ASECAP DAYS
ISTANBUL 2023

Celebrating 50 YEARS OF Successful TOLL ROAD PROJECTS

TN-ITS ROAD DATA EXCHANGE

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President TN-ITS

HERE Technologies

Hosted by

ICA
YAVUZ SULTAN SELİM BRIDGE AND NORTHERN RING MOTORWAY

Agenda

- **Industry Demand for Digital Maps –**
  Use Case Intelligent Speed Assistant (ISA)
- **TN - ITS Standardized Road Data Exchange in EU**
- **Developments on Harmonization of TN-ITS and DATEX II**
- **Takeaways**

Industry Demand for Digital Maps

European Road Safety Charter

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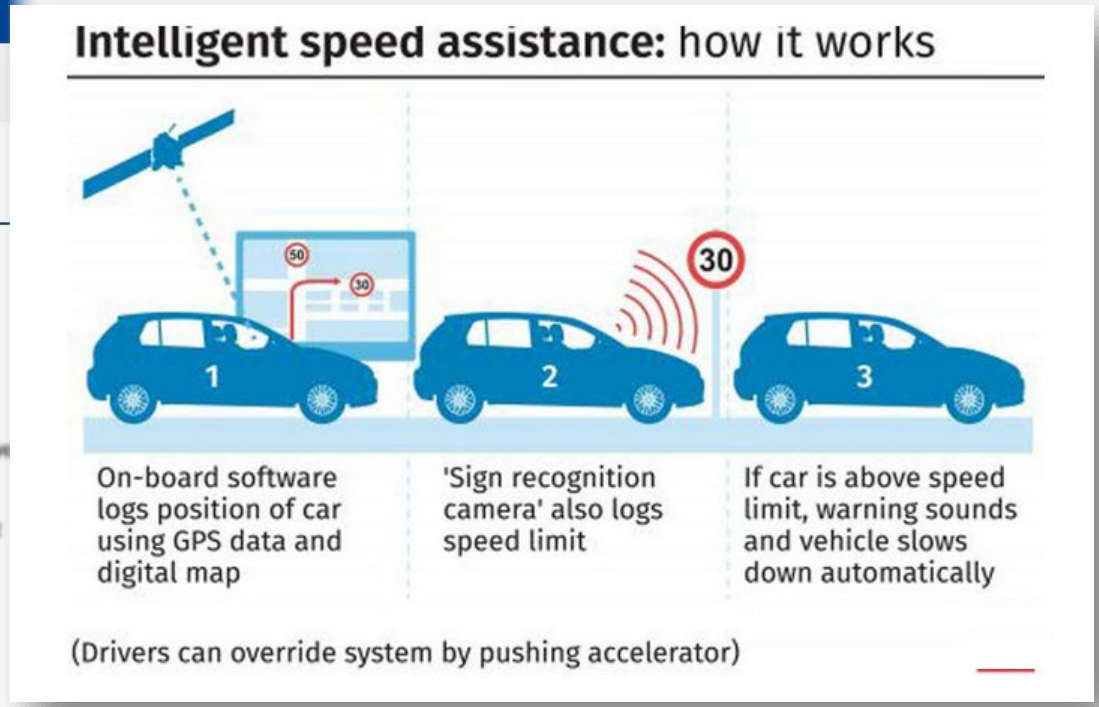
Intelligent speed assistance (ISA) set to become mandatory across Europe

With the General Vehicle Safety Regulation (EU) 2019/2144, the Commission has taken unprecedented action to help the transport sector and public authorities prepare for the mobility of tomorrow. The objective is to protect Europeans against traffic accidents, poor air quality and climate change, empowe them with new mobility solutions that match their changing needs, and defend the competitiveness of European industry.

As of 23 June, the delegated act "Technical requirements and test procedure for approval of intelligent speed assistance (ISA)" has been adopted. The act will now be sent to the European Parliament and Council for two-month scrutiny.

From July 2022, Intelligent speed assistance (ISA) will be mandatory for new models/types of vehicles introduced on the market. The ISA will become mandatory for all new cars that will be sold from July 2024 (therefore it will not concern the vehicle fleet already registered and in circulation before that date).



