

U.S. ARMY MATERIEL COMMAND

Army Materiel Command Support to the Warfighter and Logistics Update





Presented To: Land and Maritime Supply Chains Business Conference and Exhibition Columbus, Ohio

Presented By: MG Mitchell Stevenson Deputy Chief of Staff for Operations, G-3



Purpose / Agenda

***** AMC Mission, Organization, Presence and Business Volume

RESET Operations

Support to the War Effort

- Forward Repair Activities (FRA)
- 📼 Add-On Armor (AOA)
- Air Conditioner parts

Initiatives

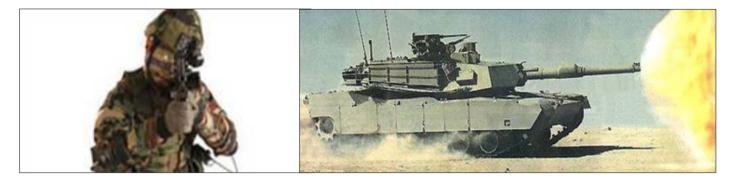
- Depot Maintenance
 - Lean 6 Sigma / Rapid Review Team (RRT)
 - Customer Pay
 - Kitting
- Purchasing and Supply Management (PSM)
- Army Prepositioned Stocks (APS)







Provide superior technology, acquisition support and logistics to ensure dominant land force capability for Soldiers, the United States, and our Allies.

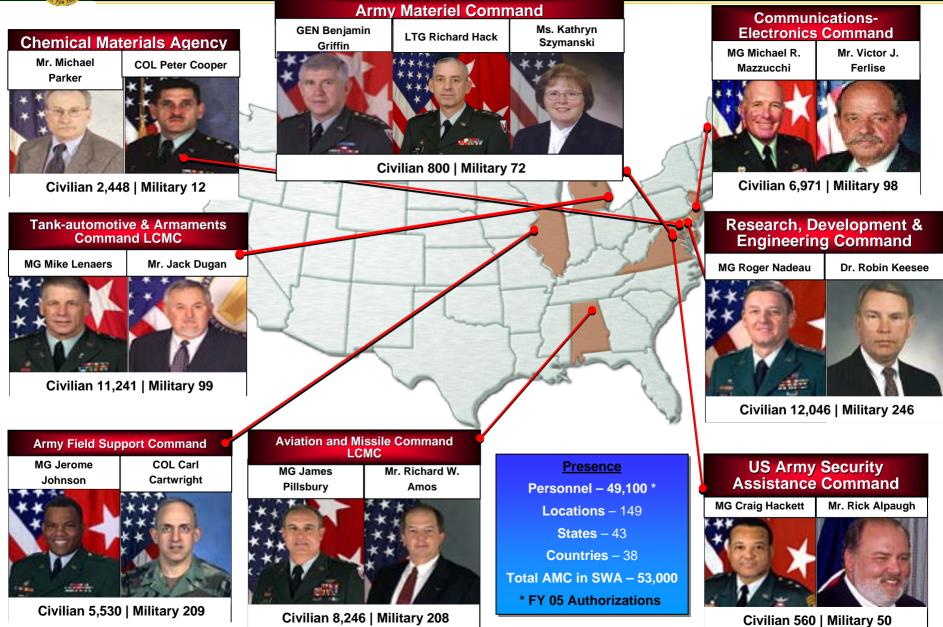


"If a Soldier shoots it, drives it, flies it, wears it, or eats it, Army Materiel Command helps provide it."



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AMC Major Subordinate Commands





AMC's Global Reach

Providing Support to Soldiers Across the World; 24 Hours a Day, 7 Days a Week, 365 Days a Year **45** Nations **6** Continents NETHERLANDS BELGIUM SWEDEN 0 CANADA POLAND BUN ALASKA SWITZERLAND U.K. GERMANY **BOSNIA** KOREA KOSOVO LUXEMBOURG GEORGIA FRANCE ISRAFI JAPAN IRAQ SPAIN JORDAN-USA ITALY EGYPT TAIWAN SAUDI ARABIA HAWAII * Bahamas DJIBOUTI UA.E. **Dutch Antilles GUATEMALA** DATAR Barbados SINGAPORE HONDURAS KUWAIT UZBEKISTAN COSTA RICA VENEZUELA **AUSTRALIA** AFGHANISTAN BAHRAIN PANAMA BRAZIL CHILE ARGENTINA COLOMBIA As of 22 August 2005



US Army Materiel Command

Scope:

- 120,000 Army managed lines of supply
- 118,000 requisitions per month (peak 154K in FY04)
- \$32M in obligations per day
- 128 major systems supported
- \$21B in wholesale inventory (100% in DLA warehouses)
- \$2B in retail inventory in 741 Supply Support Activities
- Single Manager for conventional Ammo in DoD
- \$6 to \$8B annual obligation authority
- * Workforce:
 - 48,927 civilians
 - 1,014 military

Warfighter Focus:

- Supports over 300,000 deployed soldiers in 120 countries, assists with activation of over 240,000 Reserve Component soldiers, and sustains the Army
- The G3 Operations, serves as the principal AMC Staff activity responsible for the preparation and sustainment of the war fighter in peace and war, today and tomorrow.





