Supporting the Warfighter

NDIA Armaments Technology Firepower Symposium

"Joint Munitions and Lethality Life Cycle Management Command"

Presented By:

BG Bill Phillips

12 June 2007

"Need to be faster, more agile, less bureaucratic… Need to fight this every day"

Mission, Vision, Objectives

Mission:

To execute integrated life cycle management through a team of dedicated professionals who provide effective, available, and affordable munitions and lethality for the joint warfighter.

Vision:

Battle space dominance for the joint warfighter through superior munitions.

Objectives:

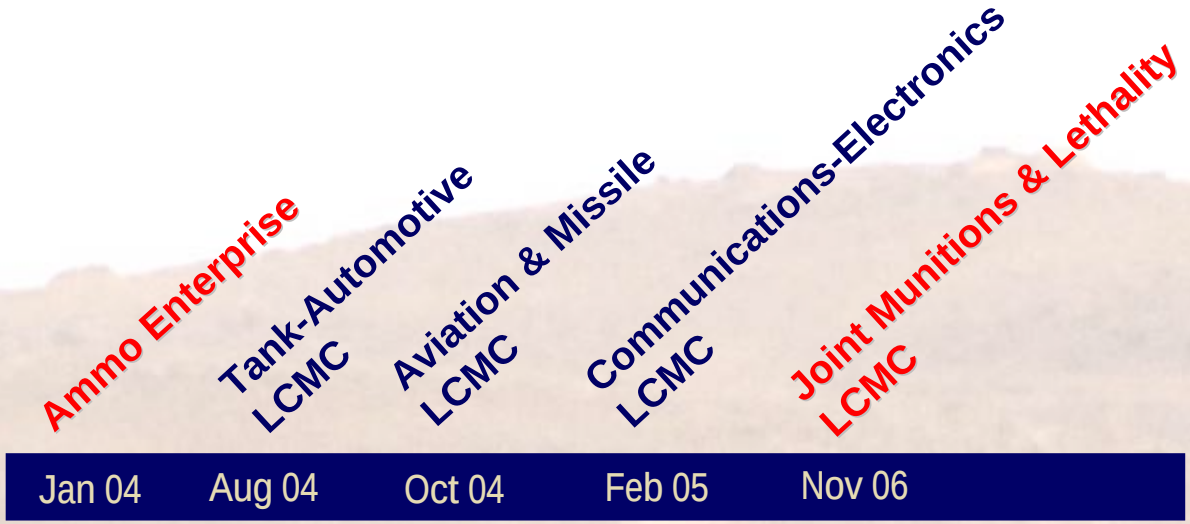
- Joint warfighter and coalition support
- Munitions Readiness
- Reliable, high performance munitions

What is an LCMC?

- A way of **thinking and acting** that considers the needs of the Army and war fighter above the needs of individuals or organizations in the process
- A confederation of organizations that strategically align their operational processes to create greater effectiveness and efficiency which results in better products, shorter cycle times, and faster response times to satisfy the war fighter's needs
- A collection of processes that support the Defense Acquisition Life Cycle Management Framework
- The Army's implementation of the OSD Directed Total Life Cycle Systems Management (TLCSM)

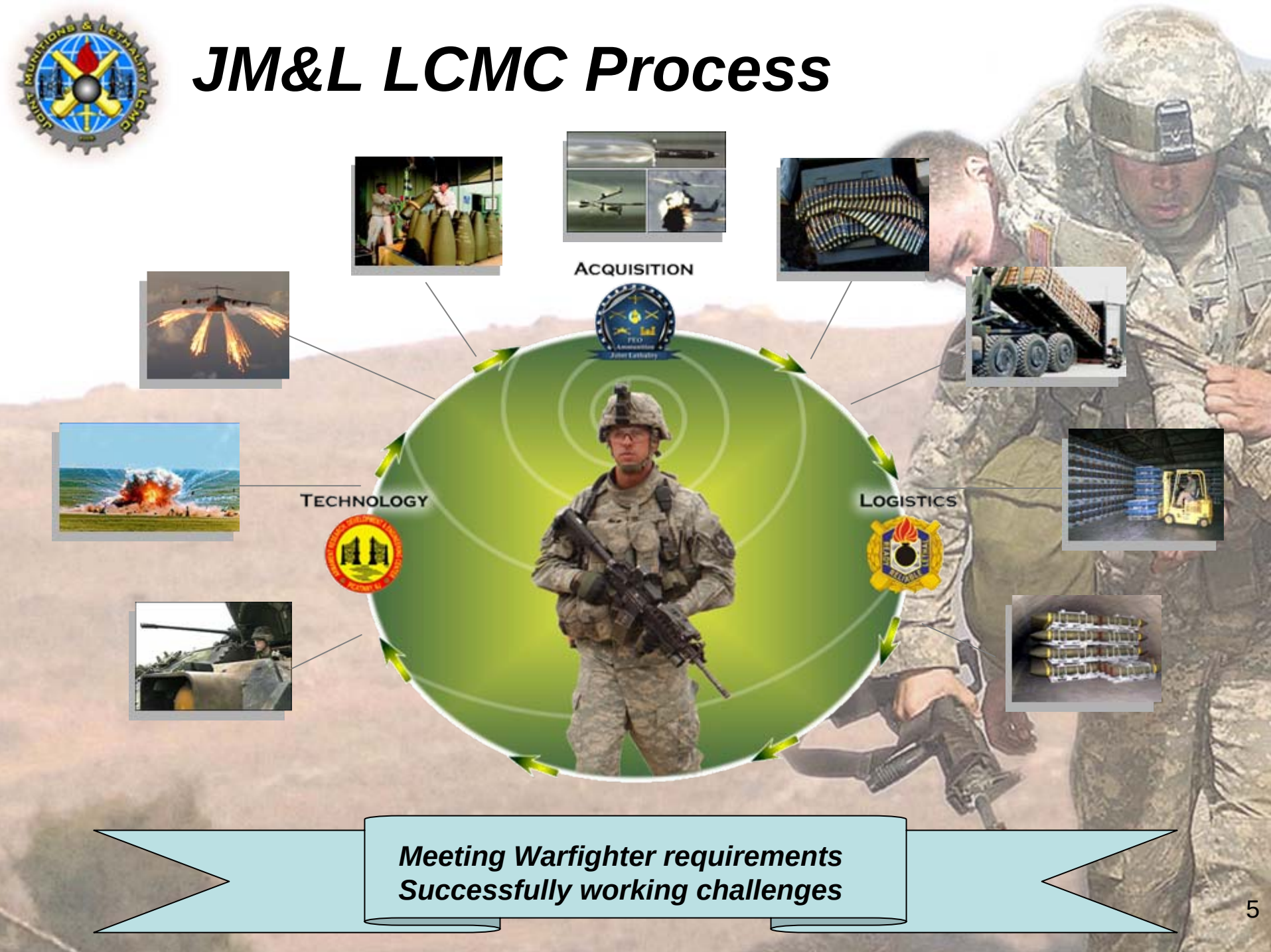
Soldier Focused Technology, Logistics & Support

Life Cycle Management Commands



- **Reduce Burden on the Soldier**
- **Cradle-to-Grave Materiel Solutions to Warfighter**
- **Improved Responsiveness and Support to the Field**
- **Better Product, Delivered Quicker at Reduced Cost to the Warfighter**

JM&L LCMC Process



Meeting Warfighter requirements
Successfully working challenges

JM&L LCMC Strategic Partnership

"One Team….One Fight"

The JM&L LCMC executes integrated Life Cycle Management through a team of dedicated professionals who provide effective, available and affordable munitions for joint warfighters.

