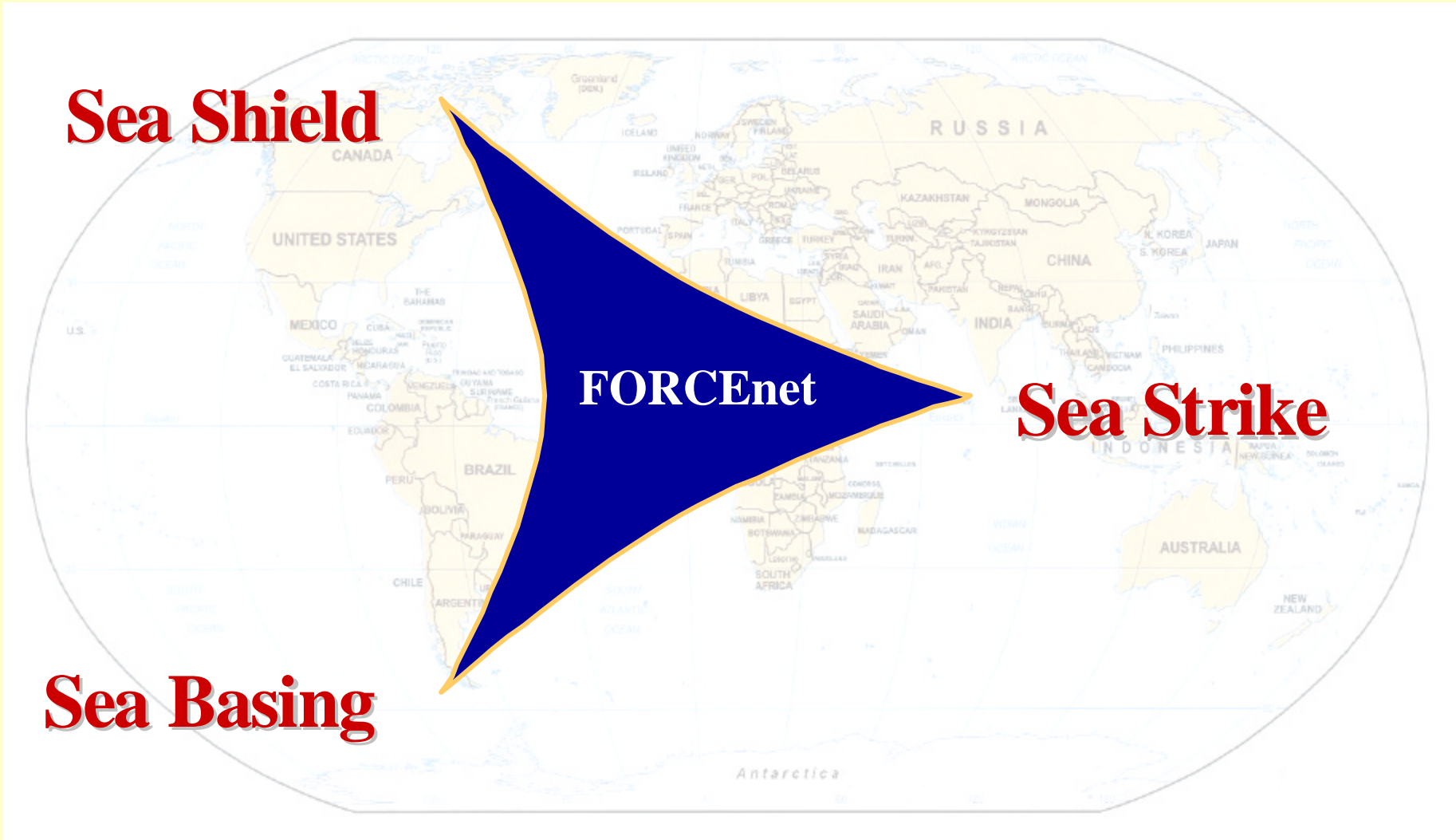


Forcible Entry – USW is the Key



NDIA EWC
RADM M A Sharp
23 October 2002

SEA POWER 21



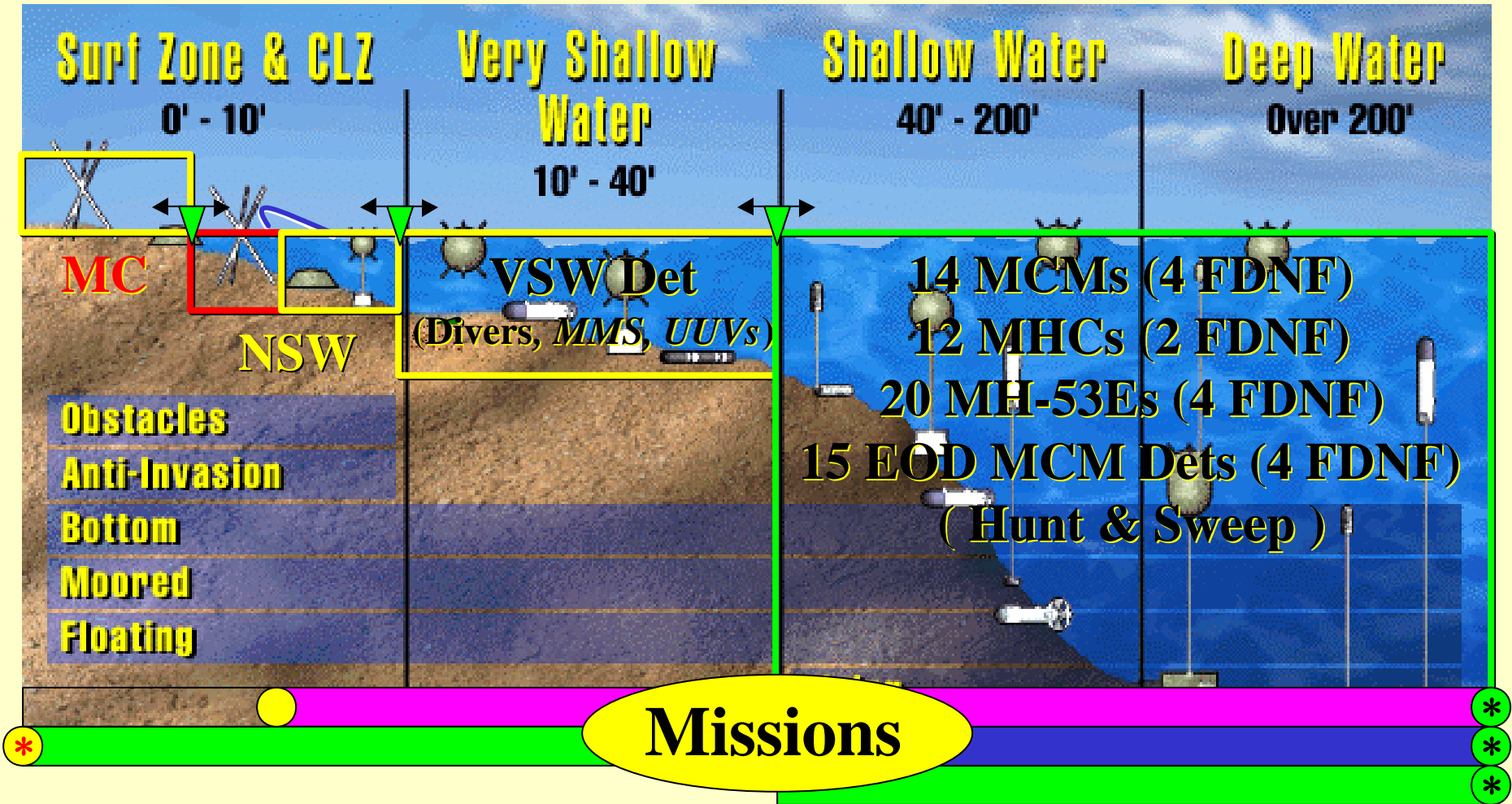
SeaPower 21

Transforming Littoral Sea Control

- Assure freedom of operations for coalition and joint forces anywhere, anytime
- Assure access from the sea for joint forces in the face of surface threats, quiet submarines and mines

“New MCM capabilities organic to deployed naval forces in combination with a balanced force of more capable, dedicated MCM assets will enable naval forces to maneuver in potentially mined areas while executing other combat missions.”