RESET

What is RESET? A series of actions to restore equipment to a desired level of combat capability commensurate with future mission requirements and availability of resources.

AMC's RESET Mission

- Serve as the Army's Materiel Executive Agent for RESET
- Develop plan and concept to expedite repair of major systems to support OIF/OEF
- Deploy teams to assess status of critical equipment
- Support committed force structure equipment restoration to the desired level of combat effectiveness
- Reestablish Ammo War reserve and return ammo to Pre-war stockage levels
- Reconstitute APS Strategic capability to include sustainment, operational project stocks and Stay Behind Equipment, as required.

RESET is an Army / Industry Partnership

- Coordinated AMC & PEO / PM logistics plan
- Workloading organic & commercial sources

Aviation: Bell Boeing; DynCorp(CSC); Defense Support Systems; Lear Siegler Inc; Honeywell International, Inc; Sikorsky Aircraft Corp. Lesko;

Tracked Vehicles: General Dynamics Land Systems; United Defense Limited Partnership

Wheeled Vehicles: OshKosh Trucking Co. (OTC); Stewart & Stevenson; Maine Military Authority; Armor Holdings, Inc.

Construction Equipment/Material Handling Equipment: Caterpillar; Kalmar; JLG Industries; Jerome Increase Case

Chemical Defense Equipment: Smith Detection Company; General Dynamics Land Systems

Soldier Systems: Guild Association, Inc.; Maine Military Authority

Small Arms: General Dynamics Armament & Technical Products; Colt Defense; FNMI

Missile Systems: Raytheon

Commo/Electronics: R.A. Miller; Engineering & Professional Services; Raytheon; Lockheed Martin; ITT Defense; Rockwell Collins Gov't Systems; BAE Systems; SAFT America; Northrop Grumman Mission Systems

Generators: Technical & Management Service Corporation; Engineered Support Services

Ammunition: Alliant Techsystems, Inc.; Esterline Armtec

Above list of industry partners not all inclusive



RESET Accomplishments

100,000 Small Arms

1,555 Tracked vehicles 9,426 HMMWV 7,074 Trucks 3,579 Trailers

 345
 AH-64

 265
 CH-47

 877
 UH-60

 270*
 OH-58

 (not inclusive of SOA or *SEP programs)

1,765* Aircraft

<u>~ \$193M (Examples)</u> Tanks -- USMC Small Arms – USMC Helicopters – USAF/USN Missile Guid. – USAF Nav, Radars -- USAF Threat Emitter – USAF HMMWVs -- USAF Chem, Alarms -- USAF

Depot Spt to Other Svcs

1,893 Commo/Electric

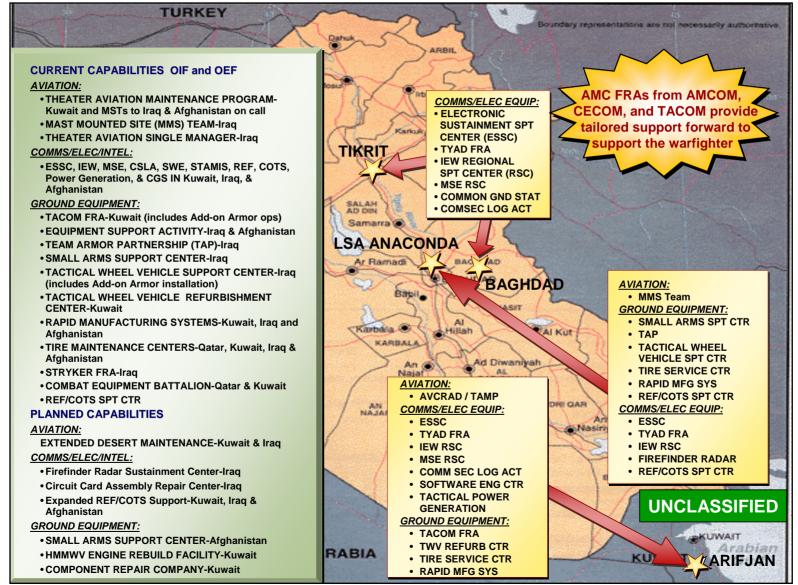
9 Patriot Battalions 82 MLRS

> 2775 Missile Systems 125,000 Short Tons of Ammunition



Forward Repair Activities (FRA)

Locations in Support of OIF



Vehicle Protection for an Expeditionary Force







Requirement: 13,377 Medium and Heavy Vehicle Add-on-Armor Kits Installed to Date: 7,896 Target: 400 installs/week



Requirement: 10,311 M-1114 Up-Armored HMMWVs Produced New to Date: 9,550 Target Production: 550/month



Requirement: 13,872 Add-on-Armor Kits Installed to Date: 13,055 Target: 350 installs/month

