2003 Advanced Planning Brief to Industry
Industry

PEO CS&CSS and Industry Challenges

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PEO CS&CSS
Organization and Geography

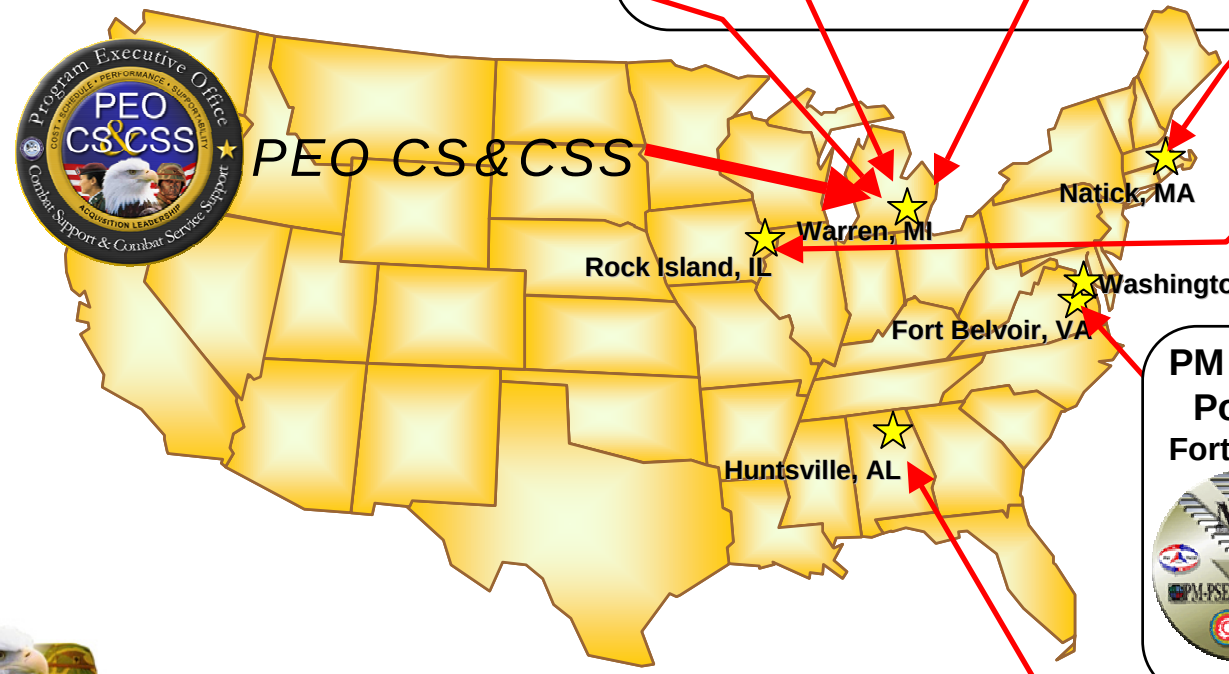
Program Executive Office
Combat Support & Combat Service Support

PM Tactical Vehicles (TV)
Warren, MI

- PM HTV
- PM MTV
- PM LTV
- PM Trailers

PM Force Projection (FP)
Warren, MI

- PM BRIDGING
- PM RECOVERY
- PM CE/MHE
- PM AWS
- PM PAWS
- PM FSS
- PM SKOT



PEO/PM Liaison
(DA Systems Coordinators)

PM Measurement, Electric Power, & Protection (MEP²)
Fort Belvoir, VA

- PM MEP — Small - USMC; Medium - USA; Large - USAF
- PM PSE
- PM TMDE

Acquisition Excellence

Force Projection Product Managers

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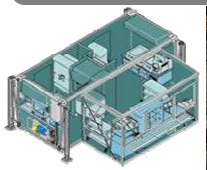
Combat Support & Combat Service Support

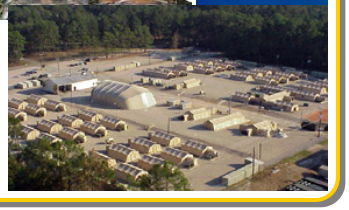
Army Watercraft




Force Sustainment







Petroleum and Water






Bridging




Construction/Materiel Handling





Recovery

Sets, Kits, Outfits, & Tools

PEO CS&CSS

Acquisition Excellence

Technology Challenges
Force Projection

- **Army Watercraft**
  - Sea State 3 capability for Modular Causeway Systems (MCS)
- **Bridging**
  - Composite bridging material for induction into Rapidly Emplaced Bridging System (REBS) and Dry Support Bridge (DSB)
- **Commercial Off-The-Shelf Construction and Materials Handling Equip.**
  - Improved C130 Transportability
  - Electromagnetic Environmental Effects (E3) and High Altitude Electromagnetic Pulse (HEMP) requirements
  - Tier 3 EPA non-road emissions standards (a commercial requirement)
- **Force Sustainment**
  - Smart airdrop systems using GPS, autonomous control, software integration with USAF Precision Airdrop System (PADS)
  - Alternative construction technologies and materials for parachutes that will broaden the industrial base and provide systems that are less costly and easier to maintain