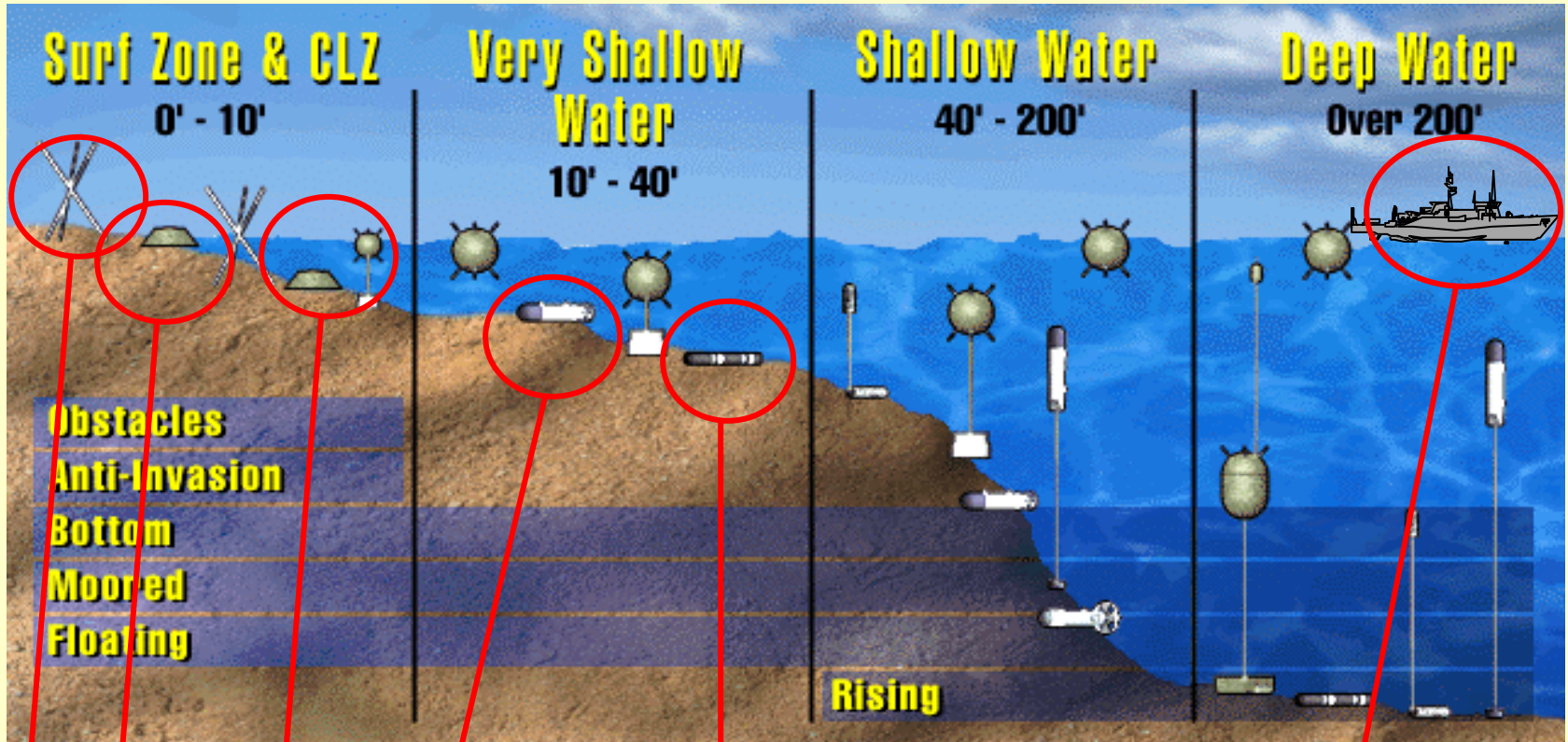
Status: MCM Capability Today



Contingency Forces

Dedicated Forces

WHAT WE HAVEN'T SOLVED...



