



LEONARDO DRS

RELIABLE ELECTRIC POWER ON-DEMAND, ANYWHERE



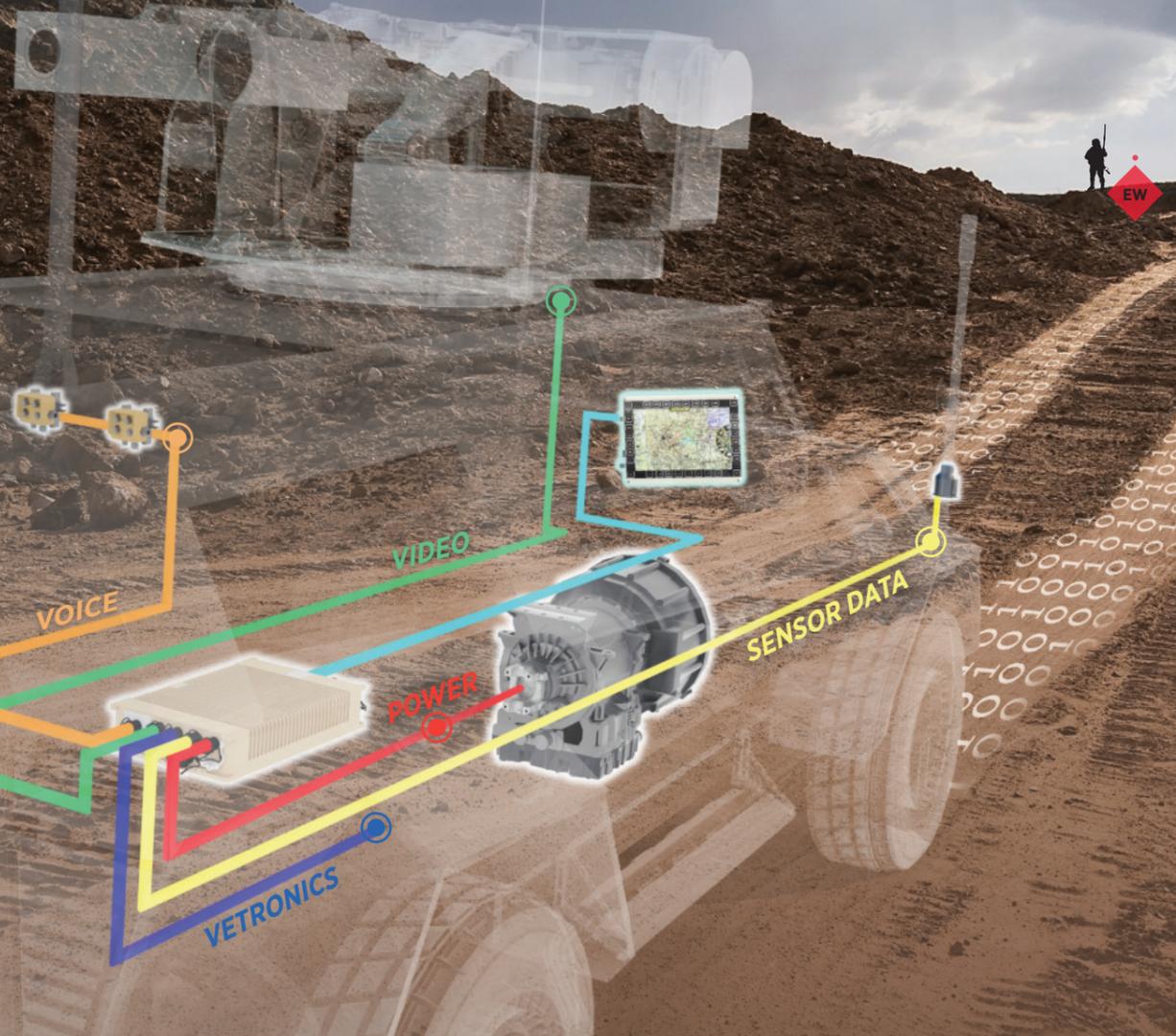
ON-BOARD VEHICLE POWER  LEONARDO DRS

Visit Leonardo DRS at IDEX Stand O6-A03 to learn more about our On-Board Vehicle Power technology.

C5I MISSION SYSTEMS

Integrate. Analyze. Visualize. Command.

Fully-integrated networking, communication, power generation and cyber-protected systems deliver the tactical advantage in the toughest environments. Comprised of our Data Distribution Unit (DDU) Tactical Computer, GVA Displays, Vehicle Intercom System, Titan On Board Vehicle Power system and the seamless integration of mission-essential C4 applications and sensors, Leonardo DRS delivers scalable, platform-agnostic mission systems that offer your soldiers the advantage in every domain.



