



Transformation, Declining Budgets and the Drawdown

APBI

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Colonel Charles P. Dease
Military Deputy

U.S. ARMY TANK AUTOMOTIVE RESEARCH, DEVELOPMENT AND ENGINEERING CENTER (TARDEC)



UNCLASSIFIED

Mission

Provides full life-cycle engineering support and is provider-of-first-choice for all DOD ground combat and combat support vehicle systems.

Vision

Develops and integrates the right technology solutions to improve Current Force effectiveness and provide superior capabilities for the Future Force.

- Advanced Research & Development
- Test Analysis
- Quick Reaction Cell
 - Request for Information (RFI)
- Operational Needs Statements (ONS)
- Joint Urgent Operational Needs Statement (JUONS)
- Design Prototype
- Analysis of Alternatives (AoA)
- Engineering Matrix Support to PM
 - TARDEC Reach back support to PM
- Modeling & Simulation
- Tours
- Etc.

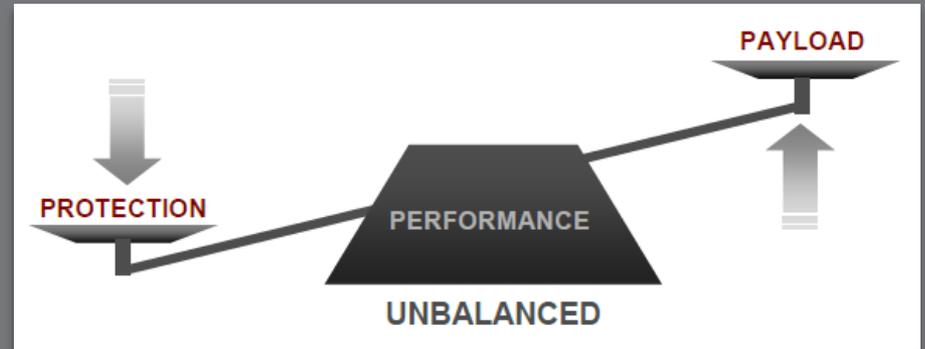
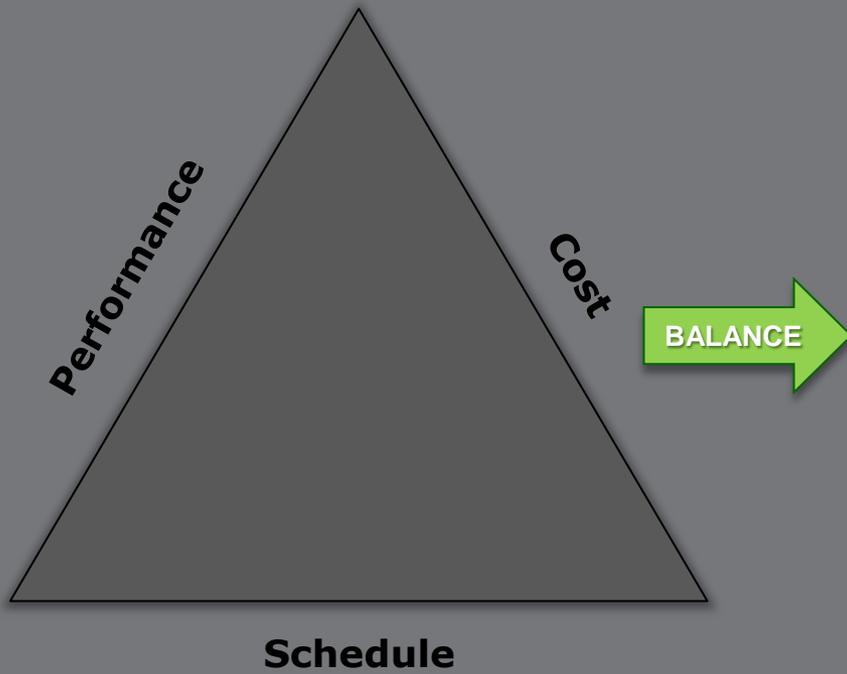




U.S. ARMY
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REDEFINING PROTECTION



