

# Press Release



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For Immediate Release

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## TARDEC Technologies Earn Two Army Greatest Invention Awards

**Orlando** – The U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) has been awarded two of the ten 2009 Army Greatest Invention (AGI) Awards. The Awards – selected by active duty Soldiers based on their impact on the Army’s capabilities, their inventiveness and their potential benefits outside the Army – were announced during a luncheon yesterday at the 27<sup>th</sup> Army Science Conference.

The TARDEC technologies recognized are:

- Overhead Wire Mitigation kit
- Landmine Blast Field Event Reconstruction Using Computational Modeling and Simulation.

“These technologies are helping keep warfighters safe, which is our ultimate goal,” explained TARDEC Director Dr. Grace Bochenek. “I am again impressed by the great things we are able to accomplish when we work together as an organization and with our many partners.”

### **Mine Resistant Ambush Protected (MRAP) Overhead Wire Mitigation (OWM) Kit**

In 2009, the U.S. Army TARDEC developed the OWM kit to provide MRAP vehicle crews with electrocution protection while also preserving local infrastructures. Previously, Soldiers were exposed to potential electrocution threats from low-hanging wires. In addition, the MRAP’s height led to antennae catching and pulling down high-voltage cables, telephone wires and laundry lines.



The Army developed and then submitted requirements to the U.S. Army Research, Development and Engineering Command for innovation engineering solutions. TARDEC’s Center for Ground Vehicle Development and Integration worked with the Science and Technology Assistance Team to evolve several prototype OWM kits.

The OWM kit directs the wires up and over the MRAP, protecting both the Soldiers and the infrastructure.

### **Landmine Blast Field Event Reconstruction Using Computational Modeling & Simulation**

In 2009, TARDEC’s Concepts, Analysis, Systems Simulation and Integration Analytics Group developed a method to reconstruct an underbody blast field event using data gathered from theater.

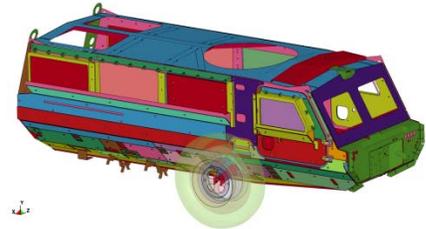
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The explicit finite-element modeling technique used in the full-vehicle system analysis included all key blast phenomenon elements – soil, charge, air, vehicle, and occupant – and analyzed the phenomena of charge detonation, blast wave propagation through soil and air, vehicle structural response, and crew injury and fatality risk probability. This model provides a better understanding and interpretation of collected field data that can then be translated to represent mathematical loading and boundary conditions for computational models.



The modeling and simulation method enables analysts to bridge the gap between controlled live-fire testing and actual field events for these complex and highly transient blast events. Additionally, it allows product development teams to consider real-world scenarios that may not be reflected in existing test and evaluation procedures, ultimately improving existing systems and enhancing warfighter survivability across the tactical and combat vehicle fleets.

## **ABOUT RDECOM**

The U.S. Army Research, Development and Engineering Command is the Army's technology leader and largest technology developer. RDECOM ensures the dominance of Army capabilities by creating, integrating and delivering technology-enabled solutions to our Soldiers. To meet this commitment to the Army, RDECOM develops technologies in its eight major laboratories and research, development and engineering centers. It also integrates technologies developed in partnership with an extensive network of academic, industry, and international partners.

RDECOM provides the Army with an organic research and development capability. More than 17,000 Soldiers, civilian employees and direct contractors form this world-class team. As part of that team, there are 11,000 engineers and scientists, many of whom are the Army's leading experts in their fields. A fundamental characteristic of this workforce is the focus on the Soldier. Whether providing technology solutions to meet current operational needs or developing break-through technologies for the next generation, RDECOM stands at the forefront of what the Soldier eats, wears, fires, flies or drives.

## **ABOUT TARDEC**

Headquartered at the Detroit Arsenal in Warren, MI, TARDEC is the Nation's laboratory for advanced military automotive technology and serves as the Ground Systems Integrator for all DOD manned and unmanned ground vehicle systems. With roots dating back to the World War II era, TARDEC is a full life-cycle, systems engineering support provider-of-first-choice for all DOD ground combat and combat support weapons, equipment and vehicle systems. TARDEC develops and integrates the right technology solutions to improve Current Force effectiveness and provides superior capabilities for Future Force integration. TARDEC's technical, scientific and engineering staff lead cutting-edge research and development in Ground Systems Survivability; Power and Mobility; Intelligent Ground Systems; Force Projection; and Vehicle Electronics and Architecture. TARDEC is a major research, development and engineering center for RDECOM and an enterprise partner in the TACOM LCMC.

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NOTE: Photos of these award-winning technologies and more from the Army Science Conference are available at: <http://on.fb.me/eYg79S>

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