

Program Overview



Presented To:

NDIA Munitions Executive Summit

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Outline

- Mission
- Vision/Goals
- Organization
- Transformation - How We Fit In
- Product Highlights
- Summary



PM CAS

MISSION

**Perform Life-Cycle Management
of Tube-Launched Munitions,
Mortar Weapons and Fire-Control
Systems**



PM CAS

VISION

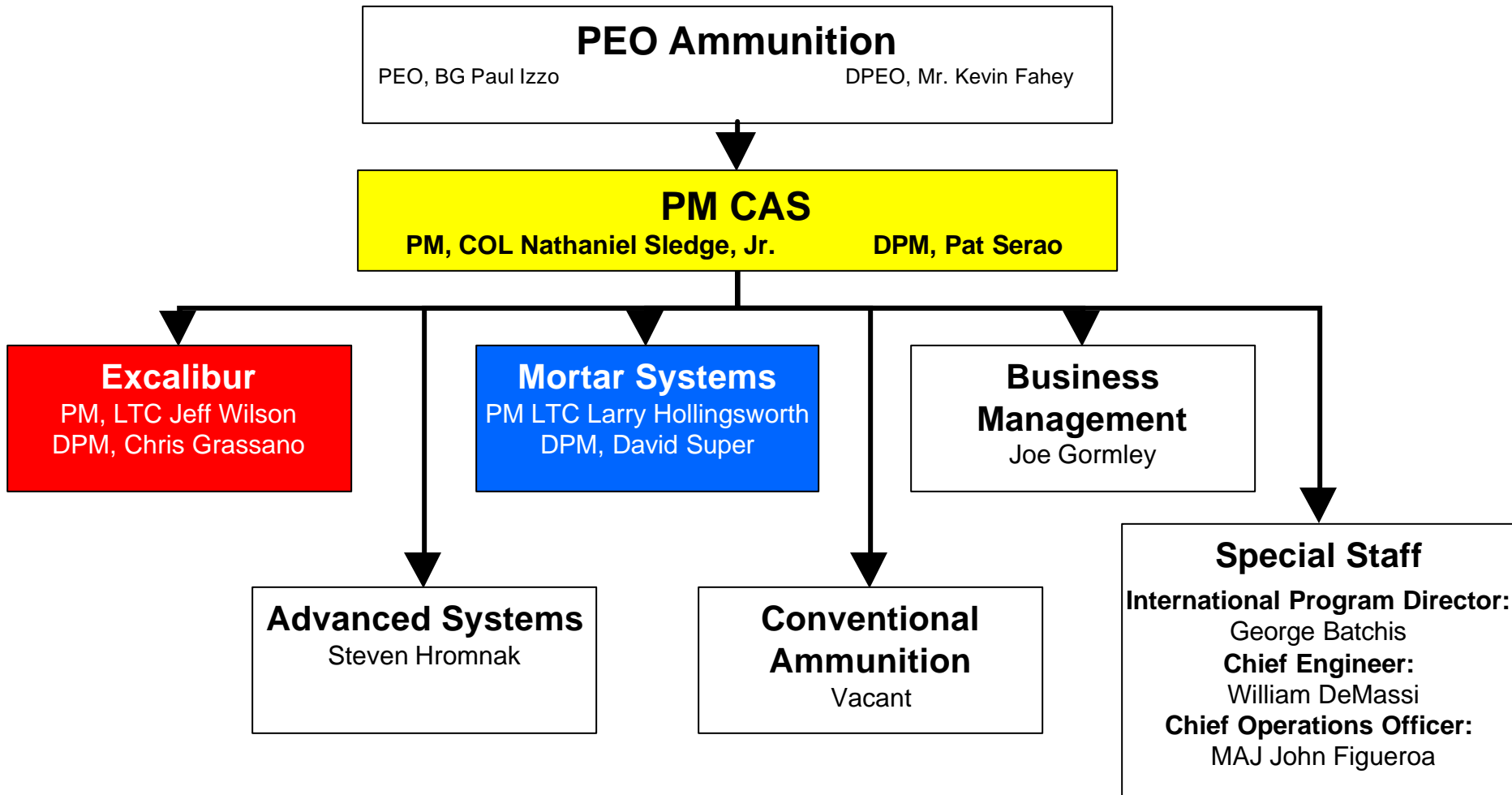
Deliver Conventional and Leap-Ahead Munitions
Combat Power to Warfighters