Joint Munitions & Lethality Life Cycle Management Command

Joint Munitions Command
Munitions & Log Readiness Center
Defense Ammo Center

Lake City AAP

Iowa AAP

Crane AAA

Letterkenny AD

Scranton AAP

Tooele AD

Hawthorne AD

Riverbank AAP
(to Rock Island Arsenal)

Kansas AAP
(to McAlester, Milan, Iowa, Crane)

McAlester AAP

Lone Star AAP
(to Milan, Iowa, Crane)

Red River AD

Mississippi AAP
(to Rock Island Arsenal)

Anniston AD

Milan AAP

Holston AAP

Bluegrass AD

Radford AAP

Armament RDEC

PEO Ammunition
Single Manager for
Conventional Ammunition

What We Do

- Integrate Acquisition, Logistics, & Technology (AL&T)
- Single Manager for Conventional Ammunition (SMCA)
- Small, Med, Large Cal. Munitions
- Countermine Systems & EOD
- Demolitions
- Non-Lethal Systems
- Grenades
- Pyrotechnics
- Shoulder Launched Systems
- Fuzes & Fuze Setters
- Mortar & Mortar Fire Control Systems
- Smart Munitions
- Networked Munitions
- Unique Conventional Munitions
- Demilitarization

Products

3500 DODICs
338 Items in Development
206 Ammo Items in Prod'n
523 Ammo Items Managed

Budget

$3700 M

Footprint

20 Locations
427,334 Acres
40.2 MSF Storage
12,261 Bldgs
13,165 Igloos
2.7 MSF R&D

JM&L LCMC Team

6641 Government Employees
8090 Contractor Employees

Single Manager for Conventional Ammunition

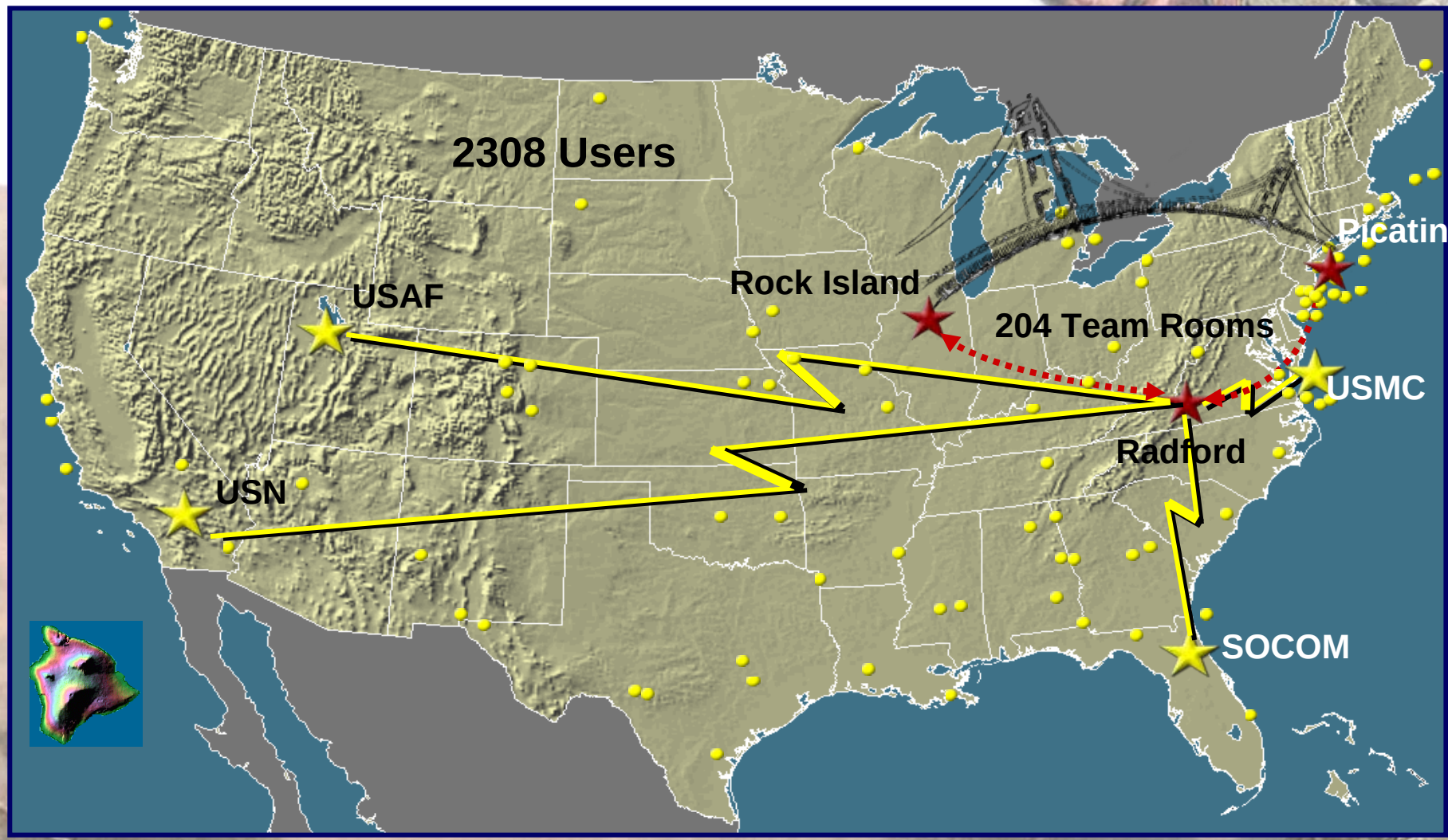
$ 2.8B Executed on behalf of all Service Customers

SMCA Mission: Manage DoD conventional ammunition, and personnel and training functions (DoDD 5160.65)

Objectives: Achieve the highest possible degree of efficiency and effectiveness in the DoD operations required to acquire top quality conventional ammunition for U.S. Forces

