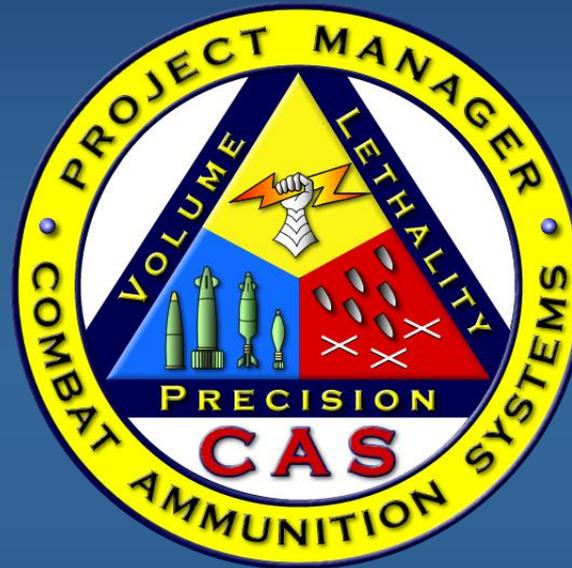


# NDIA Joint Armaments Conference



14 May 2014

Presented by: Willie Coleman  
Project Manager for  
Combat Ammunition Systems  
973 724-2003, [willie.d.coleman.mil@mail.mil](mailto:willie.d.coleman.mil@mail.mil)



# PM CAS Family of Products



**Concept      Development      Production/Sustainment**

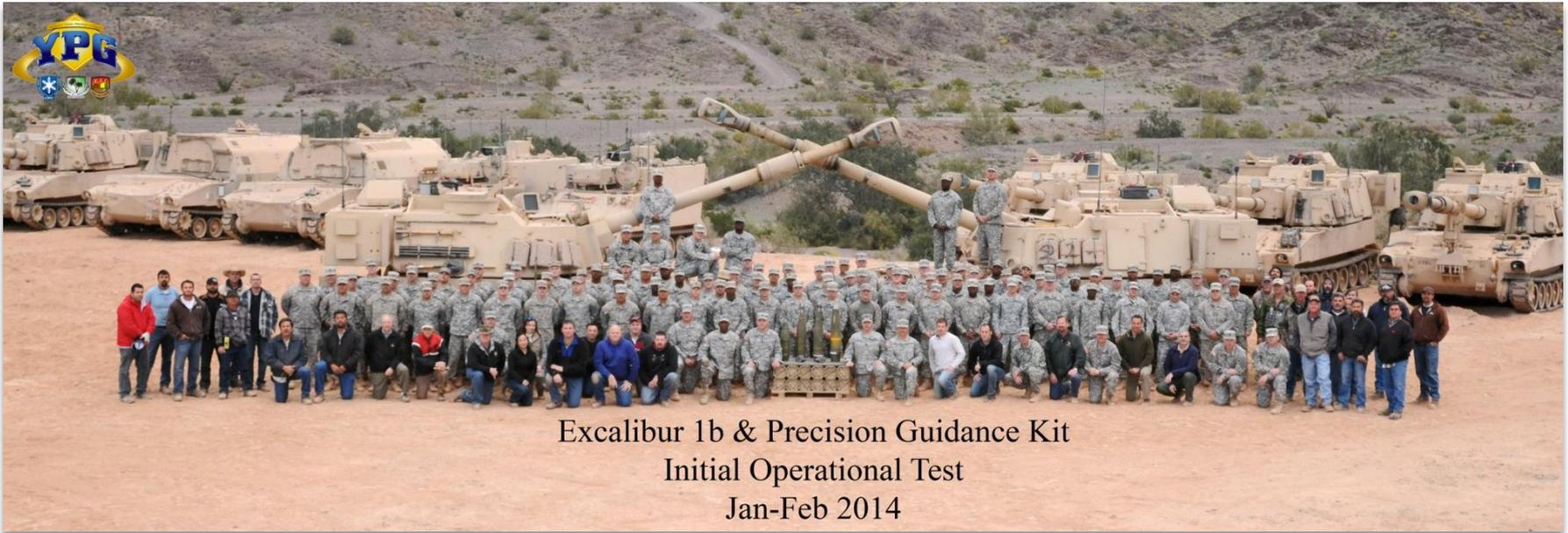


**Concept      Development      Production/Sustainment**



# Near Term Main Priorities

- Excalibur 1b Full Rate Production
- Complete PGK First Article Test (FAT)
- 120mm High Explosive Guided Mortar (HEGM) HQDA Program of Record Decision
- DPICM Study Results
- 155mm XM1123/XM1124 Visible Light/Infra Red (VL/IR) (M483 Reuse) Full Materiel Release (FMR)
- M549 Stockpile Test