Challenges

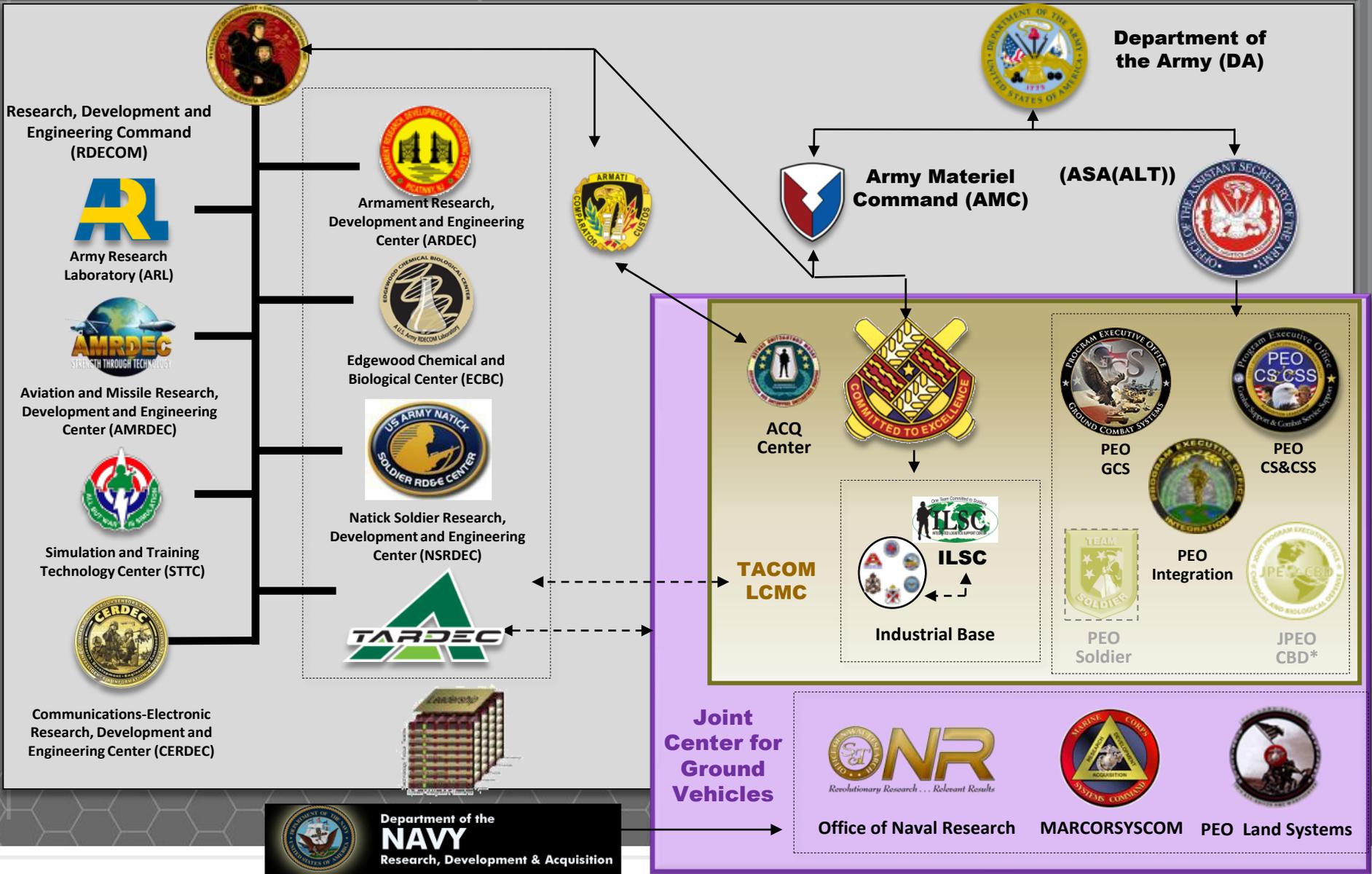




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RESEARCH DEVELOPMENT ENGINEERING CENTER



Ground System Enterprise

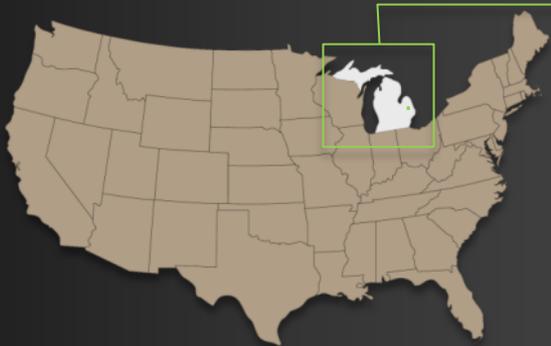




The Arsenal of Democracy

Strategic Relationships

- Connected to World-Class Automotive Engineering Universities at our Doorstep
- Defense Industry Ground Systems Hub
- Direct Linkage to World-Class Automotive Research and Development Centers
- Strategic Engagement with 1st, 2nd and 3rd Tier Automotive Supplier Network



The United States





Key Technical Thrust Areas

- **Ground System Survivability**
- **Vehicle Electronic Architectures**
- **Ground Vehicle Robotics and Intelligent Systems**
- **Ground Systems Power, Energy and Mobility**
- **Force Projection Technology; Alternative Fuels, Lubricants and Water Purification**





Army Technical Challenge

More Mobile, Fuel Efficient, Safer Vehicles

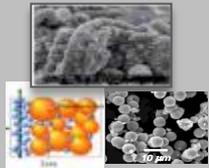
Mobility & Energy Efficiency

Occupant Centric Survivability



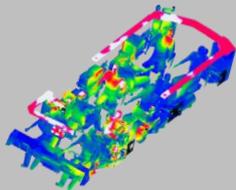
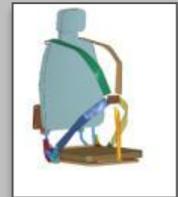
Vehicle Dynamics

