



Transformation, Declining Budgets and the Drawdown

APBI

27 October 2011

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Military Deputy

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

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE 03 NOV 2011		2. REPORT TYPE Briefing Charts		3. DATES COVERED 03-11-2011 to 03-11-2011	
4. TITLE AND SUBTITLE TRANSFORMATION, DECLINING BUDGETS AND THE DRAWDOWN				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Grace Bochenek; Charles Dease				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army TARDEC ,6501 E.11 Mile Rd,Warren,MI,48397-5000				8. PERFORMING ORGANIZATION REPORT NUMBER #22401	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army TARDEC, 6501 E.11 Mile Rd, Warren, MI, 48397-5000				10. SPONSOR/MONITOR'S ACRONYM(S) TARDEC	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S) #22401	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES Briefing to Advanced Planning Briefing to Industry (APBI)					
14. ABSTRACT N/A					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 16	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



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.

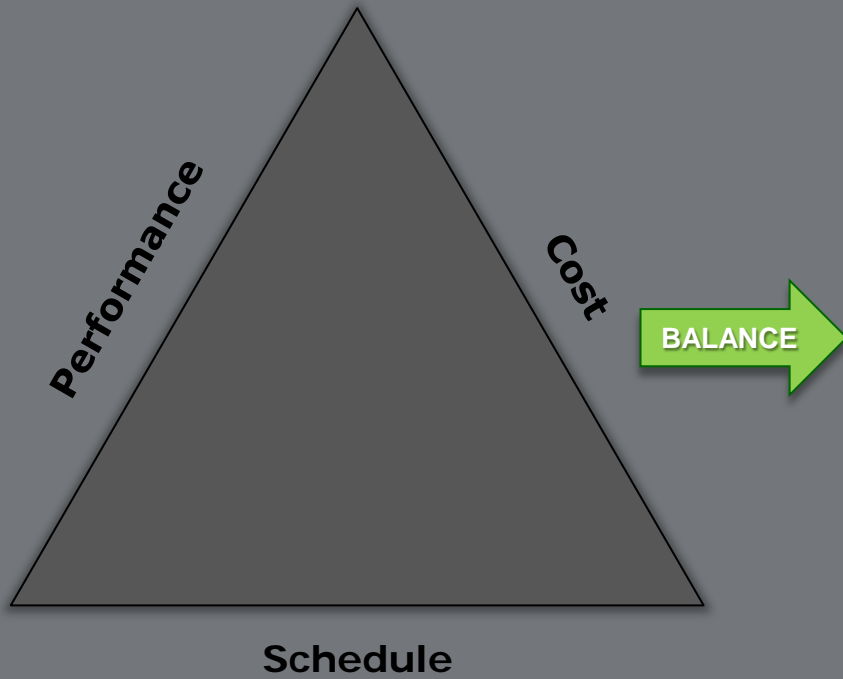




U.S. ARMY
RDECOM
RESEARCH DEVELOPMENT ENGINEERING CENTER



Challenges

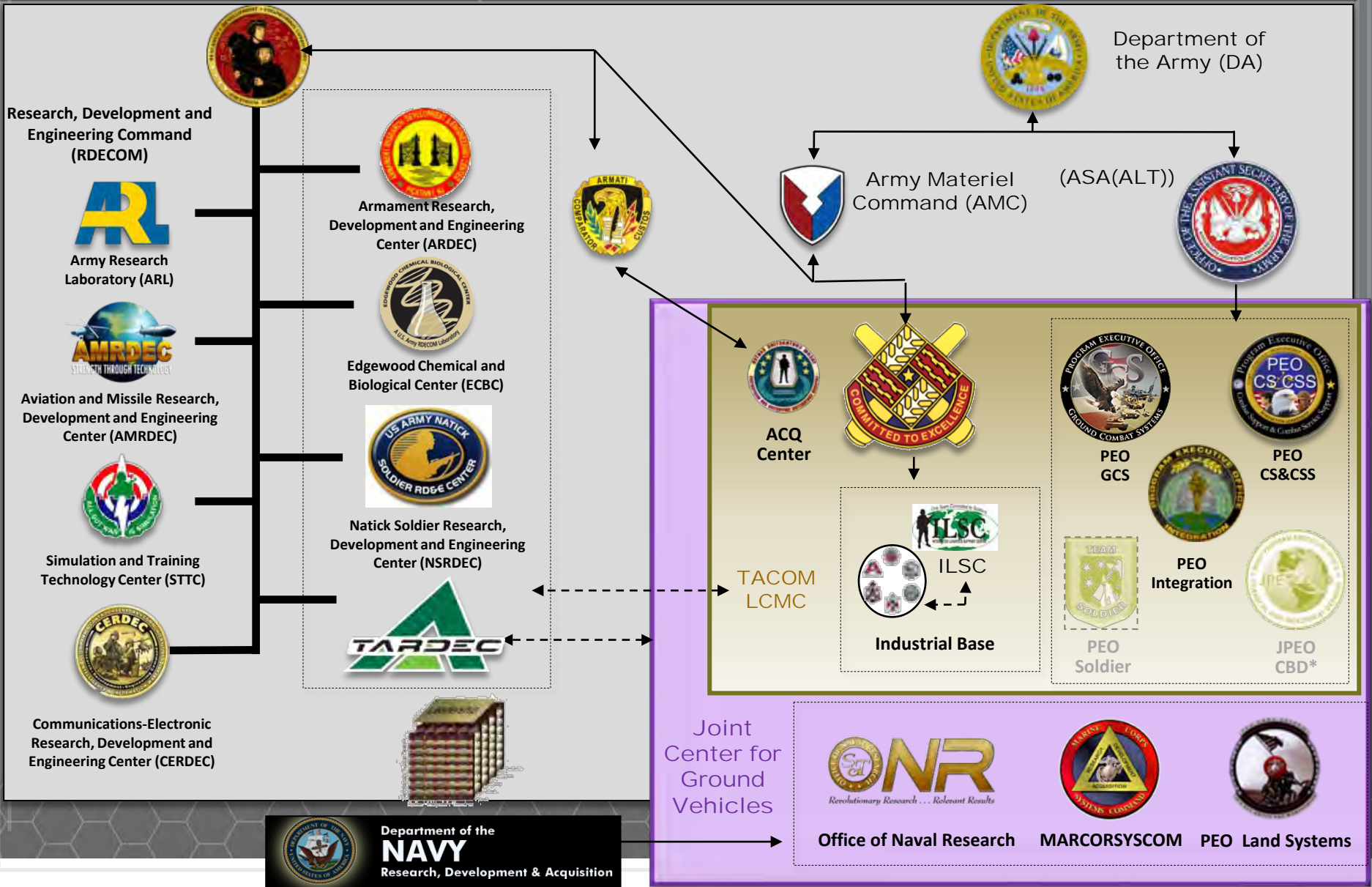




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Ground System Enterprise

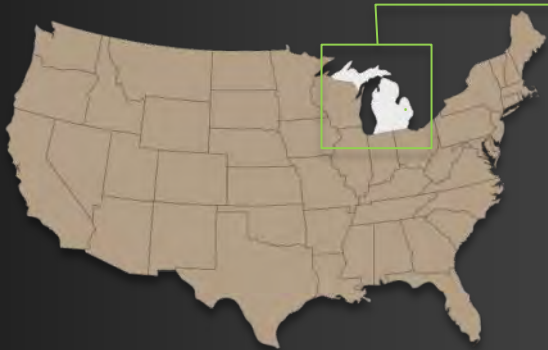




The Arsenal of Democracy

