

EU EIP – Determining Quality of European ITS Services

Data / Information Quality for C-ITS
November 05+06, 2019

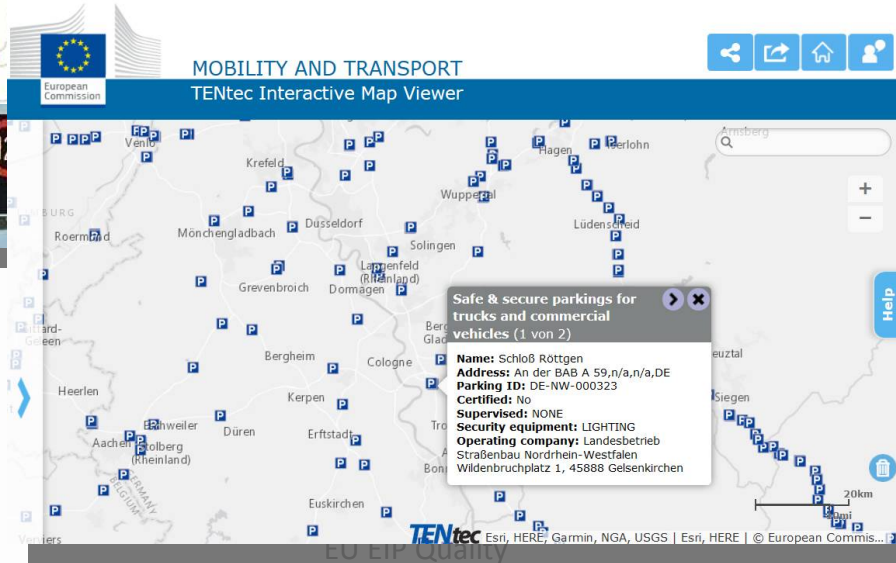
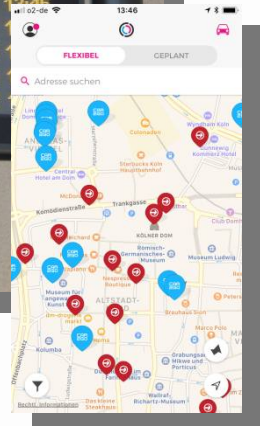
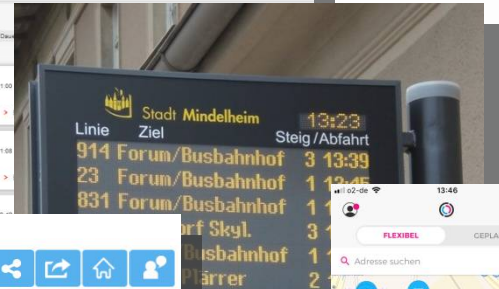
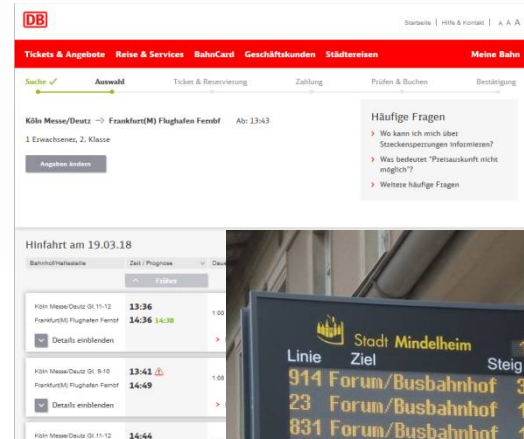


What is Quality?

- **Quality** = „degree to which a set of inherent characteristics of an object fulfils requirements“(ISO 9000)



Quality of what?



What to do with Quality?

- **Assess**
- **Document**
- **Report...**
 - ... internally
 - ... to external data consumers
 - ... to European Commission
- **Implement QMS**



Context: EU ITS Directive

Priority Action	EC Delegated Regulation	Data / information type
C)	886/2013	“Road <u>S</u> afety- <u>R</u> elated Minimum Universal <u>T</u> raffic <u>I</u> nformation” (SRTI)
B)	2015/962	“EU-wide <u>R</u> eal- <u>T</u> ime <u>T</u> raffic <u>I</u> nformation <u>S</u> ervices” (RTTI)
A)	2017/1926	“EU-wide <u>M</u> ultimodal <u>T</u> raffic <u>I</u> nformation <u>S</u> ervices” (MMTIS)
E)	885/2013	„Information Services for Safe and Secure Parking Places for Trucks and Commercial Vehicles” (ITP Information Services)

Context: EU ITS Directive

REGULATIONS

COMMISSION DELEGATED REGULATION (EU) No 885/20

of 15 May 2013

supplementing ITS Directive 2010/40/EU of the European Parliament and of the Council in regard to the provision of information services for safe and secure parking of commercial vehicles

(Text with EEA relevance)

Article 8 : Assessment of compliance with the requirements

[...]

