

Weapons Comparative Testing

NDIA International Infantry and Small Arms Systems Symposium

May 2009



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(CTO)**

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Overview

- **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



DAC – Testing Innovative Products for the Warfighter

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!**



DAC Metrics

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



FCT – Testing Coalition Products for the Warfighter

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!**



Global Defense Industry

- 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



FCT Metrics

Over Last 29 Years



601 Projects Started, 514 Completed

279 Projects Met Service Requirements

200 Projects - Procurements Worth \$9.0B

- **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**



Small Arms Projects

Training	8
Weapons	11
Ammunition	12
Enablers	13
TOTAL	44

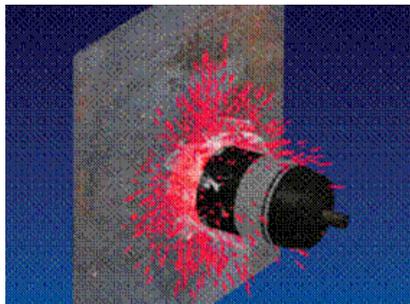
Note: Not all Projects depicted



Training Projects



M4/M16 Training Bolt



40mm Tactical Marking, Day/Night Training Cartridges

Special Effects Small Arms Marking System for M249 SAW



Individual Serviceman Non-Lethal System



7.62 mm Short Range Training Ammo



Sub-caliber Trainer for M72 Light Anti-Tank Weapon



MK47 Crew-Served Weapon Trainer



Dismounted Infantry Virtual Simulation for Military Operations in Urban Terrain



Weapon Projects



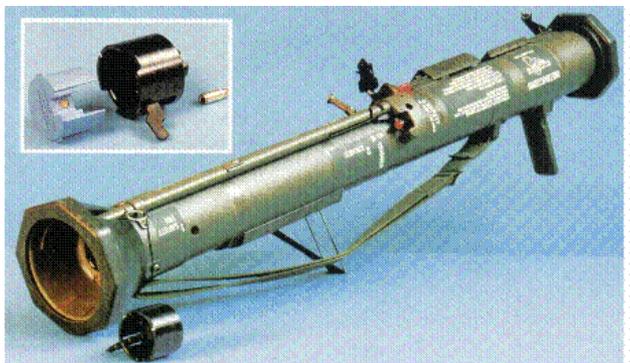
20mm Anti-Material Rifle



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



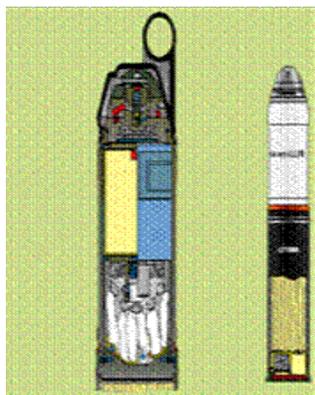
**Joint Ranger Anti-armor, Anti-personnel
Weapon System Ammunition Upgrades**



30mm Programmable Air Burst Munitions



**Advanced Lightweight Grenade
Launcher Ammunition**



**Multi-Role Anti-Armor Anti-Personnel
Weapon System - MAAWS**



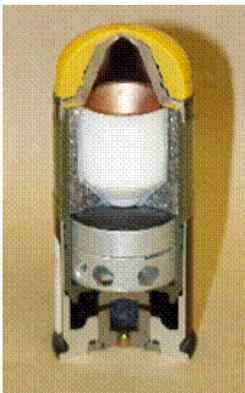
**9mm Reduced Environmental
Hazard Ammunition (REHA)**



30mm APFSDS-Tracer



Enabler & Ammunition Projects



40mm Low Velocity,
High Explosive Dual Purpose



20mm Replacement Round



40mm High Explosive Dual Purpose



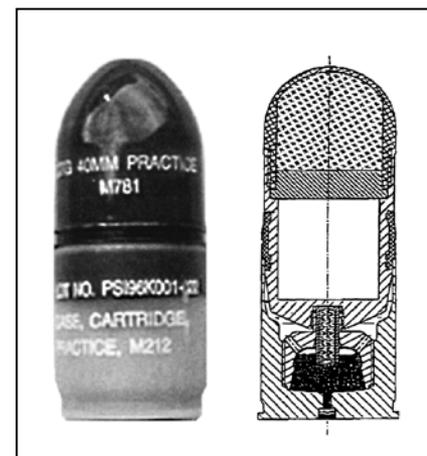
40mm Dud-Reducing M430A1E1 Cartridge



Lightweight Hand Grenade



Muzzle Break Sound Suppressor
for MK48 and M240



40 mm Practice Grenade



FY10 Draft Proposals

Significant interest this year in optics and aiming devices: 7 of the 14 enabler proposals

Training	1
Weapons	0
Ammunition	6
Enablers	14
TOTAL	21

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





Items of Interest

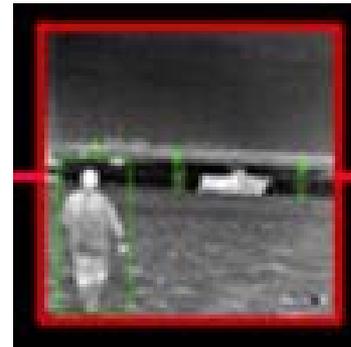
ENABLERS



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?

