

# Navy Electronic Warfare

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Industry Day





# Agenda

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- **EW Resurgence**
  - POM12 investment
  - EW Roadmap
  - Challenges
- **EW Recapitalization**
  - RF Processing
  - EMS Sharing
  - Non-kinetic capabilities
  - Modeling & Simulation





# Knowing the EMS

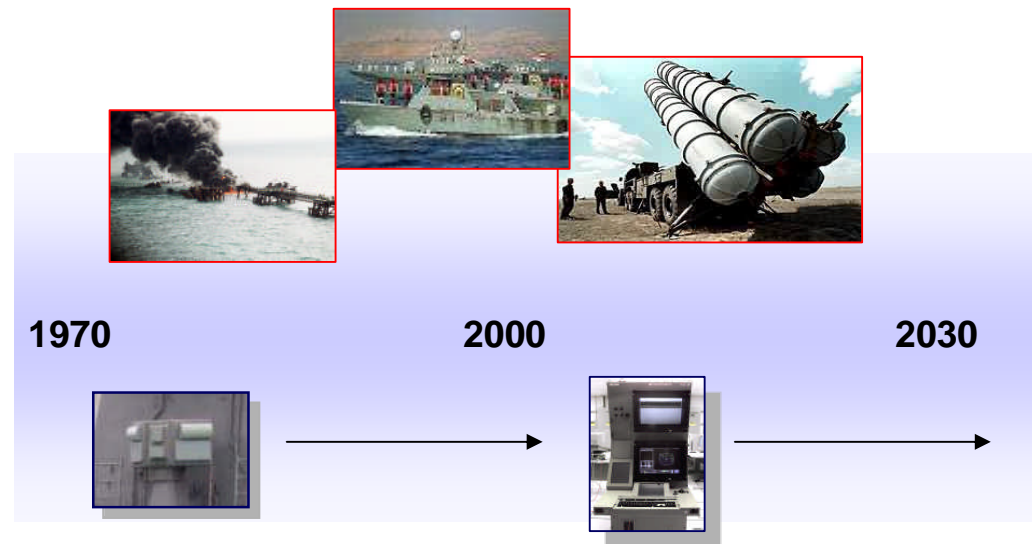
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# EW Technology Challenge

- Navy EW systems are a “long term” investment
  - New threats continually evolve
  - Baseline systems must have flexibility
  - Underlying S&T/R&D fill gaps and sustain EW advantage





# EW Status

- **Last Industry Day**
  - **Developing EW Roadmap**
  - **Developing consolidated EW investment plan**
- **Today**
  - **EW foundation being put in place with PB12**
    - **Next Generation Jammer**
    - **SEWIP**
    - **SSEE**
    - **CREW**



**“We’re building information dominance, we’re building increased capacity in electronic warfare and ballistic missile defense, and intelligence, surveillance reconnaissance.”**

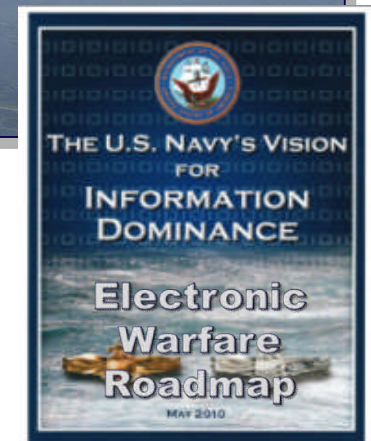
*-- CNO, Navy League Presentation, 24 August 2010*



# The EW Roadmap

- **Actions to restore prominence and dominance in Navy EW**

- EW gaps identified
- Actions assigned
- Next Iteration
  - All about the EMS
  - Cyber convergence





# The PB12 Investment

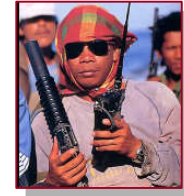
- **Holistic investment strategy**
  - **NGJ in technology maturation**
  - **Off-board decoy under development**
  - **Gap-filling technologies**





# The Challenge

- **It's all about the technology**
  - Adversaries ride the technology cycle
- **Overcome gaps**
  - Tech refresh/insertion
  - Common baseline
  - Networked







# EW Areas of Emphasis

- Where industry can help
  - RF processing
  - Bandwidth Technology
  - Non-kinetic capabilities
  - Modeling & Simulation





# RF Processing

- Find the right signal and know its relevance
  - Better selectivity and sensitivity
  - Flexible processing (on-board or off-board)
  - Technology insertion for tailored missions



**Mission specific – technology agnostic**



# Sharing the EMS

- **Effective EW requires data exchange**
  - **Move high volumes of data within constrained pathways**
  - **Enable holistic collaboration**
  - **Ensure battle management data flow**



**Sense, Defend, Communicate, Attack... Simultaneously**



# Non-Kinetic Capabilities

- **Leverage evolving Information Dominance Initiatives**
  - Non-Kinetic options for the warfighter
    - **Deceive**
    - **Deny**
    - **Degrade**
    - **Delay**

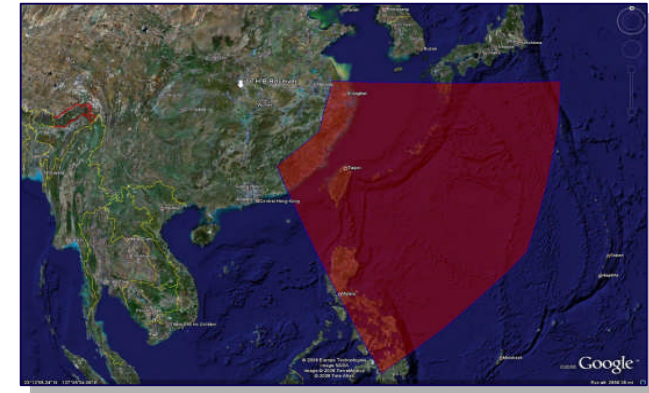


**“Decade of Non-kinetic Information Capabilities”**



# Modeling and Simulation

- **Model threats, simulate operations**
  - Determine outcomes and consequences
  - Understand capabilities
  - Simulate EMS for realistic training



**Model capabilities – Train effectively**



# Summary

- Roadmap “2<sup>nd</sup> edition”
- POM13 investment plan
- Technology challenges
  - Tech insertion
  - Bandwidth optimization
  - Data visibility
  - Non-kinetic options
  - MOD-SIM of EW performance
  - MOD-SIM for EW training



**Make them more effective!**



# Conclusion

- **Tomorrow's wars will be fought and won in the EMS**
  - **EW will ensure U.S. Navy freedom of maneuver**

... at the time of our choosing but not necessarily under the circumstances of our choosing



**Fight and Win in the EMS!**