WORKING GROUP 3: PHYSICAL & DIGITAL ROAD INFRASTRUCTURE

Motivation

Road infrastructure was traditionally seen as concrete and asphalt, road signs and traffic lights, bridges and tunnels. Today roads are complemented by the digital infrastructure such as digital signage, traffic management centres, digital maps as well as data and information that support all kind of vehicles already today. This digitisation of infrastructure will greatly support cooperative, connected and automated vehicles into understanding their surroundings and will connect it to dynamic traffic management procedures.

This does raise however new topics, such as the need to maintain a high quality standard for this digital representation, both on accuracy and timeliness of the updates, requiring an increased collaboration between public and private sector, between road authorities / operators and vehicle suppliers. Next, and in particular for the live data, the communication infrastructure needs to be put in place in order to guarantee the infrastructure to vehicle (I2V) communication. Lastly one should consider a feedback loop from the vehicle to the infrastructure in order to allow efficient incident management.

Scope

This working group will focus, inter alia, on the development of recommendations related to:
- How can physical infrastructure advancements support CCAM?
- How can vehicles use both physical and digital infrastructure in an integrated way and how can they cope with different quality and type of roads?
- Which Operational Design Domains and related digital and physical infrastructures can support which automation level and what could be possible classification categories?
- What infrastructure / vehicle related data is needed and how is it obtained? What are the hurdles faced in collecting and maintaining (the quality of) of this data?
- What technical and policy challenges exist when discussing digital and physical infrastructure for CCAM? What research is needed to address these challenges?
- How can we manage the transition period from pure physical towards a more digital infrastructure supporting CCAM?
- Is there a difference between publicly owned and roads under concession?
- What is the role of public authorities in the provision of high definition maps?
- How do public authorities see their role changing with connected-automated vehicles on the road?
- How can satellite navigation, notably Galileo and EGNOS, as well as satellite communication, support CCAM?
- Etc.