

Army Testing Platform for Future Vehicles

While no military strategist can predict with absolute certainty where future conflicts might happen, Army researchers have designed a vehicle that's fuel-efficient, versatile and survivable in nearly any environment.

At the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) in Warren, final testing is beginning on an Ultra Light Vehicle (ULV) Research Prototype to meet a wide range of military challenges.

Mike Karaki, program manager for the ULV, said the ULV vehicle platform includes technologies to equip soldiers for missions across a full spectrum of mobility challenges while keeping occupants safe and using fuel efficiently.

Karaki said the information the U.S. Army is gaining from testing the new technologies will be used for future military vehicle development and design.

"This is not a vehicle going into production, it's a test platform for the development of technology and systems for future military vehicles," said Bruce Huffman, TARDEC Public Affairs spokesman.

Funded by the Office of the Secretary of Defense, the ULV project was set up to design, develop and build three identical lightweight tactical research prototypes emphasizing survivability for occupants and meeting four research objectives:

- Payload – 4,500 lbs.;
- Performance – at 14,000 lbs. curb weight;
- Protection – comparable to the currently fielded Mine-Resistant Ambush-Protected (MRAP) vehicles;
- Price – \$250,000 each in a hypothetical 5,000-unit production run.

TARDEC's Ground System Survivability group partnered with non-traditional defense contractors to bring the engineering expertise of both to the project. In only 16 months, the team moved from design to prototype, Karaki said.

"The Army's approach was to create synergistic survivability," explained TARDEC GSS Associate Director Steve Knott. "Soft deliverables – such as data and lessons learned – and hard deliverables – such as test assets and spare automotive components – will help shape, inform and support tactical vehicle programs, technology demonstrator efforts and/or TARDEC innovation projects to maximize the overall return on investment."



Army's Ultra Light Vehicle Research Prototype

The team produced three vehicles: two will be used for mobility, mine blast and ballistic survivability testing and the third is moving into TARDEC's Ground Systems Power and Energy Laboratory (GSPEL) for mobility and fuel efficiency testing. Results are expected to be available in early 2014, Huffman said.

Vehicle information – including specifications, photos and videos – is located at www.tardec.army.mil/ulv.

Highlights of ULV's powertrain, design, communications and protection, focusing on mobility and survivability, include a powertrain improvement.

With two electric motors (front and rear), the ULV's hybrid powertrain improves both mobility and survivability.

By eliminating the need for a driveshaft, the underbody can be designed to perform well in a blast event, Karaki said. And either of the electric motors can power the vehicle, providing redundancy.

A lightweight diesel engine powers the electric motors and also enables: immediate launch; stealth drive; silent watch; exportable power generation; high torque at low/near zero speeds, and improved fuel economy.

The ULV's final design was developed by lead contractor Hardware LLC, Huffman said. The cab provides more interior space than similarly equipped tactical vehicles.

Remote-mounted and remote-controlled vehicle electronics reduce HVAC loads and create space. "Clamshell" front and rear doors open away from the B-pillar, creating a protected area for soldiers to exit.

"The cab is designed to have seven egress points facilitated by quick-release and removable components, stowage space for personnel and mission-specific

items, and 360-degree situational awareness through front- and rear-mounted ultra-wide-angle thermal imagers," explained TARDEC engineer Vladimir Gendlin.

The ULV features lower-weight command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) technologies focused on warfighter needs.

The ULV's hybrid design allows for a "clean underbody" through the elimination of various automotive components potentially allowing for blast-mitigation technologies to perform uninhibited during a blast event, Huffman said.

Underground Railroad Among Sites To be Covered in AH's History Talk

by Jim Stickford

The Auburn Hills Historical Society and the Auburn Hills Public Library have gotten together to present a special history of the city and surrounding area titled, "If These Walls Could Talk."

The presentation is set for Saturday, Oct. 5, from 10:30 a.m. until noon at the main public library building.

Dot LaLone, vice president of the Auburn Hills Historical Society, said the event is the first of its kind.

"The idea is that these two groups – the library and the historical society – would work together to bring in a speaker who could talk about our area's history and help inform local residents about their rich heritage," LaLone said.

"There is so much history in our area, but people don't know about it. They'd rather drive by than stop at the historical landmarks in their own backyard."

LaLone said there's a lot of history in downtown Auburn Hills alone. That part of Oakland County was originally supposed to be the county seat back when the area was known as Auburn Heights, but Pontiac ultimately won the honor.

Chrysler Names Garberding Fiat CPO; Pino to Head NAFTA Manufacturing

Scott Garberding has been named chief purchasing officer and member of the Group Executive Council (GEC) for Fiat S.p.A. He will also be responsible for Group Purchasing EMEA (Europe) region.

In a statement to the public, Chrysler representatives said Garberding joined Chrysler in 1993 and has held a series of positions with increasing responsibility in Manufacturing, Quality and Purchasing. Prior to his most recent assignment, he was head of Purchasing for Chrysler Group.

In addition, Mauro Pino has been named Chrysler Group's head of NAFTA Manufacturing/World Class Manufacturing.

In his new position, Pino is responsible for all Assembly, Stamping, and Powertrain Manufacturing operations as well as implementation of the World Class Manufacturing system.

He joined Chrysler Group in 2010 as head of Manufacturing for the Toledo Assembly Complex. Previously, Pino served as plant manager at Fiat's Termini Imerese facility in Sicily, Italy.

Both appointments are effective immediately.

The GEC is the highest executive decision-making body within Fiat outside of its board of directors, Morgan said. It is responsible for reviewing the operating performance of the businesses,



Mauro Pino

setting performance targets, making key strategic decisions and investments for the group and sharing best practices, including the development and deployment of key human resources.

AH's Business NetWORK Moves To Tuesdays

The Auburn Hills Business NetWORK has moved its sessions from Mondays to Tuesday mornings.

The fall semester of the program, sponsored by the Auburn Hills Chamber of Commerce, has just started.

The referral program has also expanded to include both members and non-members in industry-exclusive categories.

This initiative offers relevant educational presentations by experts, as well as networking and referral opportunities.

Through the Auburn Hills Business NetWORK, professionals can expand their network as they generate referrals, and market their business without any competition.

Participants also have the opportunity to present their businesses to the group and generate referrals and new network connections on a one-on-one basis.

The group meets from 8 to 9:30 a.m. on the 1st and 3rd Tuesdays of every month for the length of the semester – until Monday, Feb. 17 – at the Auburn Hills Quality Inn on Opdyke Road.

The price of a 12-month commitment (fall and spring semesters) is \$100 for members and \$200 for non-members. Twenty-five spots are available and are reserved on a first-come, first-served basis.

Meetings include a continental breakfast courtesy of Quality Inn. For more information or to register, contact the Auburn Hills Chamber of Commerce at 248-853-7862 or by email at info@auburnhillschamber.com.

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