Industry Demand for Digital Maps

Typical Sign Recognition challenges with onboard cameras Requires digital map data to boost performance

~50%

Average performance level of camera-only system (source: ACEA, February 2021)

Industry Demand for Digital Maps

Not all countries have the same density of explicitly sign posted speed limits

- High density in Northern Europe and UK
- Low too very low in Central, Southern and Eastern Europe

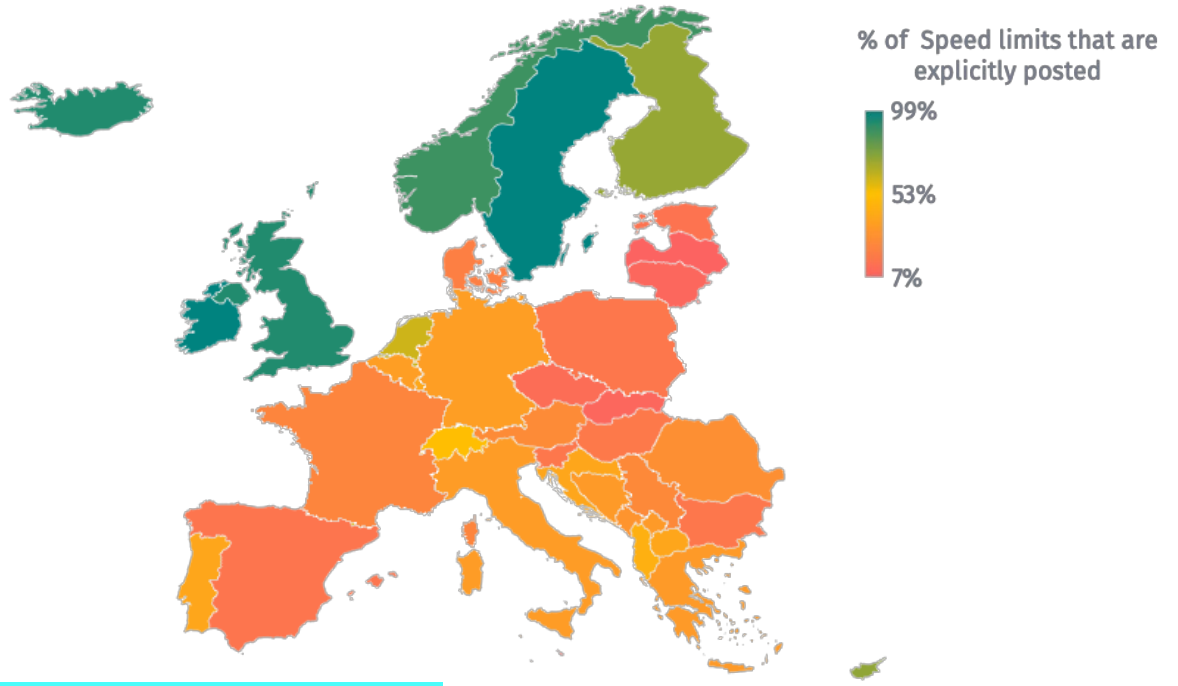
Location specific speed limits

- Speed Limits change when crossing country borders
- Motorways, national roads, inside city limits, play zones/pedestrian roads

Over 60% of speed limits are implicit.
They are not sign posted but based on road rules and regulations.

Source: HERE internal data research

Estimated posted speed limits density in Europe



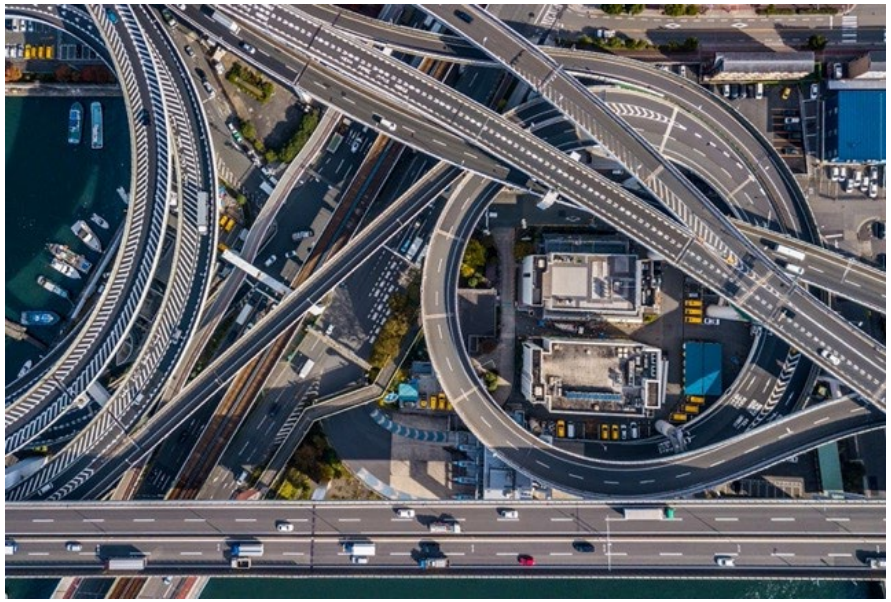
Speed limits change at a rate of ~5-10% per year