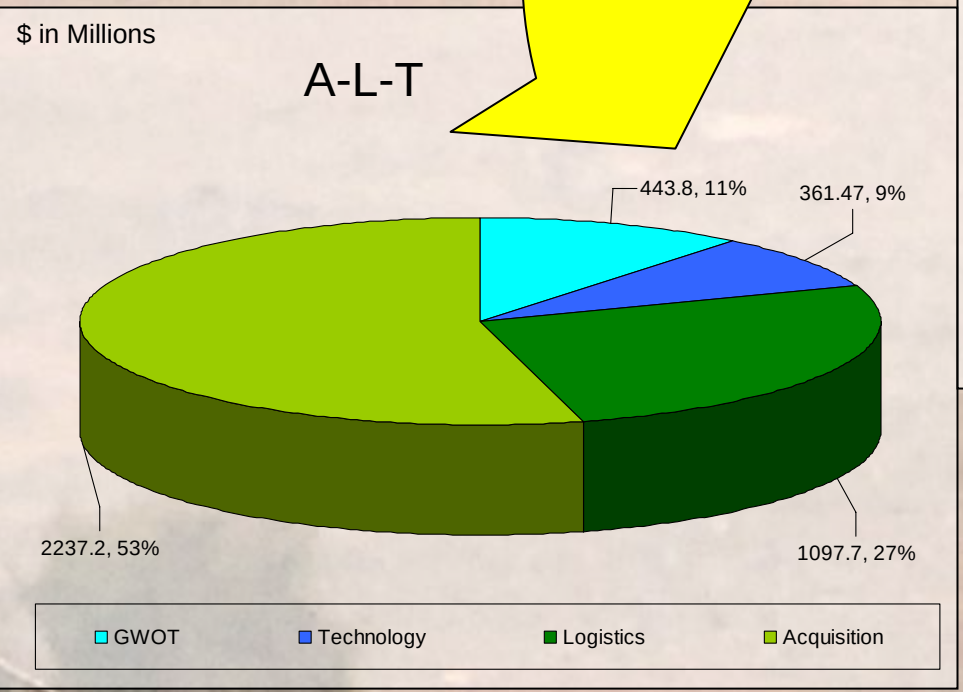
Ammunition Enterprise Portal

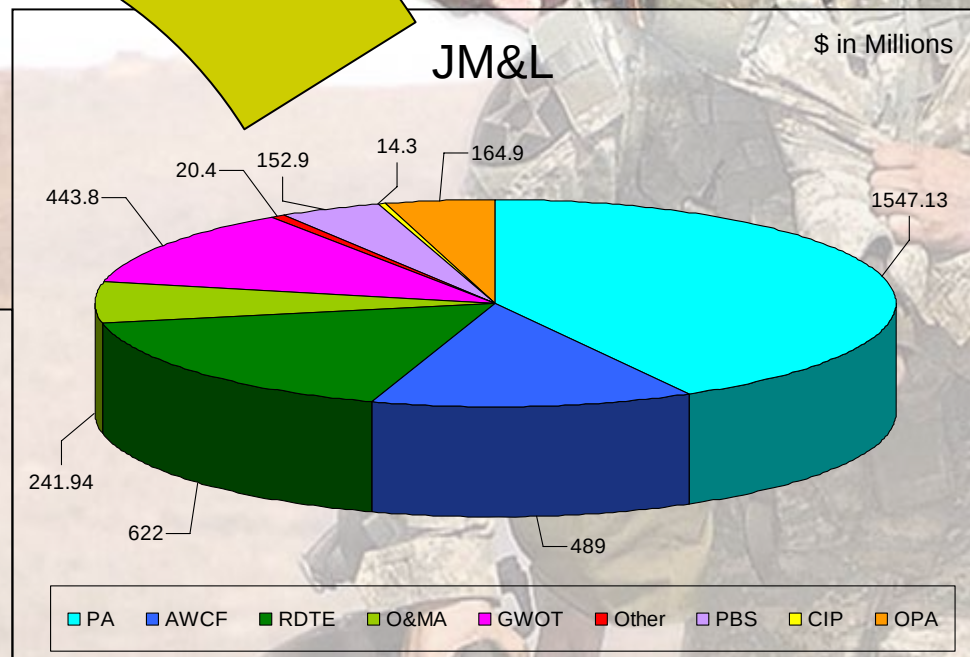
- ✓ Bridge Across Ammunition Enterprise Sites
- ✓ Face to Joint Customers
- ✓ Cross-functional user base of 2308 with 105 different organizations represented



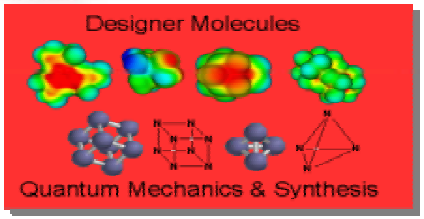
JM&L Funding
(Direct, No Customer Orders)

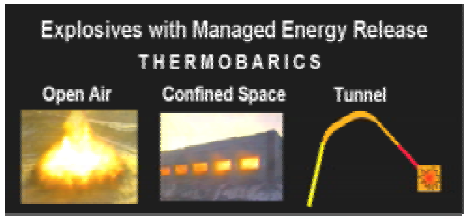
$3.7 Billion

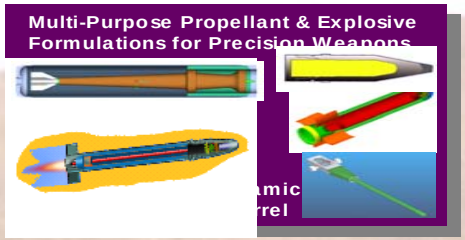




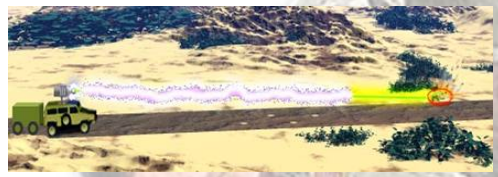
Technology

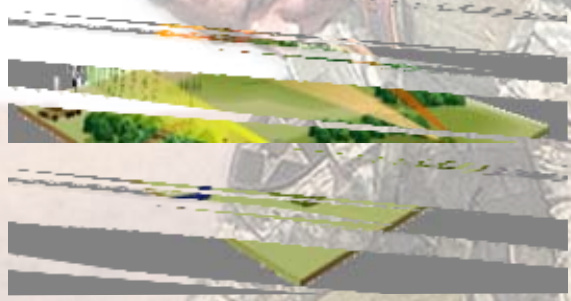






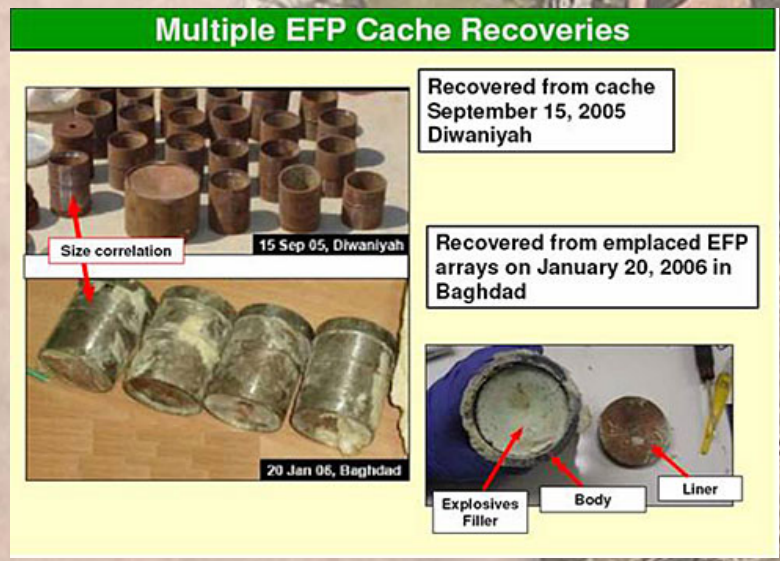
Novel Energetic Materials for the Future Force





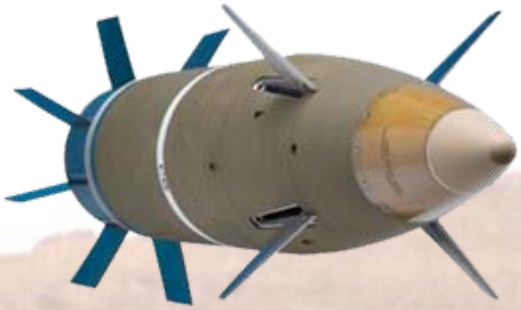
Multimode HPM and Laser Induced Plasma Channel Technology

Kinetic Energy Active Protection System (KEAPS)