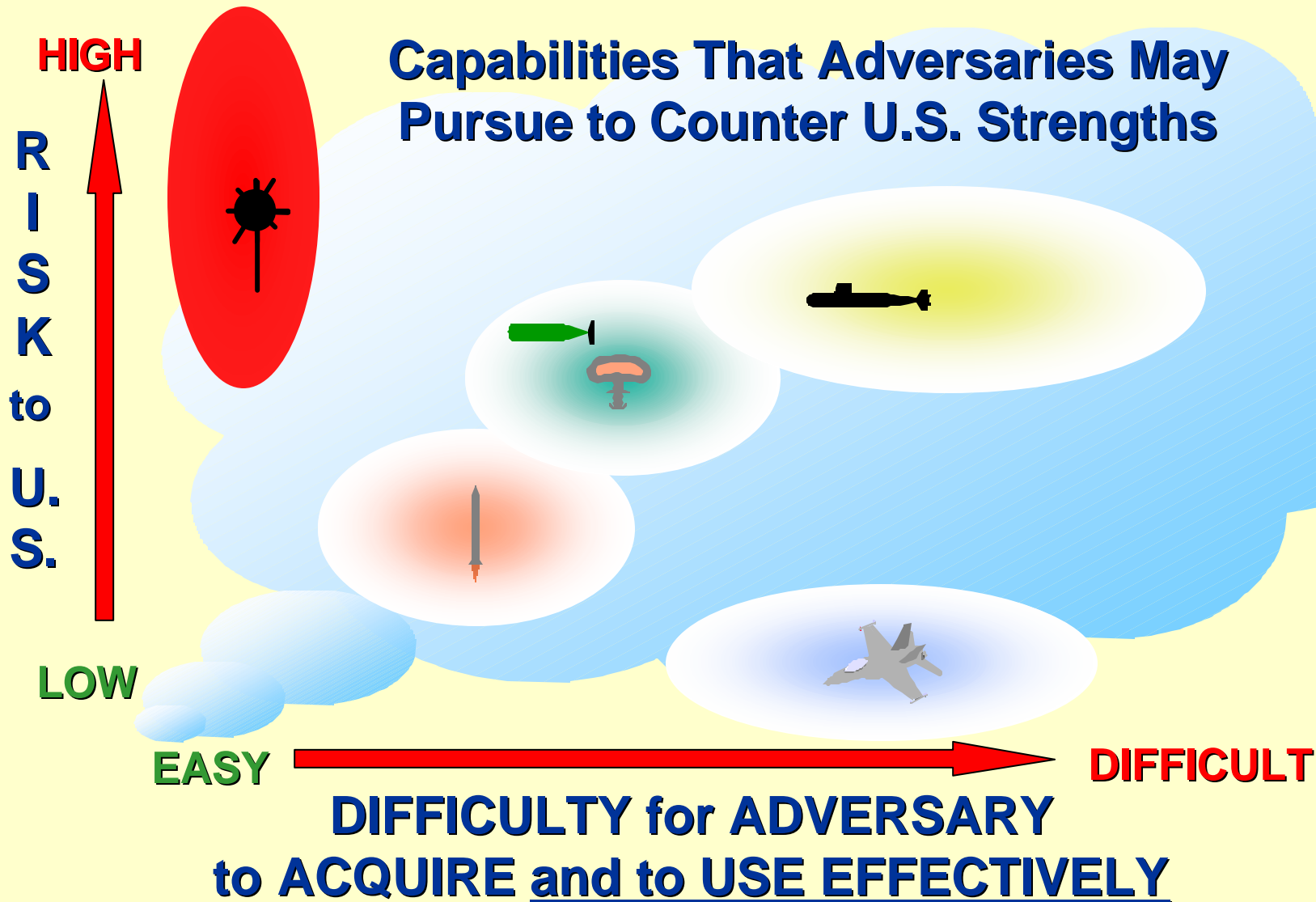
Obstacles
Anti-Invasion

Buried/
Partially
Buried

Pressure

Man Still In
Minefield

The Asymmetric Threat



Future Mine Threat Challenges

*Evolution
of Design*



*Evolving
Capabilities*

- Propelled Warheads
- Stealth
- Multi-Influence
- Remote Control

...The Threat Is NOT Going Away

Next Generation / Organic Plan

**Next Generation Systems
Enable Organic MCM &
Improve Dedicated MCM**

02 **Near Term** 07 **Mid Term** 12

MH-60 Kits (AMCM)

AMNS (MH-53) → AMNS (MH-60)
AQS-20 (MH-53) → AQS-20/X (MH-60)

ALMDS (MH-60)

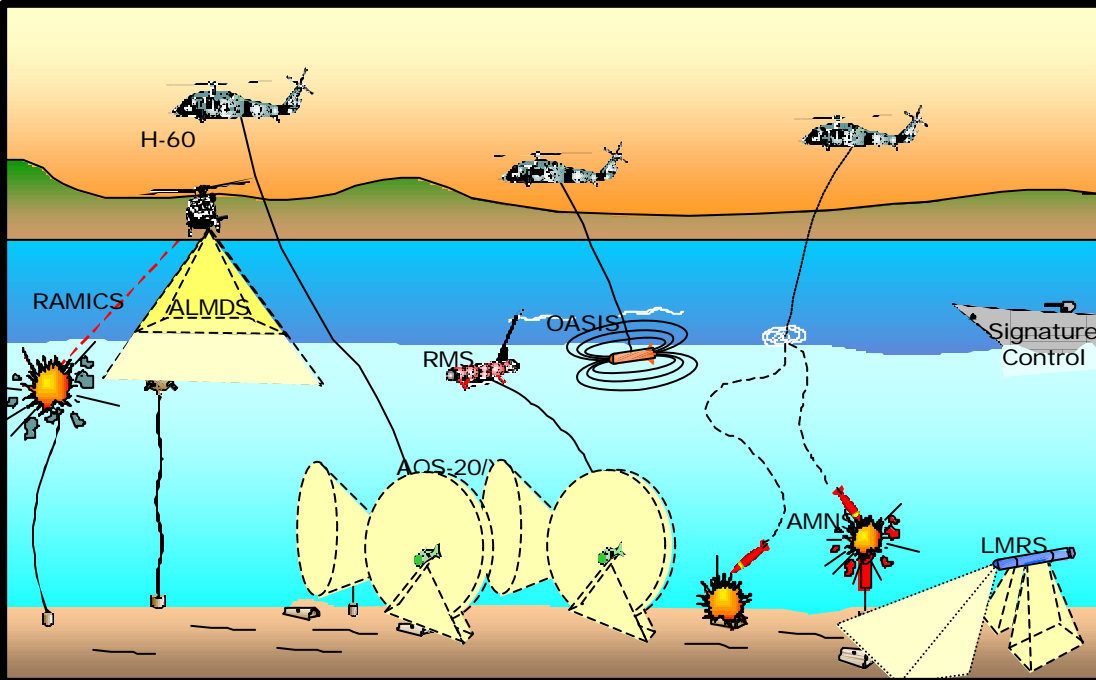
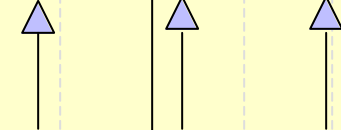
OASIS (MH-60)

