Mission and Vision

MISSION:
Develop, integrate and sustain the right technology solutions for all manned and unmanned Department of Defense (DOD) ground systems and combat support systems to improve Current Force effectiveness and provide superior capabilities for the Future Force.

VISION:
The first choice of technology and engineering expertise for ground vehicle systems and support equipment – today and tomorrow.

We help our Warfighters succeed and come home alive
Utilizing Army doctrine and strategic documents that provide the Army with modular, flexible, adaptable, and smart S&T capabilities.
TARDEC’s Support to the Army

VS1 - Shape the Future Force
- Validate operational concepts through analytical engineering capabilities
- Develop and demonstrate advanced capabilities

VS2 - Support Systems Across the Acquisition Life-Cycle
- Develop technology solutions
- Provide engineering services
- Support sustainment

TARDEC’s vision is to be the first choice of technology and engineering expertise for ground vehicle systems and support equipment – today & tomorrow.
**Digital-Physical Thread (DPT)**

Multidisciplinary Design Optimization & Performance

Virtual Experiments Capability

Advanced Concepts and Digital Modeling

Soldier Innovation Workshops

Full Field Experimentation

Man-in-the-Loop Simulation

Integrated Systems Engineering Framework

**Human Factors & Packaging**

**Operational Assessment**

**System Integration Lab Assessment**

**Physical Comp. Simulation**

**Physical System Simulation**

**Product Development**

**Trade/Cost Studies**

**TARDEC’s DPT Accelerates Innovation by Enabling Rapid Development of Future Capabilities**

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TARDEC Efforts Supporting the TWV Fleet

- Autonomy-Enabled Manned / Unmanned Vehicles
- HET Urban Survivability kit (HUSK)
- Systems Integration Labs (SIL)
- JTTS Modular Chassis Concept Approach

Leveraging TARDEC’s Core Competencies/Technical Authority to:

- Expand internal capabilities while fostering strong public-private partnerships
- Accelerate development of autonomous technologies and platforms
- Enable rapid fielding of lessons learned from theater
- Reduce costs through common modular interfaces and components

Strategically Committed to Advancing TWV Capabilities
Shaping the Future of Autonomous TWV

**2006-2012**
*Army S&T Convoy Active Safety Technologies*

Tech Development / System Concepts

**2008-2012**
*USMC S&T CargoUGV*

**2012-2014**
*Autonomous Mobility Appliance System Joint Capability Technology Demonstrator*

**2015 - 2021**
*Army S&T Autonomous Ground Resupply*

**Value Stream 1:** Shape the Future Force

**Value Stream 2:** Support Systems Across the Acquisition Life Cycle

**Value Stream 3:** Strengthen Foundational Competencies

Ongoing - Future
TBD Future Programs: Leader/Follower and Autonomous Convoy Operations

Inform feasible and achievable Requirements development for future capabilities
Informs performance specifications for Future Programs of Record (PoR)

**Placing Systems in User’s Hands to Gain Experience & Enhance Operational Utility**

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HUSK - Enhancing the Existing Fleet

Heavy Equipment Transporter A1 (HETA1)

HET

Urban

Survivability

Kit

• TARDEC developed solution to bring MRAP CPD 1.1 protection level to existing HETA1 chassis

• Aluminum monocoque design integrates armor into structure

• Saves 2,500 lbs over original B-Kit design intent

• Remains compatible with all HETA1 mission-essential equipment

• Developing complete developmental Technical Data Package (TDP) to allow PM to solicit industry for future production needs

• Incorporates suite of survivability technology developed by TARDEC S&T

Strategically Partnered with PMs to Integrate Best of Breed Technology on Legacy Platforms

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System Integration Labs Bring Strategy to Life

Research SIL Capabilities

- Evaluate production systems before build
- Test emerging technologies
- Ensure hardware and software compliance

Platform SIL Capabilities

- Test upgraded technology
- Validate interoperability of equipment
- Provide spare part options

Utilized for technology development:

Conducted on existing platforms to:

TARDEC SILs are the Army’s hub for ground vehicle integration and entry points for Industry partnerships.
Joint Tactical Transport System (JTTS) Concept

**Today**

**JTTS Capability Enhancements**

- Improved SoS Fleet Affordability / Logistics Footprint
  - “Best of the Best” Automotive & Mobility Performance of Current Fleets
    - Efficient Integration of Autonomy
    - Enhanced Survivability & Crew Protection
  - VICTORY Compliant C4ISR Infrastructure
  - Enhanced Condition Based Maintenance Plus (CBM+) Support
  - Exportable Power Generation

Five (5) Families of Vehicles, 40+ Unique Mission Variants
- FMTV
- HEMTT
- MTVR
- PLS

**Beyond 2025**

**Approach 1: Common Chassis Feasibility Concept**
Multiple Chassis w/ Max Component Reuse (Commonality)

- (6x6)
- (8x8)
- (10x10)

**Approach 2: Modular Chassis Feasibility Concept**
Single Chassis w/ Modular Axle Inserts (Modularity)

- (6x6)
- (8x8)
- (10x10)

One Common / Modular JTTS Fleet:
- Swiftly modernize current fleet capability gaps & regain growth margin
- Reconfigurable to dynamic operational mission needs
- Reduced total “System of System” cost of ownership (Better buying power, reduced log footprint)
Visit TARDEC’s Web Site www.army.mil/TARDEC for details:

• TARDEC Capabilities
• 30-Year Strategy
• New Opportunities

Connect with us through our Ground Vehicle Gateway (online) to submit:

• New Proposals
• Technology Plans

We Need Your Help to Shape the Future of the Army and Deliver Advanced Capabilities to the Warfighter