Force Protection

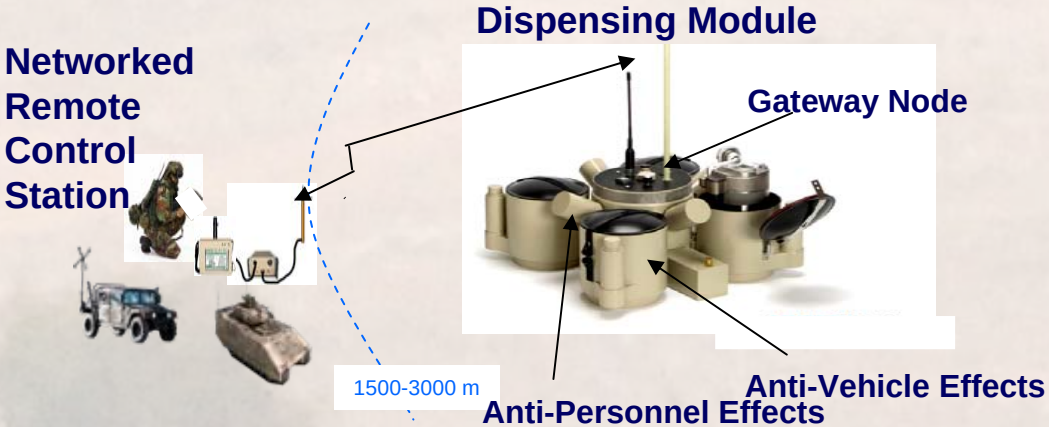
Acquisition



Excalibur

MRM

IMS

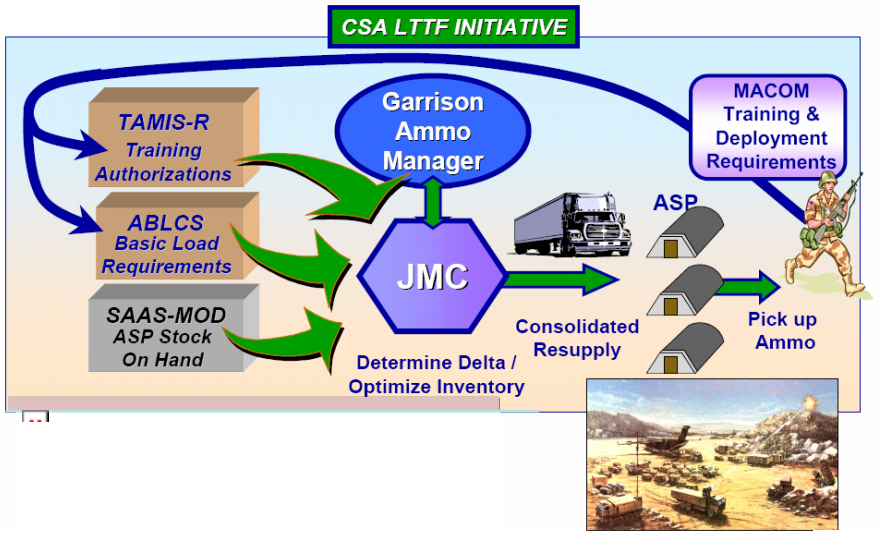


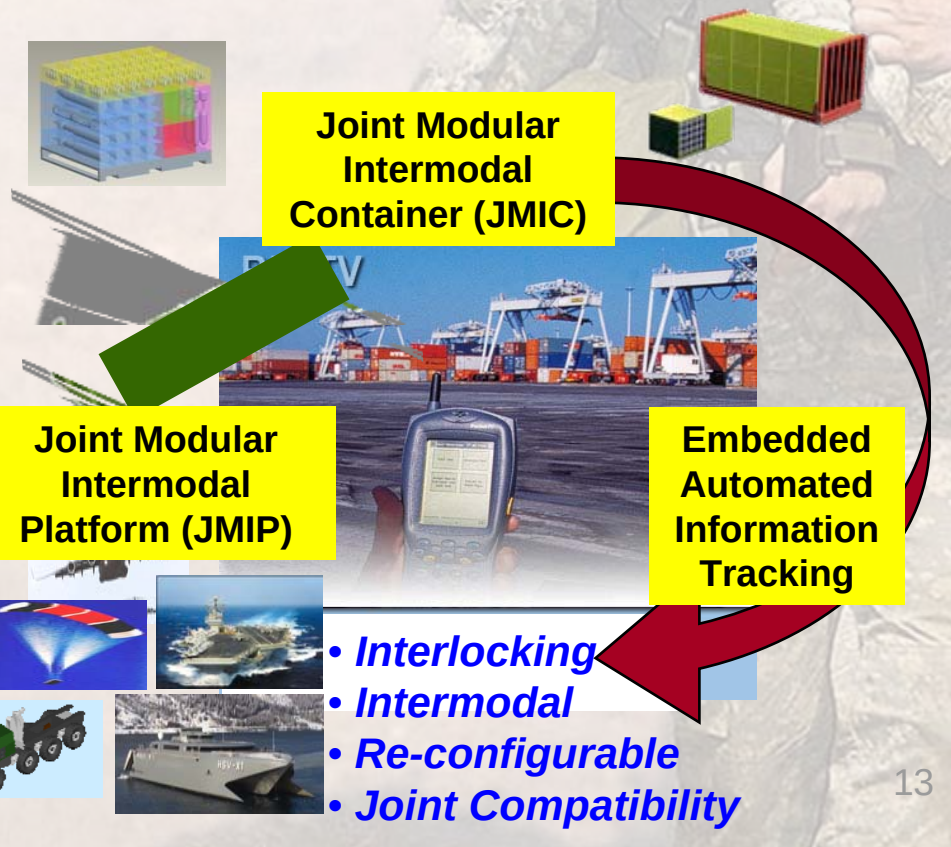
By the way…

- Small Caliber
- Medium Calibur
- Large Caliber
- Mortar Systems
- Pyrotechnics
- Flares
- Smart Munitions
- 30mm