RAMICS (MH-60)

RMS

LMRS

IOC 05 5 CVBGs 10 CVBGs



OMCM PROGRAM EVOLUTION

RMS SHIPS: 11 to 6

Steps to the Future in MIW

A Notional Approach

Phase 1

Current Dedicated

- MCM-1
- MHC-51
- MCS-12
- MH-53E
- EOD

Planned Organic

- MH-60S (AMCM Suite)
- AN/WLD-1
- AN/BLQ-11

Phase 2

MCM-1 Class Midlife Upgrades
MHC-51 w/ USV & UUV



HSV as Inchon Replacement

- Command & Control

HSV as Test/Demo Platform

- USV (Sweeping & Neutralization)
- UUV (Hunting)
- MH-60S (Non-Tow)



Phase 3

LCS with the Battle Group

- USV (Sweeping & Neutralization)
- UUV (Hunting) / AN/BLQ-11
- MH-60S (AMCM Suite)
- AN/WLD-1

Precision High Speed Mining

SSN/SSGN with the Battle Group

Phase 4

MIW-X
??

Littoral Combat Ship (LCS)

*“I want to get hulls in the water with the speed of heat. It needs 50 knots and be able to plug and play . . . LCS is about countering cheap kills. It is about executing new unmanned vehicle capabilities against near land submarines, **mines**, and boat swarms.”*

Chief of Naval Operations, Jun 02

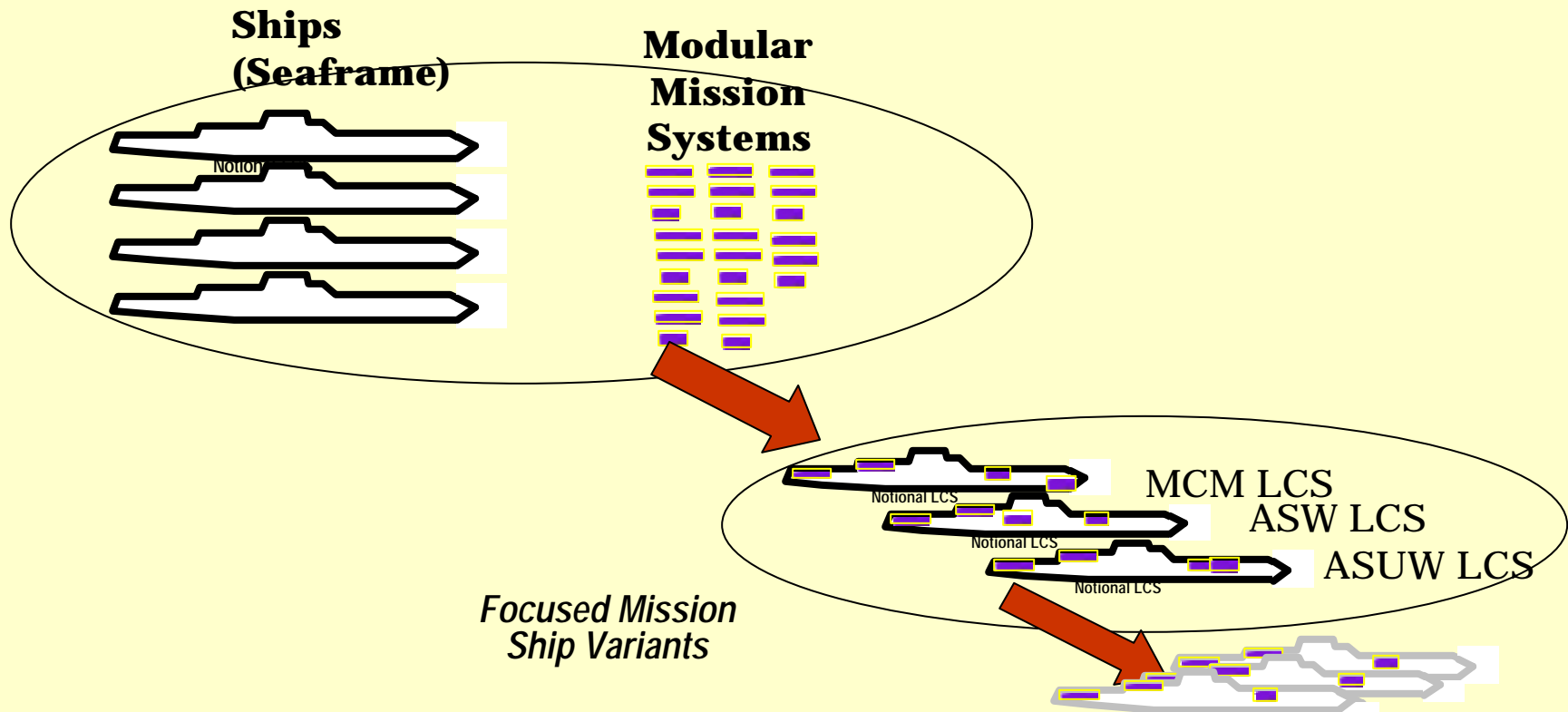
LCS and the “Family of Ships”

