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PRESS RELEASE

A success for the use of HUMS for Land equipment support: Tactical Evaluation Vérité

On May 15, 2020, ARQUUS presented a report on the use of HUMS (Health and Usage Monitoring Systems) in an Army fleet to a group of Defense authorities. This report concludes a six-month tactical evaluation carried out on a fleet of 20 VAB (Véhicule de l'Avant Blindé) armoured vehicles at the Camp de Mourmelon, near Châlons-en-Champagne. The first conclusions of this experiment underline the interest of data collection solutions and pave the way for predictive maintenance solutions for land equipment. The EVTA Vérité thus creates new perspectives for the transformation of Land MOC (Maintenance in Operational Condition).

In December 2018, the French Army entrusted Arquus with an experiment on predictive maintenance tools, to be conducted on land equipment: the Evaluation Tactique Vérité (Tactical Evaluation Vérité, Vérité standing for VEHicules Roulants Instrumentés et Tactiquement Employés, instrumented and tactically employed rolling vehicles). The experiment was set with the support of the SIMMT (Structure Intégrée du Maintien en Condition Opérationnelle des Matériels Terrestres, in charge of the maintenance of all French Land equipment).

The goal of EVTA Vérité was to analyze the relevance of predictive maintenance-related technologies and their suitability for the management and use of military fleets. It also aimed at measuring the impact of these technologies on maintenance organization, as well as defining the next development steps.

As part of this tactical evaluation, 20 VAB from the 8^e Régiment du Matériel (8^e RMAT), were equipped with various HUMS sensors and delivered on June 5, 2019 at the CENTIAL (Centre d'Entraînement Interarmes et du soutien Logistique, Combined Training and Logistics Support Center) in Mourmelon. The instrumentation and data collection protocol had been previously validated on the Satory test tracks in May 2019.

During the collection phase at CENTIAL, between June and December 2019, the VABs were given a wide variety of missions, conducted under very different conditions and on very different terrains. This experiment, carried out in partnership with LGM, was conducted on several thousand kilometers in numerous configurations, thus enabling to build and study a complete database on the spectrum of monitored functions.

SIMMT's positive feedback on the use of this first data collection highlights the interest of the degradation models created thanks to this study. The analysis of data collected by the sensors enables the construction of complete models to forecast maintenance needs, adapted to the environment and mission profile. Thanks to predictive maintenance, technical failures may be anticipated several days in advance, refining the planning and work of maintenance and logistics personnel of the armed forces.

The generalization of HUMS-based procedures within the land forces should therefore increase the equipment's uptime. These new approaches should also offer the field commander all necessary tools to properly assess the equipment's potential and maintenance needs.

The use of HUMS is one of the innovative solutions currently being developed by ARQUUS to improve the maintenance of Army equipment in operational condition. These solutions include the use of 3D printing, as well as virtual and augmented reality.

ARQUUS has a strong expertise in the fields of support and maintenance, built over the years by providing long-term support for Army vehicles. ARQUUS currently supports more than 20,000 vehicles for the French Army. In order to provide support as close as possible to the forces, ARQUUS relies on an international logistics network and several thousand partner and service points, both in France and abroad. To coordinate all those support activities, ARQUUS has invested in its Garchizy logistics platform, which is the single center for spare parts and components for all current and future vehicles in the ARQUUS range, both in France and abroad. These provisions ensure the quickest access to spare parts and components to maintenance personnel, and improve vehicle availability on the field.



A VAB in Satory during the systems and data collection protocol testing

The Arquus e-xpo is open for visit at: e-xpo.arquus-defense.com

ARQUUS is a French Defense company, leader of land mobility solutions. Historical partner of the armies, Arquus has more than 25,000 vehicles currently in service in the French Army. Arquus takes part in the VBMR GRIFFON and EBRC JAGUAR programs, which are the new generation of the French Army's combat vehicles, in the framework of a Temporary Grouping of Companies. Arquus is notably in charge of designing and delivering the drivelines and the self-defense weapon systems for these two vehicles. Arquus also takes charge of all the logistics for the spare parts and organs of the VBMR and EBRC vehicles, thanks to its new logistics facility in Garchizy. Expert of support solutions, with more than 20,000 vehicles serviced daily, Arquus presents complete support offers, built on the company's historical knowledge.

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