

7th Conference On Sustainable Mobility & Intelligent Transportation Systems

NAPCORE: Transport Data Standards & Harmonization

Madiha Shahzad

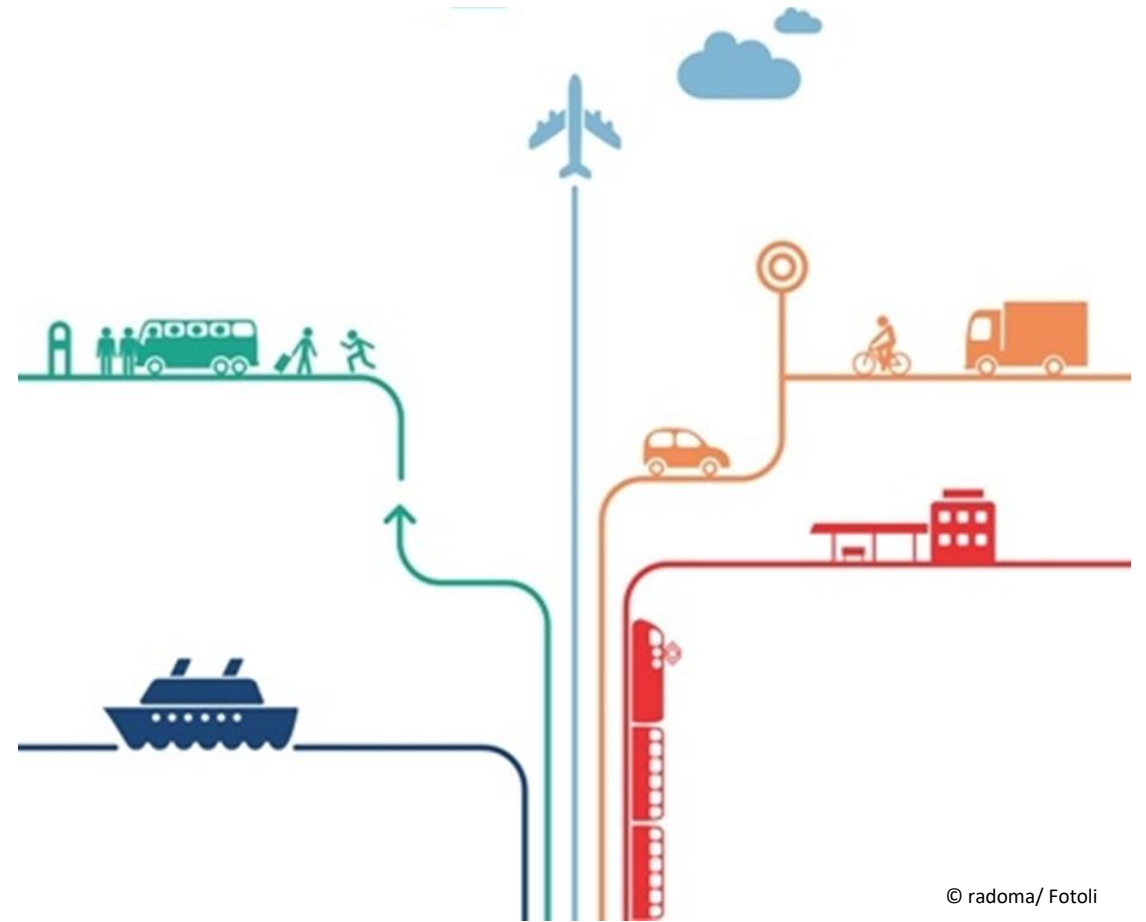
KIOS – Research & Innovation Center of Excellence

University of Cyprus



Introduction

- Transport Data
- Data Accessibility
- Data Availability
 - all relevant data is available
 - define how data is **represented**, **stored** or **exchanged**