- LCS complements, but does not replace, the capabilities of DD(X) and CG(X)
 - DD(X): Multi-mission ship with enhanced precision strike and volume fires capability
 - CG(X): Multi-mission follow-on to DD(X) with enhanced Missile Defense / Air Warfare capability
 - LCS: Focuses on littoral MIW, ASUW, and ASW asymmetric threats
- Spiral development propagates technologies throughout the Family of Ships
- Netted Family of Ships enables total maritime battlespace dominance

LCS Class Force Concept

LCS is planned to be a “Seaframe” ship that combined with a mission module, provide focused mission capabilities in the following areas:

- Mine Counter Measures
- Anti Submarine Warfare
- Anti Surface Warfare



What is LCS

- A focused mission ship designed to optimize warfighting in the Littoral Battlespace
 - Fast
 - Maneuverable
 - Shallow Draft
- Capable of countering enemy asymmetric littoral threats
 - Mines
 - Small fast surface craft
 - Diesel submarines
- Self deploying and self sustaining ship
 - Not a small craft
 - Size not yet determined, but significantly smaller than DD(X) or CG(X)
- Innovative hull form / propulsion
- Modular mission payloads with open systems architecture
 - Mission payloads to provide sensors and combat systems
 - Will incorporate advanced unmanned air, surface and underwater vehicles
 - Fully netted with the battle force
 - Draws upon the capabilities and fire power of multi-mission ships
- LCS is NOT interchangeable with DD(X)
 - LCS is a force multiplier for DD(X)
 - LCS will leverage from DD(X)

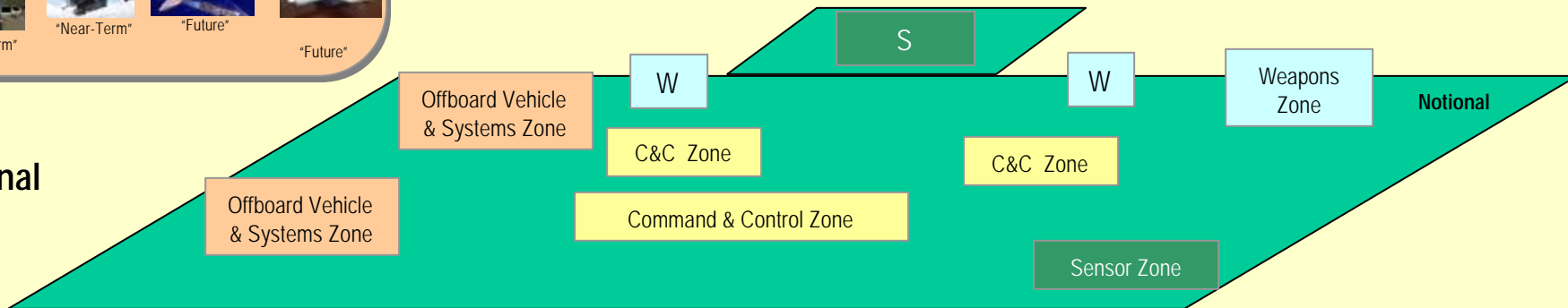
LCS Modular Concept

LCS is planned to be split out into zones to match their mission function.

