Weapons
Comparative Testing

NDIA
International Infantry and Small Arms Systems Symposium

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• Defense Acquisition Challenge (DAC) and Foreign Comparative Testing (FCT) Overview

• Projects
  – Training, Weapons, Ammo, Enablers

• Items of interest
  – Training, Weapons, Ammo, Enablers

• Summary
What We Do

Fund Testing of World-Class Items that Solve Warfighter’s Problems

• Find & Test “Here & Now” Solutions
  – Projects begin within a year, end within 2 years (ammo 3 yrs.)
  – Testing at U.S. or foreign ranges
  – Project value: Range of $200K - $2M; average of $800K

• OSD Selects & Funds Projects
  – Clear Goal: “Test to Procure”

• Services & USSOCOM Execute Our Programs
  – Nominate & prioritize their projects
  – Service/USSOCOM Program Managers manage the tests
The FY 2003 National Defense Authorization Act directed the Defense Acquisition Challenge Program to provide opportunity for:

• “Increased introduction of innovative and cost-saving technologies into current acquisition programs of the DoD”

• “Any person or activity within or outside the DoD to
  • Propose alternatives, to be known as challenge proposals at the component, subsystem, or system level of an existing DoD acquisition program ...  
  • that results in improvements in performance, affordability, manufacturability, or operational capability of that acquisition program”

• Focus on mature technologies ... TRL 7-9!
Since Program Inception (FY 2003)

- Over 1975 proposals submitted
- 445 proposals endorsed / supported by Service/USSOCOM Programs
- 119 projects awarded, $196M invested (2003-2009)

Results: 60 projects completed to date

- 35 projects have procurements totaling $364M
- 22 projects have yielded capabilities currently deployed to our warfighters
- 5-to-1 average ROI based on cost avoidance (RDT&E, Procurement, Operations & Support)
- 60% of Projects awarded to Small or Mid Sized Businesses
- 26% of Projects Awarded to Companies indicating “First Time Participation” with DoD
Established in 1980 by 10 USC, Section 2350a(g), to determine ability of NATO & friendly foreign countries to satisfy U.S. requirements or operational deficiencies

• Authorizes side-by-side testing of - -
  • Foreign Non-developmental, or
  • Commercial Off-the-Shelf Equipment

• DoDI 5000.02 (Integrated Test & Evaluation)-
  • Testing of allied & friendly foreign countries’ equipment
  • “The USD(AT&L) shall centrally manage FCT ...”

• Focus on mature technologies ... TRL 7-9!
• Only 46 of the top 100 defense contractors, by revenues, are U.S. companies
• 24 of the top 50 defense contractors are foreign
• 3 of the top 10 defense contractors are foreign
  – #3: BAE Systems (United Kingdom)
  – #7: EADS (Netherlands)
  – #9: Finmeccanica (Italy)
• But 86% of the proposals we receive represent foreign contractors smaller than the top 100
- Tested Products from 28 Countries
- OSD Investment: $1.17 Billion (constant FY09 $)
- Estimated RDT&E Cost Avoidance: $7.58 Billion
- Accelerated Fielding Averages 5-7 years
- Procurement Rate ~ 80% in the Past 6 Years
- Foreign Vendor Teaming with U.S. Industry in 33 States
<table>
<thead>
<tr>
<th>Category</th>
<th>Projects</th>
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<td>Training</td>
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<td>Weapons</td>
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<td>Ammunition</td>
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<td>Enablers</td>
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<td>TOTAL</td>
<td>44</td>
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Note: Not all Projects depicted
Training Projects

- Individual Serviceman Non-Lethal System
- 40mm Tactical Marking, Day/Night Training Cartridges
- Special Effects Small Arms Marking System for M249 SAW
- 7.62 mm Short Range Training Ammo
- Sub-caliber Trainer for M72 Light Anti-Tank Weapon
- Dismounted Infantry Virtual Simulation for Military Operations in Urban Terrain

