Data quality and National Access Points for Multimodal Travel Services

ITS Romania
Intelligent Transport System Romania

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About ITS Romania

Intelligent Transport Systems Romania – ITS Romania is a professional, not-for-profit, non-governmental national association

- Our main objective is to promote and support the implementation of ITS in our country, correlated and harmonized with EU developments
- Established in 1999, we are founding members of the Network of National ITS Associations
- We participate in national and EU-funded projects covering research, innovation and harmonization of ITS services

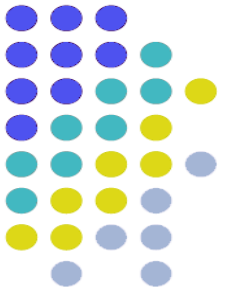
EU reference framework for ITS implementation

Directive 2010/40/EU on the framework for the deployment of ITS in the field of road transport and for interfaces with other modes

- Sets priority actions

Delegated Regulations

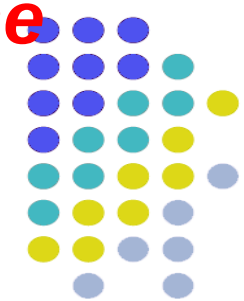
- Multimodal travel information services (MMTIS) - (EU) 2017/1926
- Safe and secure truck parking - (EU) No 885/2013
- Safety related traffic information (SRTI) - (EU) No 886/2013
- Real-time traffic information (RTTI) - (EU) 2015/962



EU reference framework for ITS implementation

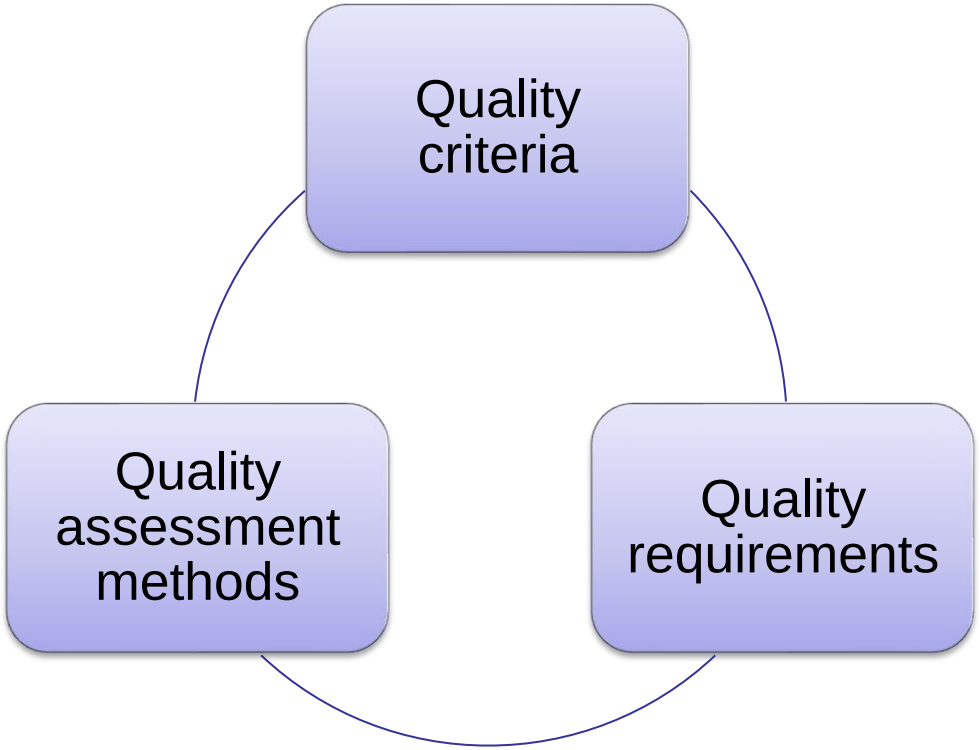
Key requirements of the Delegated Regulations (DR)

- Establish a minimum set of information provision/data types for each service
- Setup of National Access Points (NAPs) for the provision of the services
- Provision of information on the quality of data – example in DR MMTIS: *”The travel and traffic data listed in the Annex and the corresponding metadata* ***including information on the quality thereof*** *shall be accessible for exchange and reuse…”*



How to measure data quality?