Excalibur 1b & Precision Guidance Kit  
Initial Operational Test  
Jan-Feb 2014



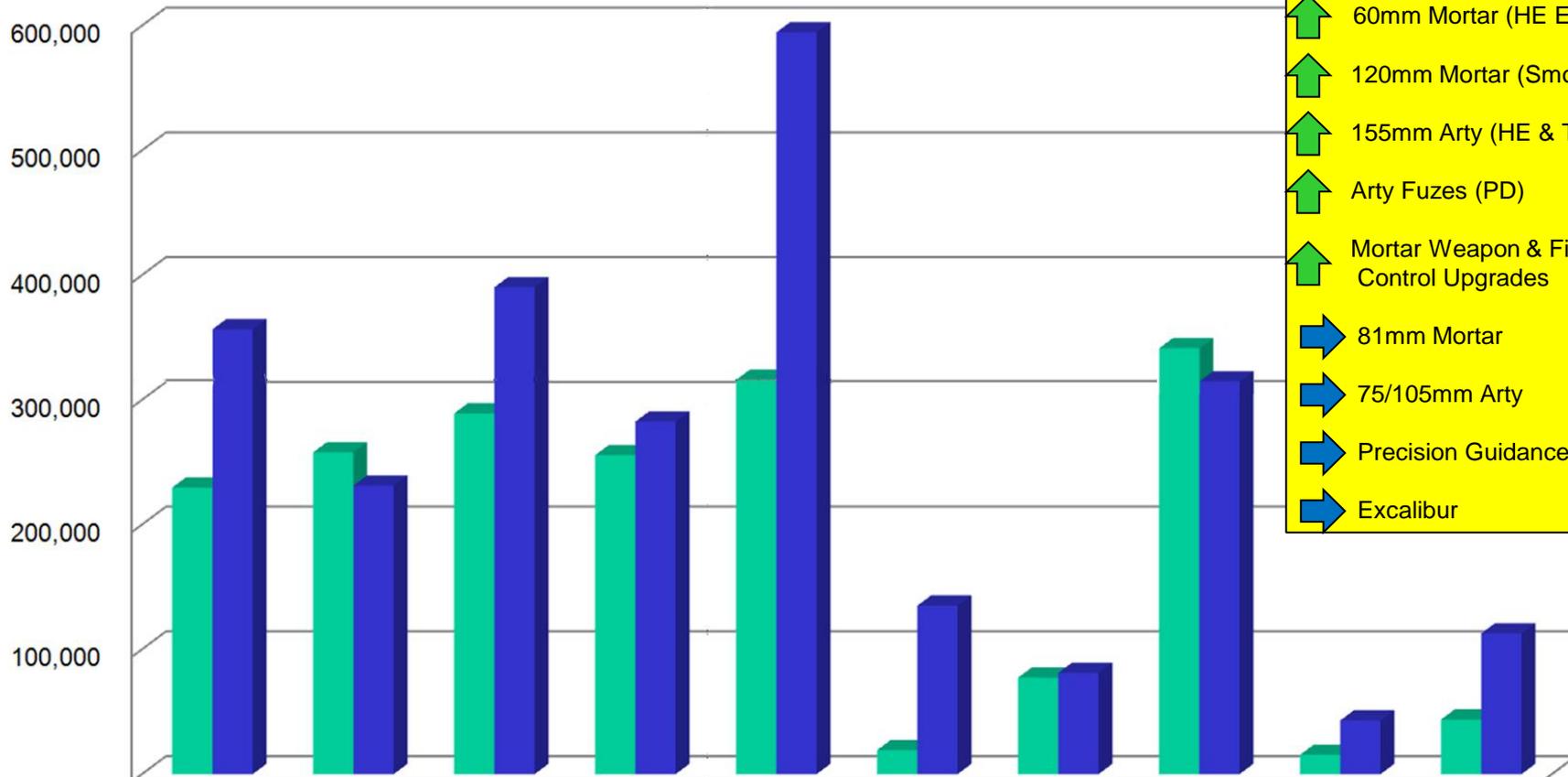
# Budget Outlook



## FY14/FY15 PB Comparison

**Spending Forecast:**

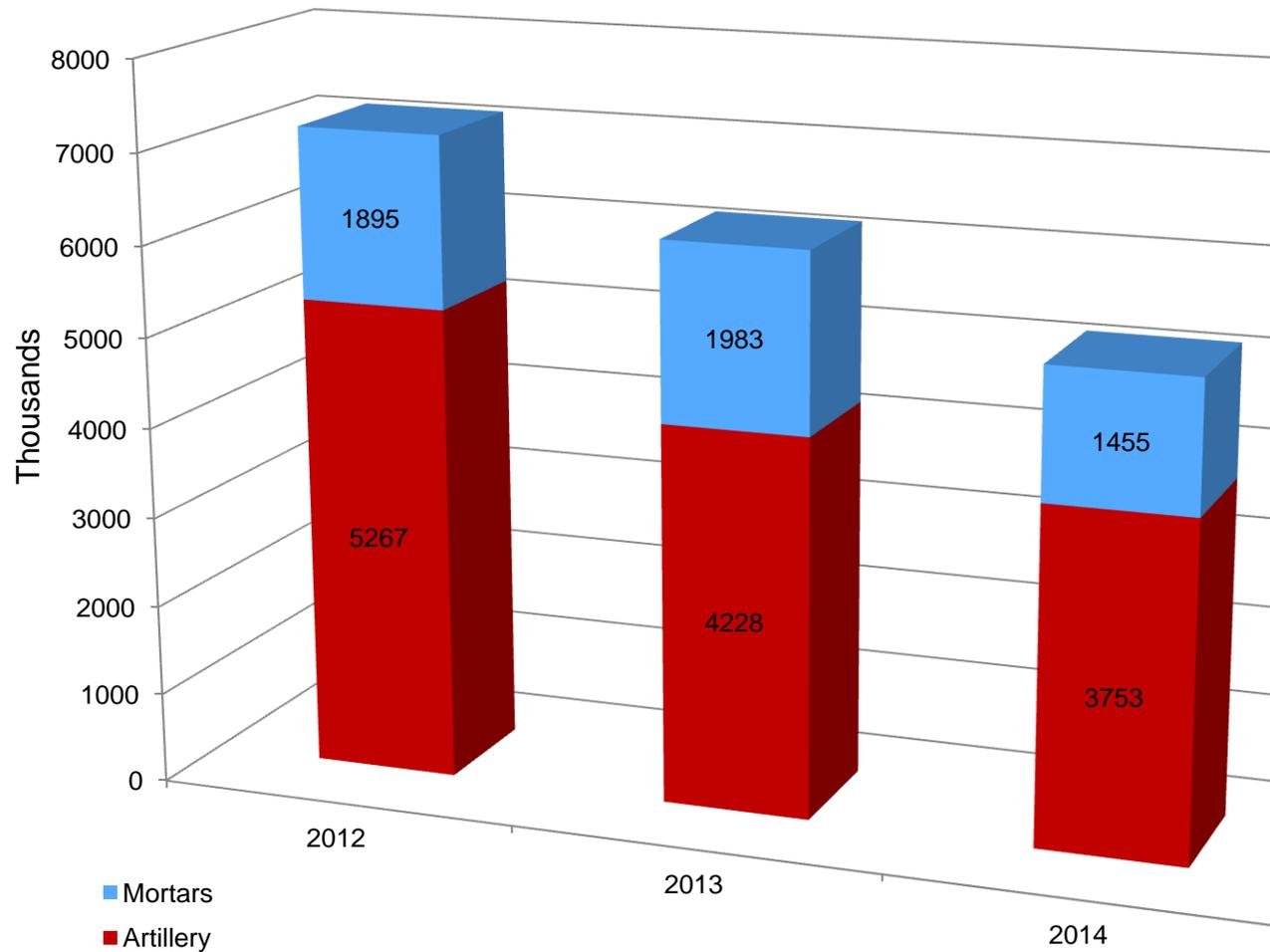
- ↑ 60mm Mortar (HE EFF)
- ↑ 120mm Mortar (Smoke)
- ↑ 155mm Arty (HE & Trng)
- ↑ Arty Fuzes (PD)
- ↑ Mortar Weapon & Fire Control Upgrades
- ➔ 81mm Mortar
- ➔ 75/105mm Arty
- ➔ Precision Guidance Kit
- ➔ Excalibur