2. All services providers shall submit a declaration [...].

The declaration shall contain the following elements:

- d) **the quality and availability of the information provided**, point of access to the information and the format in which that information is provided.[...]

What is EU EIP?



- Cooperation of partners from private and public sectors from EU Member States and neighboring countries
- To foster, accelerate and optimise current and future ITS deployments in a harmonized way
- **Technical knowledge management center for ITS Deployment**

Key Mission of Quality Activity

Activity 4 - Harmonization Cluster

– Sub-activity 4.1: Determining Quality of European ITS Services

→ Works on:

- ... quality frameworks, recommendation papers and practical trials,
- ... regarding data and service quality,
- ...for all priority actions of the EU ITS Directive.

EU EIP Quality: Stage Plan

Priority Action	EC Del. Reg.	Phase					
		Take stock	Propose	Test	Validate	Enhance	Optimise
			->	->	->	->	->
C)	886/2013 (SRTI)	✓	✓	✓	✓	✓	✓
B)	2015/962 (RTTI)	✓	✓	✓	✓	✓	✓
A)	2017/1926 (MMTIS)	✓	✓	✓	✓	(✓)	
E)	885/2013 (ITP)	✓	✓				
	C-ITS	(✓)					

Activities & Products

- Quality Frameworks for Priority Actions of the EU ITS Directive



Quality package for safety related and real-time traffic information services

EIP+ 3.1 Testing and Validating of the Quality Recommendations and Results for Traffic Information from EIP

Version 1.07

10th November 2017

The screenshot shows the EUEIP website interface. At the top, there is a navigation bar with links for Home, ITS topics, Calendar, Projects, Achievements, Downloads, and Helpdesk. Below this is a secondary navigation bar with Home, Organisation, News, Activities, and Calendar. The main content area features a 'Highlights' section with several articles, including 'Draft road map and action plan to facilitate automated driving on TEN road network' and 'Workshop Report'. A 'CALENDAR' section is visible on the right, showing a calendar for December 2017. The bottom of the page has a link for 'ALL ACTIVITIES'.



November 05+06, 2019

EU EIP Quality

Quality Definitions: Example

- Quality requirements for „Error rate“ for truck parking information Services

ITP Service	Interpretation	★ (Basic)	★★ (Enhanced)	★★★ (Advanced)
The provision of dynamic data on availability of parking places including whether a parking is: full, closed or number of free places which are available	<p>Absolute relative error (<i>Err</i>) of the provided number of free spaces (N_p) compared to the ground truth (N_r) calculated as:</p> $Err = \frac{ N_r - N_p }{N_r} \times 100$ <p>Measured as the arithmetic mean of the errors for all parking places covered by the service.</p>	15%	10%	5%

Activities & Products



Activities & Products



Quality of Safety-Related and Real-Time Traffic Information Services

Quality package

EU EIP SA 4.1: Determining Quality of Services



Version: 2.0

Date: May 15, 2019

Available at EU EIP website:
www.its-platform.eu



Multimodal Travel Information Services (MMTIS)

Quality Package

EU EIP 4.1 Task 2: Determining Quality of Multimodal Travel Information Services (MMTIS)

Version 2.0

31 October 2019



Quality of Intelligent Truck Parking Services (ITPS)

Quality package

EU EIP SA 4.1: Determining Quality of European ITS Services

Version 2.3

15 October 2019



C-ITS Quality: Principles

- Define an agreed set of quality definitions and concepts
 - quality criteria
 - quality requirements
 - assessment methods
- Regarding data and information exchanged in C-ITS
- Valid for any C-ITS deployment in Europe
- With a focus on infrastructure-generated data
- Start with base line (minimum levels) and refine from expertise in deployments!

C-ITS Quality – Baseline, Process, Way forward

- Starting point: potential LoS improvement by C-ITS services (2016 output of EU EIP community)
- Scoping: individual message quality (micro level) versus aggregated information quality (macro level)
- Liaising with C-ITS pilots
- Expert pool set up - in cooperation with EU EIP C-ITS activity - covering so far C-Roads (Germany, France), C-ITS Corridor, NordicWay (Finland), InterCor (Netherlands)
- **Open invitation: Workshops, interviews and reviews planned for 2020**
- **Interested actors? Please respond → see contacts**

- Thank you!
- Questions?

Federal Highway Research Institute



Peter Lubrich

Connected Mobility

Brüderstraße 53
D-51427 Bergisch Gladbach

Telefon + 49 (0)2204 43 5505
Telefax + 49 (0)2204 43 5550

lubrich@bast.de

Federal Highway Research Institute



Torsten Geißler

Connected Mobility

Brüderstraße 53
D-51427 Bergisch Gladbach

Telefon + 49 (0)2204 43 5501
Telefax + 49 (0)2204 43 5550

geissler@bast.de