Active Protection Systems



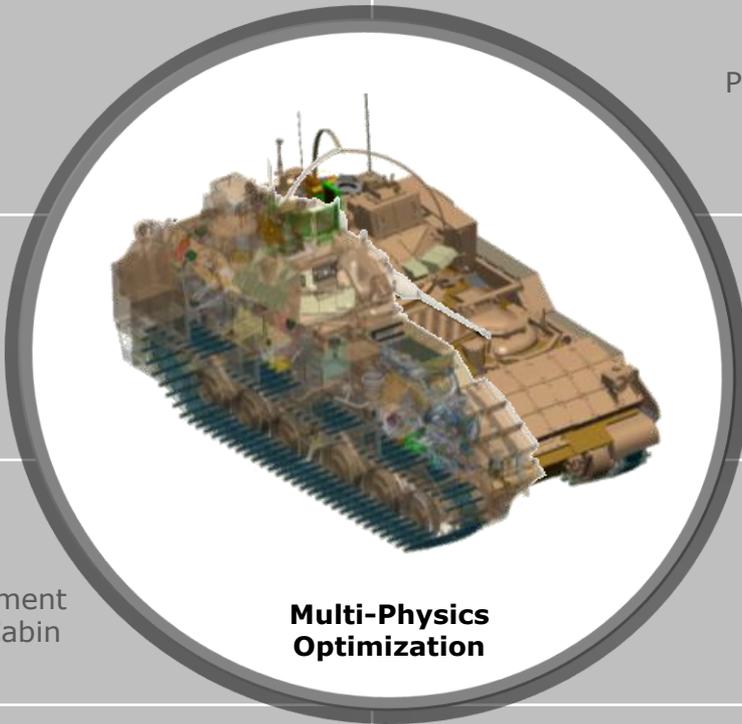
Hi-Energy, Hi-Density Energy Storage

Holistic Occupant Centric Protection

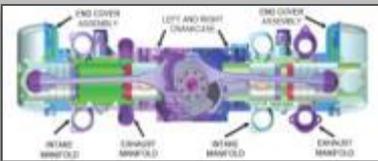


Comprehensive Thermal Management of Propulsion & Cabin

Affordable, Multi-hit Ceramic Armor



Multi-Physics Optimization



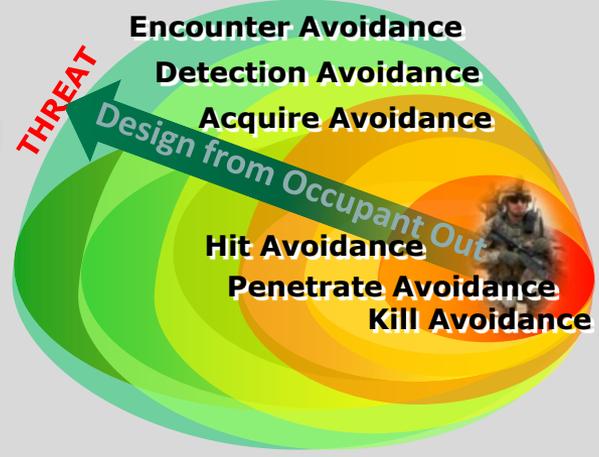
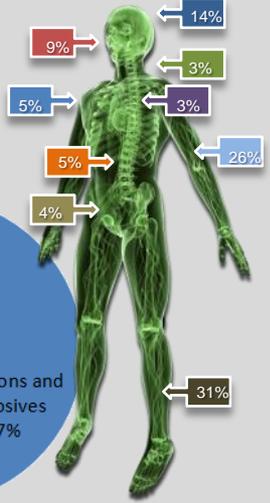
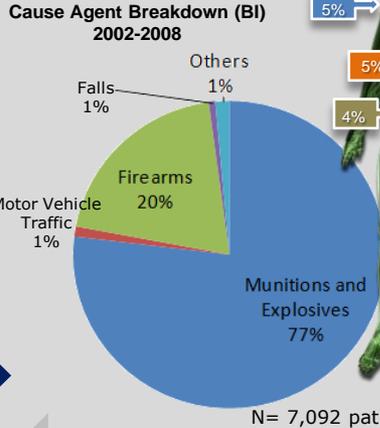
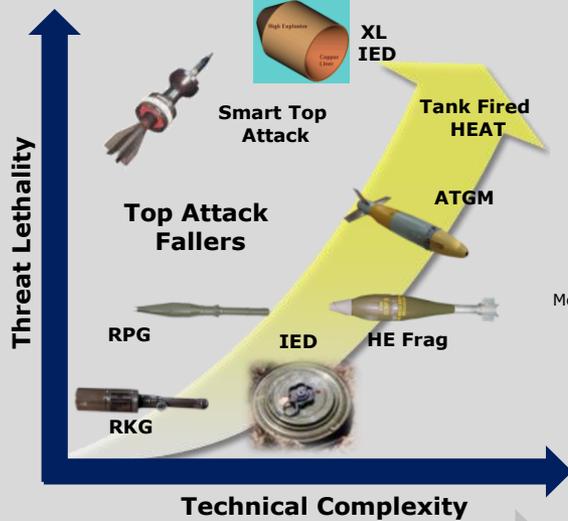
High Power Density, Low Heat Rejection & Fuel Efficient Engines

Fire and Toxic Fume Resistant Materials





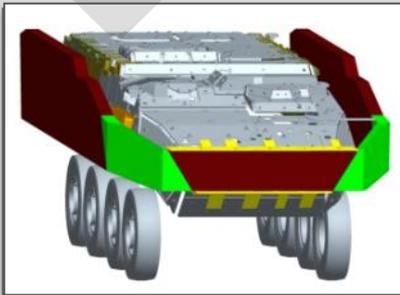
Ground Systems Survivability



Increasing Demands and Operational Flexibility Require Strategic Investments in Key Areas