	60 mm Mortar	81mm Mortar	120mm Mortar	75/105 mm Artillery	155mm Artillery	Conv Fuzes and Props	Excalibur	PGK	Mortar Weapons	Mortar OPA Systems
■ PB14 (FY14-FY18)	229,662	257,928	289,094	255,628	316,028	19,195	77,326	343,146	15,446	43,709
■ PB15 (FY15-FY19)	356,544	231,302	390,255	282,572	594,591	135,018	81,190	316,733	43,008	112,776



# Conventional Ammo Stockpile



Mortars - FRPC, Short Range Training Rounds and Refurbish Kit are not included  
Artillery - 75mm/105mm Blanks and 90mm Recoilless Rifle not included.

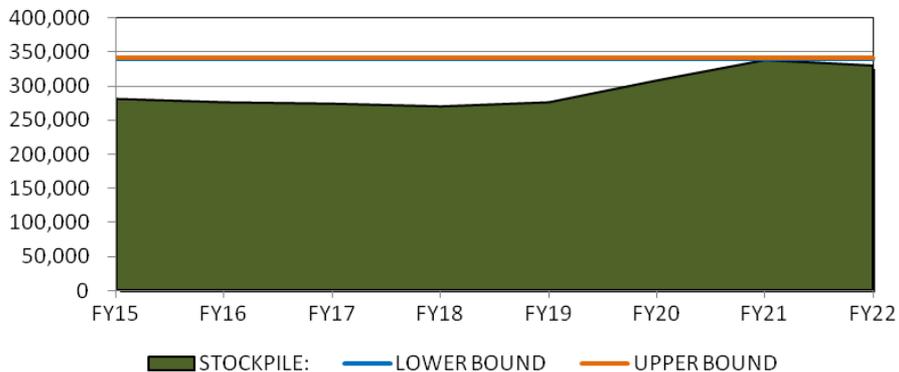


# Ammunition Stockpile Health



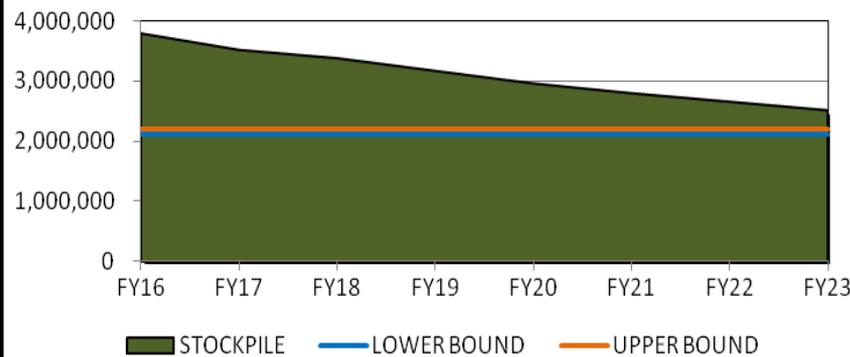
## 155mm HE

STOCKPILE FORECAST:  
P20 PLANNED TRAINING AND TEST



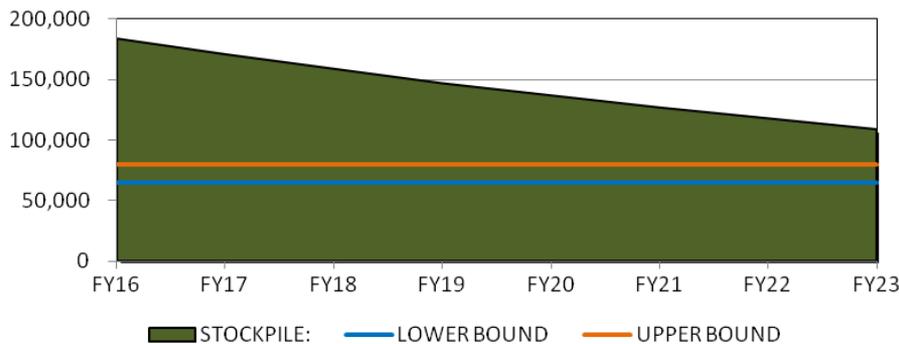
## MACS M232A1

STOCKPILE FORECAST:  
P20 PLANNED TRAINING AND TEST



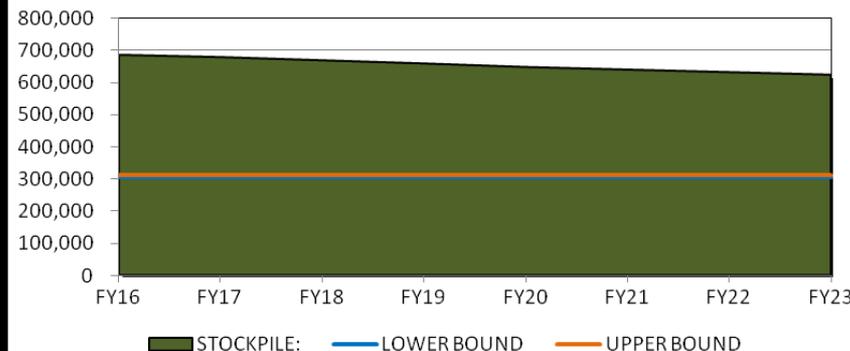
## 120mm Mortar HE

STOCKPILE FORECAST:  
P20 PLANNED TRAINING AND TEST



## Artillery Prox Fuze

STOCKPILE FORECAST:  
P20 PLANNED TRAINING AND TEST

