

Germany's defence force transforms testing efficiency using driverless solution

Redefining military vehicle testing with automated solutions.



Durability testing in the defence industry

Durability testing is critical for ensuring defence vehicles remain operational in the harshest environments. Germany's defence force, the Bundeswehr, conducts extensive durability tests on its vehicles at its Technical Centre for Land-Based Vehicle Systems (WTD 41) in Trier, Germany. Part of the Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw), WTD 41's job is to ensure Bundeswehr's equipment is safe and fit for purpose.

The challenge

The nature of durability testing requires vehicles to be repeatedly driven over extreme surfaces, subjecting drivers to intense vibrations that can strain the entire body, particularly the spine, intervertebral discs, and even internal organs. Due to the physical toll of these conditions, WTD 41 test drivers were limited to just 30 minutes of testing before needing a break.



WTD 41 is located in the western German city of Trier

The solution

In 2011 the Bundeswehr began working with AB Dynamics and went on to adopt three automated driverless systems. Each vehicle system includes pedal, steering and gearchange robots, a controller and a GNSS/IMU positioning device. Test vehicles are remotely managed from a base station using GTC software via an encrypted radio network. Together, the solution enables vehicles to be driven without a driver while following a precise test course with centimetre precision.

Results

AB Dynamics' Automated Driverless Testing solution has been so effective for the Bundeswehr that they have recently acquired an additional fourth system. With no need to rotate drivers, tests could be run continuously 24/7. According to the Bundeswehr, depending on the vehicle and the test requirement, the Automated Driverless Testing solution can significantly reduce test mileage, thanks to the precision and repeatability of the robot-controlled vehicles.

This reduction in testing mileage translates to major time and cost savings. More importantly, test drivers are no longer required to be subjected to such arduous conditions, improving the health and safety of the test team.

Since WTD 41 adopted its first solution, AB Dynamics has gone on to launch ABD Solutions, which extends its driverless robotic technology beyond applications solely focussed on testing to automate the day-to-day operation of defence, mining and heavy industry vehicles.



WTD 41 uses four driverless systems for durability testing

About AB Dynamics

AB Dynamics is a leading global provider of automotive test and verification solutions that facilitate the development of vehicles that are safer, more efficient and sustainable. As part of the AB Dynamics Group of companies we enable customers to develop and test in virtual environments, validate on the track and then evaluate vehicles on public roads.

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