Innovation Quick Reaction S&T (QRST)

Speeding technology to the Fleet/Force
S & T Strategic Plan

Discovery & Invention (Basic and Applied Science) ≈40%

Leap Ahead Innovations (Innovative Naval Prototypes) ≈10%

Acquisition Enablers (FNCs, etc) ≈30%

Quick Reaction & Other S&T ≈10%

Time Frame
Near Mid Long

Focus
Broad Narrow

QRST FNCs INPs D&I
“I never, ever, want to see a Sailor or a Marine in a fair fight! … We have to get technology to the Fleet faster.”

- ADM (Ret.) Gary Roughead, Former Chief of Naval Operations
QRST is about the Warfighter

It DOESN’T have to be this way…
• To rapidly develop and demonstrate prototype solutions to operational problems identified by deckplate-level Sailors and Marines.

• To develop and demonstrate newly invented or recently discovered technologies that address emergent and enduring operational problems in an accelerated timeframe.

• To develop prototypes of recent technology breakthroughs for experimentation to satisfy war-fighter requirements.
Funds S&T based technical efforts to:

- Accelerate technical development
- Rapidly respond to Fleet issues
- Validate proof of concept
- Invalidate proof of concept
- Explore usefulness of an existing technology in a new application
- Satisfy Warfighter need
- Evaluate technology alternatives
- Significantly reduce risk

Does not represent an all inclusive list
Process

- Fleet/Force deckplate
- Combatant Commanders
- Other: PM, PI, PEO, industry...
- Other Flag/Executive

Process Determination
- TechSolutions
- SwampWorks
- Experimentation

Material Proof of Concept Demonstration

Technology delivery per individual program plans
TechSolutions (TS)

- Up to $1M total
- Navy or Government lead
- Project duration 12 months max.
- Low risk, high impact
- Must be S&T in nature (high 6.3)
- Enduring benefit secured through transition or other means
Operational Need:
M-224 60mm Mortar requires update to allow accurate use during handheld deployment in both day and night conditions.

Solution:
A new Fire Control Unit loaded with M224 Ballistics Tables that can be used day/night & also incorporates an integrated heat shield.
SwampWorks (SW)

- Typical $1M-$2M per year
- Navy or Government lead
- Project duration typical 1 to 2 years
- High risk, high impact
- Must be S&T and be significant “leap ahead” in nature
- Acceptable that some may not complete as planned
Fleet Needs:
- Lower Cost, Reliable, Safe, and More Effective Submarine Control
- Safe Submarine Maneuvering in Shallow Water Environments
- Stand-alone Docking Options
- Precision Near-Surface Depth Keeping

Solution:
New technology replacing complex hydraulic & mechanical hardware systems with a reliable two-moving component capability providing a 2-3X improvement in low speed maneuvering and allow full use of the submerged operating envelope at all speeds
Typical funding up to $1M

Navy or Government lead

Project duration typical 1 year

High risk, high impact

Must be S&T in nature

Proof of Concept Demonstration or Comparison

Experimentation (EXP)
GM fuel cell for use in undersea vehicles

**Operational Need:**
Long duration methods for powering UUV’s

**Solution:**
Leverage $2B industry investment in mobile fuel cell technology for potential use in UUV’s
6.3 QRST

- Other S&T avenues for further use/development
- TTX for further development to transition

Proof of Concept Demonstration

6.7 Technology Transition (TTX)

- Rapid Technology Transition (RTT)
- Technology Insertion Program for Savings (TIPS)
- Rapid Development & Deployment (RDD)
- Rapid Innovation Fund (RIF)

POR and Acquisition sponsor(s)
<table>
<thead>
<tr>
<th>SPEED TO WARFIGHTER</th>
<th>TRANSITION PROGRAM</th>
<th>PROGRAM GOAL</th>
<th>GOVERNANCE</th>
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</thead>
<tbody>
<tr>
<td>Speed to Fleet (S2F)</td>
<td>Rapidly transition prototype technology to the fleet</td>
<td>CNO</td>
<td></td>
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<tr>
<td>JCTD</td>
<td>Exploits mature and maturing technology and introduces operational concepts to solve important military problems and facilitates transition</td>
<td>ASD R&amp;E</td>
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<tr>
<td>RAPID FIELDING Directorate Programs</td>
<td>Identify and rapidly field-test prototypes that respond to immediate and emerging warfighter needs.</td>
<td>ASD R&amp;E</td>
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<tr>
<td>Rapid Development and Deployment (RDD) (Terminates in FY2014)</td>
<td>Rapidly develop and field prototype solutions to meet urgent operational Naval Needs.</td>
<td>Naval</td>
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<tr>
<td>Swampworks</td>
<td>Explore innovative, high-risk and disruptive technologies and concepts</td>
<td>CNR</td>
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<tr>
<td>TechSolutions</td>
<td>Transformational business process created by the Chief of Naval Research to provide Sailors and Marines with a web-based tool for bringing technology needs to the Naval Research Enterprise for rapid response and delivery</td>
<td>CNR</td>
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<tr>
<th>SPEED TO ACQUISITION</th>
<th>TRANSITION PROGRAM</th>
<th>PROGRAM GOAL</th>
<th>GOVERNANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid Tech Transition (RTT)</td>
<td>Rapidly transition technology into Department of Navy (DoN) programs of record (PoRs)</td>
<td>Naval</td>
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<tr>
<td>Technology Insertion for Program Savings (TIPS)</td>
<td>Rapidly transition technology from any source into DoN PoRs to significantly reduce operations and support costs.</td>
<td>Naval</td>
<td></td>
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<tr>
<td>Defense Acquisition Challenge (DAC)</td>
<td>Identify, introduce, test, and procure innovative and cost-saving technology or products from within and outside DoD’s science and technology community.</td>
<td>ASD R&amp;E</td>
<td></td>
</tr>
<tr>
<td>Foreign Comparative Testing (FCT)</td>
<td>Test and evaluate foreign non-development, or commercial off-the-shelf equipment with demonstrated potential to satisfy warfighter and/or warfighter support requirements.</td>
<td>ASD R&amp;E</td>
<td></td>
</tr>
<tr>
<td>Rapid Innovation Fund (RIF)</td>
<td>Transition Innovative Technology from Small Businesses to resolve operational challenges characterized by critical national security needs into Programs of Record.</td>
<td>Congress &amp; OSD</td>
<td></td>
</tr>
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Naval = Executive Decision Panel has membership to include OPNAV/HQMC/CFFC/MCCDC/RDA/ONR
RDD efforts are initiated by RDA.
QRST Supports the Fleet

6.3 QRST

Other Tech Programs

“The Fleet”

• Acquisition Programs
• Program Offices
• Operational Assets
• Other paths

6.7 Technology Transition (TTX)
How to be involved...

Warfighter Need → Naval Research Enterprise (Government) → Delivery to the Fleet/Force → Technology Solutions

Industry & Academia
Questions?
Thank You!