Industry Demand for Digital Maps

Vehicle manufacturers looking for incremental steps

- L5 of Drive Automation likely still decades away
- Conventional Car manufacturers following an evolutionary path in which ISA is **step 1**

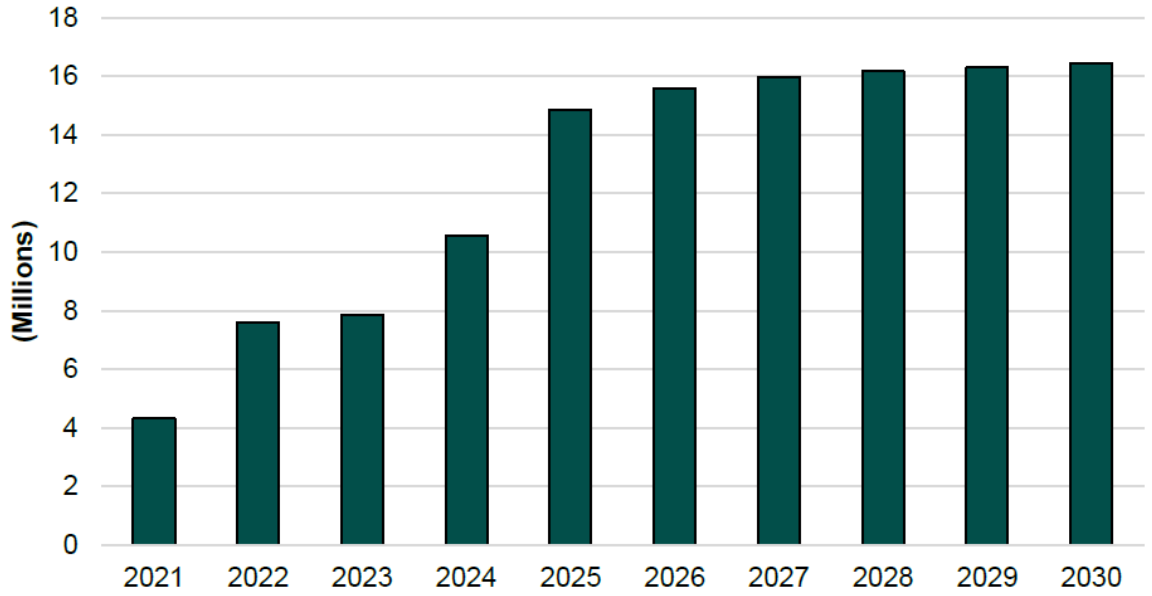
ISA L0 -> ADAS L1-2 -> AD L3/L4 -> FAD L5



Industry Demand for Digital Maps

New Vehicles Shipping in the EU27 + EFTA + UK Featuring ISA
2021 to 2030

(Source: ABI Research)



TN-ITS Standardized Road Data Exchange in EU

Exchange data about the changes taking place in road attributes

- Road Data used in digital maps for ITS Services
- Road attributes based on regulations
  - **Speed limits**
  - Other restrictions and warning signs

TN-ITS Standardized Road Data Exchange in EU

- Coordinated by ERTICO
- Members:
  - Road Authorities
  - Map Provider
- Supporting EU Policy on Data Sharing
- Standardization CEN/TS17268
- Implementation Support
- https://tn-its.eu

In collaboration with:

European Commission
CEN/TC 278 ITS standardization
JRC EUROPEAN COMMISSION
ITS NATIONALS