LeonardoDRS.com/Mission-Command



RELIABLE ELECTRIC POWER ON-DEMAND, ANYWHERE

ELECTRICITY DIRECT FROM COMBAT AND TACTICAL VEHICLES DELIVERS MOBILE COMBAT POWER NEEDS IMMEDIATELY

As innovative capabilities are added to tactical and combat vehicles, there is a critical need for additional electrical power to support them. That need for more power will increase as more modern and power-hungry technologies are added to mounted and unmounted systems.

To solve the growing power gap, the vehicles soldiers use can be transformed into mobile power generators with minimal changes that don't affect the

performance of the vehicle. The result is mission-assured power, generated directly from the vehicle's powertrain; enabling clean, reliable power to use for greater threat detection, lethality range extension and freedom of maneuver while recharging mission equipment. Power is always at the ready.

Threats in the Gulf region require maximum preparedness as adversarial capabilities continue to grow. Battle formations in some cases could be confronted with an equivalent match of firepower and strategy. Forces now must contend with the need to shoot and communicate while on the move to counter the threat. Moving large power generators while conducting a tactical mission can leave these formations vulnerable to a quick-moving enemy.

Hauling power generators on the battlefield to support the tactical mission's power demand is no longer conducive to enabling a dominant position. Being mobile is necessary for defeating your adversary and dominating the battlespace.

The U.S. Army is recognizing these power needs and has positioned its Maneuver strategy towards the understanding that combat vehicles need substantial electrical power upgrades to conduct more independent operations against stronger growing adversaries.

In the UAE, the Defense Forces are modernizing and updating their C5-ISR, Mission and Weapons systems with more advanced technology. These systems all have a common and critical need for high-reliability and high-quality, electrical power for persistent operations in all tactical



environments. The need to sense, detect and defeat threats at longer distances requires more electrical power.

A Fast Solution for a Growing Power Gap

Leonardo DRS and Allison Transmission have jointly developed and delivered a power generation machine, packaged within the vehicle's powertrain, to support both mounted and dismounted troops with the capability to execute all of their capabilities.

The technology, On Board Vehicle Power (OBVP), generates up to 125kW of electrical power for any mission need: command post, Electronic Warfare, Special Forces, vehicle mission equipment packages, and more.

The small but powerful generator is integrated inside the transmission's bell housing which creates substantial additional electrical power for the vehicle which can also be exported outside of the vehicle without compromising platform performance.

In its basic automotive powertrain configuration, such as in the Navistar MaxxPro or Nitr platforms, the vehicles only have so much power to devote to mission critical systems. The Leonardo DRS/Allison Onboard Vehicle Power system has been specifically designed, tested and delivered to address the increasing need for more electrical power to support expeditionary and mission-critical needs.

It gives warfighters power when they need it right from their own vehicle while supporting a range of platforms including



power-hungry Command Post On-The-Move vehicles, and can be adapted into vehicles designed for special operations missions that require high-reliability, mission-assured clean power.



Leonardo DRS and Allison Transmission OBVP design uses a Transmission Integral Generator (TIG)

with power producing capabilities from 30 kW up to 125 kW integrated into an Allison 3000 or 4000 series transmission. The OBVP system was designed to maintain the existing driveline length and can be installed as a complete factory-new transmission/generator unit or as a retrofit kit. No additional belts, bearings or shafts are added. The TIG encompasses the same volume as the standard transmission and converts mechanical energy into electrical energy directly from the vehicle's engine, the most efficient way to generate electrical power.

The OBVP TIG system offers commanders immediate operational power capability On-the-Move or At the Halt and does not frontload the engine like alternator solutions do. The TIG is maintenance free and when in operation, becomes a force multiplier that extends battlefield mobility and reduces the logistical footprint.

Strong Industrial Partnerships in the UAE

With a long legacy of design, development and partnership experience, the UAE has a strong industrial base to develop on-board vehicle power technology into its fleet of combat and tactical vehicles.

Vehicles such as the UAE Defense Forces MaxxPro fleet are a natural candidate for this power-gap technology because of the existing Navistar and UAE support partnership that also brings together AMS – Bin Hilal as their preferred UAE industrial partner.

Tied together, the substantial industrial facilities, a high caliber of engineering, manufacturing and support capabilities are in place within the UAE to help deliver effective OBVP upgrades to the UAE MaxxPro fleet.