Technology Challenges
Force Projection (Cont.)

- **Petroleum and Water Systems**
  - Lightweight liquid containers (500-3000 gal) – Dept. of Transportation approved
  - Packaged water concepts to replace bottled water
  - Innovative water generation technologies (from air, exhaust, etc.)
  - New liquid transfer technologies for movement of liquids over long distances (100-600 miles)
  - Next generation water purification technologies
  - New liquid storage concepts to replace large fabric tanks (200,000 gal and larger)
- **Sets, Kits, Outfits, and Tools**
  - Affordable technology to automate the inventory and accountability of took kits and shop sets in the field

Tactical Vehicle Product Managers

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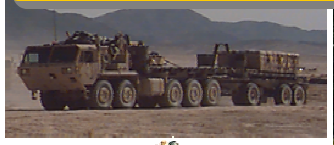
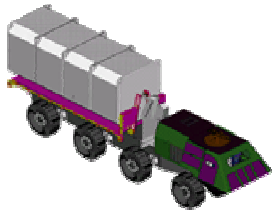
Light Tactical Vehicles




Heavy Tactical Vehicles



FTTS

Medium Tactical Vehicles




Trailers







PEO CS&CSS

Acquisition Excellence

Technology Challenges
Tactical Vehicles

- **Wheeled Vehicles**
  - Integrated Cargo Handling
  - Improved Mobility
  - Improved Fuel Efficiency
  - Armor/Mine Protection
  - Weight Reduction
  - Embedded Prognostics/Diagnostics
  - Survivability Improvements
  - C4ISR
- **Tactical Trailers**
  - Improved Mobility
  - Improved Sustainability
  - Improved Transportability
  - C4ISR

Measurement, Electric Power, & Protection Product Managers

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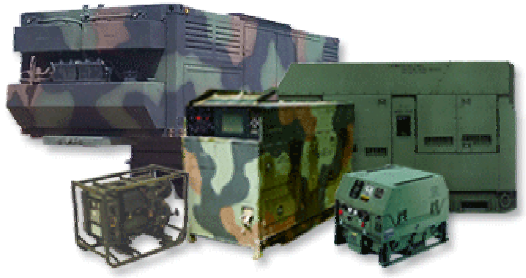
Mobile Electric Power

Small
USMC

Medium
ARMY

Large
USAF



Physical Security

Test, Measurement, & Diagnostics

Technology Challenges
Measurement, Electric Power & Protection

- **Mobile Electric Power**
  - Fuel Cell Reformation (Diesel/JP-8)
  - Cogeneration Systems (Electric Power & Environmental Control)
  - Hybrid Systems to enable Silent Watch
    - Solar Cell/High Energy Density Storage
    - Thermoelectrics to recharge batteries
  - Advanced Power Electronic Systems
    - Matrix Converters
    - Alternative Topologies
    - Protective circuit designs against reactive load applications
    - Vehicle-based recharging using wind & solar
  - Advanced Distribution technologies
    - Intelligent Power management devices
    - Software development
    - Simpler, Soldier-Portable Power Grid (components, cables, switching, etc.)
    - Military applications of DC distribution – Study

Technology Challenges
Measurement, Electric Power & Protection

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- **Mobile Electric Power (Continued)**
  - Advanced Combustion technologies for 500-2000W applications
    - Catalytic Ignition of diesel fuel in low compression engines
    - Wetstacking reduction
    - JP-8 burner technology to support direct energy conversion technologies (Thermophotovoltaics, Thermoelectrics, Thermionics, etc.)
  - Materials advancements to reduce system signature (noise, IR, EMI) and Size & Weight, and to improve Performance
  - Advanced Energy Storage technologies
    - Rotary UPS technology
    - Flywheel storage systems
    - Studies to optimize energy storage systems
  - Displays and Control Panels for Extreme Environments (-65F to 140F)