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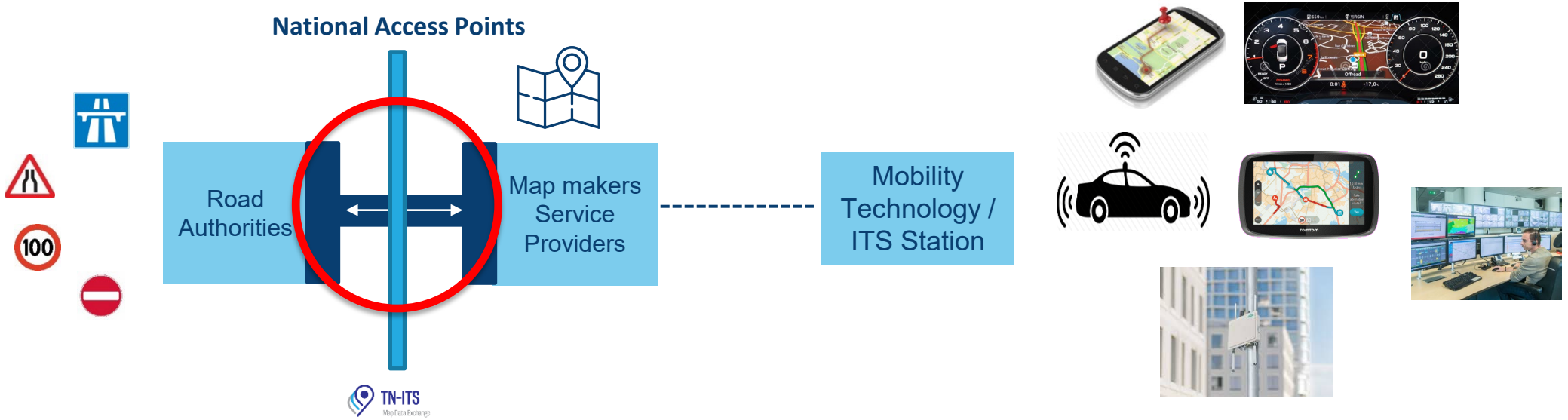
TN-ITS Map Update Exchange

TN-ITS Standardized Road Data Exchange in EU



Road Authorities publish changes of road data as part of their SDI maintenance

Map makers retrieve, verify and integrate these changes in their platform and bring this to map users

Fresh map data in vehicles, navigation devices, roadside units, traffic control centres, …

TN-ITS Standardized Road Data Exchange in EU

TN-ITS GO
Map Update Exchange

- **TN-ITS GO (2018-2021):**
- Implementation of TN-ITS in 14 Member States (6 Operational, 8 Pilot)
- Evaluation of Data Feeds
- Specification work from lessons learned
-

ISA-FIT
Intelligent Speed Assistance

- **ISA FIT (2021-2022):**
- Retro Fit of ISA System
- Update Mechanism via TN-ITS

napcore

- **NAPCORE (2021-2024):**
- Alignment and Harmonisation
- Data Chain enhancements
- TN-ITS on National Access Points
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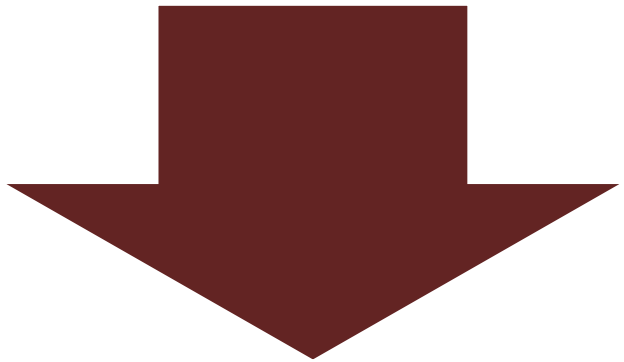
TN-ITS Standardized Road Data Exchange in EU

TN-ITS Data feeds including speed limits, with up to daily freshness

5 Operational	9 Pilot
• Sweden	• United Kingdom
• Finland	• Cyprus
• Belgium (Flanders)	• Greece
• Netherlands	• Portugal
• Hungary	• Spain
	• Slovenia
	• Ireland
	• France
	• Lithuania