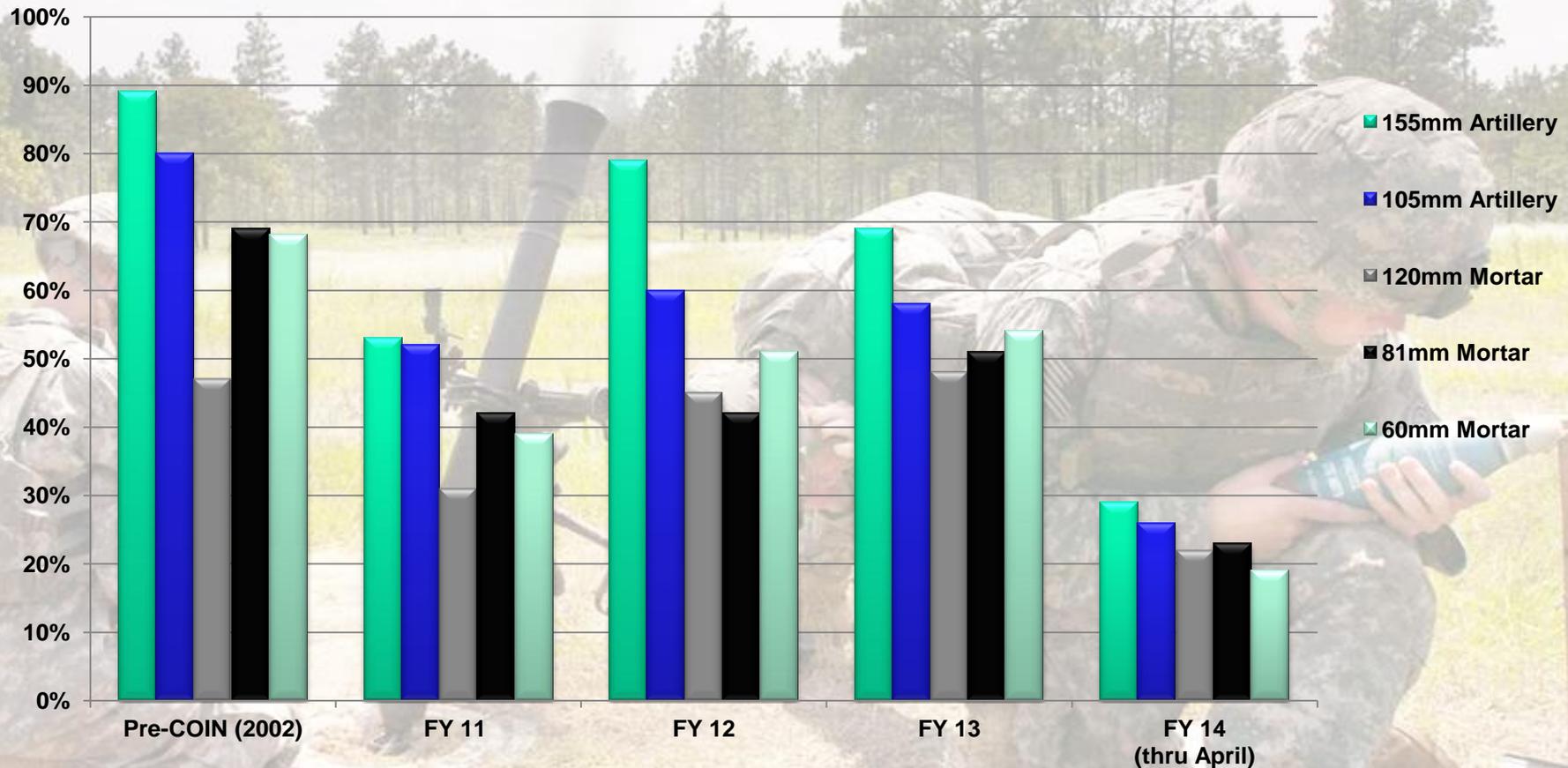




# Army Training



## Army Training Ammunition Expenditure 2002 - present





# Industrial Base Challenges



## Challenges

### ➤ Declining Budget vs. Industrial Base Sustainment

- ✓ Fuze
- ✓ Propellant/Energetics/Melt-pour
- ✓ Metal Parts Forging
- ✓ Illum Candle/Smoke Mfg

### ➤ Counterfeit Parts

- ✓ GPS receiver Module
- ✓ SRAM
- ✓ Protect Critical Program Information from Cyber Attack

### ➤ International Competition

- ✓ Fewer World Market Opportunities
- ✓ Increasing CONUS Involvement by Foreign Based Companies

## Activities

- Continue to Support PEO Industrial Base (IB) Strategic Plan and "Watch List"
  - ✓ Renewed emphasis on Make or Buy process
- Restated Industrial Base Concern to G-8
- Assessing Future Acquisitions to Minimize impact

- Tightened Contract/Language to Verify Component OEM Authenticity
- Ensure Compliance with OSD Cyber Acquisition Policy

- Increased Foreign Military Sales (FMS) Focus
- Leveraging Stockpile Surplus Where Possible