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

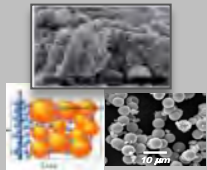
Mobility & Energy Efficiency

Occupant Centric Survivability



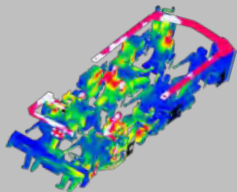
Vehicle Dynamics

Active Protection Systems



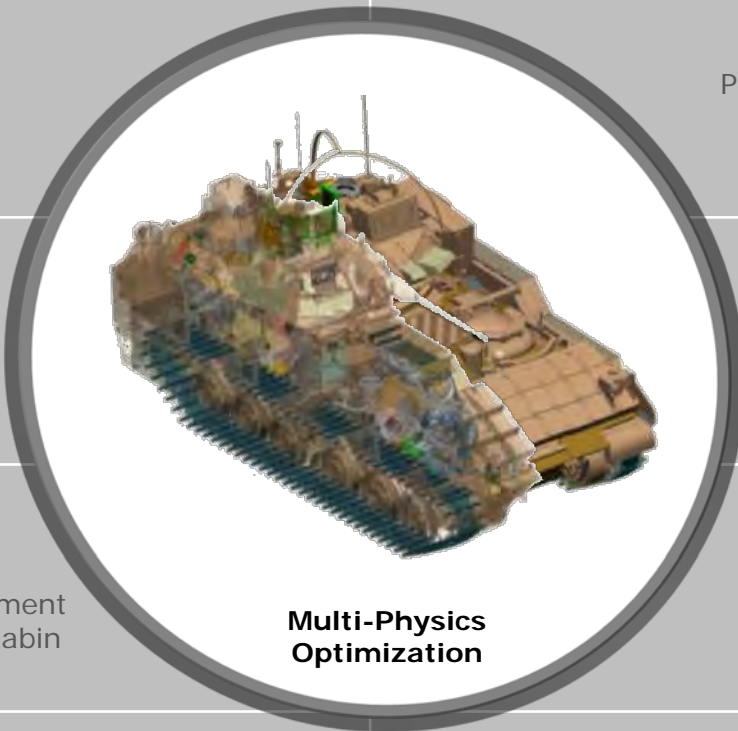
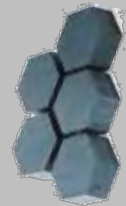
Hi-Energy, Hi-Density Energy Storage

Holistic Occupant Centric Protection



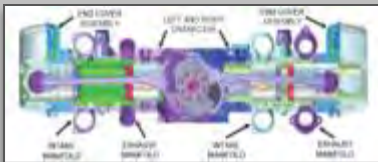
Comprehensive Thermal Management of Propulsion & Cabin

Affordable, Multi-hit Ceramic Armor



Multi-Physics Optimization

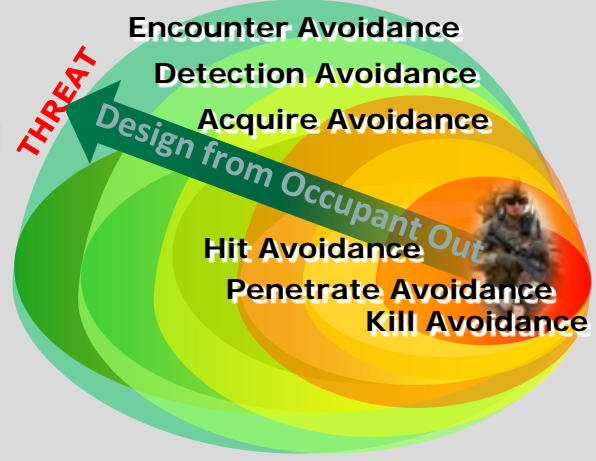
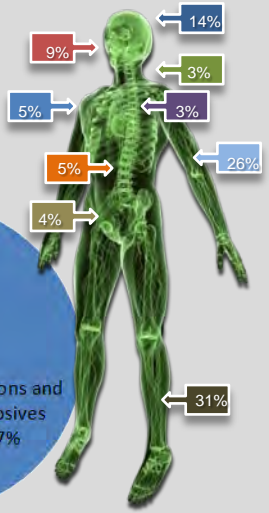
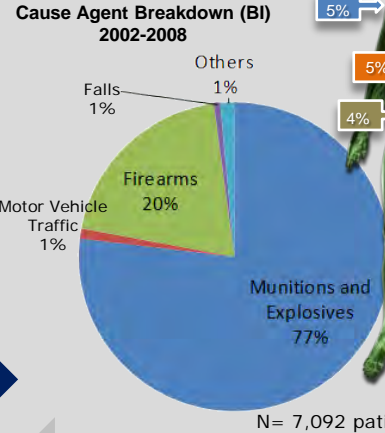
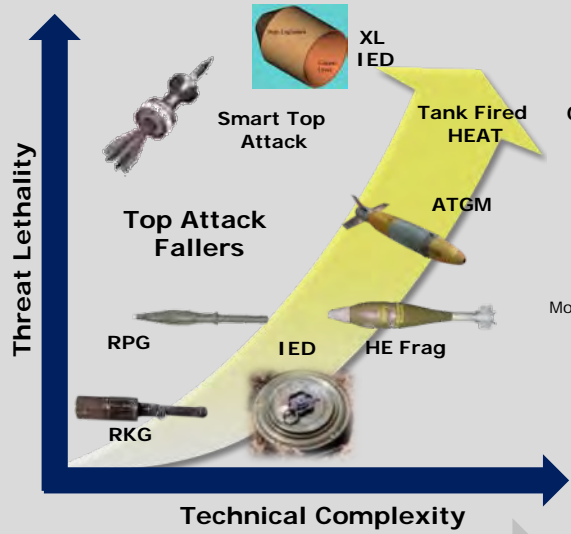
Fire and Toxic Fume Resistant Materials