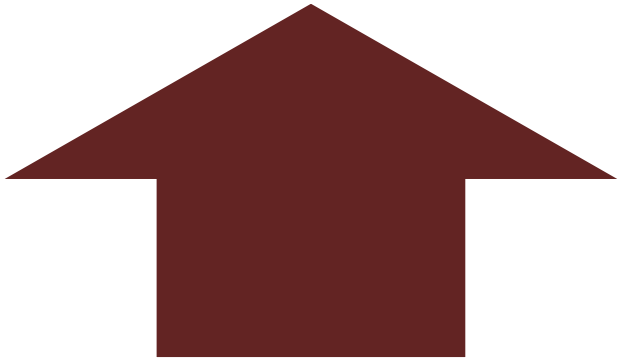
Harmonization of TN-ITS and DATEX II

Two Standards for Road Data used by Road Authorities

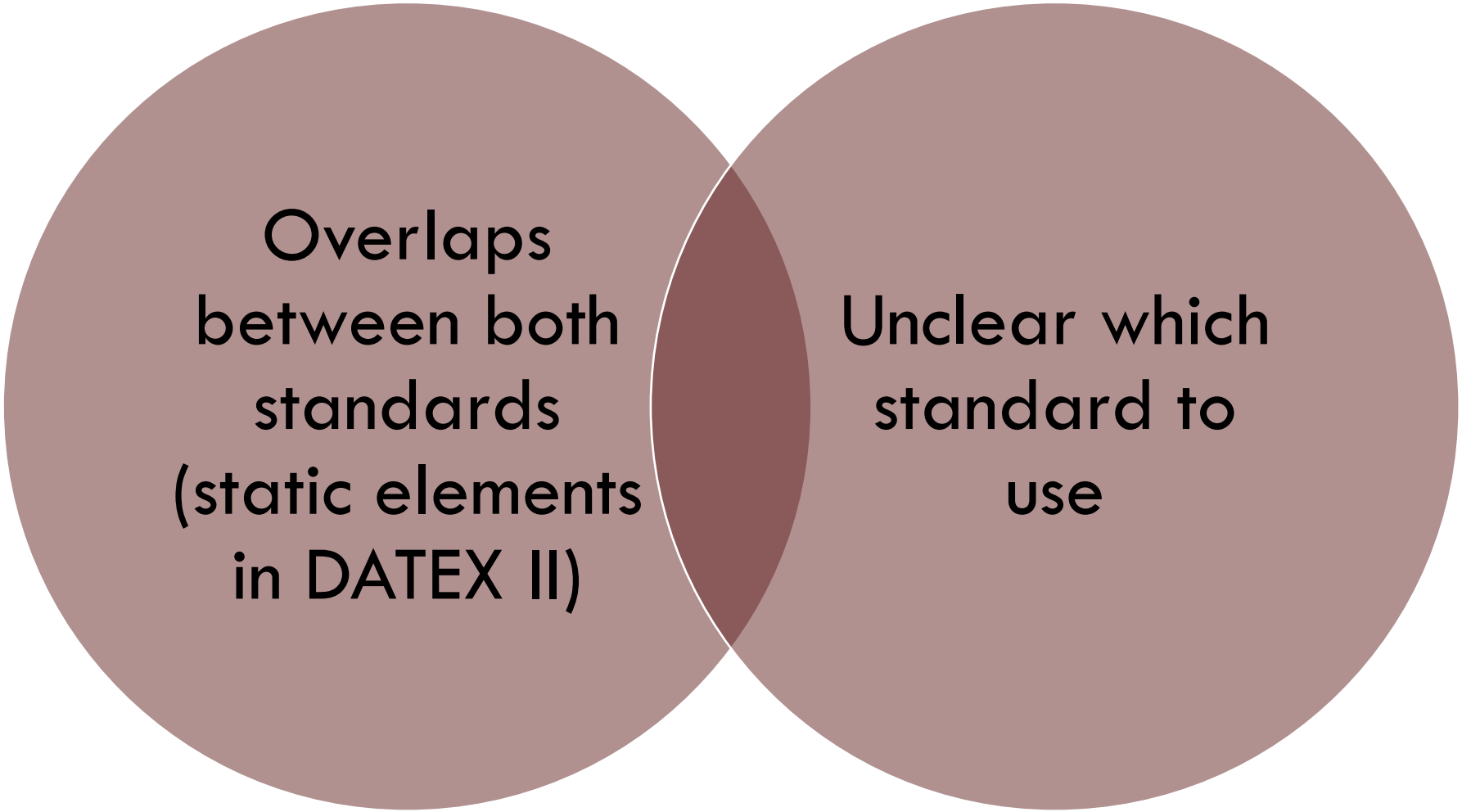


DATEX II: dynamic road data (road works, variable message signs)

TN-ITS: static road data (speed limits, restrictions, warnings)



Harmonization of TN-ITS and DATEX II



Harmonization of TN-ITS and DATEX II

Collaboration started in February 2022

Kick off Workshop to define common goals

2nd Workshop on technical and organizational alignment

Declaration of Lisbon (ITS Congress 2023)

Part of NAPCORE

WG on Harmonization of Standards

- Work is ongoing -

Harmonization of TN-ITS and DATEX II

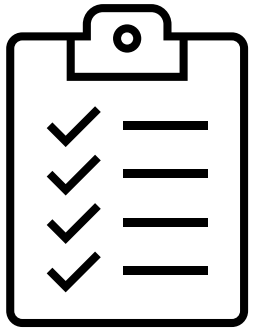
one standard for all road data

downwards compatible to older versions

easier for data provider to implement

more use cases served with one standard

change request will be aligned



- Demand for Digital Maps is Growing
- Freshness and Precision are key to support assistance systems and increase safety
- Road authorities as a trusted source for faster map updates
- TN-ITS Data is already in use by Map Makers
- Standardization helps to automate map updates
- Quality Management is needed
- Secured delivery for real time applications (like dynamic speed)

Towards a digital infrastructure cooperation between Public and Private is key

THANK YOU

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