- Supporting CRADA Approach to Address Direct Commercial Sales (DCS) Opportunities



# FY15

## Competitive Opportunities

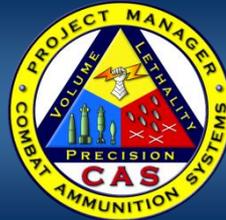


Product	Projected Award Date	Dollar Amount	Contract Type
M795 Artillery Projectile Bodies	1QFY15	\$172M	NTIB IDIQ
Mortar Fire Control Systems	2QFY15	\$102M	F&OC IDIQ
M762A1 Safe & Arm (S&A) Assemblies	3QFY15	\$7.6M	NTIB IDIQ
120mm M931 (FRPC), M933A1 and M934A1 High Explosive (HE) Mortar Cartridge LAP	4QFY15	\$85.3M	NTIB
Mortar Weapon Systems: 60mm/81mm LW Components and Basic Issue Items (BII)	3QFY15	\$88.4M	SB
Mortar Weapon Systems: 60mm, 81mm, and 120mm (Lightweight and Legacy Systems) and the M326 120mm	4QFY15	\$102M	F&OC
120mm Mortar Fuze Adapter	3QFY15	\$12.3M	SB
105mm M1064 IR Illum	4QFY15	\$20M	NTIB
M734A1 Multi Option Fuze & M783 PD/DLY Fuze	4QFY15	\$156.5M	NTIB

NTIB: National Technical Industrial Base  
 IDIQ: Indefinite Delivery Indefinite Quantity  
 SB: Small Business  
 F&OC: Full and Open Competition