GOALS

- Get Smart and Precision-Guided Munitions to the Warfighter
- Improve and Sustain Conventional Munitions
- Satisfy Customers and Achieve Excellence
- Grow World-Class People and Teams



PM CAS Organization



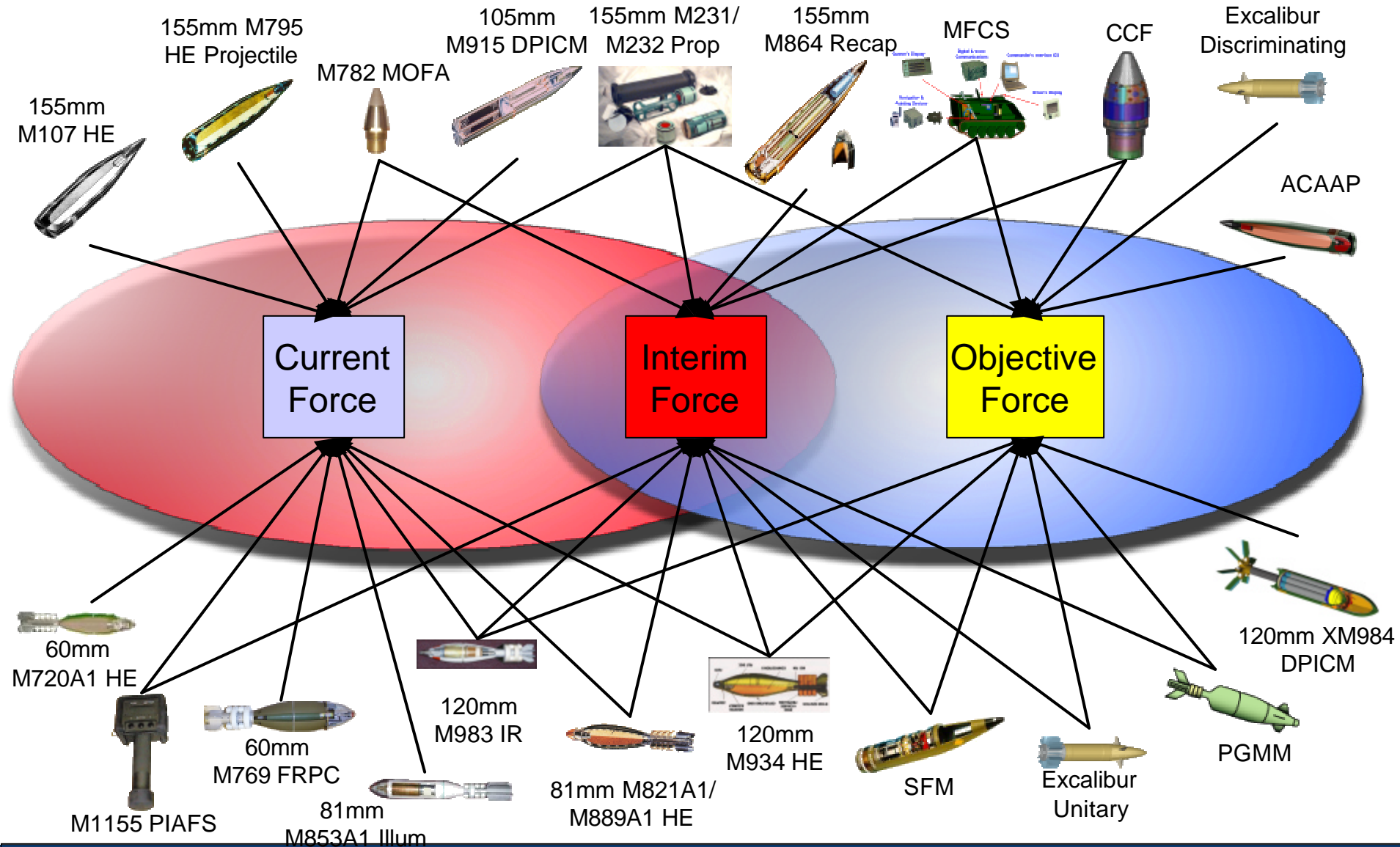


PM CAS Management Philosophy

- Promote Competition via Best Value Acquisitions
- Reinforce Success
- Promote 6 Sigma and Disciplined Processes
- Promote Lean Design and Production
- Promote Continuous Process Improvement and Technology Insertion
- Promote Commonality and Interoperability
- Spiral or Evolutionary System Development
- Put Eyeballs On – “Trust, but Verify.”

