



TARDEC Dual Use Technology Briefing

Pete DiSante
National Automotive Center

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Partnership Mechanisms



- Small Business Innovation Research (SBIR) (separate presentation)
- Testing Services Agreements
- Education Partnerships
- Cooperative Research And Development Agreements (CRADA)
- Partnership Resources





Testing Services Agreements (TSA)



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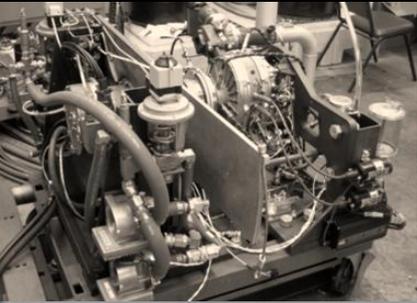
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Testing Services Agreement



- Allows commercial entities to **utilize unique capabilities** of Government labs and personnel
- Government is **reimbursed** for operational and equipment expenses
- **Cannot compete** with private industry
- Test data belongs only to **customer**

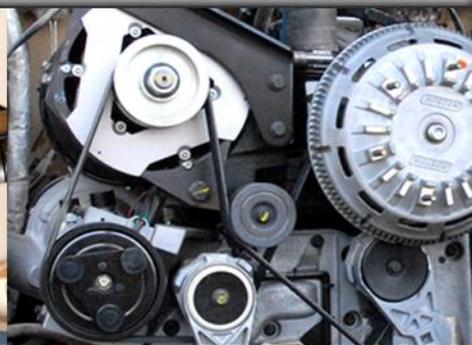
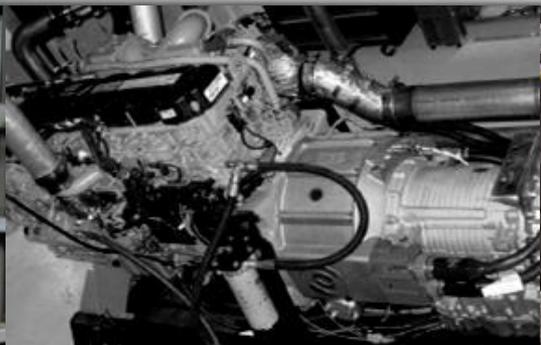




Education Partnership (EP)



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Education Partnerships



- Encourage, enhance **study** in scientific disciplines;

- Set up with US non-profit **educational institutions** dedicated to improving science, math & engineering education;

- **Provide assistance by...**
 - Loaning or transferring **equipment**
 - Making lab **personnel** available
 - Involving students and faculty in **research**
 - Providing academic and career **advice**





Cooperative Research and Development Agreement (CRADA)



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CRADA Program History & Law



- Created by the **Federal Technology Transfer Act** of 1986
- Extends to all **government-owned laboratories**
- Defined in U.S. Code, Title 15, **Section 3710a**
- Not a procurement contract; **Federal Acquisition Regulations do not apply**