Logistics

Centralized Ammunition Management
Concept of Operations





JM&L Operational Results

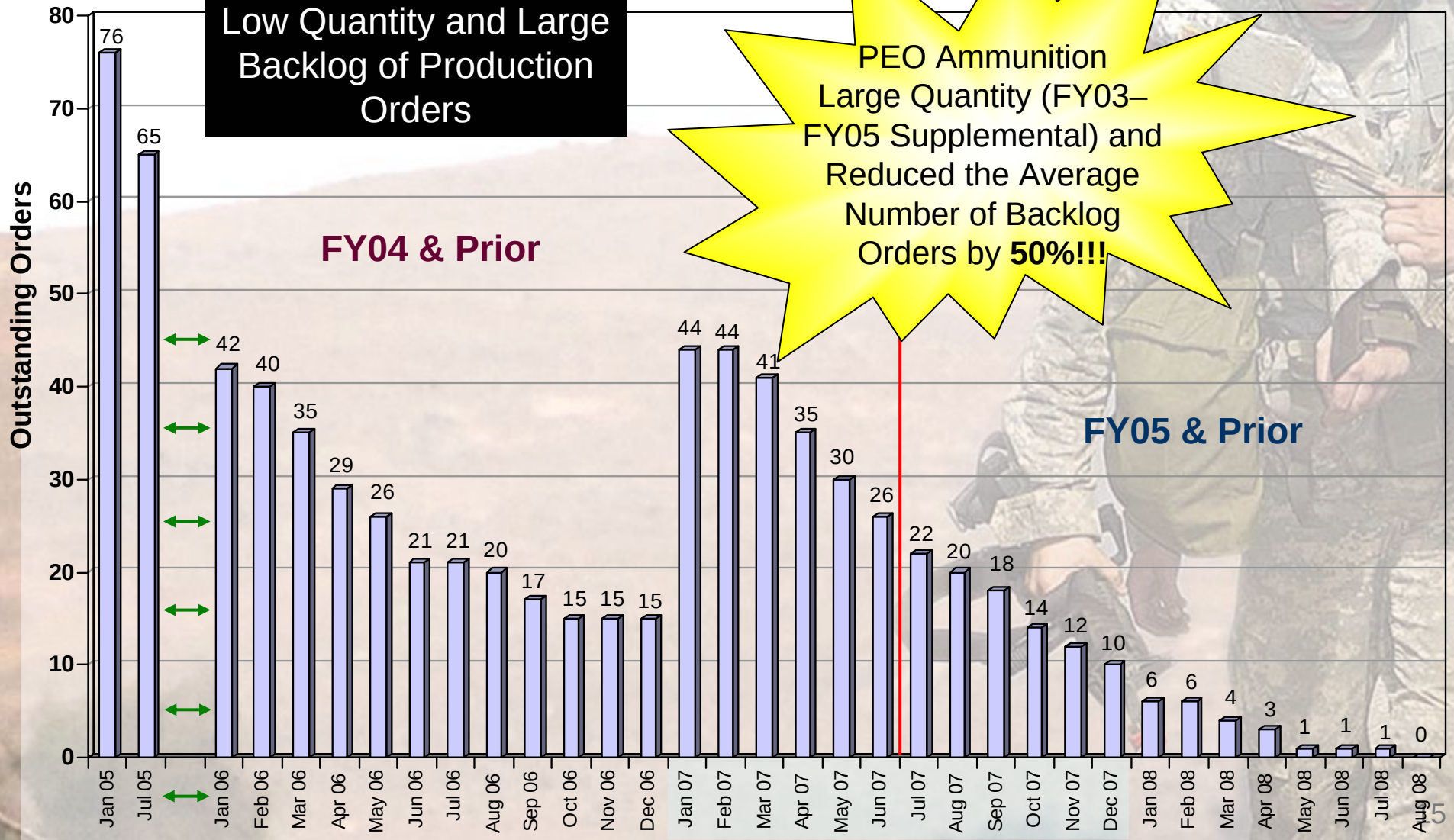
Type Classifications (MS C App'd for Service Use) 02-Pres	40
Materiel Releases 02-Pres	112
Urgent Materiel Releases	47
Tons of Ammo for OEF/OIF	194,000
Programs in Development (A)	338
Programs is S&T (T)	223
Ammunition DODICS Supported	3500
Small Caliber Rounds Delivered	1.6 B
Artillery Rounds Delivered	320 K
155mm Excalibur Fielded & Fired	May 2007
Ammo Plant Modernization (last 5/next 5 years)	$503 M Invested $530 M Planned
Lean 6-Sigma	$84 M Saved

Ammo In-Theater All Types – “Green”

Production Backlog Reduction Over the Years

Pre-PEO Ammunition Low Quantity and Large Backlog of Production Orders

PEO Ammunition Large Quantity (FY03–FY05 Supplemental) and Reduced the Average Number of Backlog Orders by **50%!!!**



Challenges

- Industrial Base
- Ammo OPTEMPO Requirements
- Ammunition Demil

LCMC Strategic Implementation

At the End of the Day . . .

We're Meeting Warfighter's Needs !


Back-up

PEO Ammunition Organization

BG Bill Phillips — PEO
Mr. Jim Sutton — DPEO

APEO Programs
Mrs. Seham Salazar

APEO Business
Mr. Pete Vauter

Human Resources
Ms. Celeste Goodhart

CIO/IAVA
Mrs. Heather Vimba

ASAALT Cell
Mr. Jeff Brooks

PM Maneuver Ammo Systems
COL Jack Koster, PM
Mrs. Patti Felth, DPM

- **PM Large Caliber** — LTC Ken Tarcza, PM
- **PM Small & Medium Cal** — LTC Eric Fletcher, PM
- **PM Medium Cannon Cal** — LTC Christopher Seacord, PM

PM Combat Ammo Systems
COL Ole Knudson, PM
Mr. Rene Kiebler, DPM

- **PM Excalibur** — LTC Joe Minus, PM
- **PM Mortars** — LTC John Lewis

PM Close Combat Systems
COL Mark Rider, PM
Mr. Bill Sanville, DPM

- **PM Countermine & EOD** — LTC Peter Lozis, PM
- **PM IMS** — LTC James Winbush, PM
- **PM IEDD/PF** — LTC Carl Borjes

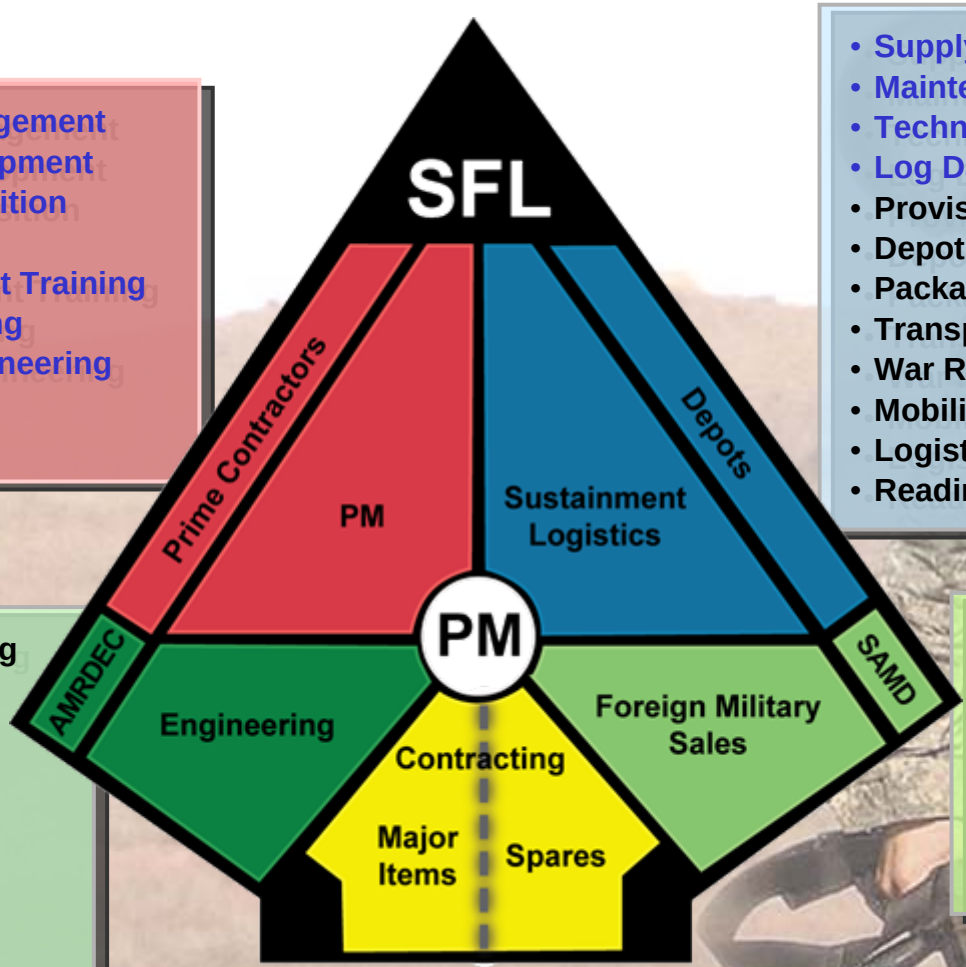
PD Joint Services
COL Andre Kirnes, PD
Mr. Matthew Zimmerman, DPD

- **PM DEMIL** — LTC Brian Raftery, PM

PM Is the Total Life Cycle Manager

"One Voice to the Field and Industry"

- Program Management
- System Development
- System Acquisition
- Testing
- New Equipment Training
- Materiel Fielding
- Technical Engineering
- Configuration Management



- Supply Support (CL V, VII, IX)
- Maintenance Mgmt
- Technical Publications
- Log Data Mgmt
- Provisioning
- Depot Maintenance
- Packaging
- Transportation
- War Reserves
- Mobilization Planning
- Logistics Acquisition
- Readiness