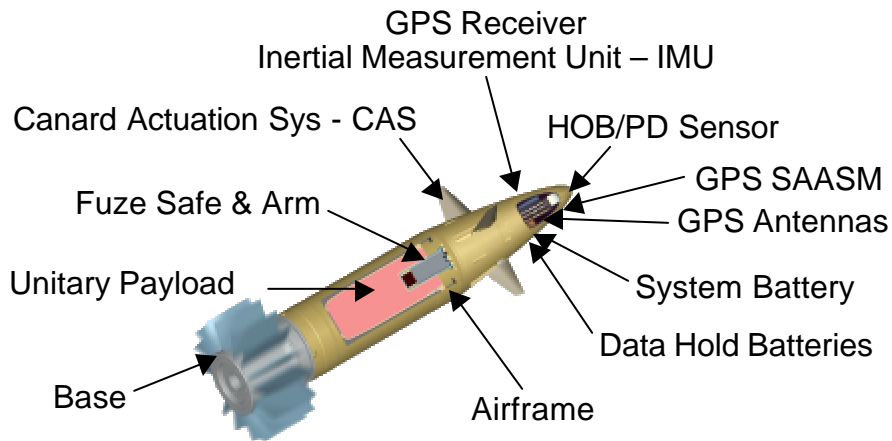


Transformation - How We Fit In





Excalibur System



UNITARY

Acquisition Phase

Current: System Development & Demonstration

Contractors

- Raytheon Missile Systems (Tucson, AZ)
- Bofors Defence (UDLP) Teamed with Raytheon
- GD-OTS

Why Excalibur?

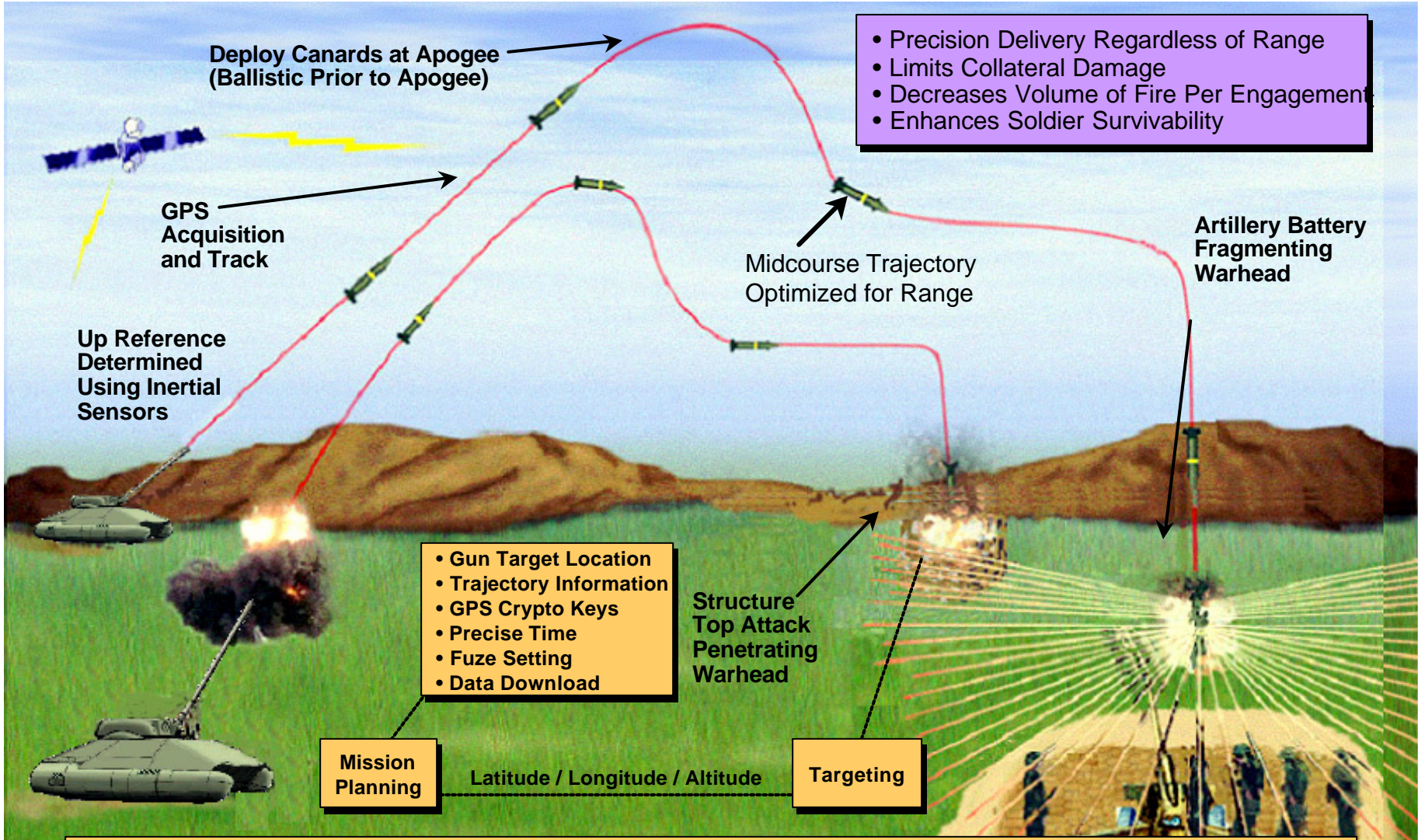
- 10-20 m CEP at all ranges
- Decreased collateral damage
- Decreased volume of fire per engagement
- Carrier for future smart and discriminating munitions