Data as of 4 Aug 05

Harsh summe

conditions in Irac

Temperature up to

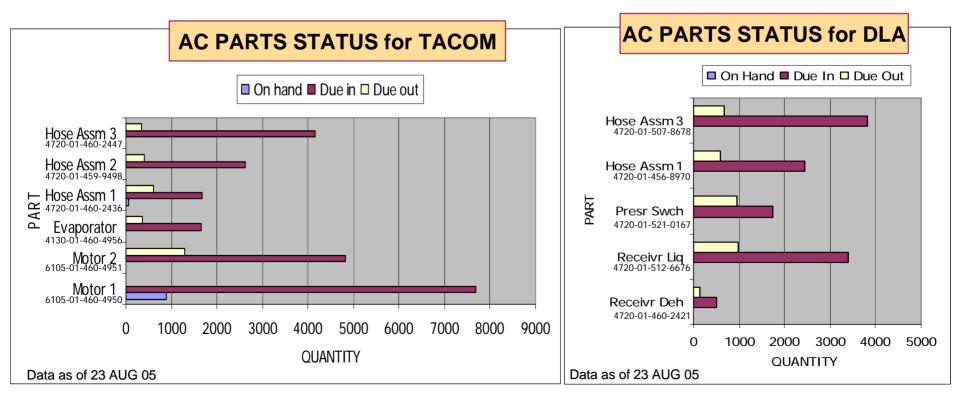
130 ° F



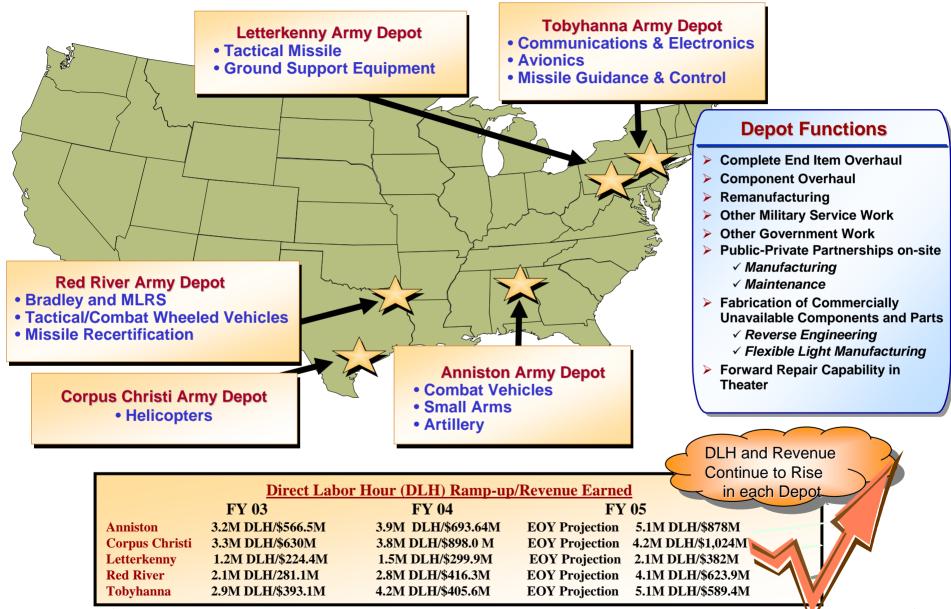
HMMWV Air Conditioner

Critical Parts Shortages

- The Army is currently facing a seasonal challenge with A/C parts for the Up-Armored HMMWV fleet in theater
- Increase in vehicle requirements to 10,311 HMMWVs has exacerbated the parts shortage
- Secondary supplier faced challenges with piece parts
- Get Well Date for all parts shortages: End of 1st Qtr FY06



Depot Maintenance... A Growing Business Sector



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Depot Lean Six Sigma Achievements

- Mean Time Between Overhaul increased from 309 hours to 900+ hours
- Overhaul cycle time reduced from 300+ to 100 days



Production capability increased from 13 in 2004 to 27 in 2005



- Productivity improved by 12%
- Unit Maintenance Cost reduced by 46%







\$990K in Lean savings to SOCOM in FY04

Turn around time reduced from 10 weeks to only 8.8 days



Kitting enabled production ramp from 300 to 700 weapons/month

> HMMWV Recap Red River and Letterkenney Army Depots



- Repair cycle time reduced 50%
- Throughput increased from 6 vehicles/day to 26/day
- Doubled first pass inspection
- Reduced cost by 1/3



Rapid Review Team (RRT)

Mission: Conduct rapid, hard-hitting assessments of AMC ** organic industrial base – make recommendations to:

• Workarounds • Central receiving

Limited automated

Luneu auromarea ment inventory management

- Improve quality
- **Reduced cycle times**
- Reduce cost

RRT industry experts in: **

- Production/maintenance
- Supply chain management
- Lean Six Sigma

3 assessments completed: *

- Anniston Army Depot (6-8 Jun)
- Red River Army Depot (27-30 Jun) •
- Letterkenny Army Depot (5-7 Jul)

Deficient forecasting Upcoming assessments include: *

- Fort Rucker
- **Tobyhanna Army Depot**
- **Rock Island Arsenal**
- Fort Hood
- Pine Bluff Arsenal

