

# PRESS RELEASE



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Contact: Bruce J. Huffman  
TARDEC Public Affairs Officer  
[bruce.j.huffman.civ@mail.mil](mailto:bruce.j.huffman.civ@mail.mil) 586-215-8763

## U.S. Army Celebrates New Systems Optimization and Characterization Capabilities

U.S. ARMY DETROIT ARSENAL, WARREN, Mich. – U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) leaders and key stakeholders



gathered to celebrate the opening of the new Vehicle Characterization Laboratory (VCL) this week with an open house.

Five state-of-the-art testing rigs have been consolidated under one roof in the 4,500 square foot expansion of TARDEC's Physical Simulation and Test (PS&T) Directorate to form the new VCL.

The VCL allows TARDEC and other ground vehicle developers to accurately quantify system-level vehicle characteristics. The measurement of these properties is critical to the understanding and continued adaptation, modernization and development of Department of Defense (DoD) ground vehicle fleets.

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“We have had industry partners come in to leverage our previous capability because it was one-of-a-kind in the world,” TARDEC Director, Dr. Paul Rogers explained. “We are now dealing with larger systems, heavier systems, and this expanded capability now allows us to deal with the characterization of those very, very large systems.”

TARDEC researchers are now taking full advantage of the VCL's five key testing capabilities:

- Vehicle Inertia Parameter Evaluation Rig (VIPER) II, which allows for system-level mass properties for vehicles weighing up to 100,000 lbs. and with track widths up to 155 inches.
- Suspension Parameter Identification Evaluation Rig (SPIdER) to facilitate system-level suspension properties for vehicles weighing up to 100,000 lbs and with track widths up to 110 inches.
- Quarter-Car/Shock-Test Machine to test for both durability and performance characteristic modeling on all types of dampener systems.
- Tire/Roadwheel Test Machine tests for both durability and performance testing of tires, run-flats and roadwheel systems.

– more –

**TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.**

- Walk-In Environmental Chamber can be used to conduct climatic testing coupled and/or de-coupled from the Tire or Roadwheel Test Machine.

The VCL will facilitate each capability by providing dedicated space for the increased utilization rate, efficiency and overall operational safety essential to TARDEC's mission to be the DoD leader for ground vehicle technology integration.

“Our mission is to help our partners do their jobs faster, better and more efficiently,” Dr. Mark Brudnak, TARDEC Associate Director of Physical Simulation and Test explained. “Our goal is to help our customers understand their systems as early as possible.”

TARDEC's open house provided industry stakeholders and other government agencies an opportunity to tour the VCL and see firsthand the unique capabilities the test equipment brings to automotive/truck durability and performance testing.

“Recognize that this is about the ground vehicle at the system level and that is what makes this a unique facility.” Rogers acknowledged. “You can find a lot of component-level testing capacity in industry and academia and other government organizations, but the emphasis here is system optimization and system characterization.”



#### ABOUT TARDEC

Headquartered at the U.S. Army Detroit Arsenal in Warren, Mich., TARDEC is a major research, development and engineering center for the Army Materiel Command's Research, Development and Engineering Command and is an enterprise partner in the TACOM Life Cycle Management Command.

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