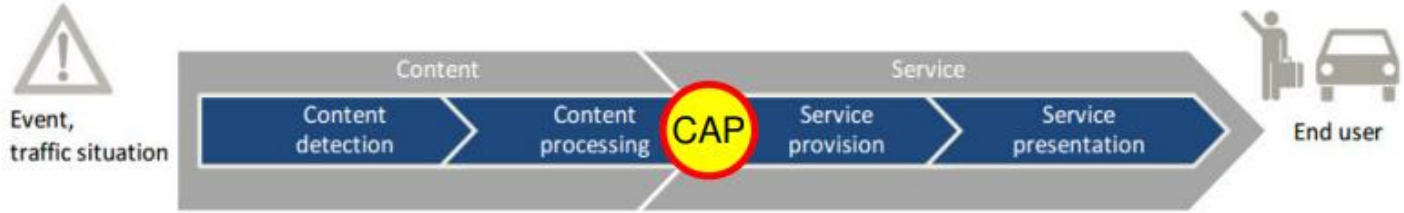
- What is quality?
- What is good quality and bad quality?
- How to assess quality?
- Who is measuring the quality?
  - Data provider
  - End user



Quality of MMTIS in EU EIP

EU funded projects EIP, EIP+, EU EIP – European ITS Platform delivered “quality packages” focusing on the services defined in the DRs

- Criteria, requirements, assessment methods
- Evaluation of the proposed quality framework
- Looking at the content part of the information provision value chain
- For MMTIS, due to their complexity, only a selection of services/data types was analyzed



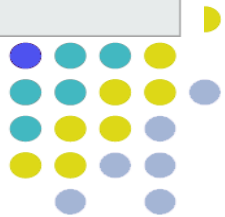
Quality of MMTIS in EU EIP

Quality criteria

- Geographic coverage
- Availability
- Timeliness
- Latency
- Reporting period
- Location accuracy
- Error rate
- Event coverage
- Report coverage
- Completeness of data

Quality of MMTIS in EU EIP

	Data types	Interpretation	★ (Basic)	★★ (Enhanced)	★★★ (Advanced)	★★★★
MMTIS Criterion: Timeliness (update)	Publicly accessible refuelling stations for petrol, diesel, CNG/LNG, hydrogen powered vehicles, charging stations for electric vehicles Data entities: Geographic position of entry, Opening hours, Conditions for use, Fuel type	*Time interval for updating any data entity with respect to the actual occurrence of that update (e.g.: after opening hours are changed, how long does it take to propagate that change at the access point?)*	Best effort	Best effort	24h	*100%*
	Disruptions (all modes) Data entity: Type, Vehicle/line/connection, Effect, Duration, GIS attributes of closed locations, stops, segments, etc.	*Time interval for announcing the progress or end of the disruption*	Best effort	<10 min	<5 min	*100%*
	Real-time status information - delays, cancellations, guaranteed connections monitoring (all modes) Data entity: Delay time, Cancelled lines, Cancelled stops, Real-time/actual vehicle positions	*The average age of data used in the most recent reporting period*	Best effort	<5 min	<2 min	*100%*
	Future predicted road link travel times Data entity: Travel time	*Time interval for calculating and refreshing new travel times*	Best effort	<5 min	<2 min	*100%*



Quality of MMTIS in EU EIP

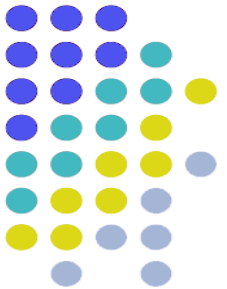
	Data types	Interpretation	★ (Basic)	★★ (Enhanced)	★★★ (Advanced)	★★★★
MMTIS Criterion: Latency (content side)	Publicly accessible refuelling stations for petrol, diesel, CNG/LNG, hydrogen powered vehicles, charging stations for electric vehicles Data entities: Geographic position of entry, Opening hours, Conditions for use, Fuel type	*The delay between the updating of any data entity and the moment the information is provided by the CAP*	<10 min	<5 min	<2 min	*100%*
	Disruptions (all modes) Data entity: Type, Vehicle/line/connection, Effect, Duration, GIS attributes of closed locations, stops, segments, etc.	*The delay between the acceptance of the disruption and the moment the information is provided at the CAP*	Best effort	<5 min	<2 min	*100%*
	Real-time status information - delays, cancellations, guaranteed connections monitoring (all modes) Data entity: Delay time, Cancelled lines, Cancelled stops, Real-time/actual vehicle positions	*The delay between the acceptance of the disruption and the moment the information is provided at the CAP*	5 min - Best effort	1 min	<1 min	*100%*
	Future predicted road link travel times Data entity: Travel time	*The delay between the calculation of the travel time and the moment the information is provided by the CAP*	<10 min	<5 min	<2 min	*100%*

Note: For Real-time status information, that the Basic Level value of 5 min. is meant to reflect Public Transport related information services and 'Best Effort' may apply for other types of services.

Note: 'Occupancy' (e.g. for Park & Ride stops), although it may be considered real-time status information, is specified in the Delegated Regulation's Annex as a data entity for the separate service(s).

NAPs and MaaS implementation

- A key enabler of MaaS is data availability and exchange
- NAPs (mostly MMTIS but also others) can be leveraged for the provision of MaaS using standardized data exchange interfaces
- The perceived end-user quality of MaaS depends on data quality
- Harmonized data quality frameworks are needed to enable consistent and harmonized services at national and European level



Romania

Thank you for your attention !

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