ENABLING THE TRAFFIC SERVICES OF TOMORROW

MOVING TOWARDS INTEROPERABLE STANDARDS IN THE TRAFFIC MANAGEMENT DOMAIN

Within the context of connected vehicles, and, particularly, automated mobility, these vehicles need to understand, precisely, the road environment in which they are driving. In the current situation, however, overlaps between standards are occurring more and more often. For seamless services that are interoperable and consistent on the information level, the interoperability of information over the interfaces needs to be guaranteed.

Together, DATEX II and TN-ITS are taking on the challenge of interoperability of standards in the traffic management domain. By taking small steps, with a coalition of the willing, we aim to start improving the current situation. The focus in the first stage will be on developing semantical interoperability between DATEX II and TN-ITS within the scope of Management of Electronic Traffic Regulations (METR). Via this press release we hope to inform you on the steps that were taken to get here and what our hopes are for future.

Joint workshop on Aligning Standards

During recent conversations between DATEX II and TN-ITS experts it became clear that we are providing and using standards addressing the same real-world concepts. Especially now in relation to the digitalisation of traffic regulations we see that we are modelling the same legal frameworks to both of our standards. The handover of information between standards is not guaranteed due to the fact that we maintain and use our own standards and definitions. To discuss this and to come to agreements on how to address this challenge a joint workshop with a select group of experts was organized beginning of October at the Polis offices in Brussels. Attendees represented organizations such as DATEX II, TN-ITS, ERTICO, the Alliance for Parking Data Standards (APDS) and the Polis Network.

The need to manage

Participants of the workshop commonly agreed on the following problem definition.

The 3 major roles: road user (either man or machine); road operator/authority and travel service providers have standards to support their operations. For seamless services that are interoperable and consistent on the information level, the interoperability of information over the interfaces needs to be guaranteed. This entails challenges in the field of data governance and consistency of information for those parts of the standards that overlap.

If we want this to work and create reliable end user services, either serving the vehicle or the driver support system, these systems must be able to recognise that what they receive from the roadside station is about the same real world incident as what is received from other service providers and vehicles. Only then it can process and present this information adequate and non-disturbing for the end user.

This harmonisation/alignment is a prerequisite to fulfil the promises of ITS as contributing to more safety, better traffic efficiency and reduction of emissions.

Use case

In order to manage and mitigate these risks, clarity needs to be created on what standard is addressing what operational services with what kind of digital data-services. The traffic management domain however is quite wide. Therefore, the focus in the first stage will be on developing semantical interoperability between DATEX II and TN-ITS within the scope of Management of Electronic Traffic Regulations (METR). This coalition will analyse the standards TN-ITS and DATEX II by documenting commonalities, differences and defining proposals for change. As TROD and APDS are facing similar challenges they are warmly invited to participate and contribute.

Our goal for the future is to advice or recommend to other standards how to evolve their specifications in order to fulfil the prerequisite of interoperability in the traffic management domain.

Service-oriented approach

The coalition will address these challenges from the perspective of services. Recent analysis of the domain of traffic management (in its widest scope) show that the classic paradigm, split of static and dynamic data, does not hold anymore. Traditionally perceived static information concepts are being used more and more dynamically and will therefore affect different types of services. Instead, we will approach the challenges based on the functional services that are delivered.

In this service-oriented approach towards the digitalisation of the traffic management domain we see services that have semantical overlaps that require the alignment of these overlaps. Data source holders can then choose which services they want or can support and then deliver their data according to the standard that is available for that service.

Joint market deployment

The coalition will jointly define and execute a marketing and communication approach, to deploy the harmonised results towards all identified and relevant stakeholders including the EU commission, the member states, federal and local road authorities, ministries and cities' representatives.