- System Engineering
- Air Worthiness
- Industrial Base
- Quality
- Prototype Manufacturing
- Integration
- Subject Matter Expertise
- Science & Technology

- Pre LOR
- Case Development
- Case Execution
- Repair and Return
- Case Closure
- Business Sustainment

- Acquisition Planning
- Contracting
- Contracting Management

LEGEND
Blue – Collocated
Black – Non-Collocated

Goal
- Reduce Burden on the Soldier
- Improve Readiness While Reducing Operating Costs

Mission / Product Lines / Magnitude

What we do (Core Competencies):

- Research, Development, Engineering
- Acquisition / Program Management
- Logistics, Industrial Operations, and Contracting
- SMCA Executor & Field Operating Activity
- Demilitarization and Disposal
- Industrial Base Management & Transformation
- Munitions Readiness Reporting
- Manage World-Wide Assets
- Centralized Ammunition Management
- Integrated Lethality Solutions

The Magnitude:

- Meet all ammunition requirements for all services
- Integrated Joint Ammunition Management

The JM&L LCMC Product Lines:

- Networked Munitions
- Countermine Systems & Explosive Ordnance Disposal Equipment
- Demolitions
- Non-lethal systems and Munitions
- Grenades
- Pyrotechnics
- Shoulder-Launched Munitions

- Small Caliber Direct Fire
- Medium Caliber Direct Fire
- Large Caliber Direct Fire
- Smart Munitions
- Precision Guided Munitions
- Artillery Munitions
- Mortar Munitions
- Mortar Weapons Systems
- Mortar Fire Control Systems
- Fuzes and Fuze Setters



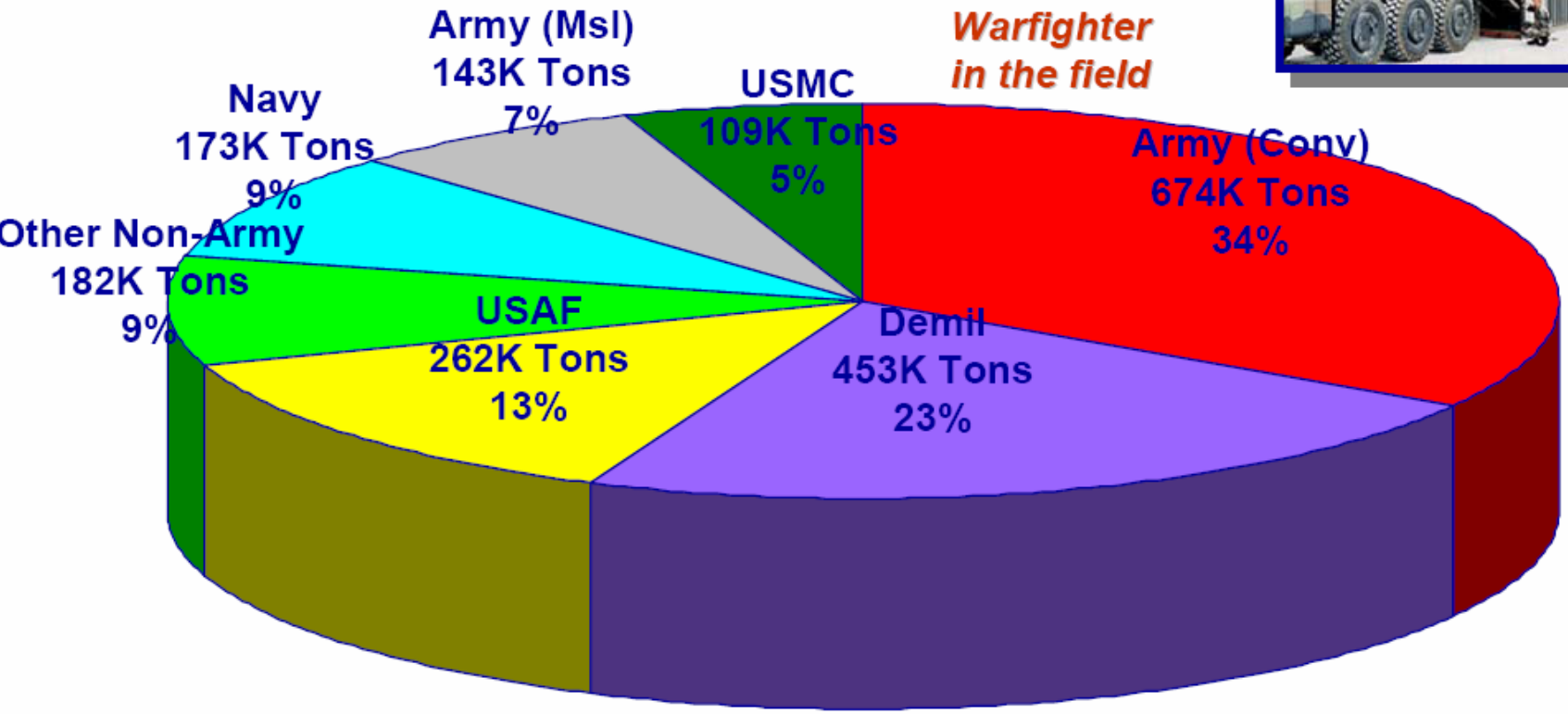


Develop, acquire, field, and sustain Value-added Ammunition for the Joint Warfighter through the integration of effective and timely Acquisition, Logistics, and cutting-edge Technology

Logistics

From Production in the Industrial Base...