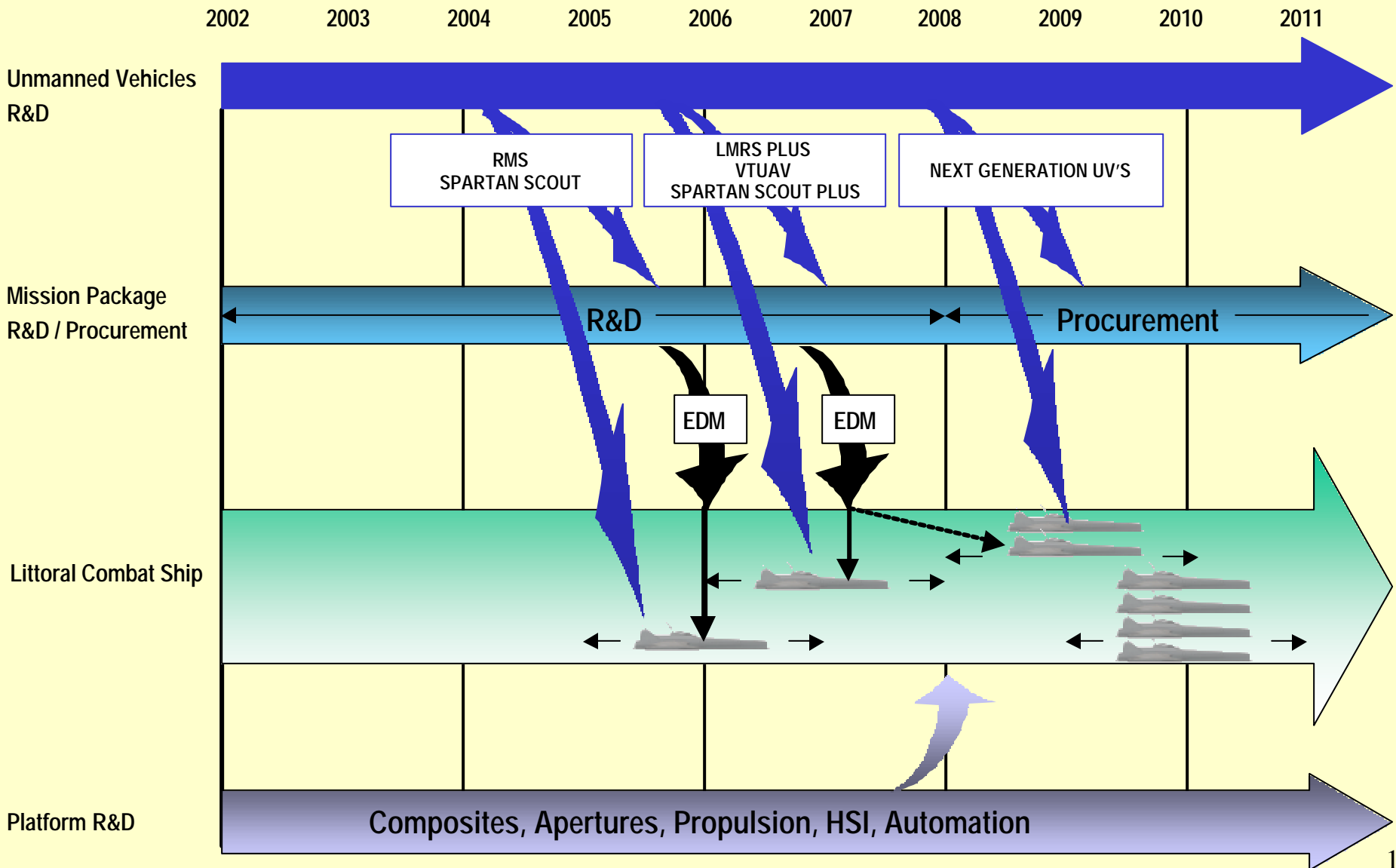
Specific technologies can be switched in each zone to tailor the ship to meet its mission objectives.



Notional



LCS Development Timeline



Shallow Water Threat (Desert Storm)



Demonstrated effectiveness against obstacles/mines in BZ/SZ



- Characterizing Utility of JDAM Fitted Mk80 Series Bombs
- Threat laydown based on MCIA Threat
- Obstacle barriers consist of tetrahedrons, four-strand barb wire fence (cattle fence), tanglefoot, triple standard concertina (TSC) wire, and sea urchins
- Mines include anti-tank, anti-landing, and anti-vehicle types
- Surface detonation did not create craters and remaining debris did not obstruct or hinder transit (AAV)
- AAVs were able to transverse through breached land obstacle arrays

PRECISION GUIDED BOMB PLANS

The Way Ahead

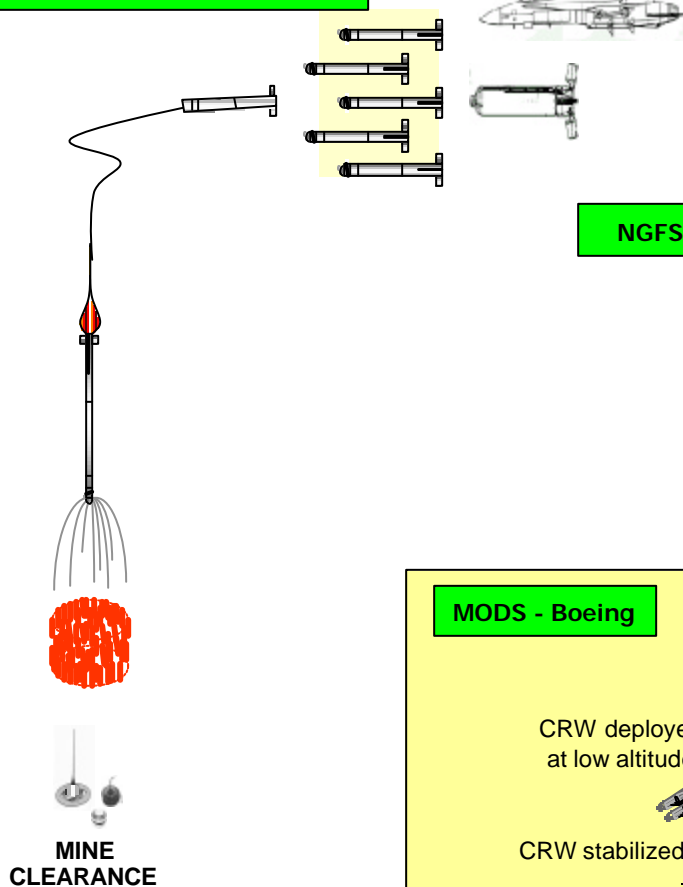
- Characterize Tactical Utility of Existing Weapons
 - Light Obstacle Barriers
 - Anti-Tank / Anti-Landing / Anti-Vehicle Mines
 - Impact & Water Entry
- Fuzing
 - Utilize a Certified Fuze
 - Detonation Timing
- CONOPS Development
 - Utilize ISR Assets and Associated Target Location Error
 - Develop / Incorporate Mission Planning Tools
- Flight Demonstration / Participation in Operational Exercise