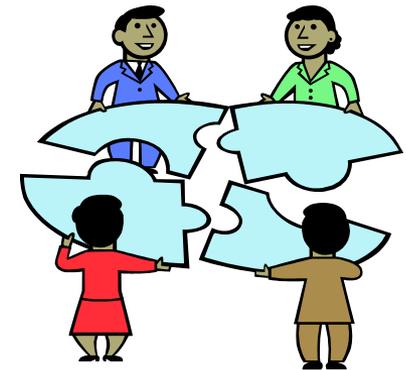


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CRADA - Overview



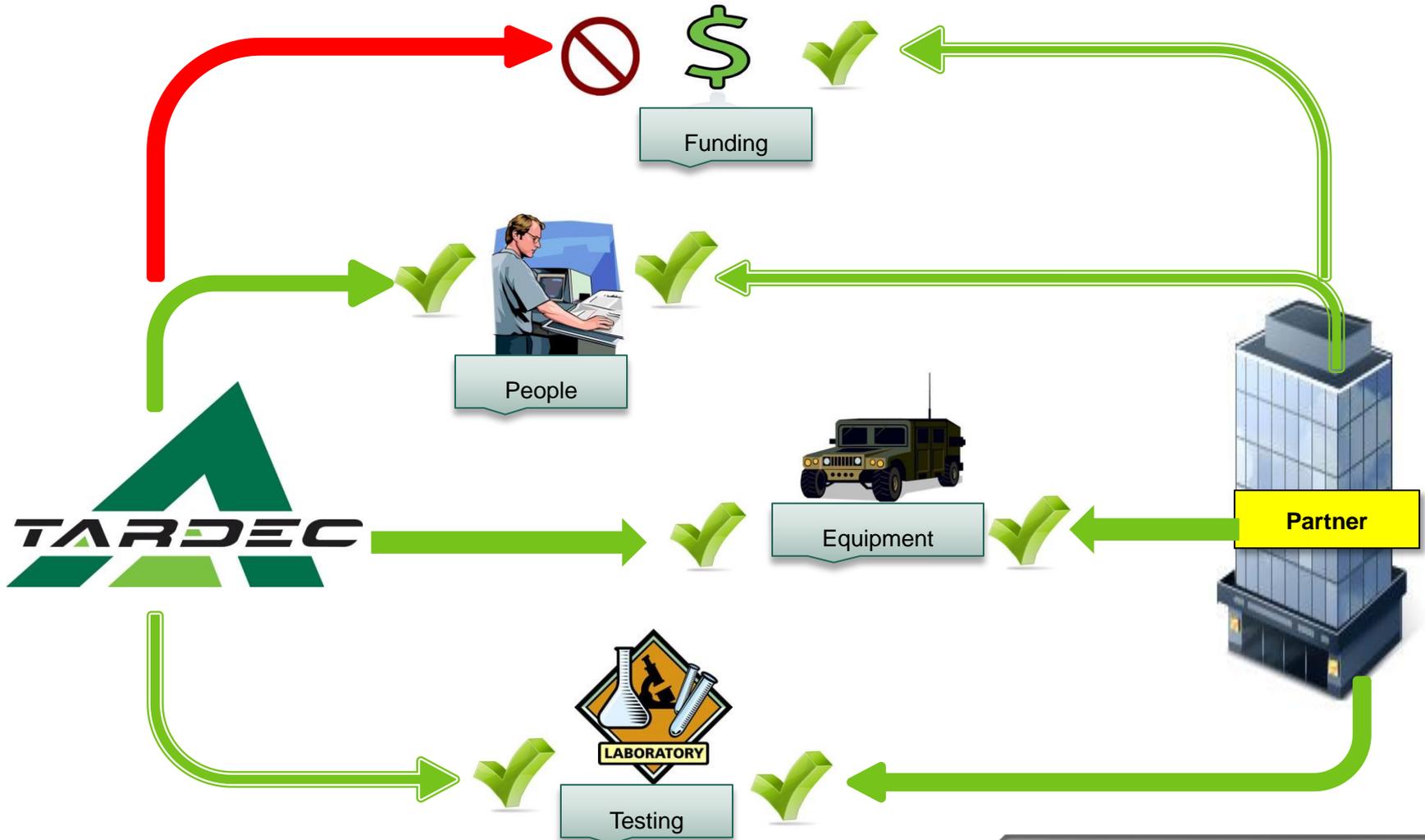
- Between **Government Laboratories** and commercial, academic, government or association partners;
- Facilitate **technology transfer** between the parties;
- Partner contributes **personnel, services, property and funding**;
- Government contributes all the above, **except funding**.





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Cooperative Research and Development Agreement (CRADA)





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CRADA - Features & Benefits



- **Quick** - Typically established within 60 days of initiation.
- **Flexible** - Leveraging of resources; each party pays for their tasks under flexible Statement of Work (SOW).
- **Mutually Beneficial** - Encourages cooperative R&D; partner has option to obtain an exclusive license for technology the Army invents under the CRADA.
- **Safe** - Proprietary information protected; all inventions developed under CRADA belongs to inventing party.
- **Simple** - Conditions and basic rights set forth in clear and simple language.





