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Autonomous Mobility in Baden-Württemberg: Lessons Learnt

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PROJECT: TEST AREA AUTONOMOUS DRIVING BADEN-WÜRTTEMBERG (TAF BW)

- **Time frame:** October 2016 – May 2023 (official opening May 2018)
- **Stakeholders:** The consortium is composed of the cities of Karlsruhe, Bruchsal and Heilbronn as well as of the FZI Research Center for Information Technology, the Karlsruhe Institute of Technology, Karlsruhe University of Applied Sciences, the Fraunhofer Institute of Optronics, System Technologies and Image Exploitation (IOSB), and Heilbronn University. The setup of the test area is supported by a great number of partners from industry and science in Baden-Württemberg. The Karlsruhe Transport Authority KVV as an external and neutral operating company enables the operation of the test area.
- **Funding**: For the conception, planning and construction of the test area, the responsible Ministry of Transport Baden-Württemberg provided 2.5 million euros. The test area was set up in 2016 and officially opened in May 2018. The Ministry of Science, Research and the Arts Baden-Württemberg and the Ministry of Transport Baden-Württemberg are funding research activities on the test area with the research program "Smart Mobility" with another 2.5 million euros.
- **Description:** Since 2018 the Test Area Autonomous Driving Baden-Württemberg (TAF BW) provides a platform for companies and research institutions to test future-oriented technologies for connected and automated driving in everyday road traffic. The freely accessible test area covers all relevant road types. Therefore various sections of the existing road infrastructure in the cities of Karlsruhe and Heilbronn were prepared, high-precision 3D maps were generated, sensors for real-time recording and anonymization of traffic and its influencing factors were installed, and fast data transmission systems are provided.
- **Further information:** https://taf-bw.de/en/

MAIN ACHIEVEMENTS

As a **transdisciplinary real laboratory**, the Test Area Autonomous Driving Baden-Württemberg (TAF BW) investigates how autonomous driving becomes an important part of the sustainable mobility system of the future. The TAF BW combines excellent research and application and thus triggers the exchange between science, industry and society. The competences of the research partners range from technological, economic-legal to psychological-ethical-social issues and also includes the IT security of the systems. This comprehensive analysis under real conditions is the key to successful innovation.

Several research projects funded by the State of Baden-Württemberg (as part of the research program "Smart Mobility") and the Federal Government are currently using the infrastructure of the test field:

- Among other things, topics such as the optimization of the visual recognition of other road users, autonomous intelligent parking or the use of autonomous shuttles in public transport are being investigated.
- In addition, overarching topics such as legal framework conditions, social acceptance or traffic effects are considered.
- Public events inform and involve citizens on current research activities

LESSONS LEARNT AND AMBITIONS FOR THE FUTURE:

The first findings from various research projects (TAF BW, DiaMANT, Smart Mobility etc.) in Baden-Württemberg in recent years are:

- A **commitment of the different levels of public authorities** (EU, national government, regions, municipalities) in the field of autonomous driving at an early stage of research activities makes sense. Thus, insights into emerging everyday questions (vehicle availability / technical feasibility, data protection, data security, installation infrastructure, etc.) can be gained.
- **Cooperation and exchange between politics, economy and science** are meaningful and necessary. In general, it is important to consider not only technological issues, but also further aspects such as social acceptance, legal framework conditions, ethical issues and traffic effects.
- **Real laboratories and test areas are very well suited as a framework for exchange and cooperation** between stakeholders from politics, business, science and society. Publicly funded test fields are especially important for small and medium-sized enterprises. **Further funding programs** for projects and research activities by the EU as well as national and regional levels that can use already established infrastructures in test fields are important and the basis for a faster innovation process.
- **Cyber security, data protection and data security** are important aspects for the introduction of autonomous driving and the basis for acceptance and trust of future users. The **establishment and the possibility of using a common basis of research data** can accelerate the innovation process.

CONTACT

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