System Description

- Precision guided, extended range carrier for a family of 155mm cannon ammunition
- All weather, day/night, fire & forget, urban/complex terrain
- Objective maximum range: 50 km
- GPS-Inertial navigation system guidance w/anti-jam technology



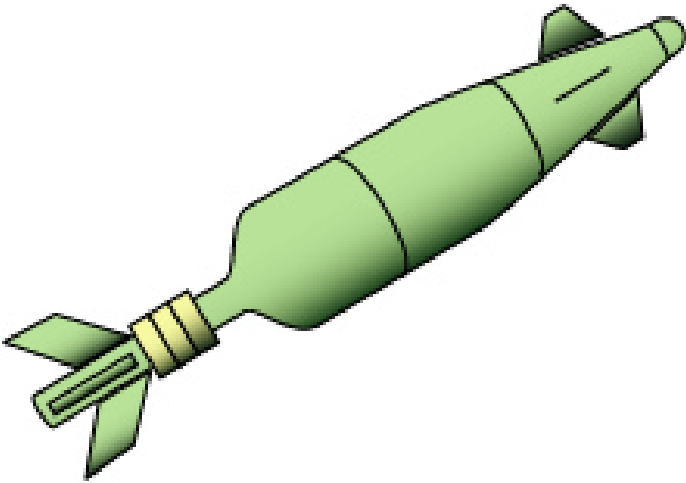
Excalibur Concept of Operations



Unitary Warhead XM982 Is Designed To Meet User Needs



XM395 Guided Mortar Munition



Acquisition Phase

- Current: Component Advanced Development
- Warhead & fuze alternatives 2002
- System Development and Demonstration: 2003
- FUE: 2008

Why XM395?

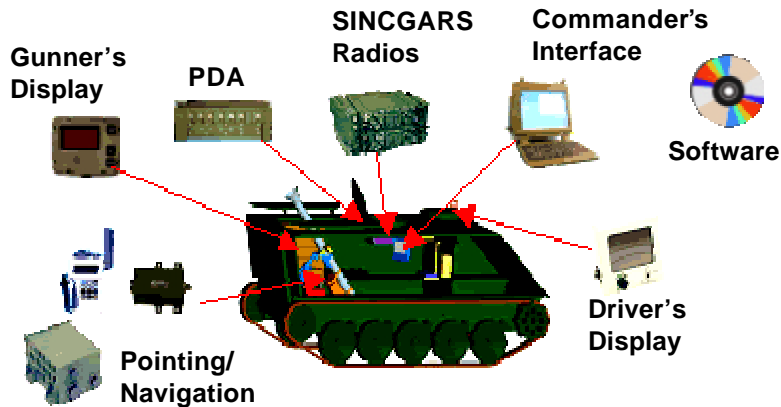
- Hit point targets with Precision
- Incapacitate Personnel within Protective Cover:
 - Masonry Walls
 - Earth and Timber Bunkers
 - Lightly Armored Vehicles
- Extended Range:
 - 12 km (T); 15 km (O)
- Compatible with 120mm Mortar System

Contractors

- CAD
 - ✓ Lockheed Martin (Orlando, FL)
 - ✓ Diehl
- SDD
 - ✓ Competitive
 - ✓ Request For Proposal (RFP) – Feb 2003



Mortar Fire Control



Acquisition Phase

- MFCS (Heavy)
 - ✓ IOT&E November 2002
 - ✓ FUE May 2003
- MFCS (Light) – Computer only
 - ✓ IOT&E May 2004
 - ✓ FUE September 2004

Why Mortar Fire Control System?