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CRADA - Miscellaneous

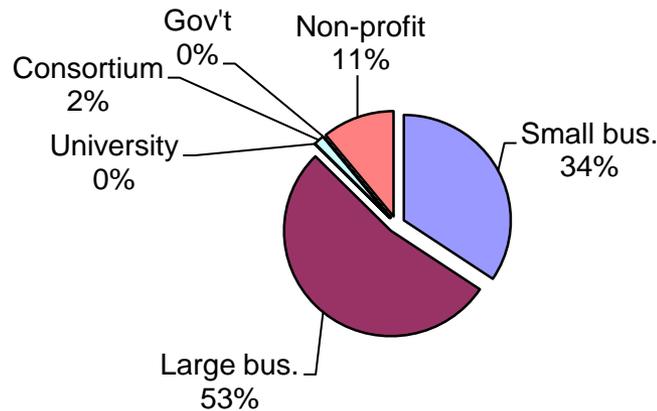
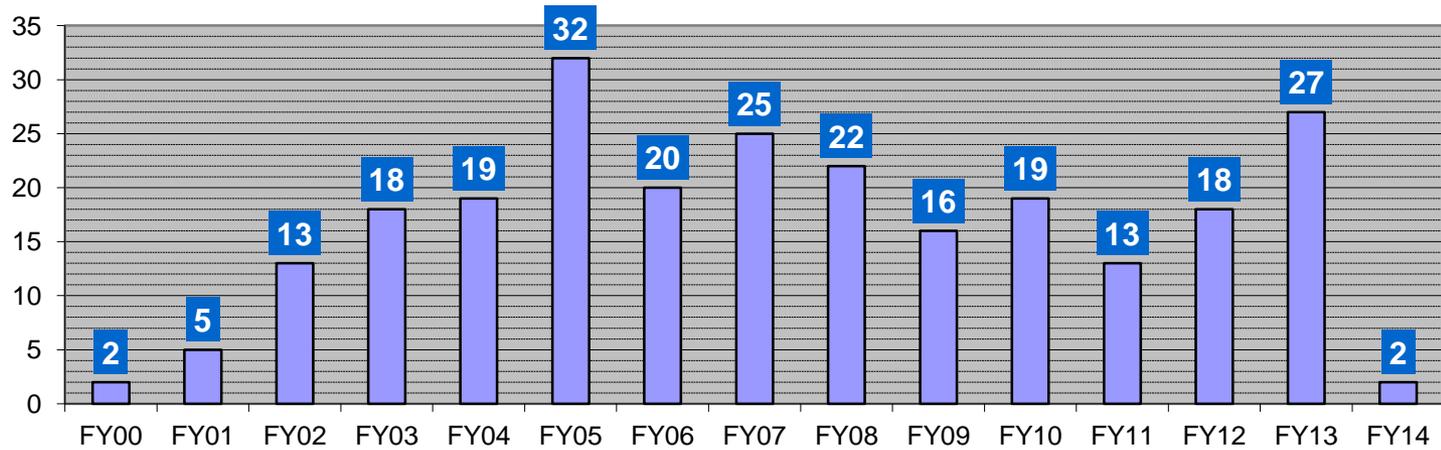


- **Duration** – Typically 3 years; renewable.
- **Termination** – Upon expiration, by mutual consent, or unilaterally (with written notice).
- **Multiple CRADAs** – A partner may have more than one CRADA with TARDEC simultaneously.
- **Special Agreements**
 - Master Agreement: many SOW's under one contract
 - 3-way: more than one partner
 - Foreign partner (requires approval from US trade rep.)

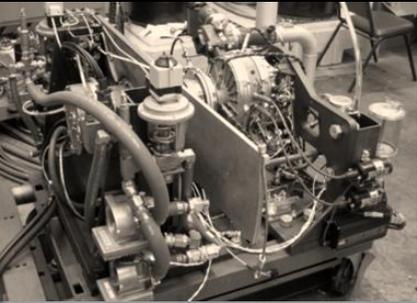




Number of CRADAs started



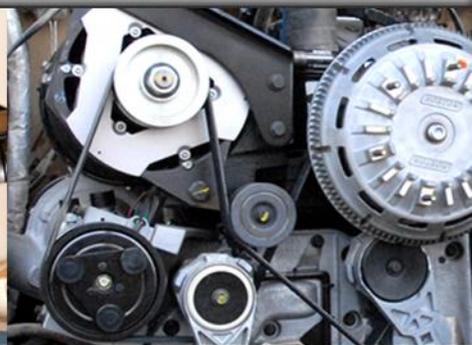
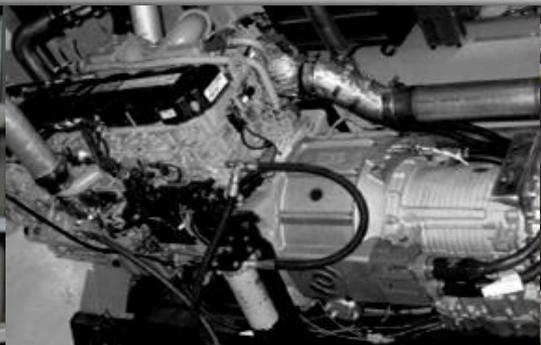
- Small bus.
- Large bus.
- University
- Consortium
- Gov't
- Non-profit



