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Pacific Operational Science and Technology Conference Panel Discussion Undersea Warfare

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SCIENCE AND TECHNOLOGY

NDIA
NATIONAL DEFENSE INDUSTRIAL ASSOCIATION
STRENGTH THROUGH INDUSTRY & TECHNOLOGY

USW Panel Agenda

- NDIA Undersea Warfare Division
- Basis for Industry Meeting PACOM's Needs
  - Knowing What's Needed for USW
  - Opportunity for Return on Investment
- An Example
- Summary

- **The USW Division defines Undersea Warfare as: Anti-Submarine Warfare (ASW), Mine Warfare (MIW), Surveillance, and Special Operations**
- **Organized into five focus areas:**
  - **Sensor Systems, Mine Warfare (MIW) Systems, Undersea Vehicles, Aviation, and C4I and Combat Systems**
- **Sponsors Two Major Technical Conferences**
  - **Joint Undersea Warfare Technology Spring Conference**
  - **Joint Undersea Warfare Technology Winter Conference**
- **Currently Conducting Two Technical Studies for USN Sponsors**
  - **ASW Common Tactical Picture Study, 8 June 2006- in process**
  - **Distributed Netted Sensor Study, 6 January 2006 – in process**

Overview of USW Division

- **USW Division Identified Key Technology Areas**
  - **Deployment**
  - **Sensing**
  - **Communications**
  - **Distributed Command and Control**
- **2007 Spring Joint Undersea Warfare Technology Conference - About 400 attendees**
  - **Senior Navy Leadership Provided Classified USW Status and Concerns**
  - **126 Program and Systems Briefs Presented In A Classified Forum**

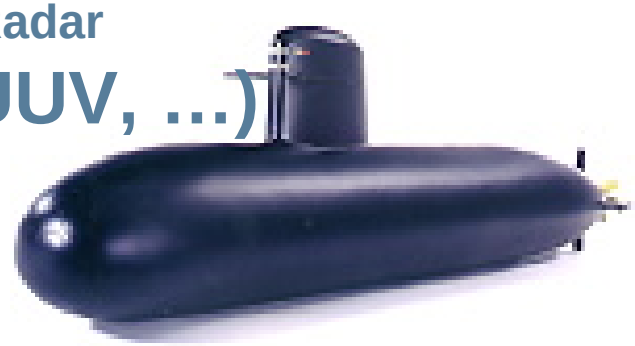
Basis for Industry Meeting PACOM's Needs

- **Knowing What's Needed**
  - **Threat**
  - **Operational Constructs**
  - **Constraints**
  - **Challenges**

- **Opportunity for Return on Investment**
  - **Availability of funding**
  - **Protection of Intellectual property**
  - **Timeliness of Return**

Knowing What's Needed for USW Beyond 2010

- **Science &Technology**
  - **DARPA**
  - **ONR (BAA, SBIR, STTR, FNC, etc.)**
  - **NDIA (Bi-Annual Conferences, Special Studies)**
  - **NRAC, NSB (Special Studies)**
  - **Etc.**
- **System Development**
  - **PEOs/SYSCOMS**
    - **Performance (System) Specific RFP**
      - **Formal Acquisition Process**
    - **Directed BAA**
      - **e.g. Theater ASW, Periscope Detection Radar**
- **Navy Master Plans (ASW, MIW, UUV, …)**

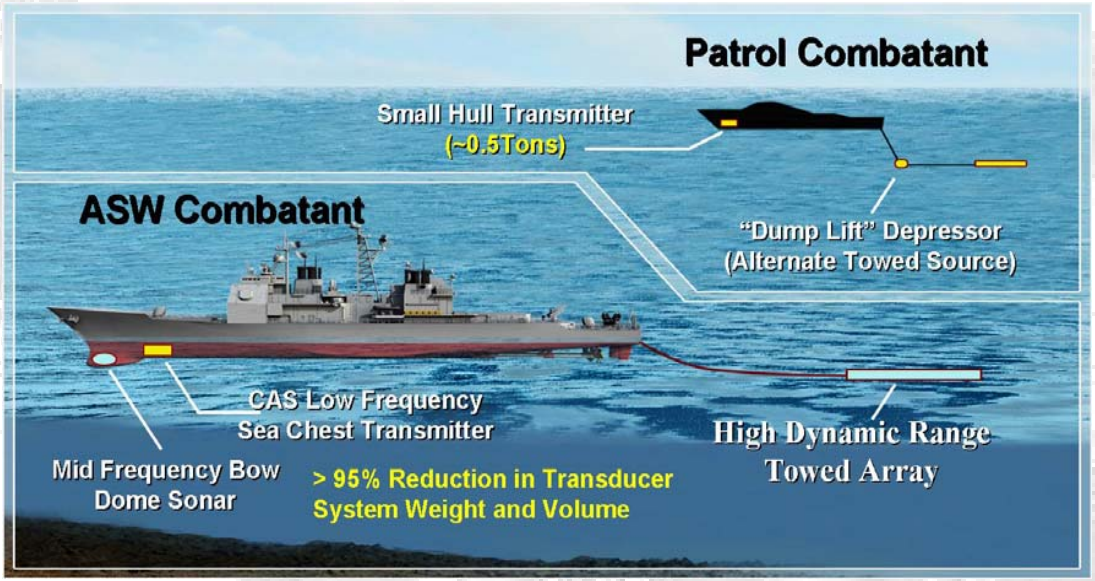


Opportunity for Return on Investment

- **Availability of Funding**
  - General Decline Known & Accepted
  - PBD 753 Augments ASW R&D
- **Protection of Intellectual property-Versus:**
  - Peer Reviews
  - Open Sourcing
- **Timeliness of Return on Investment**
  - Rapid Development Concept

    versus
  - Business as Usual

An Example from Alion Experience: Continuous Active Sonar (also Receive While Transmit (RWT))



What is it?

- High Dynamic Range Electronics permits receiver cancellation of directly transmitted signal without disturbing echo reception
- Radar heterodyning technique converts continuous echo to narrowband signal with frequency proportional to range

How does it work?

- More Energy on Target With Less Power (Smaller, Low Impact, Transmitters)
- Increased Time x Bandwidth Product (Lower Detection Thresholds)
- Narrowed Track Gates (Better Range Rate Resolution; Reduced Clutter)
- Enables Many Implementation Concepts (Ship Based; Off-board, & Distributed)

Bottom Line: Longer Detection Ranges/Reduced Latency/Lower Cost

USW Discussion Summary

- **NDIA has a functional and focused structure and its members remain anxious to support PACOM's USW Needs**
- **Funding Limitations are a fact of life that Industry accepts**
- **Industry's ability to innovate is conditioned by DoD policies, e.g. Security, Peer Review , Open Sourcing , and Acquisition Timeliness**

Industry can meet DoD S&T needs and welcomes more direct warfighter interaction

Questions and Comments