

TÜV Rheinland expands commitment to automated and connected driving



Jan 15, 2021 | Company

TÜV Rheinland at the Hungarian test site Automotive Proving Ground ZalaZone: one of the most modern automotive test sites in Europe / TÜV Rheinland plans to invest millions in further expansion of the site / Already involved in the permanent development of the test center since 2018 / www.tuv.com/smartmobility /

Contact:

Joerg Meyer zu Altenschildesche
Press officer
+49 221 806-2255
joerg.meyer@de.tuv.com

TÜV Rheinland is strengthening its commitment to the Automotive Proving Ground ZalaZone in western Hungary: the internationally active testing service provider is investing millions in the further expansion of testing facilities and capacities at the state-of-the-art testing site. “Since 2018, we have been continuously developing our test facilities on the 260-hectare site as a leading cooperation partner. The reason: on the one hand the development towards highly automated driving is becoming more and more virtual, but on the other hand, the new and much more complex functions and systems require more and more practical and dynamic testing,” says Rico Barth, Head of the Connected and Automated Mobility global business segment at TÜV Rheinland.

TÜV Rheinland with a competence team on site for four years now

Side by side with the leading manufacturers of vehicles, system components and suppliers, and together with the Hungarian automotive industry, TÜV Rheinland has been involved in the development of ZalaZone since the conception phase of the test site. As part of the cooperation, TÜV Rheinland has now had testing facilities, a workshop and additional office space available at the test site for four years. TÜV Rheinland already has a permanent team of five testing experts on site, and this commitment will be significantly expanded in the future.

Mapping complex test scenarios on real driving environments

“In development and for approval, more complex scenarios need to be tested on real test tracks. Even though advanced simulation technologies make it possible to reduce the real testing effort, simulation alone is still not enough,” says Rico Barth. The most recent example of this approach: TÜV Rheinland and an interdisciplinary team of experts successfully supported the homologation of the world's first Level 3 system (SAE Level 3) in accordance with UN-R157 requirements over a period of around two years, which received system approval from the German Federal Motor Transport Authority. The so-called DRIVE PILOT from Mercedes-Benz enables users to drive in a highly automated manner at speeds of up to 60 km/h, for example in heavy traffic or traffic jams on

suitable sections of freeway in Germany. The system approval applies to the S-Class and EQS models. In the project, TÜV Rheinland engineers also provided continuous support for dynamic driving tests on Mercedes test tracks and on public roads, among other things.

Such and similar projects can be realized in Hungary too. This is because of the fact that in addition to using the closed ZalaZone test site, manufacturers also have the possibility for test drives on certain routes in the public road network in the surroundings of ZalaZone as well as in Austria and other neighboring countries. These public roads are approved for testing highly automated vehicles. Upon request, TÜV Rheinland supports its customers locally in obtaining the corresponding test approval.

Cyber-physical test center

The ZalaZone test track has a comprehensive infrastructure that enables TÜV Rheinland to carry out complete testing with system evaluation and the development of process and test scenarios. This applies both to conventional vehicle tests and to tests for connected and automated driving, driver assistance systems, electromobility and so-called V2X networking ("Vehicle to Everything"), i.e. networking the vehicle (V), for example, with infrastructure, other vehicles, the cloud or the environment (X).

In addition to the usual elements of a test track, a 15-hectare smart city site is available here, which is used primarily for testing autonomous functions. A 5G network is available on the site, which can support testing of connected and automated vehicle (CAV) functions.

One-stop shop for testing and homologation scopes

Automotive manufacturers and suppliers have extensive options with TÜV Rheinland in ZalaZone to have their products tested and inspected – both in development and for homologation. This can be a complete customer vehicle or a specific subsystem. TÜV Rheinland also integrates

individual systems or system components including so-called software stacks for testing in customer vehicles or its own test vehicles. Customers can even borrow required measurement technology or receive support with setup and calibration. In addition, TÜV Rheinland is working in ZalaZone on digital maps, weather effects on sensors, approaching system limits of sensor systems, automated parking processes through to connected driving systems and the development of software and simulation applications.

Automated driving for greater safety and comfort

The cooperation with ZalaZone gives TÜV Rheinland customers access to unique test systems, communication networks and simulation environments. This creates a competence center for development and homologation in accordance with national and international specifications in the technology areas of autonomous driving, highly automated driving and driving assistance systems (ADAS, Advanced Driver Assistance Systems), cyber security, artificial intelligence and V2X networking technologies such as Car2Car, V2I, V2Grid and V2Cloud.

In Hungary, TÜV Rheinland has been active for more than 30 years. The Hungarian subsidiary TÜV Rheinland KTI has been part of TÜV Rheinland's Mobility Business Stream since 2013 and currently employs 20 people. In the field of homologation and type approval, the experts carry out tests in accordance with the EU regulations for motor vehicles (2007/46/EC) as well as motorcycles (2002/24/EC) and agricultural machinery (2003/37/EC), among others. TÜV Rheinland is also recognized by the Hungarian and Latvian national authorities as a technical service for type testing, in addition to many other countries. All relevant tests and inspections are carried out at the ZalaZone test site.

The commitment in Hungary is wide-ranging. In 2021, the driving tests for TÜV Rheinland's internationally acclaimed study on the performance of driver assistance systems over their service life were carried out at ZalaZone. The global testing services provider recently invested almost 2

million euros in state-of-the-art electromagnetic compatibility (EMC) testing facilities in Hungary. Such test facilities are central to the testing of electronic components and radio technologies, including those used in the automotive sector. The new test center has been in operation since January 2022.

Since 2018, there has also been a development cooperation with the Technology and Development Center of the University of Budapest under the leadership of Associate Professor at Budapest University of Technology and Economics Dr. Zsolt Szalay on the ZalaZone site. Here, TÜV Rheinland is driving forward developments on the testing and inspection scopes of digital maps, digital twins (digital twin testing), and virtual homologation.

The long-standing cooperation with local partners was renewed in 2021, highlighting a total of seven main areas of cooperation that will be successively implemented in the coming years.

For further information, see www.tuv.com/smartmobility at TÜV Rheinland.

150 years of safety: Since 1872, TÜV Rheinland's mission has been to make technology safe for people and the environment. From the steam engine to digitalization, the erstwhile "Verein zur Überwachung der Dampfkessel in den Kreisen Elberfeld und Barmen" (Association for the Inspection of Steam Boilers in the Districts of Elberfeld and Barmen) has evolved into a global testing service provider ensuring safety and quality in virtually all areas of business and life. This responsibility is now shared by more than 20,000 employees, who generate annual revenues of around EUR 2.1 billion. Around the globe, experts from TÜV Rheinland test technical systems and products, support innovations in technology and industry, train personnel in a wide range of professions, and certify management systems according to international standards. With safety and sustainability, TÜV Rheinland is also shaping the future. Since 2006, TÜV Rheinland has therefore been a member of the United Nations Global Compact to promote sustainability and combat corruption. Website: www.tuv.com