- M4/M16 Training Bolt
- MK47 Crew-Served Weapon Trainer
Weapon Projects

20mm Anti-Material Rifle

AT-4 CS

AT-4CS (Confined Space) Enhanced Blast Tandem Warhead

Advanced Demolition Weapons

High Rate-of-Fire .50 Caliber Machine Gun
Small Arms Projects

- Close Quarter Battle Pistol
- SOF (Special Operations Forces) Combat Assault Rifle (SCAR)
- Joint Service Combat Shotgun
- 40mm Enhanced Grenade Launcher Module for M4 Carbine
- 5.56mm Lightweight Machine Gun
- 7.62mm Lightweight Machine Guns and Semi-Rigid Ammo Container
Ammunition Projects

- Joint Ranger Anti-armor, Anti-personnel Weapon System Ammunition Upgrades
- Advanced Lightweight Grenade Launcher Ammunition
- 30mm Programmable Air Burst Munitions
- 9mm Reduced Environmental Hazard Ammunition (REHA)
- Multi-Role Anti-Armor Anti-Personnel Weapon System - MAAWS
- 30mm APFSDS-Tracer
Enabler & Ammunition Projects

- 20mm Replacement Round
- 40mm Low Velocity, High Explosive Dual Purpose
- Lightweight Hand Grenade
- Muzzle Break Sound Suppressor for MK48 and M240
- 40mm Dud-Reducing M430A1E1 Cartridge
- 40mm High Explosive Dual Purpose
- 40 mm Practice Grenade
Significant interest this year in optics and aiming devices: 7 of the 14 enabler proposals

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<td>Ammunition</td>
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<td><strong>TOTAL</strong></td>
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Note: Not all proposals depicted
Current Proposal Trends

1. Training: more realistic
2. Weapons: lighter, more compact with less recoil
3. Sniper Weapon System: longer range capability
4. Ammunition: extended range and “green” (lead free)
5. Aiming Devices:
   a. Enhancing operators capabilities at longer ranges
   b. Greater interest for crew-served weapons
   c. Continued interest in night vision capabilities, especially digital imaging
   d. Emerging interest in sensor fusion (merging night vision & thermal capabilities)
Items of Interest

TRAINING

Autonomous Roving Robot Systems
• Free-ranging robotic targeting system used for live-fire training
• Facilitates challenging, realistic training
• Executes complex pre-planned scenarios
Items of Interest

WEAPONS

5.56mm Combat Assault Rifle
- Integral Optic
- Built-in Laser Aiming Device
- Factory zero’d

5.56mm Light-weight Machine Gun
- 10.78 lbs. (4.9kg)
- Short-stroke gas piston operating system
- 100 round drum or 30 round magazine fed

9mm Compact Personal Weapon
- Lightweight 3.3 lbs (1.5kg) and compact
Items of Interest

20mm X 110 Anti-material Sniper Rifle

20mm Hand-held, Semi-automatic Infantry Weapon

40mm Less-lethal, Riot Control, Infantry Support and Special Operations Weapons Systems.

SOF 12 Gauge Shotgun
Items of Interest

AMMUNITION

40mm Soldier Parachute Aerial Reconnaissance Camera System

40mm Enhanced Blast Ammunition
  • Blast, Heat and Fragmentation

5.56 mm Extended Range Ammunition

5.56 mm Green Ammunition

40mm Infrared Illumination

40mm Air Burst Munitions
  • Programmable time based fuze technology
**ENABLERS**

**Micro Adjustable Eyepiece**
- Compatible with most optical devices
- Adjusted between 40 ~ 90

**Enhanced Thermal Sighting System**

**Red Dot Sight Laser Range Finder**
Items of Interest

NIGHT VISION ENABLERS

Night Vision – Laser Rifle Scope

Night Vision Laser Range Finder

Night Vision – Laser Monocular Range Finder
Summary

- Actively engaged in testing for the small arms community
- Expect to continue supporting small arms well into the future
- Got any good products? See Bob…
## CTO - - Key Points of Contact

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Questions?