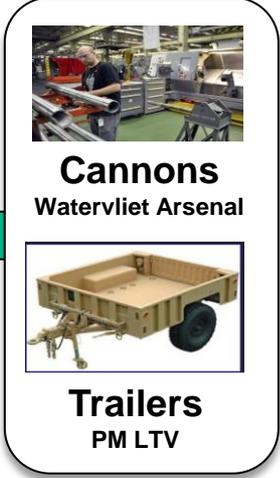
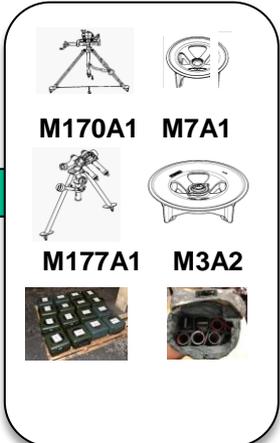
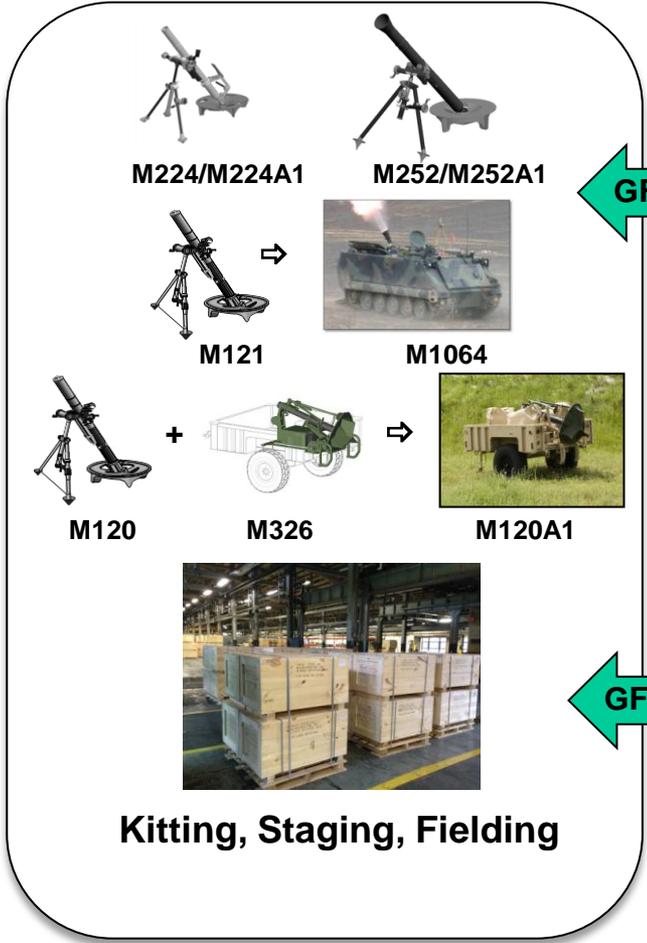


# Planned Mortar Weapons Acquisition Strategy



## Mortar Weapons Systems Contract

## Mortar Weapon Component SBSA



### ➤ Two (2) Prime Contractors

- ✓ Systems contract for complete mortar systems (ceiling price \$102M)
- ✓ Small Business Set Aside (SBSA) contract for Light Weight (LW) Components and Basic Issue Items (BII) (ceiling price \$97M)



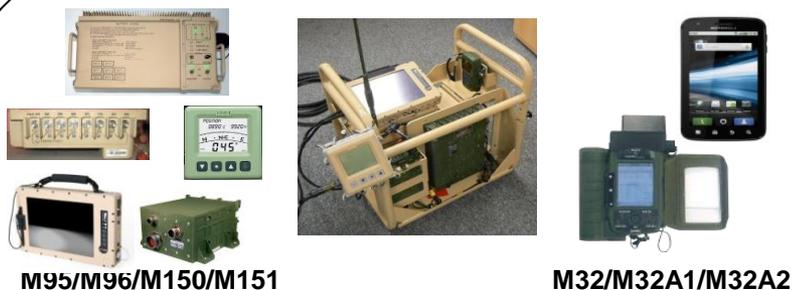
# Planned Mortar Fire Control Systems Acquisition Strategy



## Fire Control Systems Contract

### ➤ One Prime Systems Contract

- ✓ Complete fire control systems Army Acquisition Objective (AAO)
- ✓ Includes Fielding, Installation and New Equipment Training services
- ✓ FY15 – 19 Contract ceiling price: \$102M



+



**Kitting, Staging, Fielding**

+



**New Equipment Training**



# Indirect Fire Capability Gaps



- Range
- Lethality – Cannon Cluster Munition Replacement; Scalable Effects
- Precision
- Less Toxic/Less Incendiary Smoke
- More lethal with less weight
- Less corrosive; less wear-causing propellants (no spiral wear)
- Ammo management and resupply
- Moving/fleeting targets

