PRESS RELEASE

MARCH 2013

Self-driving cars:

Team from Offenburg working on a ‘driverless car’

It is easy to see how the idea of a car driving along a street without a driver in sight, as if steered by an invisible hand, captures the imagination of most people. At the Offenburg-based ‘idea factory’ GeneSys Elektronik, a driverless system is no longer just a pipe dream. Researchers at the German company are involved in the latest automotive development project: a car-based robotic driving system. Currently, there are two self-driving cars which are capable of driving themselves around a controlled test circuit. It is, however, planned to increase this number to 50 in the future.

Who has never dreamt of being driven home by a robotic driver? Even if your own car is not yet equipped with a robotic system, this futuristic scenario is currently being tested out in a specially made environment well away from public roads. The test vehicles which navigate the familiar route are completely driverless. In other words, they manoeuvre smoothly around a controlled circuit without a human driver behind the wheel. Real world traffic situations, such as collision avoidance or emergency stops, can be tested as often as necessary – and more than 50 self-driving cars have already been planned.

Working alongside several renowned automotive industry service providers, GeneSys Elektronik uses its extensive know-how to contribute towards the development of a fully functional overall system. The GPS-supported gyro platform from GeneSys Elektronik is the assembly of choice for these autonomous car tests. It relays data of the vehicle’s position accurately to within just one centimetre. This data is subsequently processed by the robotic system to drive the car around the test circuit as specified by the administrator.

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Numerous test runs under the exact same conditions are necessary to achieve reliable measured data. The repeatability and preciseness of the tests are the basis for reliable data analysis. Driverless tests help to open up a whole host of exciting opportunities for vehicle testing. Relevant tests can be carried out safely well away from real traffic in a controlled environment. This gives engineers and researchers enhanced planning reliability with a higher degree of repeatability, less staff costs and greater precision in order to develop better and more eco-friendly vehicles within a shorter space of time.

It currently takes roughly five years to develop a new car. The required test runs are carried out to 95 percent by humans. This, in turn, means that both the materials and the health of the test driver are subjected to the same level of stress. Automated endurance tests will guarantee improved test circuit efficiency with an increased volume of traffic, reducing the risks for human drivers on less favourable terrains and during safety-critical test scenarios.

GeneSys Elektronik GmbH is an internationally established company with three business segments, which focuses on the development and production of bespoke metrology. Core areas are inertial measurement systems and optoelectronics. Regional companies, such as PWO, rely on the video inspection systems from the GeneSys Elektronik subsidiary Omni Control to monitor the quality of their thermoformed components for the automotive industry. To ensure they pass obstacle avoidance tests with flying colours, leading automobile manufacturers, including BMW and AUDI, have optimised the handling of their vehicles with so-called gyro platforms from GeneSys Elektronik. The company's measurement systems also guarantee that tunnel boring machines from Herrenknecht stay on course - 24/7 and around the globe.

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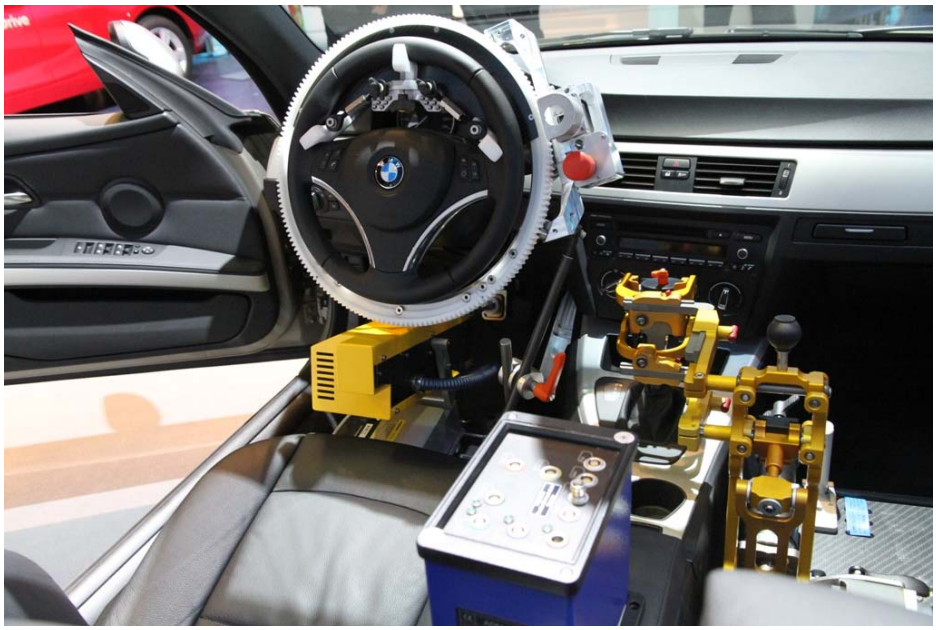

At the Offenburg-based 'idea factory', driverless cars are no longer just a pipe dream

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GeneSys Elektronik GmbH

SENSOR+TEST 2013, Nuremberg, Hall 11, Stand 11-109
Automotive Testing Expo Europe 2013, Stuttgart, Stand 1366

Approved for publication.
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