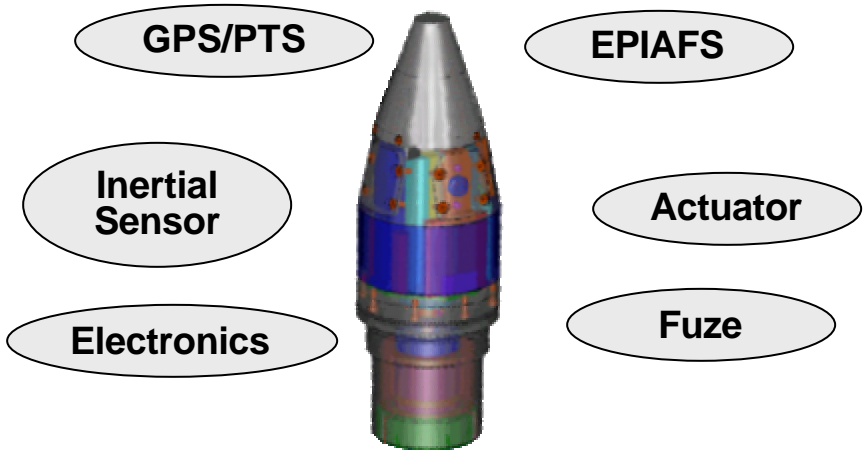
- Responsiveness: 8 min versus 1 min first round out
- Accuracy: CEP reduced from 230 m to 60 m
- Survivability: Enhances shoot & scoot
- C2: Interfaces with AFATDS and FBCB2

Contractors

- Development – TACOM-ARDEC
- Production – CONFIRE Contract Award Jan 03



Course Correcting Fuze



Course Correcting Fuze (CCF) for Artillery

Acquisition Phase

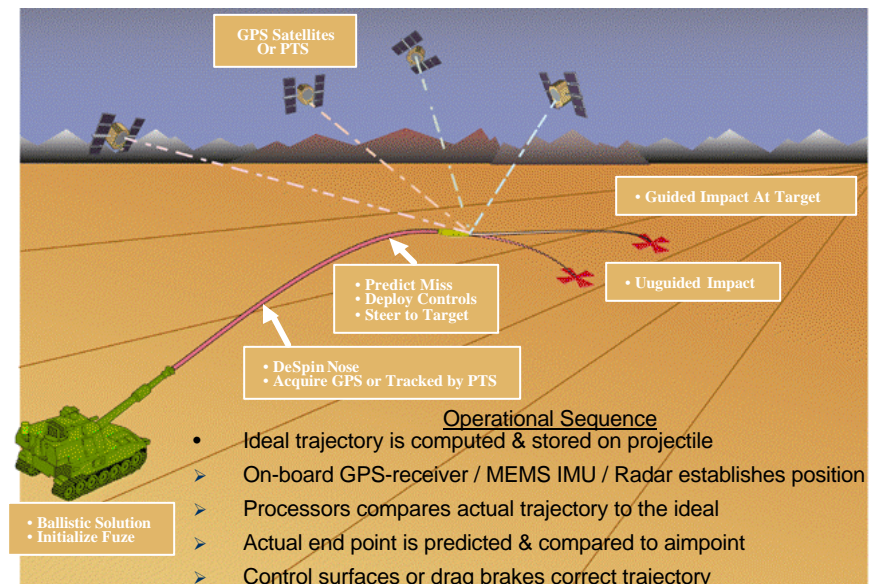
- Component Advanced Development - Three technical approaches being pursued by Army and Navy.

Contractors

- Government - TACOM-ARDEC, NSWC
- Commercial - UDLP and TBD

Why Course Correcting Fuzes?

