Organizational Structure

AMRDEC
Aviation and Missile Research Development and Engineering Center

ARDEC
Armament Research, Development and Engineering Center

ARL
Army Research Laboratory

CERDEC
Communications-Electronics Research, Development and Engineering Center

ECBC
Edgewood Chemical Biological Center

NSRDEC
Natick Soldier Research, Development and Engineering Center

TARDEC
Tank Automotive Research, Development and Engineering Center
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
Strategic Relationships

Connected
to World-Class Automotive Engineering Universities

Defense Industry
Ground Systems Hub

Direct Linkage
to World-Class Automotive Research and Development

Strategic Engagement
with 1st, 2nd and 3rd Tier Automotive Supplier Network

Recognized conduit to RDECOM and the Ground Vehicle Community
Organizational Structure & Personnel

TARDEC has a proven, technically proficient workforce that meets mission requirements.

**Total Workforce**

- **Civilians***: 86%
- **Military**: 13%
- **Contractors**: 1%

*Includes permanent/term employees, local interns, STEPs, and local SCEPs (in a pay status).

**Education**

- **Doctorate Degree**: 38%
- **Master's Degree**: 44%
- **Bachelor's Degree**: 4%
- **Associate's Degree**: 4%
- **HS/ Some College/ Technical Cert**: 10%

**Total**: 1641
Supporting the Army’s Top Priorities

TARDEC supports Seven of the Army’s Eleven Persistent Challenges

- Greater force protection for Soldier, air and ground platforms
- Ease overburdened Soldiers in small units
- Timely mission command & tactical intelligence to provide situation awareness and communications in all environments
- Create operational overmatch (enhanced lethality and accuracy)
- Achieve operational maneuverability in all environments and at high op-tempo
- Enable ability to operate in CBRNE environment
- Improve early detection of TBI
- Improve operational energy
- Improve individual & team training
- Reduce life cycle cost of future Army capabilities
Unique Capabilities: Full Life-Cycle Technical Support

- Research/Technology Development
- Systems Engineering
- Product Development
- Integration
- Production Support
- Field Support
Conduits of Collaboration

Power & Energy Vehicle Environmental Lab (PEVEL)

Air Filtration Lab

Calorimeter Lab

Power Lab

Thermal Management Lab

Fuel Cell Lab

Electric Components Lab

Energy Storage Lab

Fuels & POL Research Laboratories

Bridging Technology Laboratory at Selfridge Air National Guard Base

Fresh Water Test Facility at Selfridge Air National Guard Base

Water Quality Laboratory

Army Petroleum Laboratory (APL) located at DLA Distribution Susquehanna, PA (DDSP)

TARDEC Fuels & Lubricants Research Facility at Southwest Research Institute (GOCO)

Survivability Armor Ballistic Lab (SABL)

Large Robotics Integration Cell

Reconfigurable N-Post Simulator

Vehicle Inertial Properties Evaluation Rig

VICTORY SIL
TARDEC’s operations have a resource value of over $1.1B and occupy 936,000 square feet of laboratory space on the Detroit Arsenal.

- Ground Systems Power and Energy Laboratory (GSPEL)
- Vehicle Full Load Cooling Test Chamber
- Crew Station/Turret Motion Base Simulator (CS/TMBS)
- Ride Motion Simulator
- System-level Analysis Capability
- Center for Systems Integration (CSI)
- Vehicle Inertial Properties Evaluation Rig (VIPER)
- Mission Equipment Vibration Table (MEVT)
- Suspension Parameter Identification Device and Evaluation Rig (SPIDER)
- Tire, Run-Flat, and Roadwheel Simulation Laboratory (TR2SL)
- Elastomer Improvement Laboratory
- Fuels & Lubricants Laboratory

- Fresh Water Test Facility
- Bridge Dynamic Structural Load Simulation Laboratory

- TARDEC Fuels and Lubricants Research Facility (TFLRF) *(GOCO with SWRI)*
- Quality Surveillance Laboratory (Army Petroleum Laboratory; APL)
The three principal ways TARDEC provides value to its stakeholders are through these Value Streams:

**VALUE STREAM 1:** Shape Requirements for Future Programs of Record

**VALUE STREAM 2:** Develop New Capabilities for Current Ground Systems

**VALUE STREAM 3:** Provide Engineering Support and Services

The Strategy will direct and pace technology discovery, development, demonstration and transition to secure Enduring Value and continued battlefield dominance of the Army’s current and future ground systems.
Why is TARDEC’s 30-Year Strategy Important?