Leonardo DRS has a growing engineering base in the UAE. In early 2019, Leonardo DRS opened a new Systems Engineering Facility at Tawazun Industrial Park (TIP). The focus of this new facility is to support the delivery of a range of C4I solutions from integrated network and application agnostic tactical systems for Land and Naval environments to discrete products and capabilities such as Cyber Secure Tactical Mission Computers and Thermal Weapon Sights (TWS). The On Board Vehicle Power (OBVP) capability will be supported out of the same facility ensuring that the core knowledge and knowhow required to deliver UAE based support is in place from the start.

The Leonardo DRS vision is to establish a capability that compliments and collaborates with existing UAE based businesses and government agencies to build a deeply rooted and sustainable engineering led base interleaved with existing

world class businesses such as AMS-Bin Hilal and Allison.

Maximize Disaster Aid Support Teams

With a rich legacy of humanitarian aid assistance, the United Arab Emirates brings a range of emergency services and crisis response tools around the world and within its own borders, saving lives with modern services.

Mobile hospitals, crippled villages and infrastructure all need power immediately to have a successful emergency response. Generators do the job but require more logistics, manpower, maintenance, and fuel to depend on them.

The Leonardo DRS/Allison On-Board Vehicle Power system has an obvious application in the area of Emergency Services and associated humanitarian aid and disaster recovery. OBVP-equipped vehicles can rapidly deliver much needed electrical power to national infrastructure such as hospitals, pharmacies, emergency medical triage facilities, gas stations, water treatment facilities etc. while normal electrical services are established or repaired.

In the case where generators cannot make it through remote or heavily damaged regions, rugged vehicles with OBVP technology built-in can bring reliable, clean and constant power anywhere you need it. This additional life-saving tool will revolutionize disaster aid units.



Award-Winning Technology

Recently, the Leonardo DRS/Allison On-Board Vehicle Power system was awarded a top award from the 2020 Military & Aerospace Electronics Innovators Awards. The Platinum award, the highest Military & Aerospace Electronics Innovators award honor, recognized a, "superb innovation, characterized by a groundbreaking approach to meeting a need and a new level of performance, efficiency, ease-of-use," according to the judging panel.

The technology is proving itself as experts and military leaders begin to see the fast-approaching need for more electric power generated right from the vehicle.

Leonardo DRS has also been awarded U.S. military contracts to integrate OBVP into prototype Command Post Integrated Infrastructure mounted platforms and Terminal High Altitude Area Defense (THAAD) missile battery command and control, and launcher vehicles. The system improvements will give air defense operators immediate access to electrical power directly from a vehicle's power train as part of modernization efforts around the service.

Summary

Today, electrical power generation must be considered as part of the heart of every modern weapon system lethality upgrade, sensor fusion package and extended-range tactical network connectivity requirements to achieve the mission objectives.

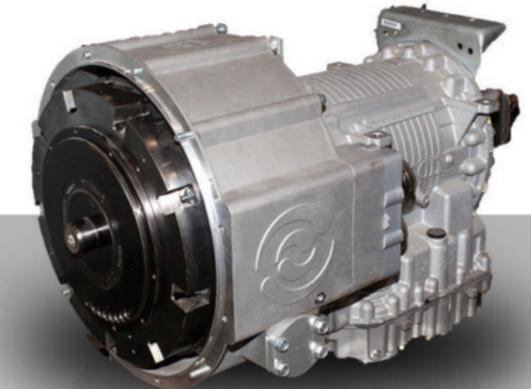
The electrical power gap is real. Warfighters do not need to be worried whether they have enough mobile power while training or fighting – they need to focus on winning the fight or completing the mission.

The technology is real and available today to solve the problem of weapon systems going down or operational readiness suffering because of a lack of basic power.

OBVP has been tested, exercised and proven to be a highly reliable, low technical risk technology. OBVP equipped vehicles to improve the operational adaptability of ground forces by providing mobile, expeditionary power when speed, range, agility, and flexibility are critical to mission success.

As the Army adds capability to its vehicles, the available power must be considered not just for what we want to power today, but for what and how the service needs to power into the future.

To see the Leonardo DRS/Allison On-Board Vehicle Power system in a live demonstration visit the Leonardo DRS booth at IDEX in February 2021 or learn more at LeonardoDRS.com/OBVP.



ON-BOARD VEHICLE POWER

Power comes from within. Own the edge.



Untether your mission equipment with TITAN On-Board Vehicle Power.

DRS' TITAN On-Board Vehicle Power system generates the power necessary—on the move or at the halt—for any needs from Mission Command and Mobile Command, to Missile and Directed Energy Systems, as well as disaster and humanitarian relief efforts. Integrating directly into the Allison Transmission of light, medium and heavy class vehicles, it reduces SWaP over towed generators and provides up to 120kW of mobile power, without compromising functionality. So you own the edge.