Kill Avoidance



Penetration Avoidance



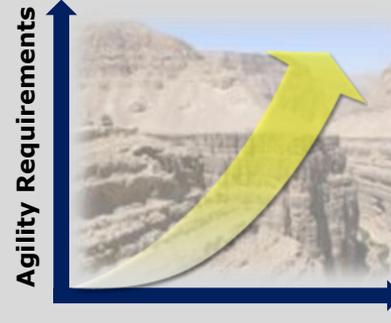
Hit Avoidance



Detection Avoidance



Ground Systems Power, Energy and Mobility



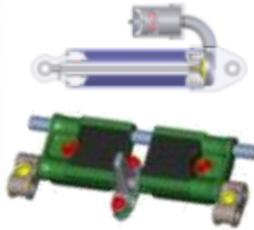
**Increasing Demands and Operational Flexibility
Require Strategic Investments in Key Areas**



Powertrain



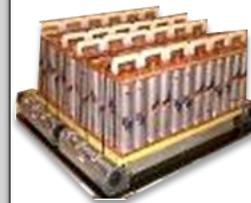
Thermal Management



Track & Suspension



Non-Primary Power



Energy Storage



Advanced Propulsion



It's All About the Warfighter

Unclassified FOUO



Lead. Innovate. Integrate. Deliver.



Competitive Opportunities New for FY12

Research

- Water recycling system
- Wastewater treatment system
- Develop two OBVP concepts
- OPOC engine development
- Power brick development
- High power APU 25-40kW
- Develop engine-off capability
- Battery Management, lead-acid base
- Medium Tactical Powertrain
- Medium Combat Powertrain
- Thermal electrics
- Advanced Battery research
- Structured Robotic Integration
- SIC DC/DC Converter Development

Analysis

- Technology engineering analysis support

Lab & Facilities

- 200D shop floor restroom refurbishment
- Shipping and receiving 200E enhancement
- Hydraulic lift removal and re-concrete of PIT
- Battery lab equipment



Competitive Opportunities New for FY12

Materials & Components

- Procure Pre-Treatment Test Stand
- Water bottling system
- Water Monitoring Test Equipment
- Hull/Cab build
- Common Disposable Extinguisher
- High-voltage fan motor/controller

Test

- Water Monitoring Test Equipment
- MIL 810 Test
- Environmental Testing of Active Protection

Installation

- Fire protection, install equipment
- Head impact fabrication and install



Ongoing Business Opportunities

Congressionally Mandated Programs

Small Business Innovation Research (SBIR)

Small Business Technology Transfers (STTR)

SBIR

- Phase I: FY11- \$100,000
FY12- \$150,000
- Phase 2: FY11- \$750,000
FY12- \$100,000
- \$28 M in FY11/Approx. 200 procurements

More Information and opportunities:
<http://www.dodsbir.net/solicitation>

- Solicitation Schedule
- Current Solicitations
- Sample Proposals
- How to create a proposal
- Topic Identification

Cooperative Research and Development Agreement (CRADA)

- Can be utilized to create innovative collaborative arrangements
- Success Stories:
 - Associate Exchange Program
 - Diminishing Manufacturing CRADA

Test Services Agreement (TSA)

- Technology transfer mechanism that allows work for hire
- All inventions and data belong to the TSA partner
- Allows industry partners to leverage TARDEC's unique capabilities
- Success Stories Include:
 - Engine Generator Testing
 - Turret Motion Based Simulator



TARDEC Omnibus

- Awarded August 2009
- 5 Year IDIQ Contract
- Multiple Opportunities to Provide:
 - Engineering, Demonstrators, Designers / Drafters, Workforce Dev, Lab Management / Operations, Research, Corporate Messaging, etc

Task orders

- Technical/Engineering Support
- Hull/Cab Build
- Technical Engineering Support
- Power brick development
- Develop Engine-off capability
- Battery management, lead-acid base
- Thermal electrics
- Advanced Battery Research
- Low-voltage power systems for VEA research SIL
- SIC DC/DC converter development

**There are
opportunities to
work with TARDEC's
Omnibus Partners!**



TARDEC Solicitations & Market Surveys Announcements

<http://contracting.tacom.army.mil/>

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Doing Business with TARDEC



**TARDEC's Ground Vehicle Gateway
is YOUR entry point!**

**Submit your technology for review
<https://tardec.groundvehiclegateway.com>**