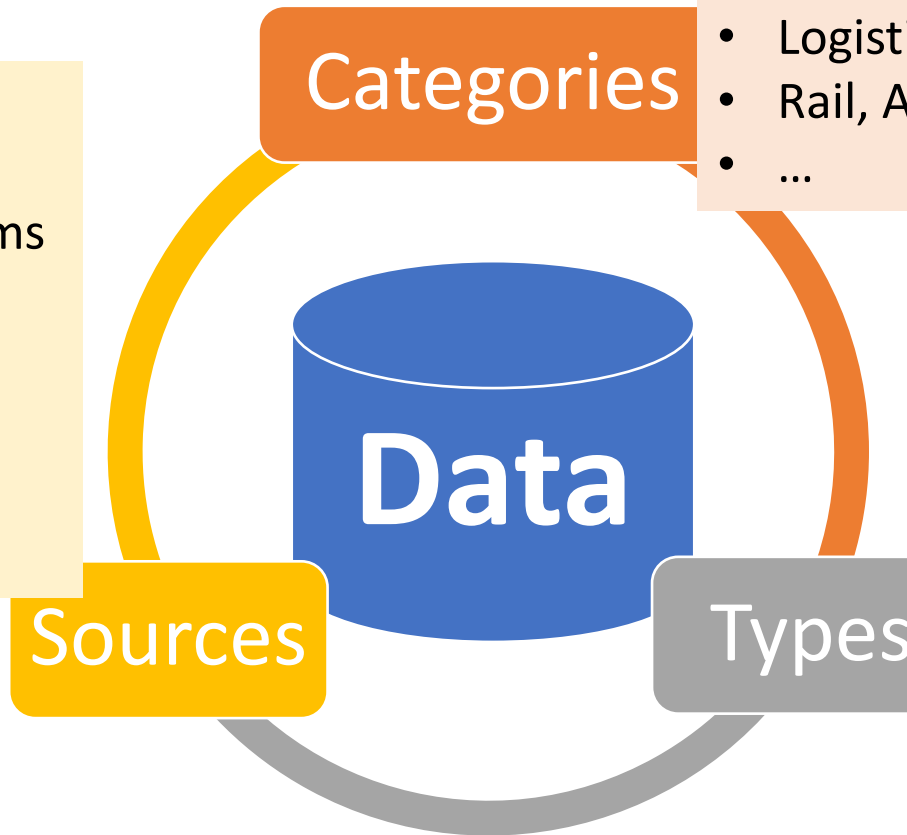
Standardised way to exchange data



Connected Europe
Harmonized & Interoperable Mobility Services

Transport Data

- Telemetry systems
- Intelligent infrastructure
- Video surveillance systems
- IoT Networks
- In-Vehicle Data
- Public transport data
- Shared mobility data
- ...



- Road Infrastructure Information
- Traffic Information
- Parking
- Public Transport data
- Shared & Micro Mobility data
- Logistics & Freight
- Rail, Air, Marine...
- ...

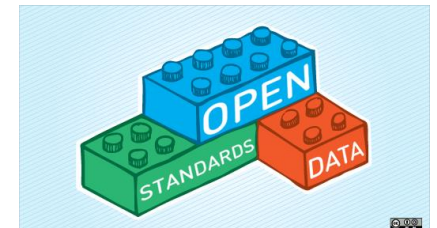
- Static data
- Real-time data
- Historical data
- Predictive data
- *Authoritative data*

ITS Data Standards

- Standards are the backbone of a data ecosystem
 - Technical Specifications
 - Definitions
 - Descriptions
 - Procedures
- *De jure standards* - defined by a group of experts and validated by a commission, national, European (CEN) or international (ISO).
- *De facto standards* - imposed by usage, most often by a commercial will and force.
- Uncertainty around data standards -> hampers data sharing and transport system **interoperability**