Initial team composed of senior managers from **General Motors/Toyota**

General Findings

Best Practices

- Management of assemblies and kits rather than individual parts
- ISO 9001/14001 certification (Industry) quality management standard)
- Staff rides to commercial operations to identify what "right" looks like
- Return of dollars to customers to increase buying power

Improvements required

- Supply chain management is #1 problem
- Need use of "bottomline" production metrics and visual indicators of performance
- Limited response to depot lessons learned
- Production flow

Specific recommendations provided to the Depots and MSCs



Government / Industry Partnership: Follow-on to joint DLA/AMC Vender Initiated Parts Resupply (VIPR) Pilot

TACOM: Collaboration with vendors focused on information sharing, joint requirements planning, and forecasting

Team Tire commodities - 51 NSNs

- PM LTV 1100 NSNs (will include DLA data)
- □ M1 AGT 1500 1100 NSNs (will include DLA data)
- **AMCOM**: Full CPFR implementation

Apache – AMCOM Team Apache and Boeing Will include 2nd-tier suppliers

- Share demand & supply data; Improve forecasting
- Create collaboration PROCESS

 Win-Win partnership to support Warfighter, meet joint business goals, smooth supply response





Anniston Kitting Project

Concept:

Pre-bundling associated parts to simplify individual production cell processes.

Strategic Objectives

Cost optimization providing "best value"

- Enhance mission accomplishment by
 - Improving repair cycle time
 - Lowering cost to overhaul
- Standardization of processes (Maintenance, supply, information) across the enterprise







Anniston Army Depot (ANAD) and DSCC partner to streamline materiel flow

- DLA manages reciprocating engine kitting components
- DLA develops kits aimed at simplifying production
- Kits are used by ANAD only
- DSCC procures all kit material
- ANAD pays as kits are consumed

Results to date:

- ANAD kits sales 30 million dollars to date
- Percent kits delivered on time 100%
- Percent of complete kits in the last 3 months - 100%
- Kit configuration for V8 Cummins currently being added

AMC is interested in pursuing other kitting opportunities...

Purchasing and Supply Management (PSM)

Best Business Practices



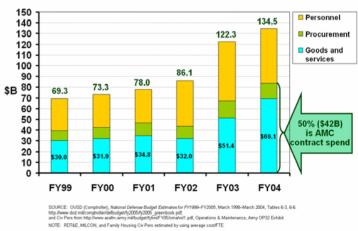
AMC is 50% of

Army spend

✤ What is PSM / SS?

- Strategic, enterprise-wide, multi-functional way of 'managing' supply chain
 - Allows Army to leverage its buying power
 - Impoves quality & delivery
 - Reduces costs / inventory, cycle times
- What is AMC doing to promote PSM?
 - Initiating Joint Pilot to Implement best PSM practices
 - AMCOM Rotor Blades (Joint service)
- How does this impact Industry?
 - Reduces costs / admin time
 - Integrates acquisition/forecasting
 - Promotes strategic integration with industry
 - Promotes single face to industry
 - Benefits Small Businesses too

Purchased Goods and Services Represent a Significant Portion of the Army's Budget





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AMC LESSONS LEARNED

OIF Requirements Determination

Issue: Computing requirements for critical items for War Reserves, and stock and issue materiel to meet contingency requirements.

SUCCESSES

- Adequate supplies to defeat Iraqi Army
- Prepositioned Equipments repair parts stocks were adequate
- Configured loads were successful



- National level stocks were inadequate for some items.
- Industrial surge capability was not adequate for some items. (track shoes, BA5590 batteries)
- Funding process for required stocks too cumbersome



LESSONS LEARNED:

- 1. Update consumption planning factors.
- 2. Develop strategy to stock critical materiel for operations.
- 3. Plan to help the industrial base to meet resource demands.



AMC LESSONS LEARNED

ISSUE: Reacting to enemy threats with effective and timely materiel solutions

SUCCESSES

- Rear slat armor for M1 tank engine compartments.
- Combating Improvised Explosive Devices with smart solutions.
- Add-on Armor for wheeled vehicles, >28,000 to date.
- Cage or Slat Armor for Stryker vehicles.

CHALLENGES

- Multiple threats, Improvised Explosive Devices, Rocket Propelled Grenades.
- Past focus was not on countermine technology.
- Time and distance a disadvantage.
- Modification done in theater.

LESSON LEARNED: Science and technology can and must focus on a changing enemy threat. Industrial base and log structure must remain agile to produce and apply materiel solutions.





AMC LESSONS LEARNED:

Future Role of the Industrial Base (IB)

<u>Issue</u>: What role should the Organic IB (depots, arsenals and production plants) and Diminishing Manufacturing Sources & Material Shortages (DMSMS) mission areas play to meet future mission requirements?

