Naval S&T: Delivering Disruptive Technologies with Affordable Asymmetric Advantages

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Naval technologies have always had leap ahead moments …
... but at what cost?

Photo courtesy of Ramón Purcell Photography
Navy S&T must always consider the total cost of our new technological advances while working within the constraints of the S&T budget

*How do we do that?*
Naval S&T Strategic Plan

All Naval S&T falls under one or more of these nine focus areas:

- Assure Access to Maritime Battlespace
- Autonomy & Unmanned Systems
- Expeditionary & Irregular Warfare
- Power Projection/Integrated Defense
- Information Dominance
- Power & Energy
- Platform Design & Survivability
- Total Ownership Cost
- Warfighter Performance

A2/AD

Focus

Broad

Narrow

Time Frame

Near

2-4 years

2-4 years

≈ 8%

≈ 30%

Quick Reaction & Other S&T

Discovery & Invention
(Basic and Applied Science)

5-20 years

≈ 45%

≈ 12%

Leap Ahead Innovations
(Innovative Naval Prototypes)

4-8 years

2-4 years

≈ 30%

Acquisition Enablers
(FNCs, etc)

1-2 years

≈ 8%

1-2 years

≈ 8%
Focus on the needs of the Warfighter and engage with Navy leadership ...

**Guidance & Requirements**

- DSG
- FEA/WSCP
- JUONS/JEONS
- IPLs/STIPLs
- Future Payloads

**S&T Response**

- Near term
  - Quick Reaction
- Mid-term, low risk
  - Future Naval Capabilities
- Mid-term, high risk
  - Innovative Naval Prototypes
- Long term
  - Basic Research

**Stakeholder Reviews**

- Fleet/Warfighter
- Technology Oversight Group (TOG) IPTs
- INP Review Board
- Peer Review

**Balance & Approval**

- CNR CNOR3B
- TOG, RDT&E Corporate Board
- CNR, RDT&E Corporate Board
- CNR, RDT&E Corporate Board

*Requirements Driven – Transition Oriented!*
... and Maintain a Global Perspective

Avoid technological surprise,
Leverage advanced technology from wherever we find it
Affordable Asymmetric Advantages
Not an oxymoron

**EM Railgun**
- Multi-use weapon at $25K per round ...

**LDUUV**
- ISR at a fraction of the cost of an SSN

**Solid State Laser**
- Less than $1 per “shot”
EM Railgun … Fiction?
EM Railgun … Fact
“Next year we will deploy a laser system onboard USS PONCE for operational testing in the Arabian Gulf.”

Admiral Greenert, USN
Chief of Naval Operations
ONR’s Mission

DISCOVER, DEVELOP and TRANSITION innovative science and technology to meet the needs of naval forces for today and tomorrow ...