- Precision errors increase proportionally with range
- Course Correcting Fuzes may reduce errors by 90%, Accuracy: 20-50m CEP
- Enables more efficient engagements
- Allows field commanders to service more targets
- Improves efficiency and effectiveness of the existing stockpile



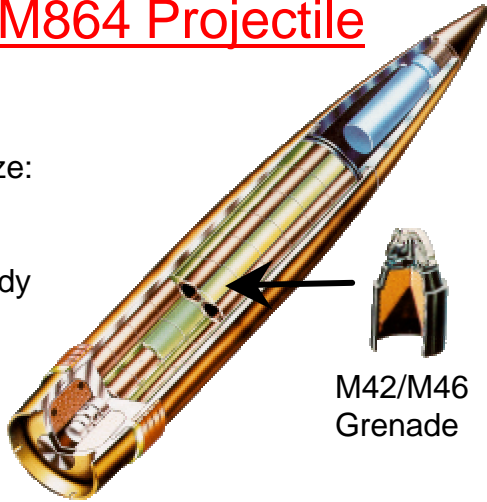


M864 Recap Program

The Existing M864 Projectile

Components:

- 72 grenades w/ M223 Fuze:
(48) M42s, (24) M46s
w/ Comp A5 fill
- 2-piece steel projectile body
- M10 Expulsion Charge
- Baseburn Assembly
- Base
- Universal Lifting Plug
- Obturator



M42/M46
Grenade

Program Schedule

- Phase I
 - Feasibility Study, 2003
- Phase II
 - Materiel Change, 2004-2005
- Phase III
 - Qualification, 2004-2005
- Production
 - 2005

Why M864 Recap?

- Addresses DoD Policy of <1% UXO by adding grenade self destruct fuze; considering three SDF candidates
- Field up to 180K "like new" M864 rounds to the Stryker Combat Teams
- Incorporate ERO obturator to extend gun tube life
- No new rounds added to the inventory

Contractors

- LAP – RFP for Feasibility Study in 2Q FY03 (Open)
- SDF – Three candidates:
 - L3 KDI XM236 e-SDF
 - L3 BTFP M223E1 p-SDF
 - IMI p-SDF
- USG as System Integrator versus Systems Contractor To Be Determined



M864 Recap SDF Candidates

- **L3 KDI XM236 Electro-mechanical SDF**

- Contract award 2Q FY03 to fix battery cover issue (9 month effort)
- KDI Get Well Plan addresses M234 Battery Production; same line can be used for producing XM236
- Safety Certified in M864
- M236 SDF possibly available in 3Q FY04



KDI e-SDF

- **L3 BT M223E1 Pyrotechnic SDF**

- 1-yr maturation effort ongoing w/ demo in 3Q FY03
- EMD follow-on may be necessary, qualification in FY04

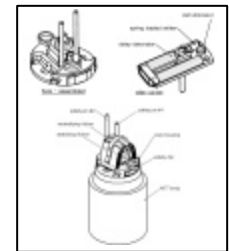


M223E1 p-SDF
on M42 Grenade

- **Israel Military Industries (IMI) Pyrotechnic SDF**

- Based on IMI's M85 bomblet – 60 million produced
- Contract expected to be awarded in 2QFY03
- Demo in 3Q FY03; test criteria same as M223E1 p-SDF

IMI SD FUZE FOR M42/46



IMI p-SDF on M77 grenade



Advanced Conventional Artillery Ammunition Program (ACA²P)

Unassisted/Assisted with Base Bleed

Extended Range HE



M2000
High Explosive



M2001
DPICM



M2002
Smoke



M2003
Illumination



M2004
Red Phosphorus



M2000
Practice



M2005
VLAP

Acquisition Phase

- Qualification Testing FY03-04 (FCT)

Contractors

- GD OTS/Denel/Talley

Why ACA²P?

- Meets extended range requirements of FCS
- Complete 105mm and 155mm families of projectiles with ballistic similitude and common profiles
- Increased Lethality through Pff technology
- Reconfigurable base (base bleed)
- IR-capable smoke rounds
- Interoperable with multiple platforms, including US howitzers

Range (km)39 Cal

	U.S.	M2000 Family
HE	22.5	25/31
ER HE	30	40/46
ER DPICM	28.3	25/31
Smoke	22.5	25/31
Illum.	17.5	25/31



Summary

- Improving the effectiveness of the Warfighter by:
 - Developing Precision Munitions
 - Improving and Sustaining the Conventional Stockpile
 - Supporting US Army Transformation