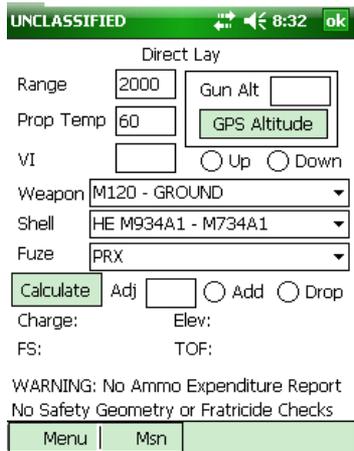




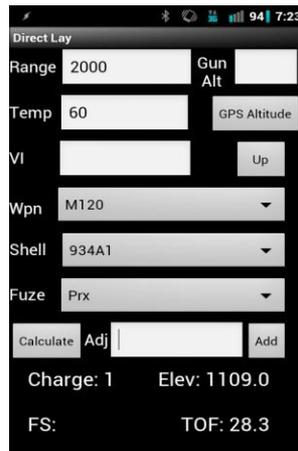
# Future CAS Initiatives (1 of 2)



## Android LHMBC Project



**M32 LHMBC  
(WM6)**



**Android 2.3.3  
(Gingerbread)**

### Accomplishments

- Using USMC funding, Completed an Android application
  - Supports Direct Lay and Hipshoot Missions
- Technology developed provides core functionality needed for Army objective efforts including:
  - A Ballistic Kernel that runs on an Android Platform
  - Geo-trans libraries that run on an Android Platform

### Future Efforts

- Fully Funded in FY16 to complete software integration and begin procuring M32A2s (converge with Nett Warrior)

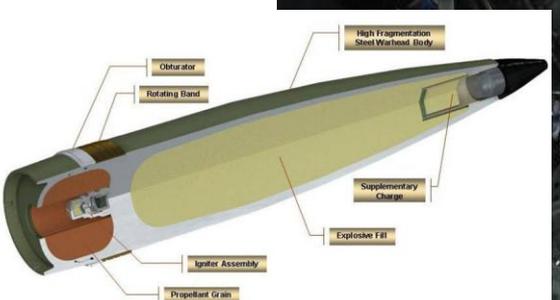
## 155mm XM1128 HE IM BB

### Accomplishments

- Potential Material solution for USMC 155mm Suite of Cannon Artillery Munitions CPD
- USMC RDTE funding leveraged to establish TRL6 maturity:
  - Live Fire demonstrations from both US 39 Caliber and Allied 52 Caliber 155mm Cannon
  - Static detonation testing with HF-1 steel and IMX 101 fill proves greater lethality than M549A1
  - Fully Range Zoneable replacement for both M795 and M549A1
  - Production tooling and process developed

### Future Efforts

- Airframe readily modified to potentially become cargo carrier for Illumination smoke and other variants at 30km ranges





# Future CAS Initiatives (2 of 2)



## ➤ Product Concepts

### ✓ Top Program Manager S&T priorities:

- Enhanced/ Scalable/ Affordable Lethality
- Insensitive Munitions and Advanced Propellants
- Non Toxic/ Non Incendiary Multi Spectral Screening Smoke
- Extended Range Cannon Munitions
- High Explosive Guided Mortar



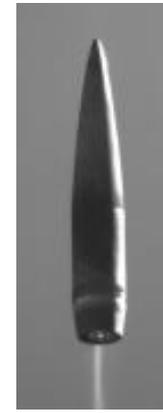
Enhanced/ Scalable/  
Affordable Lethality



IM Post-  
Launch  
Propulsion



Non Toxic/  
Non Incendiary  
Multi- Spectral  
Smoke



Super Extended Range  
Cannon Artillery Munition  
(SERCAM)



High Explosive Guided  
Mortar (HEGM)



# Closing Message to Industry



- Declining Budgets May Drive Change in Future Acquisition Strategies
- Continued Communication is critical
- FMS and DCS Represents Potential Business Opportunities
- Potential for Select New Start Development Programs
  - ✓ DPICM Replacement
  - ✓ Extended Range 155mm Program
  - ✓ 120mm HEGM



# Questions