Partnership Resources



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Partnership Resources



Partnership Intermediaries (DoD)

Licensing of patented government technologies



www.techlinkcenter.org



<https://www.thecenterforinnovation.org/open-innovation-network>

FirstLink

www.dodfirstlink.com

Partnership Intermediary (Local)

Automation Alley

www.automationalley.com

Authorized by 15 USC 3715

More info at http://globals.federallabs.org/pdf/2008/Partnerships_Gonsalves.pdf



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Doing Business with Us – NAC



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LEAD - INNOVATE - INTEGRATE - DELIVER

CONNECT WITH US:



National Automotive Center - NAC

Encouraged by the advantages of collaboration, the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) worked with the Secretary of the Army to charter the National Automotive Center (NAC) in June 1993.

The NAC is the connection point for U.S. Army and Marine Corps ground vehicle technology, serving as the Army focal point for the development of dual-use automotive technologies and their applications to military ground vehicles. The NAC acts as the principal and primary point of contact, linking TARDEC with the automotive industry, other government agencies and academia to build relationships based on mutual technical interests to further this mission.



Have a question about the NAC? Send us an email at usarmy.detroit.rdecom.mbx.tardec-ground-vehicle-gatewav@mail.mil

Connection Point

The NAC is co-located with the U.S. Army TACOM Life Cycle Management Command (LCMC) at the Detroit Arsenal in Warren, MI, in the heart of the world's automotive capital.

The NAC's collaborative approach makes it possible to improve vehicle performance, safety, energy use and endurance, while also reducing the military's design, manufacturing, operations and maintenance costs. The application of jointly developed, or "dual-use," technology has similar impacts – safer cars and trucks, more advanced consumer technology and lower cost due to the broader commercial market base.

The Army can take advantage of the sophisticated equipment and highly skilled workforce developing automotive products and technologies that lead to dual-use partnerships with large companies, tier-one suppliers, universities, small businesses and technology innovators. Some examples of these partnerships follow.

ADVANCED VEHICLE POWER TECHNOLOGY ALLIANCE (AVPTA)

A partnership between the Department of Energy (DoE) and Department of the Army (DA), the AVPTA is a joint technology research initiative for ground vehicle power and energy technology research, development and transition. The AVPTA mission is to leverage resources and research involving commercial automotive and defense ground vehicle manufacturers to transition technologies into both the commercial and military marketplaces and increase precompetitive research and development (R&D).

The NAC is crucial in establishing relationships between TARDEC and industry to leverage new developments from both partners in the areas of hybrid-electric vehicles, advanced batteries, alternative fuels and microgrid technology. Many of these advances will be validated through collaborative efforts in TARDEC's new Ground Systems Power and Energy Laboratory (GSPEL).

THE HYBRID TRUCK USERS FORUM (HTUF)

Operated under collaborative partnerships between the NAC and non-profit clean transportation agency CALSTART, HTUF continues to work with

<http://tardec.army.mil/business/NationalAutomotiveCenter.aspx>

the HTUF leverages these partnerships to increase mobility, sustainability and safety, while simultaneously meeting the Army's goal to reduce the logistics footprint of forces on the move. The programs created through the NAC's defense, commercial industry and academic partnerships offer the Army collaborative solutions for long-lasting vehicles that command high performance and improved fuel efficiency. These solutions satisfy consumers' needs for safety and the Army's need for 21st-century reliability and survivability.

Leveraging Opportunities

TARDEC is eager to partner with industry and academia to harness new technologies for emerging systems, integrate new energy and propulsion initiatives, reduce operating and maintenance costs of fielded systems, and ensure that Soldiers have the best performing, most



Ground Vehicle Gateway



Ground Vehicle Gateway

TARDEC is searching for products or applications to fill technology gaps and improve military ground vehicle systems. To help accelerate the infusion of commercially viable technology into military land warfare systems, the NAC offers the GVG as an online resource to evaluate new proposals, inventions and specific technology insertion activities, and help identify new technologies that meet DoD needs.

The GVG helps the NAC connect, collaborate and communicate with industry, academia and other government agencies. The GVG process is designed to evaluate R&D ideas, test service requests, commercial product solicitations and general inquiries in order to make the appropriate connections between TARDEC, the TACOM LCMC and DoD.

The Gateway forwards concepts and proposals directly to TARDEC engineers, and GVG administrators log, track and evaluate ideas, facilitating dialogue and relationships with industry, academia and other government organizations.