...to the Warfighter in the field

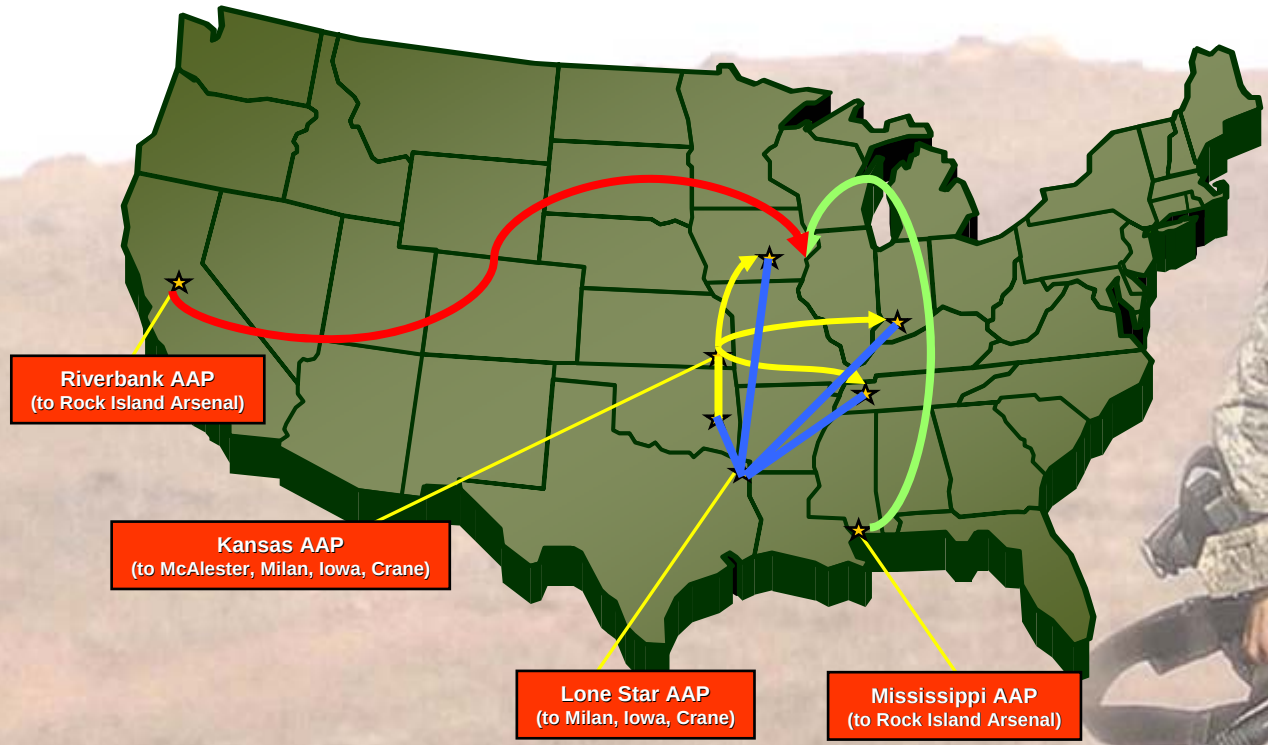


Challenge: Modernize the Industrial Base

- Environmentally Compliant Facilities
- Increase Production Capacity
- Improve Production Flexibility
- Upgrade Critical Infrastructure
- Increase Production RAM
- Enhance Facility Utilization
- Support Next Generation Munitions

$127M Essential Mods FY 08 Shortfall
Improved Ability to Sustain Warfighter

Challenge: BRAC Closures and Mission Moves

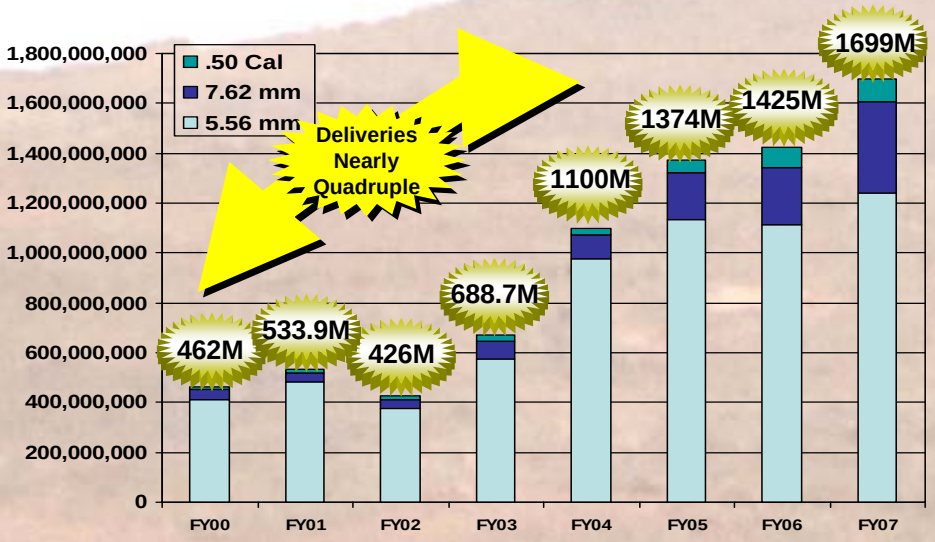


4 Plants – Transfer of Mission
FY 07-11 BRAC $ Required

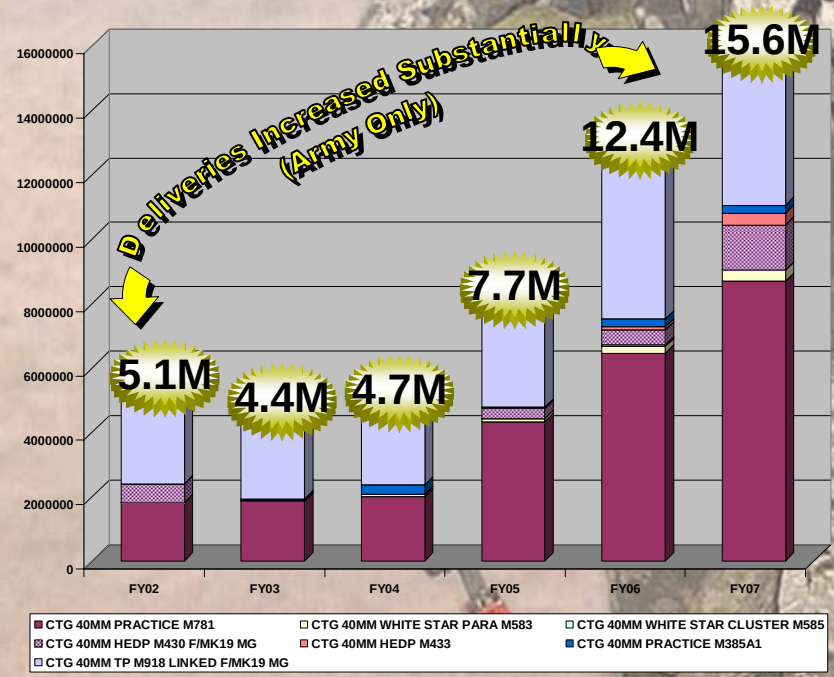
Challenge: Dramatically Increased OPTEMPO Ammo Requirements

Small Caliber Ammunition Deliveries

(All Services, All Sources)

