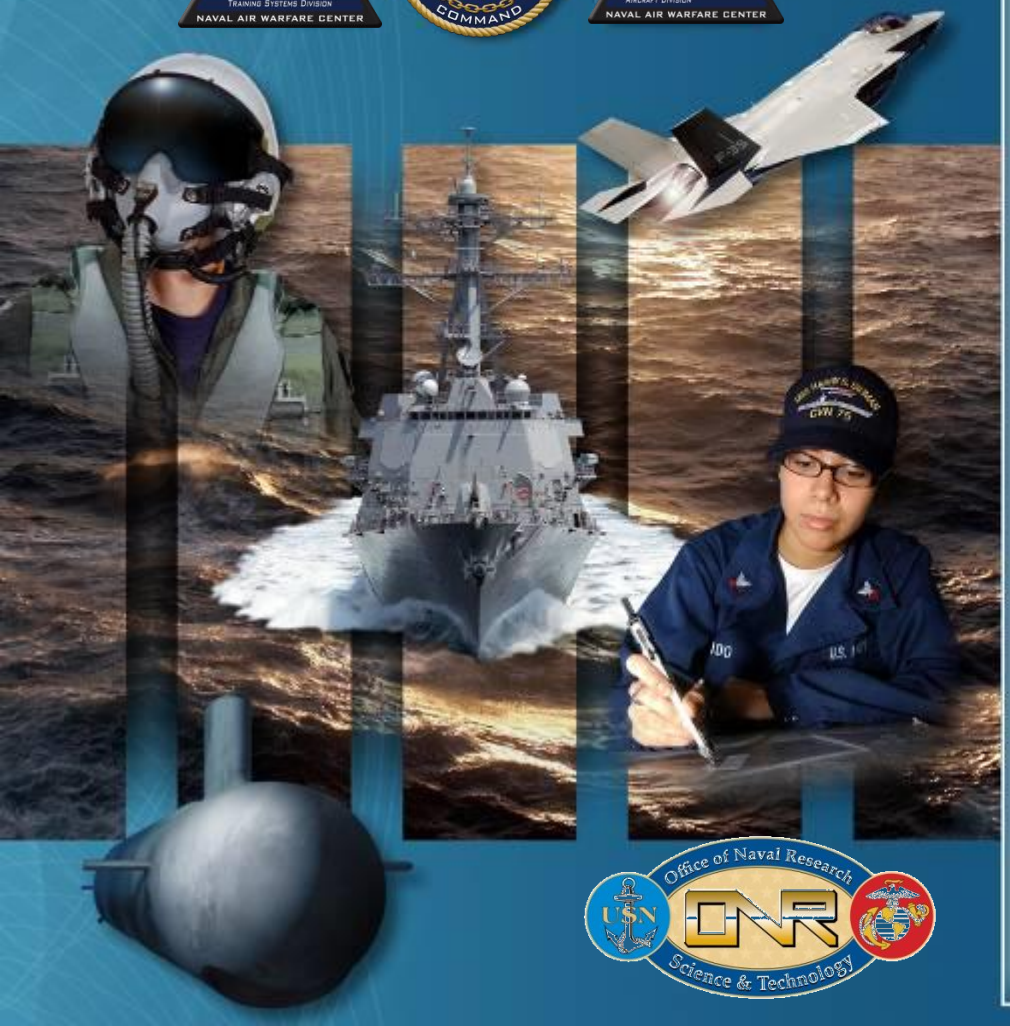
NAVAL AIR WARFARE CENTER
TRAINING SYSTEMS DIVISION
ORLANDO FLORIDA



Navy Live, Virtual, & Constructive Human Performance Science & Technology

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Overview

- Why is the Navy Investing in Live, Virtual, & Constructive (LVC) Training Environments?
- LVC Science & Technology Program Examples

Why Navy Investment in LVC Environments?

- Range Constraints Do Not Support Fifth Generation Capabilities
- Power & Energy Constraints for Tactical Fuel Consumption
- Wear & Tear on Operational Capabilities
- Reduced Budgets
- Opportunity to Take Advantage of the Power of Virtual & Constructive Simulations

Live, Virtual & Constructive Training Fidelity (FY12-16)

Objective: Develop technologies with the right fidelity to deliver safe & effective Live-Virtual-Constructive (LVC) training to Naval Aviators to achieve Training & Readiness credit.

Naval Need:

- Limited live training opportunities due to cost, time, & fidelity constraints
- Lack of realism in current LVC training technologies produces a readiness gap
- Directly addresses POM12 Gap #34 “Training Technologies”
- NWP STO-1: Training and Education, NWP STO-2: Human Systems, Design & Decision Support

Accomplishments:

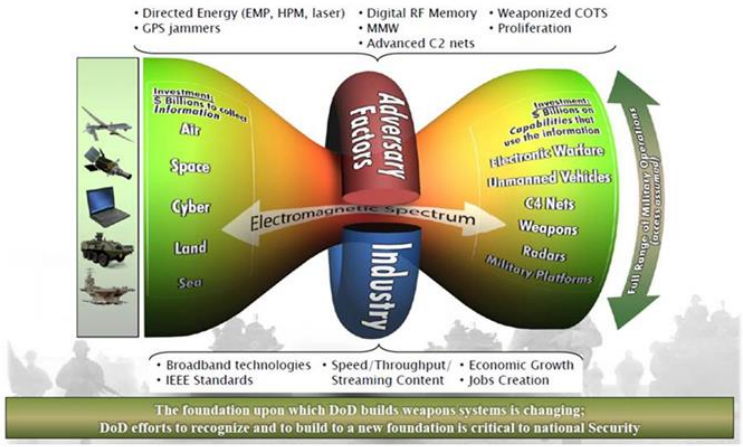
- Participated in Operation Blended Warrior Integrated Event - I/ITSEC 2016
- Participated in Operation Blended Warrior Integrated Event – I/ITSEC 2015
- Integrated Tactics & Speech Demonstration in an LVC Training Event
- Integrated Avionics Symbology Demonstration in an LVC Training Environment
- 2013 Admiral Jeremy M. Boorda Award For Outstanding Integration of Analysis and Policy-Making, Civilian Category.