Conclusions and Recommendations from Stakeholders:

- Organic IB will be supplier for legacy systems
- Organic IB will focus on core capabilities and maintenance that support contingency requirements
- Adopt industry Public-Private Partnership (P3) best practices: embrace the state-of-the-art
- Maintain P3 with Industry for resulting synergies

LESSON LEARNED: The Organic IB must focus on:

- 1. Technology & modernization
- 2. Core competencies to support contingency requirements







- **AMC** is on a wartime footing for production, repair and contracting.
- Along with our industry partners, we are decisively engaged in supporting our Army both in theater alongside our Soldiers and at home.
- Maintenance work in our depots continues to grow... RESET of Army Systems will last at least 2 years after hostilities cease.
- Great opportunities exist for the defense suppliers to contribute to AMC's mission and logistics initiatives ... we welcome your suggestions to improve support to our Soldiers.
- Thank you for all you have done and are doing for the Army in Supporting our Soldiers at War today!

For more information on how to conduct business with AMC, please go to our website:

http://www.amc.army.mil/amc/smlbus/howto-new.doc



BACKUPS







Army Logistics --- It's Big Business

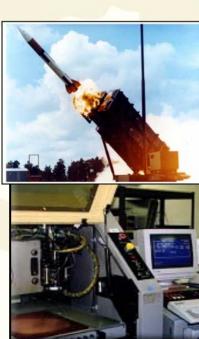
Depot Maintenance	Spares Parts Support	Make, Store, Inspect, and Load Munitions	Army Pre-Positioned Stocks (APS)	Logistics Civil Augmentation Program (LOGCAP)	Forward Repair Activities (FRA) Equipment Support Activities (ESA)
FY05 Pres Bud and Supplemental Workload •493 M1 Tanks - \$935M •457 Aviation Fleet - \$830.8M (188 Blackhawk, 42 Apaches) •5371 HMMWVs - \$264M •65 Firefinder - \$40.4M •111 Radio's - \$30.1M •46 ea TACSAT - \$14.5M •64 ea TROPO - \$15.6M	 AMC manages 1.1M repair parts FY04 sales > \$9.3B Projected FY05 sales: \$9.9B Avg \$24M to \$36M repair parts delivered every day FY04 AMC provided almost \$10B in direct support of OIF War Fighters Army's Repair Program > Boeing's & GM's combined 	 FY05 Budget of \$1.6 Billion for acquisition AMC manages a ~\$300 Million Ammo program Stores ~2.8 million tons of ammo Manages ~24.3 million sq ft Airlifted ~4013 s/t of ammo thru Dec 04 Sealifted ~169,321 s/t Nov 02 - Dec 04 Shipped over 12,195 containers Manage Chem Defense Equips ~120K deploying soldiers 	 AMC manages APS worldwide APS equipment and stocks in use in Iraq, Afghanistan, and the Horn of Africa FY04 program: \$333.9M Reset all APS equipment ~ \$3.6B One Hvy BCT UA has > 6500 pieces of authorized equipment APS ammunition is valued at \$7.7B (600K s/t) 	 AMC provides Log Support services in 7 countries worldwide \$17B program Managing: 84 Dining Facilities 90 Base Camps 31 Forward Operating Bases 2 Detainee Camps 2 APODs 5 COM Sites 6 MND Sites 6 MND Sites 9 Mase Camp Operations Construction & Facilities Mgmt Theater Transportation / Distribution Support Supply & Maintenance Fuel Distribution Water Production/Ice Prime Power 	 AMC SWA FRAs = three countries/12 locations AMC Personnel in SWA FRAs = 20,776 (Mil DAC & KTR) Operational Costs estimate for FY05 ~ \$361M Completed > 112,800 work orders since 1 Jan 03 Applied > 22,000 Add- On Armor Kits to Tactical Vehicles Retrograded > 130,000 repairable components out of SWA

Army Materiel Command

AMC Mission . . . Provide superior technology, acquisition support and logistics to ensure dominant land force capability for Soldiers, the United States, and our Allies.









Supporting the Warfighter...



AMCOM LCMC Forward Repair Aircraft RESET Retrograde / Overhaul Component Repair



TACOM LCMC Forward Repair ♦ Vehicle RESET Retrograde / Overhaul Component Repair



CECOM LCMC

Forward Repair Commo RESET Retrograde / Overhaul Component Repair



AFSC

LOGCAP Program Logistics Assistance Program



Add-on-Armor Installation in Theater



Joint Munitions Command

- Munitions Production
- Modernization Programs
- Quality Assurance
- Component Repair



- Forward Area Science and
- **Technology Teams**
- Research and Development
- Leveraging Science and

Technology

RDECOM

Chemical Materials Agency



Demilitarization

- Storage, Security and Surety
- Support to Allied Nations

USASAC

- Foreign Military Sales
- Foreign Assistance Efforts
- International Cooperation



Army Prepositioned Stocks (APS)

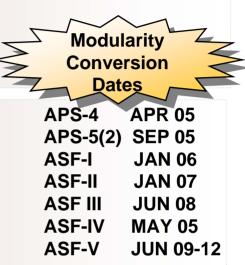
APS - A Key Strategic Hedge

- * APS 3 & 5 successfully used in OIF1 (3ID): First time APS used in combat
- * Provides a flexible strategic response capability for the COCOMs
- Provides an early entry force and theater opening capability

