

The PEGASUS research project – securing automated driving effectively

At the half-time event of the BMWi-funded project at the Institute for Automotive Engineering (ika) in Aachen, the 17 project partners of the PEGASUS research project presented the interim results of their extensive research work. The aim of the project is to define new criteria and requirements for the release of highly automated driving functions by June 2019, to derive generally accepted methods and tools for securing such functions and to implement them exemplarily for the motorway driver (automation level 3).

Aachen, 08. November 2017

The future of automated driving is within reach; technically such complex functions are already possible today. Nevertheless, many questions still need to be answered. Before highly automated driving functions can find their way into production vehicles, it has to be proven that they are sufficiently safe according to socially accepted standards. Since such critical traffic scenarios occur relatively rarely in traffic, according to conventional testing methods the manufacturers would have to cover a large number of test kilometers, which lead to an enormous cost and time expenditure. Furthermore, after each change to the system, this complex verification once again is necessary.

As a project partner, fka is therefore researching together with automotive companies, suppliers, small and medium-sized companies as well as research institutions from all over Germany how to achieve a new consistent methodology for safeguarding and releasing highly automated vehicles.

At the half-time event, which took place at the Institute for Automotive Engineering (ika) at RWTH Aachen University on November 8th, all project partners presented their interim results.

fka plays a central role in the project by creating a database of relevant traffic scenarios. The overall objective of the database is to collect relevant traffic situations that so far have been generated by tests on the road in order to prove reliability more effectively than before. Thanks to such a database, these scenarios can now be collected systematically for the validation process and thus used directly for testing highly automated driving functions in suitable test environments.

Therefore, fka collects data from various sources (field tests, accident databases, simulation, etc.) and harmonizes them in order to process them further with a uniform process chain. Thus, relevant test scenarios based on realistic traffic scenarios are extracted to validate highly automated driving functions.

At the half-time event, the fka researchers used a real test drive to show how data from different sources is uniformly processed and stored in the database. The whole process from recording the data to extracting a scenario in the simulation was presented. In addition to developing and maintaining this database, fka also uses its highly specialized testing infrastructure to link the database to appropriate simulation environments such as the highly dynamic driving simulator of

the ika and to the evaluation and analysis of data from field tests on public roads and real tests in the controlled field.

About fka

For more than 35 years, fka has been an innovative engineering service provider for research and development tasks for the automotive industry and its suppliers. We are research facility, provider of creative ideas, and driver of innovation. Our holistic approach and unique infrastructure for simulation, testing and evaluation allows us to see the big picture and be your specialist for details at the same time. We deliver our worldwide customers with the full range of engineering services including conception and simulation, as well as design and engineering of prototypes, and their experimental testing. Working together in interdisciplinary teams is a key aspect of our success. We also cooperate closely with experts from vehicle design, electrical engineering and IT specialists and thanks to our subsidiary are present in Silicon Valley since 2015.

Following our motto “creating ideas & driving innovations” we create a safe, efficient and exciting future mobility for our customers.

www.fka.de

Released for publication.

We kindly request a specimen copy after publication; for further enquiries please contact:

Kathrin Noreikat

Phone +49 241 8861 106

Email: kathrin.noreikat@fka.de