Impact:

- More robust behaviors in the Next Generation Threat System
- Range Safety Policy for EA-18G Incorporation of Principles & Guidelines
- Methodologies for Identification of Fidelity Needs Attached to Training Objectives

Environment Designed to Undertake Counter A2AD Tactics Training & Experimentation (EDUCAT2E)

Objective: Capability to advance Fleet operational proficiency in sensing & characterizing electromagnetic spectrum (EMS) activity to enable adaptation & freedom of maneuver in the EMS as a means to effectively operate in a Command & Control in Denied & Degraded Environments (C2D2E) at the individual, unit, Composite Warfare Commanders levels.



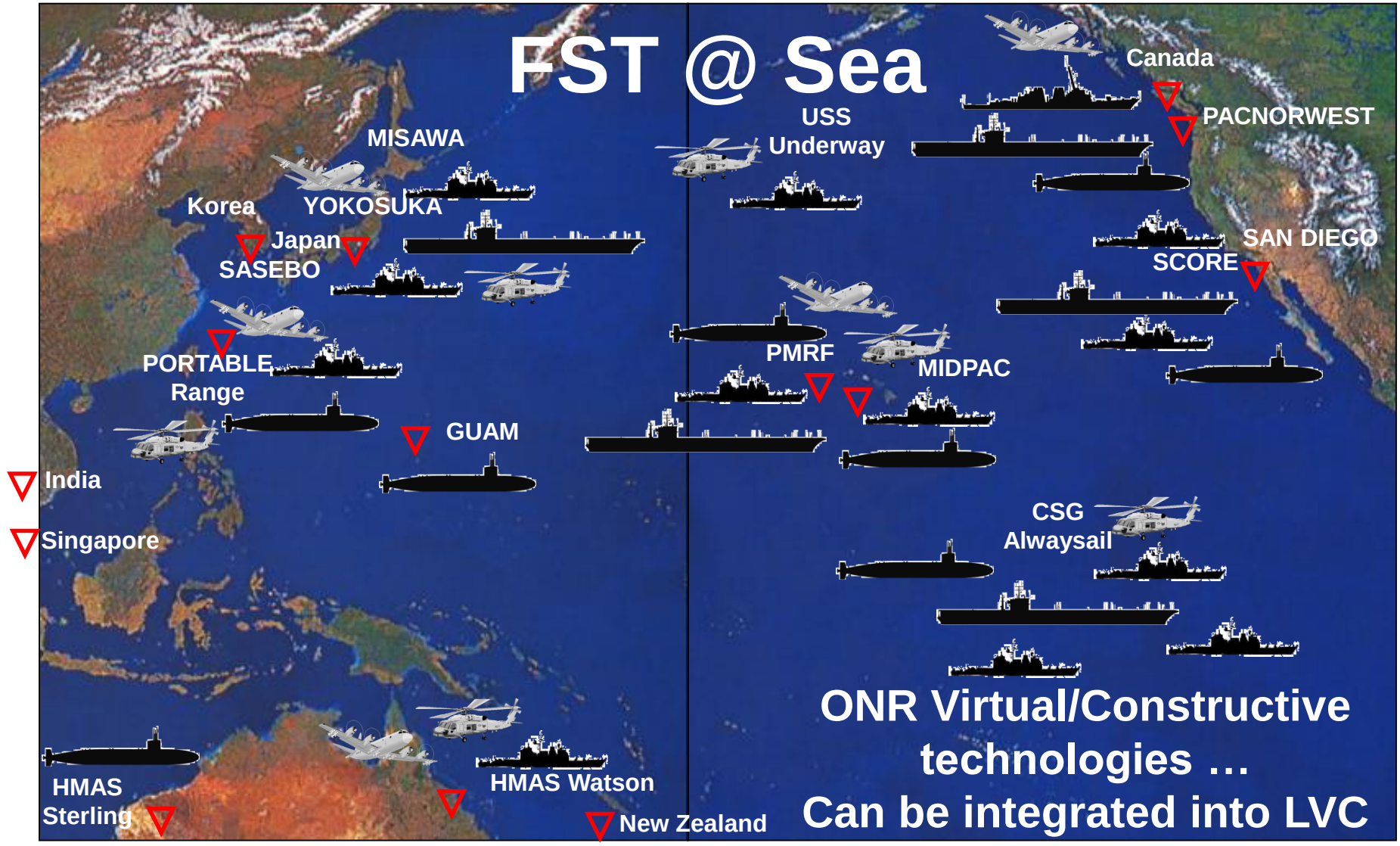
Naval Need: Reduced capability to conduct synthetic A2AD training

Accomplishments:

- Developed the modeling of Digital Radio Frequency Memory (DRFM) to degrading shipboard radars during Fleet Synthetic Training (FST) events.
- A multi-warfare proof of concept demonstration entitled the Fleet Synthetic Training Research Development Test & Evaluation experiment conducted March 2016 with the USS Michael Murphy
    - FST RDT&E 17-1 scheduled for August 2017 at Tactical Training Group Pacific
- Developed multi-team human performance measures to demonstrate training effectiveness

Impact: Deliver a GPS jamming and DRFM degradation interim training capability for potential use in Fleet Synthetic Training Unit (FST-U) and Strike Group (FST-J) Level events. First (1st) Degraded & Denied Synthetic capability for non-Live Fleet Training.

Future Directions



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