PREPOSITIONED SETS

- 6 BRIGADE SETS AUTHORIZED Heavy Brigade Combat Teams (UA)
- UNIT EQUIPMENT AND SUPPORT ITEMS Sustainment Support Brigades
- PROVIDES REDUCED RESPONSE TIME





OPERATIONAL PROJECTS

EQUIPMENT DESIGNED TO PROVIDE UNIQUE MISSION SPECIFIC PACKAGES Located forwarded positioned and at depots



SUSTAINMENT

- *** SUPPORTS TWO MAJOR THEATERS OF WAR**
- *** STOCKS PREPOSITIONED GLOBALLY**





Forward Repair Activities Forward

Ground Equipment

- ✤ TACOM Forward Repair Activities Kuwait
 - 45 CIVs from our depots/arsenals
 - Component repairs and installation of Add-on Armor kits
- * Tactical Wheeled Vehicle Support Center
 - 5 CIVs and 160 contractors at Camp Anaconda
 - Repairs & services for tactical vehicles and MHE; AoA kit installation
- Tactical Wheel Vehicle Refurbishment
- Center Arifjan, Kuwait (200 Contractors)
- Small Arms Support Ctr Camp Anaconda
- STRYKER FRA (PM Funded)
- TACOM Reset Assessment Team
- Mobile Tire Service Centers -Qatar, Kuwait, Iraq & Afghanistan





Aviation

- Aviation Depot Maintenance Roundout Unit (approx. 248 military)
- Theater Aviation Supply Support Activity (approx 20 contractors)
- Mast Mounted Sight / EETF (3 contractors)
- Theater Aviation Single Manager (approx 26 military/civilian)

Communications/ Electronics

CLASSIFIED

- Electronic Sustainment Spt Ctrs

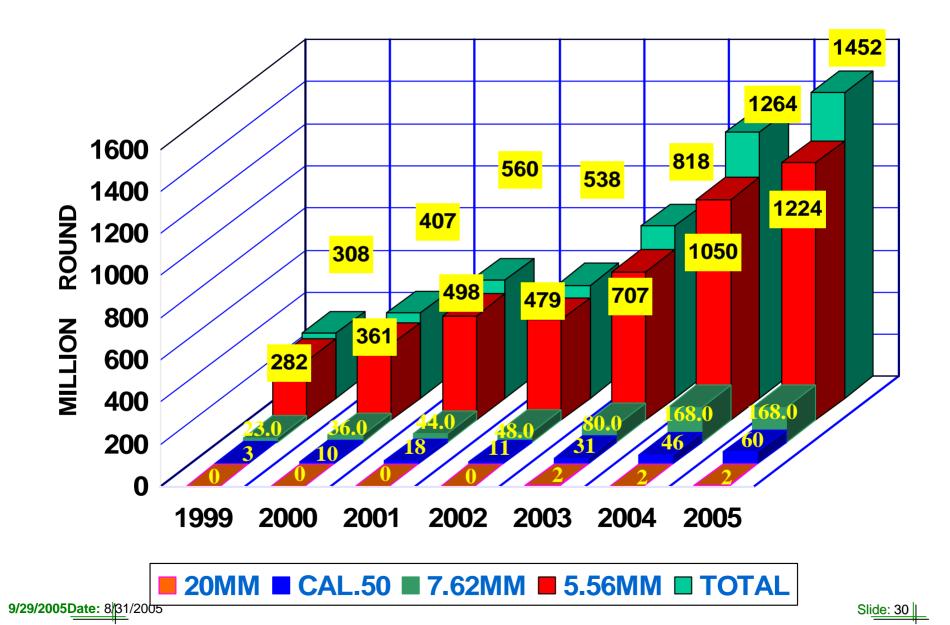
 180 CIVs & contractors at Balad, Arifjan, Kuwait and Iraq
- Tobyhanna FRAs Supports STAMIS, TIER II, CGS and Fire Finder
- Intelligence Electronic Warfare RSCs -Supports Tactical IEW and selected PM systems
- Mobile Subscriber Equipment RSC-Supports MSE and CHS-II
- Software Engineering Center-Provides software technical support at Camp Arifjan
- Tactical Generator Environment Control Unit FRA Arifjan, Kuwait



Providing Strategic Value by Leveraging the National Industrial Base; Essential to Maintaining Operational Tempo – Key to Executing Reset Strategy



