RDECOM

TARDEC

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

CBM Workshop Overview

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CBM
CONDITION BASED MAINTENANCE

Overview

- TARDEC Mission and Vision
- Core Technology Thrust Areas
- TARDEC CBM Focus Areas
- CBM Workshop Objectives
- Research & Development CBM Challenges
- Summary

TARDEC Mission and Vision


Combat Vehicles


Heavy Tactical Vehicle


Medium Tactical Vehicle


Light Tactical Vehicle


Countermine Equipment

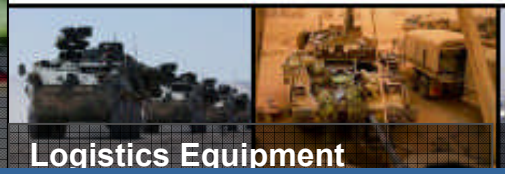
- MISSION: Provide full service life cycle engineering support to our TACOM LCMC customers (PEO GCS, PEO CS&CSS, ILSC) and PM FCS (BCT), to develop and integrate the right technology solutions to improve the effectiveness for the current force and realize the superior capability of the future force to facilitate army transformation.
- VISION: Be the first choice of technology and engineering expertise for ground vehicle systems and support equipment - today and tomorrow.


Trailers


Military Bridging


Water Generation and Purification


Fuel and Water Storage & Distribution Quality Surveillance Equipment


Logistics Equipment

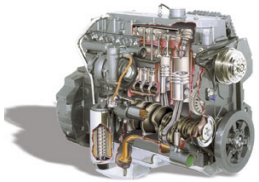

Watercraft

TARDEC is responsible for research, development and engineering support to more than **2800** Army systems and many of the Army's and DoD's top joint warfighter development programs.

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

4 Core Technology Thrust Areas

Ground Vehicle Power & Mobility



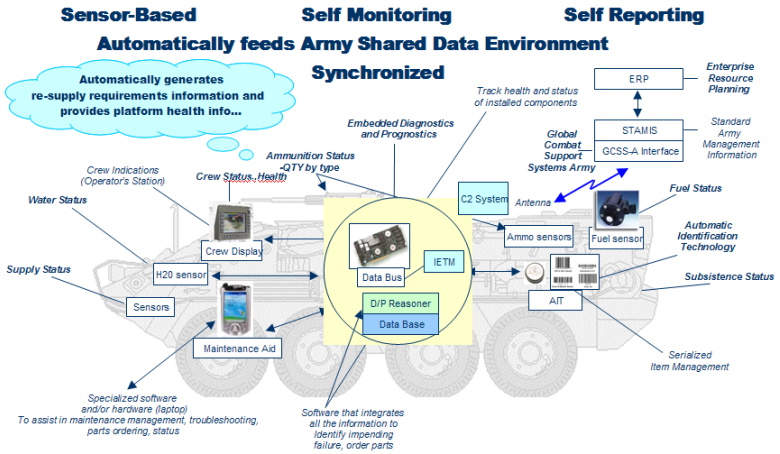
Intelligent Ground Systems

Integrated Survivability

CBM
CONDITION BASED MAINTENANCE

Condition Based Maintenance

- TARDEC's Top 3 Efforts:
  - -Diagnostics / Prognostics
  - -Sensor Integration
  - -Data Warehousing



TARDEC CBM Focus Areas

- Diagnostics / Prognostics Software
- Sensor Integration
- Systems Engineering Support
  - PM HBCT Vehicle Health Management System
    - Enterprise Network Working Integrated Product Team (WIPT)
    - Diagnostics / Prognostics WIPT
    - Condition Based Reliability Analysis (CoBRA) WIPT
- Data Warehousing
  - Reliability Centered Maintenance
  - Product Engineering Data Integration
  - Enterprise Integration

CBM Workshop Objectives

- Begin Forming a Synchronized RDECOM CBM Strategy that Supports Ground Vehicle Needs
  - Baseline “State of the Art” in Public and Private Sector
  - Identify Technology Gaps and Transition Opportunities
  - Collect and Refine Technical CBM Requirements
  - Recommend Acquisition and Technology Investment Strategy
- Promote Increased RDECOM / TACOM LCMC and Industry Collaboration
- Highlight Current CBM Program Challenges & Issues

Challenges We Face

- Identify High Maintenance Drivers (Low MTBFs) and Cost Drivers
- Identify the Sensor Suite
- Data
  - How To Store, Move, and Analyze Data?
  - What Tools are Needed To Analyze Data?
  - We're Collecting Data, But Lack Funding for Detailed Analysis
  - We Lack Technical Data Packages (TDPs) for many Tactical Wheeled Vehicle Platforms
- Identify the Remaining Useful Life of Components
  - Reduce Computational Requirement (or Increase Vehicle-Level Computational Capability)
  - Expand Models from Component to System
- Configuration Management
  - Common Diagnostics / Prognostic Algorithm Development Process to Fully Implement CBM Across Ground Systems
  - Component Traceability Regardless of Platform
  - Sensor Integration - Open Framework / Configuration of Sensors
  - Every Platform Requires a Cost Benefit Analysis before CBM Can Be Implemented (AR 750-1 Army Maintenance Policy)
- Transitioning Technology Without Formal Requirements

Summary

- CBM is One Of Four Primary Technology Thrust Areas within TARDEC
- TARDEC Has Identified CBM Focus Areas Based on Our Customers' Needs
- We Will Use Workshop Presentations and Discussion as a Baseline To Develop a Common CBM Strategy
- Create a Ground Vehicle Integration IPT for CBM R&D

Overall: Increase Our Effectiveness at Meeting the Needs of Our Customers

Back-up Slides

- Back-up Slides

How CBM+ Will Benefit the Army

- Increased Readiness and Operational Availability
- Reduced Maintenance Cost
- Reduced Inventories of Repair Parts
- Reduced Cost of Consumables
- Reduced Errors in the Maintenance Process

Why

- Why a CBM Workshop
- AMCOM CBM Summit
  - Aviation Based
  - Program Overview
- TARDEC CBM Workshop
  - Ground Vehicle Based
  - R&D Program Synchronization
- AMC Summit
  - AMC Compiled Programs
  - Major Subordinate Command Review