SUBMITTING TECHNOLOGY IDEAS

Visitors fill out a simple template to submit solicitations and can return to the site at any time to check submission status. Since the GVG debuted in the spring of 2009, TARDEC subject-matter experts have made connections with the defense and automotive industries, TACOM LCMC, DoE and other collaborative partners. Follow the steps below to make a connection.

FOUR EASY STEPS:

STEP 1 - go to: <https://tardec.groundvehiclegateway.com>

STEP 2 - Fill in the appropriate fields with submission title, submission information and any attachments.

STEP 3 - Provide contact information.

STEP 4 - Click on the submit button. TARDEC engineers will review all submissions.



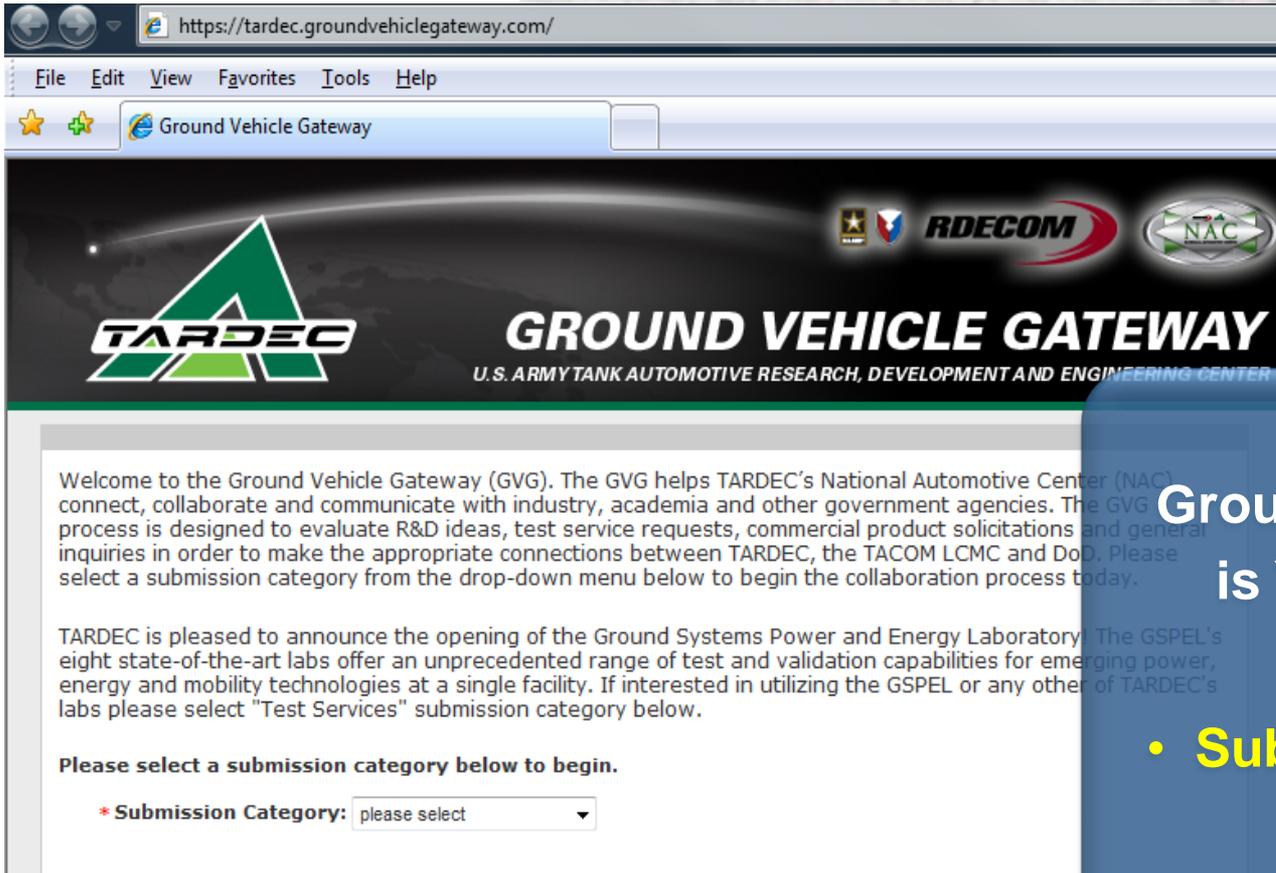


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TARDEC Ground Vehicle Gateway



We're Open for Innovation!



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

- **Submit your technology for review**
- **Request Testing Services**

<https://tardec.groundvehiclegateway.com/>



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QUESTIONS?



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