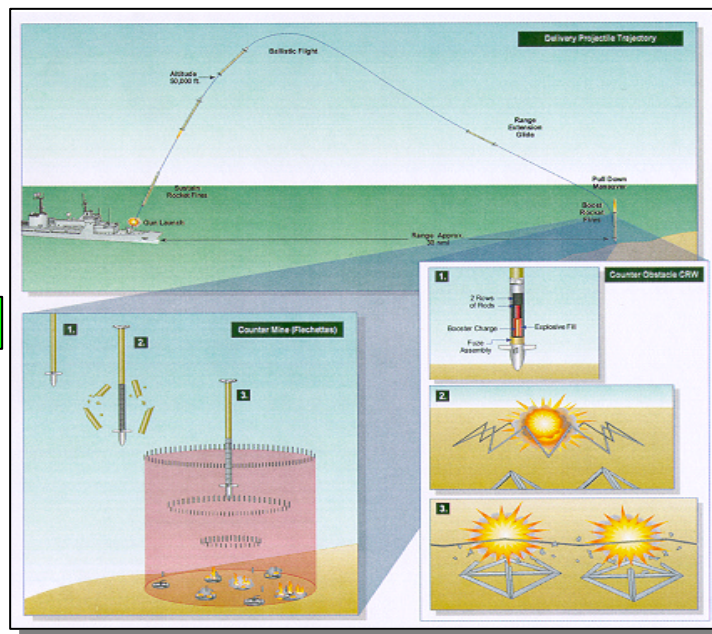
Promising clearance concept - but not a silver bullet

Far-Term Assault Breaching Systems Concepts

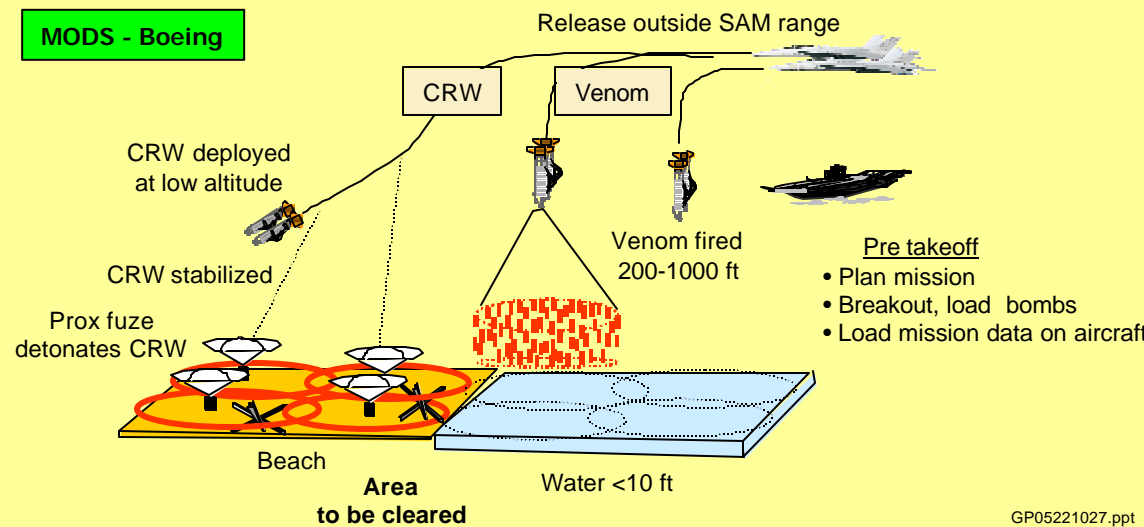
HYDRA-7 - Lockheed Martin



NGFS - SAIC



MODS - Boeing





Questions

?????