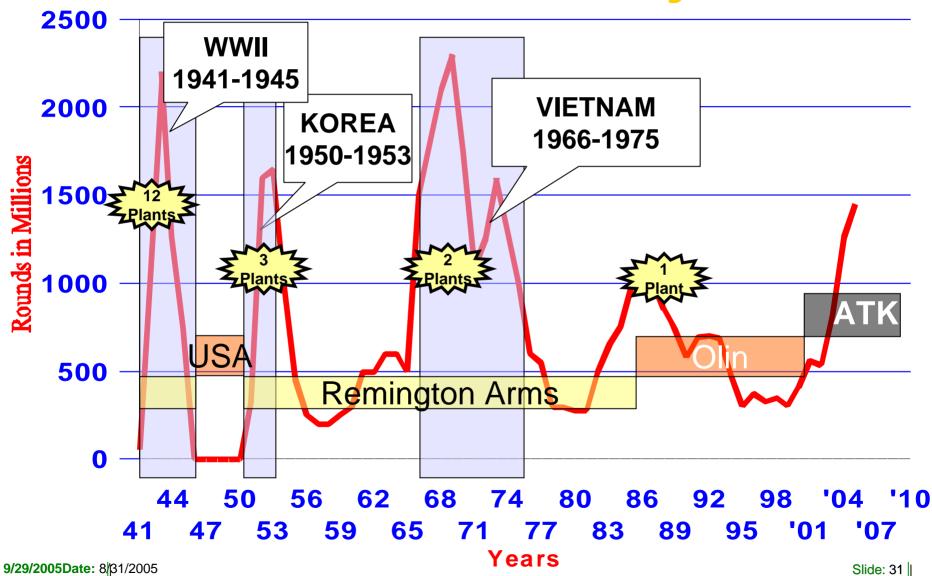
Annual Production



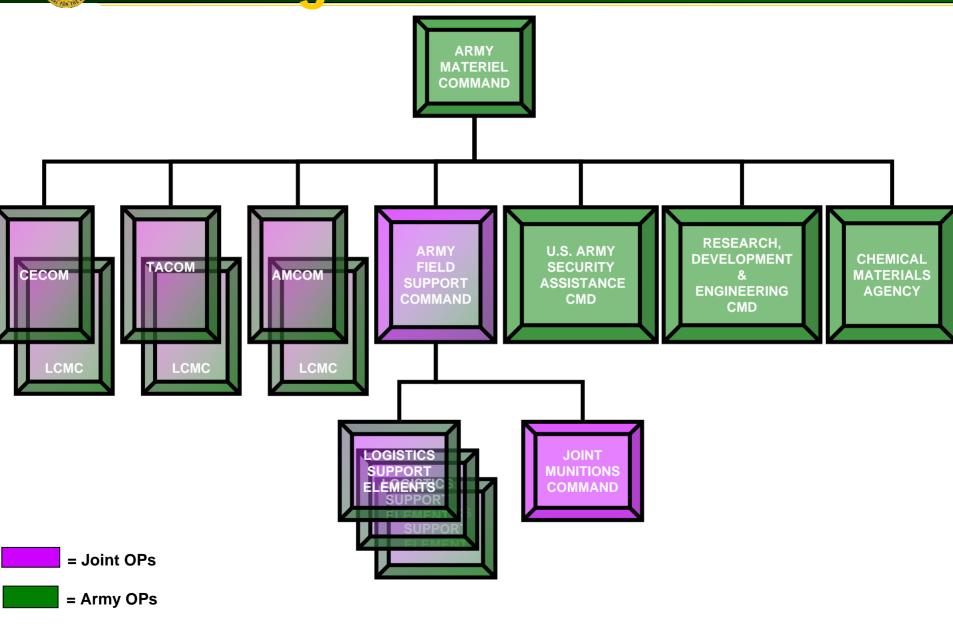


LCAAP

Production History



AMC Organizational Structure



UNCLASSIFIED



BACK UP PSN CHARTS







Firms Are Changing Their PSM Practices

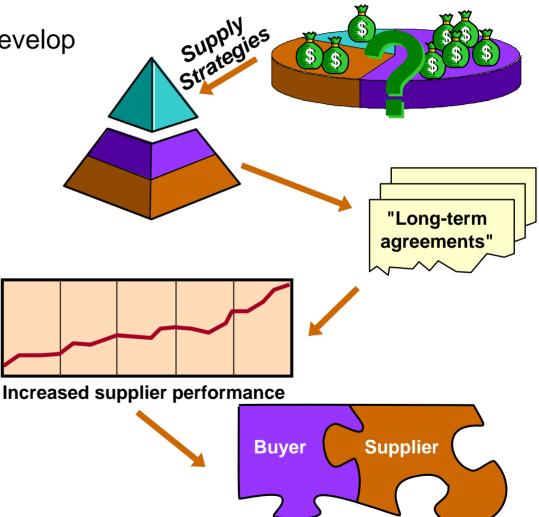
Conduct firm-wide "spend"/ supplier/market analyses & develop supply strategies

Rationalize supply base, consolidate contracts

Establish long-term partnerships with best suppliers

Help key suppliers improve quality, cost, and service

Integrate key suppliers into organization



SOURCE: Adapted from Cessna Supplier Conference 2000 as published in "Cessna Charts a Supply Chain Flight Strategy," by James P. Morgan, *Purchasing*, September 7, 2000.