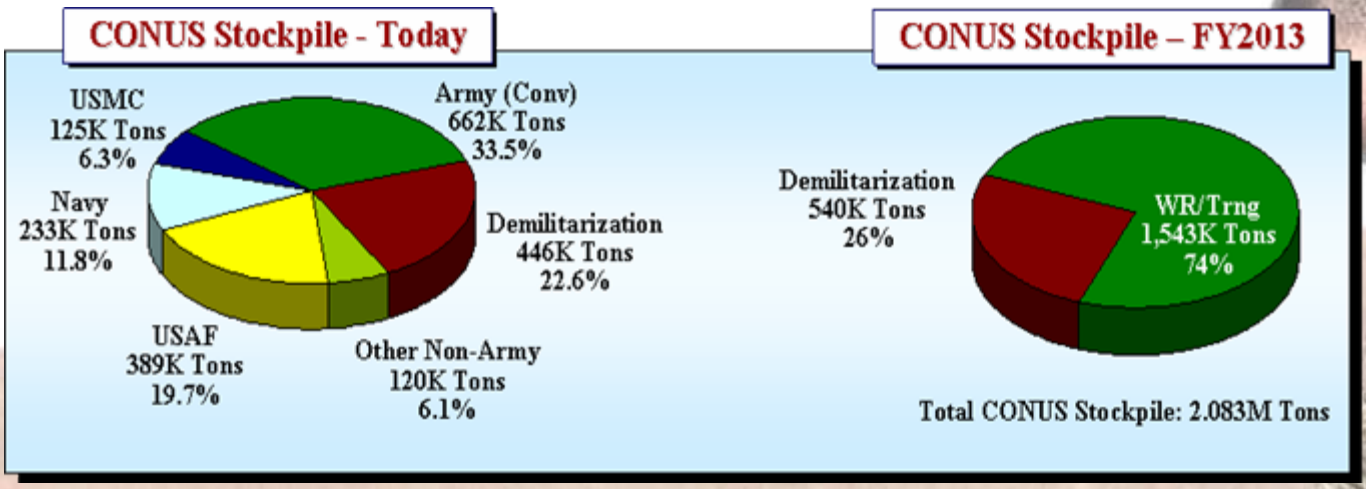


40mm Army Deliveries

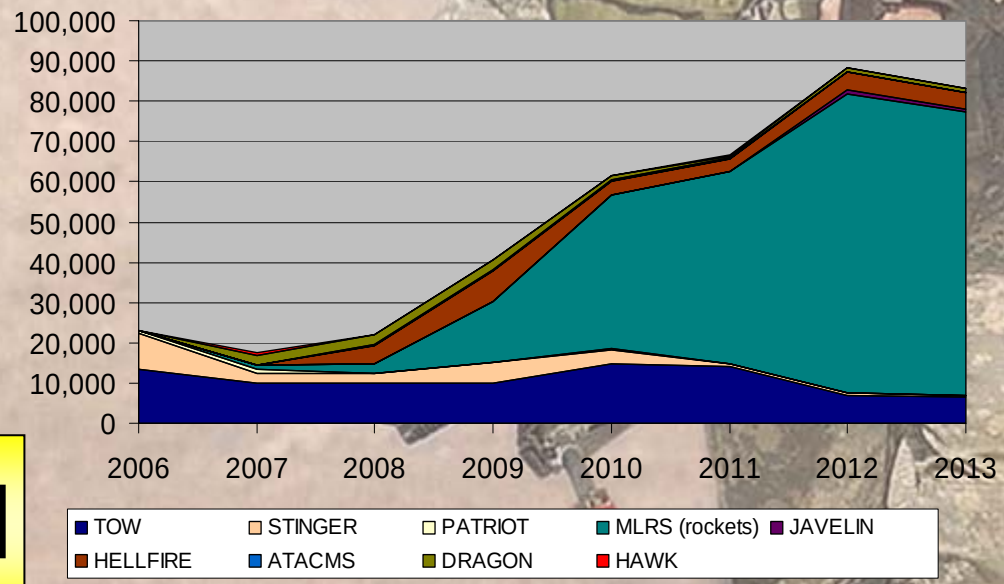


Challenge: Ammo Demil

Percent of Stockpile in Conventional Ammo Demil Account



Tactical Missile Demil Requirements



A GROWING PROBLEM

Aviation Sustainment Challenge

BLACKHAWK

1577 UH-60
32% OIF/OEF
6% Ft Rucker

APACHE

714 AH-64
34% OIF/OEF
9% Ft Rucker

KIOWA WARRIOR

355 OH-58D
28% OIF/OEF
10% Ft Rucker

KIOWA

439 OH-58A/C
23% Ft Rucker

HUEY

486 UH-1
186 (Flying)
48 (FMS Storage)
240 Storage for Army

COBRA

106 AH-1
Parked at Ft Drum

UAS

1333 UAS
65% OIF/OEF
11% Ft Huachuca

CHINOOK

459 CH/MH-47D/E/F/G
16% OIF/OEF
7% Ft Rucker

OIF/OEF

- Pre-Deployment
- Deployed
- RESET

261 Fixed Wing (PM Managed)
36 Fixed Wing (Non PM Managed)

ACLC Lean/Six Sigma Accomplishments

UH-60

Reduced Phase Cycle Time
From 50+ to 14 Days

C-20J Engine

Reduced Repair Turn Around Time
From 78 to 33 Days

Maintenance Process Improvements
- Reduced Scheduled Maintenance Time
- Improved Quality
- Reduced Phase Maintenance Time

- **Returned 3 UH-60s**
- **Saved $40.2M**

Condition Based Maintenance (CBM)

- **Maintenance to Improve Operational Availability and Reduce Maintenance Burden on Soldier by:**
  - Enhancing Diagnostics
  - Evolving to Predicting Remaining Component Life
  - Then Evolving to Proactive Supply Transactions
- **Derived From Near Real-time Assessment & Analysis of Data From:**
  - Embedded Sensors
  - Platform Maintenance Environments
  - Aircraft and Supply Historical Data

Key CBM Enablers
- **Embedded Sensors**
- **Plane Side Diagnostics**
- **Data Fusion**

- Reactive
- Time Based Overhauls / Inspections

- Inspection & Maintenance Action Interval Extension
- Platform Diagnostic / Prognostic Equipment Installation

- Proactive
- Condition Based Overhauls / Inspections

CBM-related Fieldings

3rd Infantry Div Deploying With Fully DSC-Equipped CAB

Digital Source Collector (DSC) Equipped Aircraft*			
Aircraft Type	Total # Aircraft	DSC Equipped	Percent Complete
AH-64	686	194	28%
CH-47	452	41	9%
UH-60	1630	194	12%
TOTAL	*2768*	*429*	*15%*

Unit Level Logistics System – Aviation (Enhanced) [ULLS-A (E)] Fielding*		
Battalions Fielded	Total # Battalions	Percent Completed
68	136	50%

** Includes Active, Reserve, and National Guard Units*

Field 1+ Combat Aviation Brigade (CAB) A Year

Direct Comparison

DSC Equipped vs. Non-equipped UH-60 Battalions (Bns)

30 Aircraft Per Bn	Non-equipped (Bn 1)	Non-equipped (Bn 2)
Fully Mission Capable (FMC)	65%	77%
Total Flt Hours	10,331	11,844
OPTEMPO (Hrs/Year/Acft)	334	395

03-04 OIF Rotation

30 Aircraft Per Bn	DSC Equipped (Bn 1)	Non-equipped (Bn 2)
FMC	87%	82%
Total Flt Hours	21,819	20,388
OPTEMPO (Hrs/Year/Acft)	727	680

05-06 OIF Rotation

Both Units Operating in OIF Under Same Command Climate

Advantage of DSC Equipped Aircraft (05-06 Rotation)

- 5% Increase in FMC Gives You 1.5 More Aircraft
- 1,431 Increase in Hours Flown = 2 More Aircraft at Optempo
- Units OPTEMPO Demonstrates 2 Aircraft Increase vs. 1.5 Expected

DSC Equipped Unit Had An Increase In Combat Power Equivalent To 2 Additional Aircraft

Cost and TAT Comparison

Rotation	MDS	# Acft	Avg MHRS	Avg Cost	Avg TAT
OIF I	AH64A	39	4494	$1,029,290	103
OIF II	AH64A	19	5251	$1,491,290	93
OIF 0406	AH64A	16	4848	$1,527,468	95
OIF 0507	AH64A	0	0	$0	0
OIF I	AH64D	104	4432	$935,092	104
OIF II	AH64D	23	3738	$868,018	84
OIF 0406	AH64D	91	4069	$1,047,299	87
OIF 0507	AH64D	29	4531	$771,295	84
OIF I	CH47D	141	9020	$1,566,112	153
OIF II	CH47D	47	10866	$1,998,333	131
OIF 0406	CH47D	57	9768	$1,963,877	122
OIF 0507	CH47D	4	8295	$1,683,236	99
OIF I	OH58D	138	2608	$373,164	130
OIF II	OH58D	83	2508	$454,930	92
OIF 0406	OH58D	45	2559	$457,370	87
OIF 0507	OH58D	11	2135	$415,308	90
OIF I	UH60A	147	4820	$890,598	115
OIF II	UH60A	103	5074	$1,207,207	109
OIF 0406	UH60A	157	5534	$1,278,378	100
OIF 0507	UH60A	23	5587	$1,197,330	83
OIF I	UH60L	232	4269	$790,738	107
OIF II	UH60L	81	4766	$824,015	85
OIF 0406	UH60L	125	4850	$1,103,184	93
OIF 0507	UH60L	51	4855	$977,942	72

TAT based on total completed
Avg Cost based on total completed with audited -18 data
0507 Total Completed is completed aircraft with audited -18 data

Cost Improved 26.3%
TAT Improved 3.4%

Cost Improved 14.3%
TAT Improved 18.8%

Cost Improved 9.2%
TAT Increased 3.4%

Cost Improved 6.3%
TAT Improved 17%

Cost Improved 11.3%
TAT Improved 22.6%