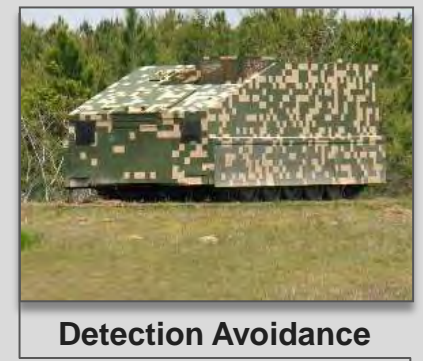
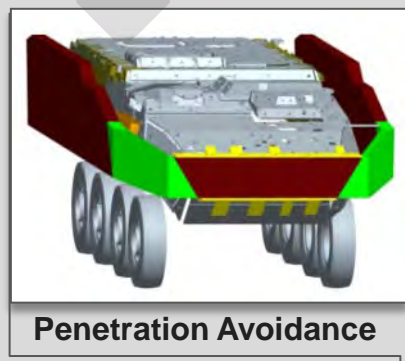
High Power Density, Low Heat Rejection & Fuel Efficient Engines



Ground Systems Survivability

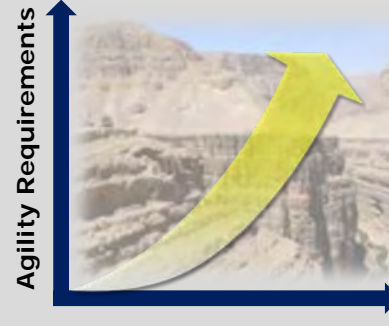


Increasing Demands and Operational Flexibility Require Strategic Investments in Key Areas

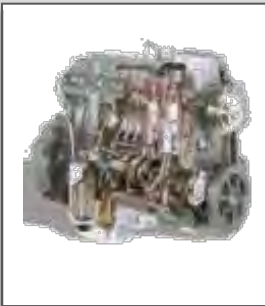




Ground Systems Power, Energy and Mobility



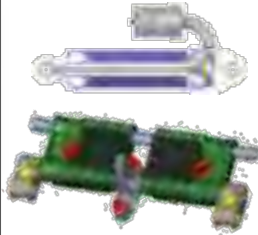
Increasing Demands and Operational Flexibility
Require Strategic Investments in Key Areas



Powertrain



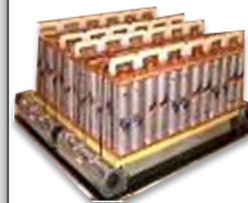
Thermal Management



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 1: 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>**