The Strategy will Direct and Pace technology discovery, development, demonstration, and transition to ensure battlefield dominance through the Enduring Value of the Army’s current and future Ground Systems.

Purposeful Engagement
- Industry
- Academia
- International

Purposeful Investment
- Human Capital
- Laboratories & Equipment
- IT Infrastructure

Purposeful Management
- Portfolio
- Enabling Business Processes
- External/Internal Communications

Shaping the future to fundamentally change the way we fight
**Autonomy-Enabled Systems**

Focusing on:

- Manned-unmanned teaming for mounted and dismounted units
- Coordinated unmanned air and unmanned ground systems operations
- Improved 360 degree vision
- Development of optionally-manned and unmanned vehicles
- Applied robotics for installation and base operations
Mission: "The Center will serve as the Army focal point for the development of dual-use automotive technologies and their application to military ground vehicles. It will focus on facilitating joint efforts between industry, government and academia in basic research, collaboration, technology, industrial base development and professional development."

“Leveraging Opportunities to Fill Technology Gaps.”
Recognized conduit connecting RDECOM and the Ground Vehicle Community

Partnering is critical to the success of our long-term strategy
The NAC seeks solutions to close TARDEC’s Technology gaps by reaching out to academia, other Government agencies and non-military industry partners.

Seeking solutions for Ground System needs
What the NAC looks for

Industry

• Best practices
• Speed of innovation
• Volume of product
• Small business creativity
• Requirements and Standards
• Technology Transition

Academia

• Cutting-edge research
• Innovative ideas
• Basic Research
• Unique testing equipment and facilities

Government

• Combined research
• Inter-agency
  • Pooled funding
  • Technology collaboration
Other Government Agencies

- Joint solicitations with Department of Energy in energy efficient vehicle technologies.
- Joint collaboration with Department of Transportation in advanced safety and autonomous solutions.
- Facilitate National Guard technology evaluations.
- Scouting solutions in DoD research laboratories.

Academia

- Find and foster R&D technologies and approaches.
- Connecting research and small business.
- Soldier Innovations Workshops.

Industry

- Sponsor vehicle specific user forums.
- Co-development of technology for commercial and military applications.
- Industry association partnerships.
Cooperative Research and Development Agreement (CRADA)

- Established between federal labs and commercial, academic or nonprofit partners to facilitate technology transfer between the parties for mutual benefit
  - GM Fuel Cell

Test Service Agreement (TSA)

- Is a technology transfer mechanism that enables federal laboratories to perform work for hire.
  - Dodge Truck Testing on the Vehicle Inertial Properties Evaluation Rig (VIPER)

Small Business Technology Transfer (STTR)

- Is a program that expands funding opportunities in the federal innovation research and development (R&D) arena.

Pathways to TARDEC

- Automation Alley
- MEDC
- PTACs
- 21st Century Truck

- Automotive Research Center
- SAE
- Detroit Auto Show
- Management Briefing Seminar
TARDEC’s Ground Vehicle Gateway is YOUR entry point!

Submit your technology for review

https://tardec.groundvehiclegateway.com
Email for TARDEC: usarmy.detroit.rdecom.mbx.tardec-ground-vehicle-gateway@mail.mil

If you would like charts from TARDEC Industry Days, send an email to above address with subject line: Industry Day charts
Ground Vehicle Systems Engineering & Technology Symposium (GVSETS)

Announcing the 6th Annual GVSETS and TACOM LCMC Plans & Priorities Symposium!
August 12-14

“New location” – the new Hyatt Place at Suburban Showcase in Novi.
Look for additional information that will be posted shortly regarding the new and improved GVSETS agenda and additional event features.

For additional information, please email: gvsets@ndia-michigan.org

CALL for ABSTRACTS Submission Deadline – May 8th
Accelerate Magazine

Ground Systems Integrator - online newsletter

Seeking solutions for Ground System needs

Email us: Usarmy.detroit.rdecom.mbx.tardec-nac@mail.mil