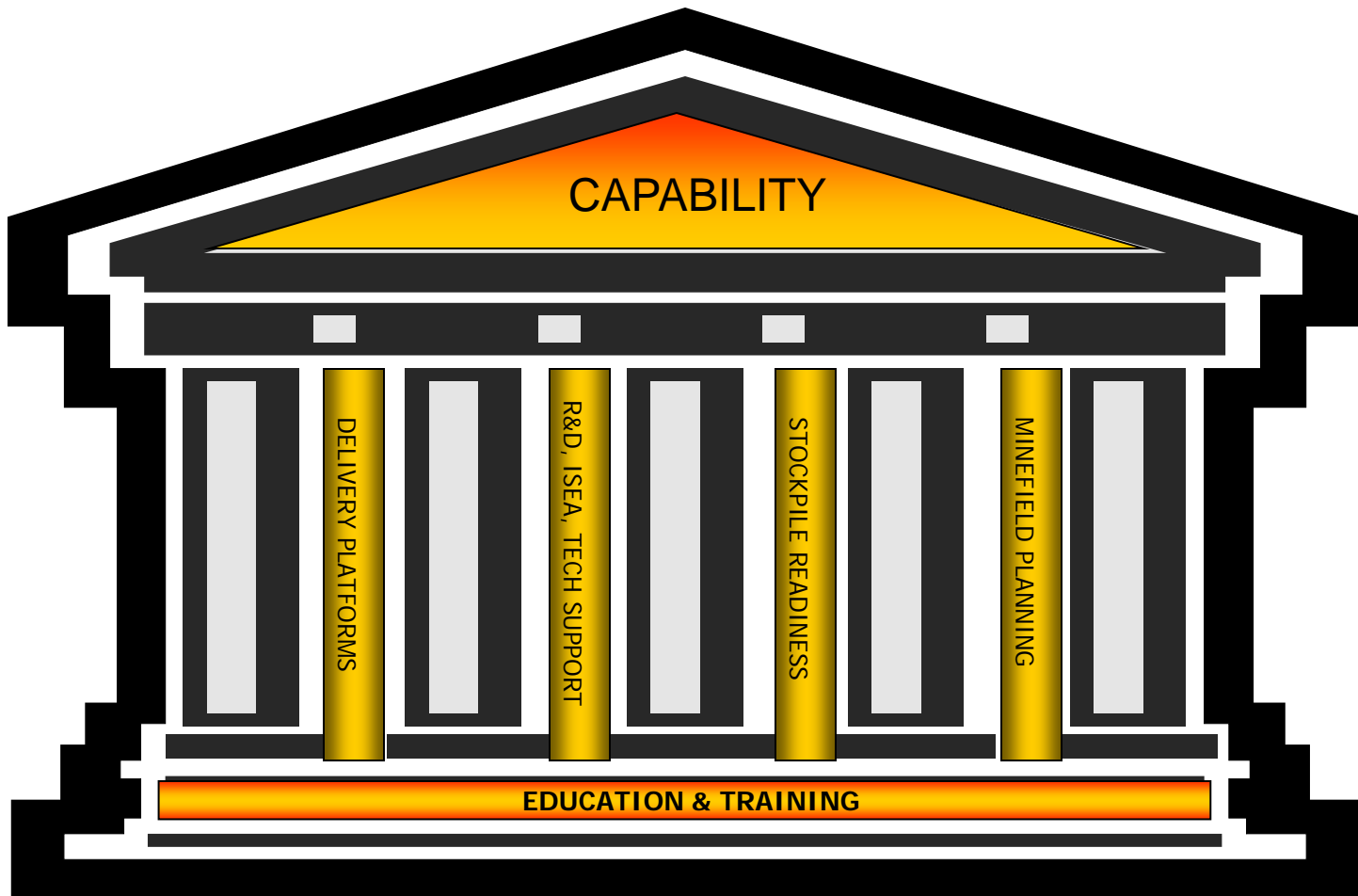
- Tactical Positioning & Fire Control
- Remote Command & Control
- Auto Threat Detection & Localization





Maritime Mining

'The Parts Make The WHOLE'





Questions