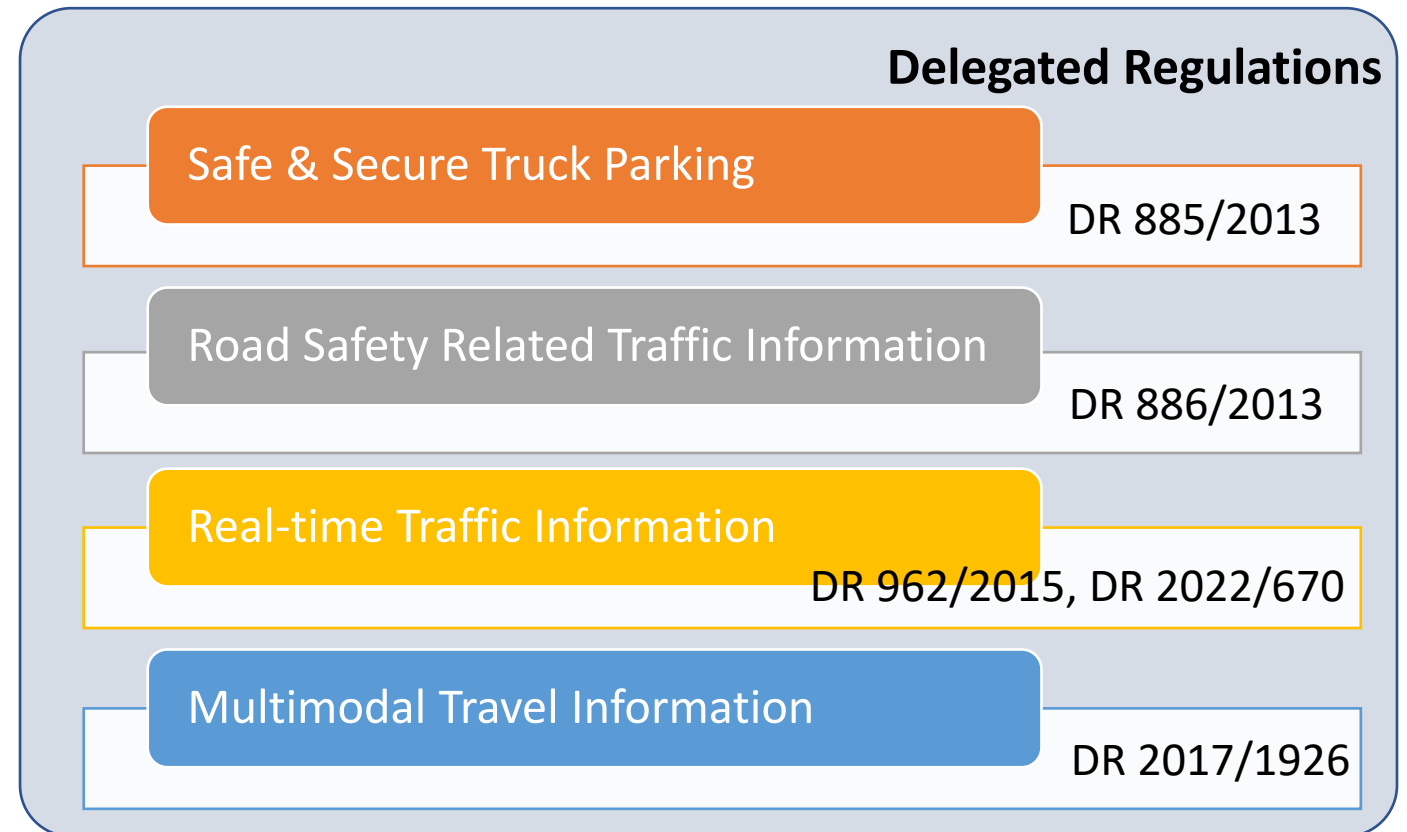


International
Organization for
Standardization



European Approach

- EU ITS Directive 2010/40/EU (revision ongoing)
 - Priority Areas → Delegated Regulations
- Delegated Regulations:
 - Legally binding
 - Identify data elements
 - Suggest standards
 - Enforce timelines



EU ITS Data Standards

contd.

- Traffic and travel Information
 - Real-time, door-to-door information
 - Road Incidents
- Road Infrastructure Information
 - Traffic Regulation
- Parking
- Alternative Fuels

- **DATEX II**
 - CEN Standard
 - Distribute traffic information and traffic management information
 - Language-agnostic and presentation format-independent
 - Extensive
 - **Datex EU harmonized Profile for the implementation of Safety-related traffic information**

EU ITS Data Standards

contd.

- Road Infrastructure Information
 - Road changes
 - Speed limitations
 - Some regulations

- **TN-ITS**
 - CEN Technical Specification
 - Exchange of static road changes related data to keep the maps up-to-date



EU ITS Data Standards

- Public Transport Information
 - Static, dynamic Information
 - Routes
 - Pricing
 - Multimodality
- Parking

- **Transmodel** – a family of standards, facilitates interoperability between the information processing systems of the transport operators and agencies.
- **NeTEx** – a CEN Technical Standard (TS 16614) for exchanging data about passenger information such as stops, routes timetables and fares, among different computer systems, together with related operational data.
- **SIRI** – a CEN Technical Standard (TS 15531) for the exchange of information about the planned, current, or projected performance of real-time public transport operations.
- **OJP** – allows a system to engineer a single interface instead of separate APIs to support all distributed journey planning systems.



Other Relevant Data Standards

contd.

- **INSPIRE** – aims to create a European Union (EU) spatial data infrastructure to share this data among public sector organisations, facilitate public access across Europe and assist in policy-making across boundaries.
- **GTFS & GTFS-RT** – defines a common format to exchange static information of the public transport networks and schedules to support online transit trip planners. GTFS-RT is the real-time data extension for GTFS.

