IM Technology and Munitions
Insensitive Munitions Technology Tool
IMT2

IMEMTS
Tucson, AZ
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Background

- **Observation/Problem:**
  - Large number of ongoing S&T/R&D IM programs across the DoD community JIMTP, IMAD, IMTTP, MDA SBIR/STTR, Army/Navy/AF In-house, Munitions Risk Reductions
  - No single source for easy access and dissemination of ongoing IM technology development efforts and munitions shortfalls to the S&T/R&D community, Munitions Program Managers

- **Approach:**
  - Develop a one-stop shopping relational interactive website that will allow instant access to technology developments and munitions needs.

- **Solution:**
  - "INSENSITIVE MUNITIONS TECHNOLOGY TOOL" (IMT2)
    - Website – DSTKOL
    - S&T/R&D Project Quad Charts
    - Available IM Technology
    - Relational and User Friendly
    - Munitions IM Quad Charts
    - JIMTP MATGS Focus Areas
Objectives – Improve value and impact of IM data

• Develop a **user friendly relational management tool** for S&T and advanced development programs along with available technologies correlated with Joint service primary goals.

• Identify ongoing **S&T and advanced development programs** with **munitions** IM technology **shortfalls**.

• Eventually **establish an IM technology roadmap throughout DoD** to facilitate program planning, sponsor support and execution.
IMT2 Landing Page (after login via username/password)

### Insensitive Munitions Technology Tool

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Last Updated*</th>
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<tr>
<td>Bench TopInsensitive Energetics Research</td>
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<td>CFD Research Corporation Modeling Cook Off</td>
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<td>Cornerstone Research Group: Vventing FCO and SCO</td>
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**Project Commitments across Priority Munitions**

**Project Totals by Maturity**

*Under Construction*
Developing Technology View

Under Construction

Insensitive Munitions Office (IMO)
Developing Technology, Navy IMAD Search

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Maturity Level</th>
<th>Funding Year</th>
<th>Service / Agency</th>
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<td>CVLWT Shaped Charge Warhead Candidate Explosive IM...</td>
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Program Summary and Link to Supporting Data

### Composite Tomahawk Booster

- **Funding Year:** 2006, 2007, 2008, 2009
- **Service/Agency:** Navy IMAD
- **Maturity Level:** 6.4
- **Last Updated:** 2007-07-12

#### Transition Status

- Composite Tomahawk Booster

#### Documents / Quad (click on link to view file)

- 4Sep08_Composite Tomahawk Booster.ppt
- Composite Tomahawk Booster IMAD Quad.ppt

<table>
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<tr>
<th>PEO</th>
<th>Munition</th>
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<td>PEO IWS</td>
<td>Guided Missile, STANDARD Missile-2 (SM-2)</td>
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<td>Guided Multiple Launched Rocket System (GMLRS)</td>
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The table above lists various munitions under different programs and their respective identification codes. The documents section provides links to specific files related to the Composite Tomahawk Booster project.
Supporting Data

Objectives:
- The objective of this effort is to design a carbon composite rocket motor case after the fashion of the Mk 135 Mod 0 Tomahawk solid propellant booster (Fit & Function).
- Improve insensitive munitions (IM) performance in BI, FCO, FI, SCO while maintaining required ballistic requirements and function. Effort includes one (1) successful static firing at ambient temperatures.

Approach:
- Characterize cyanate ester resin system with (IM7) fiber for case construction. Proof out bolted composite/att closure joint FY08.
- TRL: 6 S&T/R&D: 6.3/6.4

Project Description:

Investment Schedule: To FY12

Current MK135 IM Performance
- Fast Cook-Off: DEFLAGRATION TYPE IV
- Slow Cook-Off: DEFLAGRATION TYPE IV
- Bullet Impact: BURNING TYPE V

Application Potential
- General Applications: Rocket Motor Booster
- Specific: Tomahawk Mk 135 Mod 0

Product/Deliverables
- OHEB "Pass" ruling on BI, FCO, FI, and at least a "Deflagration" ruling on SCO. Successful static fire of the composite case demo.

Progress To Date:
- Wind tooling design complete and fabricated.
- (2) AR and fwd polar boss closures fabricated
- Cyanate ester resin conditioning/compatibility study completed 7/28: Hot/Wet. JP-10
- Successfully fabricated hydro burst prototype

Near Future: Successfully (1) hydro burst composite case design by end of FY08. Start fabricating (6) IM demo cases start of FY09.
- (4+1) IM demonstrations.
- (1) Successful Static Fire
Priority Munitions View
Priority Munitions, PEO IWS Search

Providing Ordnance Safety For Our Warfighters

Naval Ordnance Safety & Security Activity

Priority Munitions, PEO IWS Search

Searching For: PEO IWS

Found 8 Priority Munitions

- BTERM
- Guided Missile, Evolved SEASPARROW Missile (ESSM)
  - Guided Missile, Rolling Airframe Missile (RAM)
  - Guided Missile, STANDARD Missile-2 (SM-2)
  - Guided Missile, STANDARD Missile-3 (SM-3)
  - Guided Missile, STANDARD Missile-6 (SM-6)
- Projectile, Extended Range Guided Munition (ERGM)
- Projectile, Long Range Land Attack Projectile (LRLAP)
Priority Munition Summary and Link to Supporting Data
Community

*Today*
- S&T/R&D IM Community
  - Investigators
  - PMs/TDs
- Joint Staff
- OUSD Office of Munitions
- Services IM Offices
- PEO IM Coordinators
- Munitions Programs

*Future*
- Defense Organizations
  - JANNAF
  - NDIA
  - AIAA
- Prime Contractors
- Sub Contractors
- Acquisition Executives
Benefits Summary

• Web Enabled
  – Browser based intuitive navigation
  – Ease of access to data, reports and analysis

• Data Management
  – Role based user access
  – Data reliability, change management and audit trails
  – Data entry by ‘data owners’ pushes the responsibility of data ‘up to dated-ness’ to data owners

• User Community
  – Scalable to meet the needs of a growing community
Next Steps

• Pilot Program
  – April 01-30

• Resolution of Feedback/Findings from Pilot Users
  – May 01-31

• Production Target
  – June 15
Thank you