Technology Challenges
Measurement, Electric Power & Protection

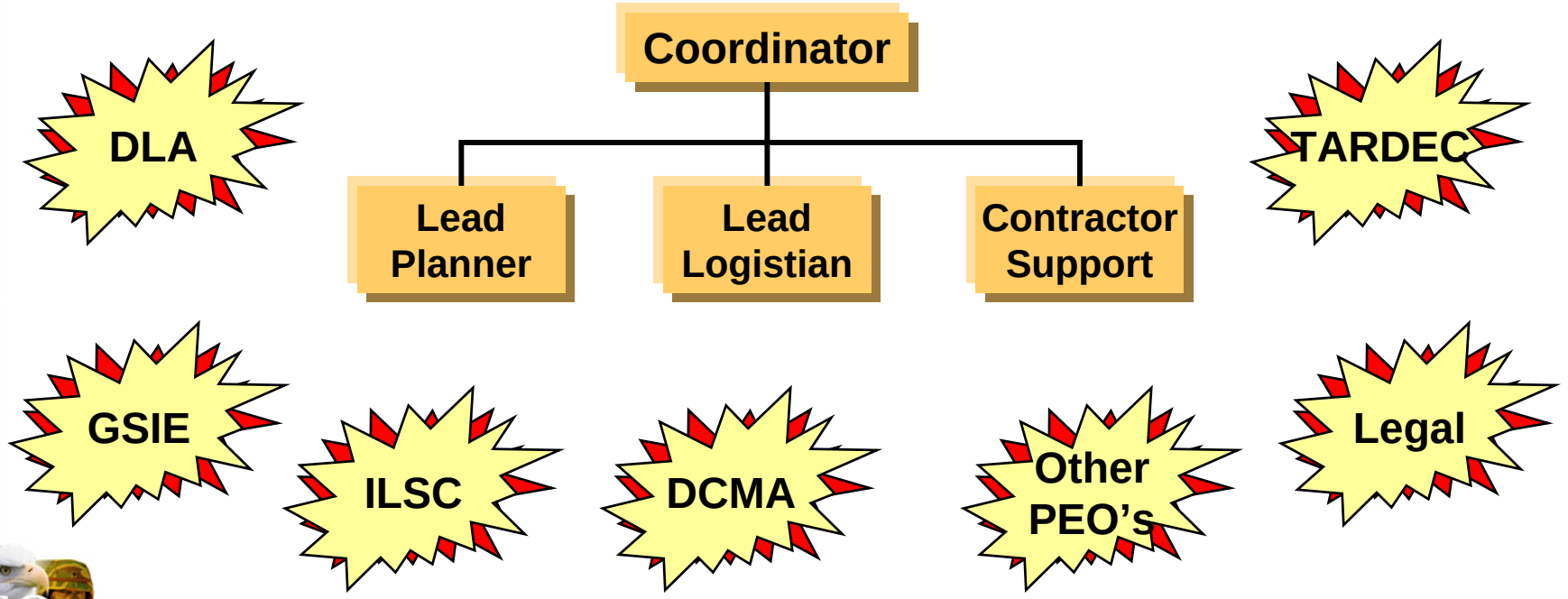
- **Physical Security Equipment**
  - Low Cost Ground Sensors (Seismic Acoustic, Omni-directional PIR, Imaging)
  - Low Cost Non-Intrusive Biometric Identification
  - Low Cost Explosive Detection
  - Low Cost Monostatic Laser Break Beam
  - Low Cost Trailer-Based Sensor Platforms
    - Imager/Radar Pairing
    - Integrated with Unmanned Ground Sensors
- **Test, Measurement, and Diagnostic Equipment**
  - Evolve automated maintenance and diagnostics capabilities to predictive maintenance
  - Internal Combustion Engine (ICE) kit weight reduction
    - A single pressure transducer with acceptable error to cover the current three ranges –30 inches Mercury (Hg) to +25 PSI, 0-1 KPSI, 0-10 KPSI.
    - Wireless communication for both analog and digital data bus.

PEO CS&CSS
Homeland Security Cell

Program Executive Office
Combat Support & Combat Service Support

Vision

The PEO CS&CS establishes its Homeland Security Cell to be the Department of Homeland Security's single point of entry into the U.S. Army's acquisition structure, essentially to be the Materiel Developer of choice.



Summary

- The PEO is open to innovative ideas and concepts
  - The PEO remains relevant in Army Transformation

http://peocscss.tacom.army.mil/