Spotlight Session: Autonomous Driving and future mobility trends in R&D

Autonomous driving and future mobility technologies are rapidly evolving fields with the potential to revolutionize transportation systems worldwide. However, several challenges need to be addressed to ensure their successful implementation. They include technologies for achieving precise and reliable localization in autonomous driving, such as quantum magnetic flux and gyro sensors, along with a magnetic field map, which can provide high sensitivity and accuracy without frequent calibration, hence improving navigation and reducing false alarms. Furthermore, effective integration and coordination of data from multiple sensors are key challenges for ensuring accurate perception. Intelligent decision-making processes are essential, and edge continuum orchestration of AI optimizes resource usage and decision-making at the network edge. Finally, as autonomous mobility systems often involve multiple agents, such as vehicles, pedestrians, and infrastructure components, which need to collaborate effectively, distributed collaborative intelligence technologies can enable emergent behavior and massive collaboration among multiple agents towards a common goal in complex traffic environments.

This workshop aims to bring together experts, researchers, industry professionals, and policymakers to discuss and explore the current challenges, opportunities, and innovations in autonomous driving and advanced mobility. The primary objectives of the workshop are as follows:

a. Identify and discuss the key challenges associated with autonomous driving and advanced mobility.
b. Foster a collaborative environment for knowledge sharing and exchange of ideas among participants from diverse backgrounds.
c. Present ongoing innovative research and development activities aimed at overcoming these challenges.
d. Encourage collaboration between academia, industry, and government entities for future research and innovation in this domain.

The agenda includes presentations about selected, ongoing R&D projects which are playing an essential role in addressing the challenges of Mobility of the future. These are:

- **A-IQ-Ready: the** project aims to introduce and materialize an intelligent autonomous ECS fit for our digital age and utilize innovative technologies, like edge continuum orchestration for artificial intelligence, distributed collaborative intelligence and quantum sensing, which could prove revolutionary for most services and industries. These technologies and their combination will propel the transition to a Europe of Society 5.0.
  Speakers: Dr. Reiner John (AVL)
- **EcoMobility: the** project researches and develops methodology and tools for in-vehicle and cloud-based services. The project aims to close technological gaps and provide new user functions by delivering future electronic components and systems to cope with increasing system complexity and high connectivity requirements.
  Speaker: Dr. Mohammed Abuteir (TTTech Auto AG)

Following three invited speeches by leading European Commission representatives, the European Commission (EC) R&I programs and initiatives on the topic of automated Mobility and its key enabling technologies are highlighted and introduced.

- **Speaker: Dr. Max Lemke, Head of Unit Internet of Things, DG for Communication Networks, Content and Technology, European Commission**

Dr. Max Lemke will provide an overview about how the European Data Act, Chips Act and R&I programmes will contribute to support technological harmonization for autonomous mobility.

- **Speaker: Dr. Stephane Dreher, Senior Manager ERTICO & Leader of Coordination Working Group at CCAM**

  Dr. Stephane Dreher will present the activities within CCAM platform and how they will contribute to provide significant social, industrial, economic, and environmental benefits in the future.

- **Open Discussion (moderator: Andreas Eckel – TTTech Computertechnik AG)**

The event will conclude with an interactive and open discussion that will give an opportunity for all participants to jointly share and present their thoughts.

TTTech Innovation Space

Additionally, we would like to invite you to take a **guided tour of TTTech Innovation Space**. Please let us know, if you are interested to join - either before or after the event.