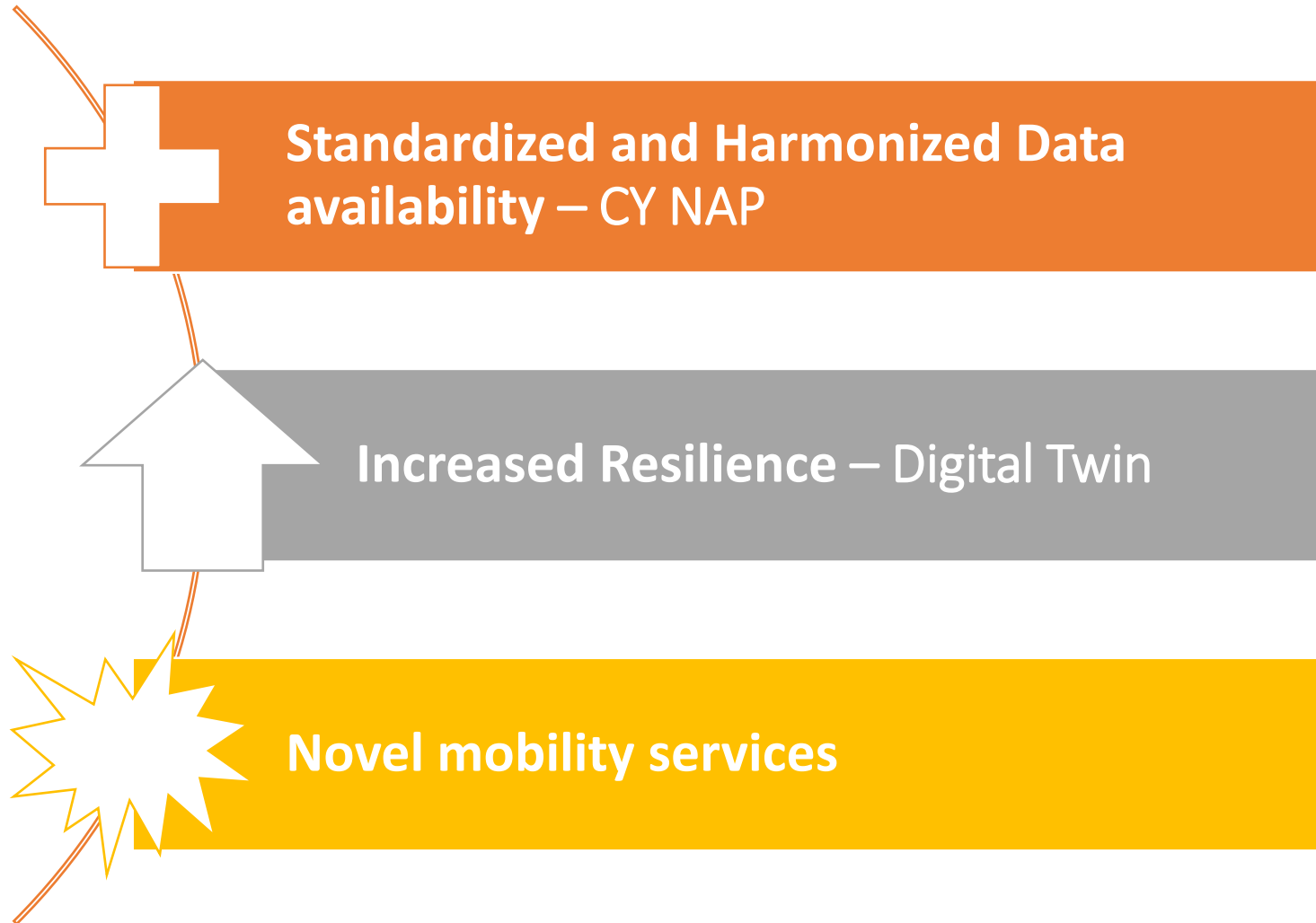


ITS Data Standards & NAPCORE

- Key transport data standards are part of the NAPCORE project
 - WG4 Data Exchange Standards
- Identify overlapping areas and gaps
- Align future developments
- Harmonize data definitions and procedures



Concluding Remarks



**Support
Data
Standards**



Thank you for your attention



University
of Cyprus

Madiha Shahzad

mshahz01@ucy.ac.cy