The Paradigm Shifts from Managing Items

and Contracts to Managing Suppliers and Capacity

Strategic

Activities

Market knowledge Supply base management Supply chain management **Commodity strategy Risk management** Sourcing strategy Supplier development Supplier capability assessment Strategic negotiation Suppler performance evaluation/reporting **Establish performance metrics Commercial (tactical)** negotiation Supplier selection Order processing

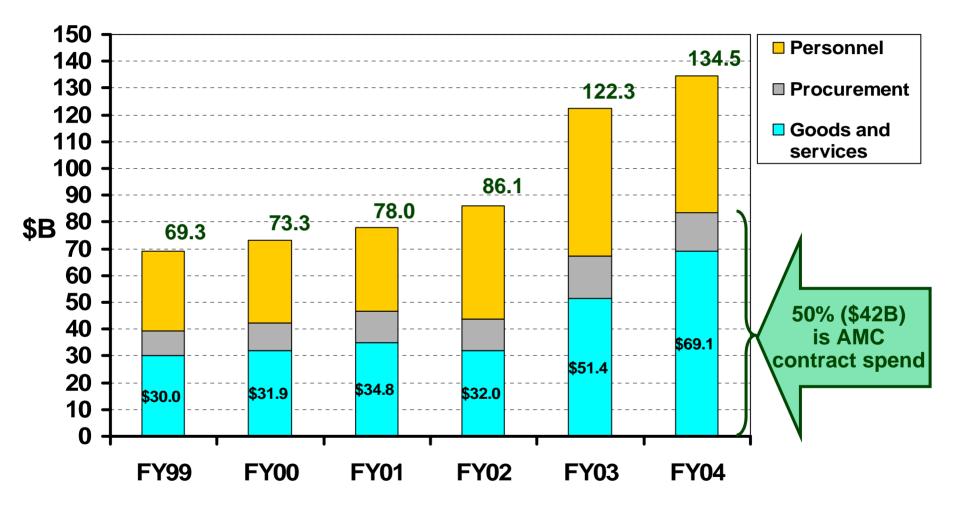
CPO/VPSM From tactical buying to strategic PSM

Adapted from Ron Casbon, Bethlehem Steel, "Implementing New and Changing Supplier Relationships Through Strategic Sourcing to Achieve Win/Win Results," presented at 2nd Annual Strategic Sourcing Management Conference, Institute for International Research, San Diego, CA, February 22, 1999.

Tactical

Purchased Goods and Services Represent

a Significant Portion of the Army's Budget



SOURCE: OUSD (Comptroller), *National Defense Budget Estimates for FY1999–FY2005*, March 1998–March 2004, Tables 6-3, 6-6. http://www.dod.mil/comptroller/defbudget/fy2005/greenbook.pdf; and Civ Pers from http://www.asafm.army.mil/budget/fybm/FY05/oma/vol1.pdf, Operations & Maintenance, Army OP32 Exhibit.

NOTE: RDT&E, MILCON, and Family Housing Civ Pers estimated by using average cost/FTE. 9/29/2005Date: 8/β1/2005

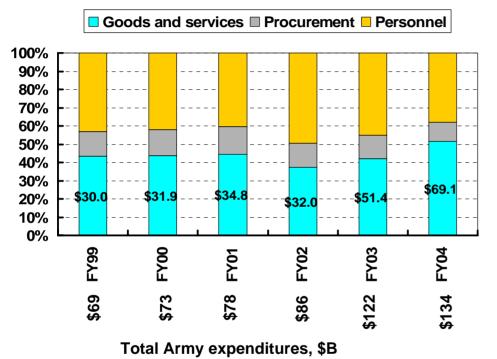
Having Many Contracts in the Same FSC May

Indicate Prospective Targets for Reducing Transaction Costs

	Federal Supply Class	# Ctrx	# Ctr ID codes	% Ctrx sole srce	\$s M	% Ctrx small biz	# PO cds
1	RDTE/Other Defense-Applied Res	618	431	24	494	65	7
2	Tire/Tubes, Pneumatic, Except AC	432	39	17	206	65	6
3	ADP Software	371	255	61	43	53	27
4	Misc Elec Power & Distribution Eq	367	132	25	34	56	12
5	RDTE/Other Res & Dev-Basic Res	336	253	14	221	66	10
6	Miscellaneous Hardware	324	229	28	23	71	18
7	Engineering Technical Services	316	242	48	888	40	17
8	ADP Support Equipment	316	166	20	23	70	22
9	Guns, through 30 mm	310	156	55	384	51	14
10	Maint & Repair of Eq/Misc Eq	274	210	11	8	60	12
	Other	17,007	7,369	39	28,431	55	32
	Total	20,256	8,282	38	30,754	56	32

Complexity of Army Procurement

Purchased Goods and Services Represent a Significant Portion of the Army's Budget



Procurements in FY04

- \$76 B in purchases
- 239 different purchase office codes
- 118,923 different contracts
- 50,365 different contractor I.D. codes
- 45,306 different parent company I.D. codes
- 1,865 Federal Supply Class/product service codes

		<u>% of \$s</u>	% of <u>contracts</u>
•	Sole source contracts	38	37
•	Three or more bids	39	28
•	Small business contra	cts 21	55
•	Set aside contracts	6	5
•	Purchase orders	3	73

* Army Goal: Establish strategic relationships with vendors

- Senior leadership interaction
- Supplier focused management teams
- Collaborative planning and forecasting--share planning information, inventory, and demand data
- Continuous improvement plans—cost and performance
- Contingency plan evaluation / risk assessments
- Corporate contracts for sole sourced items

AMC plans to work closer with industry