DATEX II ITP profile & implementation EU regulation 885/13

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Overview DATEX II

- **DATEX II** (standardised in CEN/TS 16157 Parts 1-5) is widely used across Europe:

  An open, interoperable interface specification for
  - the ***machine-to-machine*** exchange
  - of ***dynamic road traffic and travel data***
  - between ***traffic centres*** and to third parties, e.g. providers of commercial ITS services

- DATEX II defines an extensive data model:
  - Traffic events, including accidents, roadwork, closures… (many more)
  - Traffic- and non traffic related elements
  - Operator Actions
  - Measurement sites and measured values plus elaborated (=computed) data
  - Variable Message Signs
  - ***Parking***
  - always in combination with lots of additional aspects, especially location referencing

Overview DATEX II (cont.)

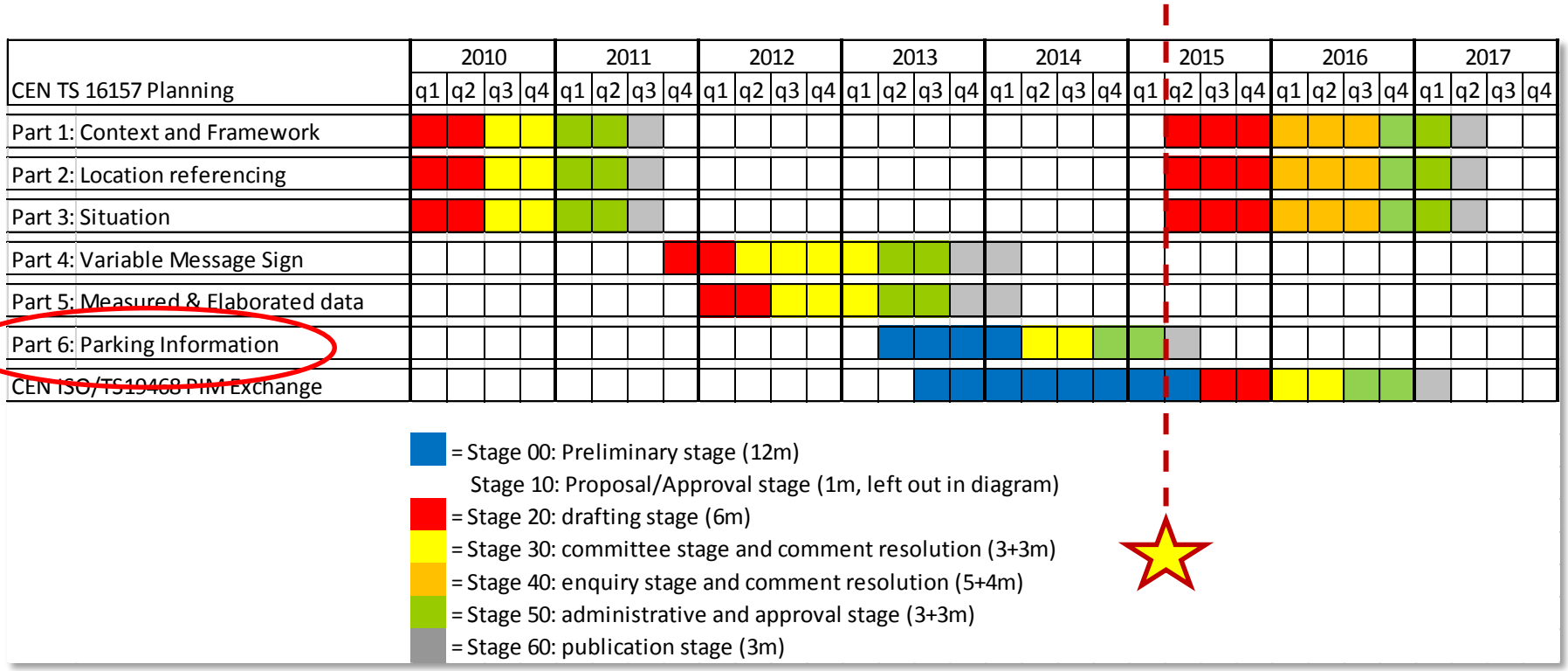
- DATEX II uses UML notation and defines a formal mapping on XML-Schema
- Implementations can be easily set up by using the provided schema file(s) (XSD)

- Current version is DATEX II **2.3** (Dec. 2014)
- The data model (and all other files) are available on the DATEX website
- A login (free registration) is necessary:

http://www.datex2.eu

- Version 2.3 covers an ‚approved extension' about **Parking**
  (currently being balloted to become CEN/TS 16157-6)

DATEX II standardisation time schedule



CEN/TS 16157-6: Parking Publications

- Very extensive parking model ('data catalogue')
- Static and dynamic part:
  - Rarely changing infrastructure information vs. high frequency occupancy information
- Comprehensive requirements from different fields are considered:
  - Urban parking (parking areas, parking facilities)
  - Rest areas
  - Truck Parking (including security issues)

- Model is in line with the Delegated Regulation (EU) 885/2013
- 'Profiles' are contained for particular applications / use-cases

Parking Publications

1. Static Part
   - Low frequency transmission (details see next slide)
   - Basic information about rest areas and urban parking including
     - Specific parameters
     - Georeferencing
     - Additional services
2. Dynamic part
   - High frequency transmission
   - Occupancy information
   - Status of parking site and other facilities
   - Vehicle flow count
   - Temporary changes of static data

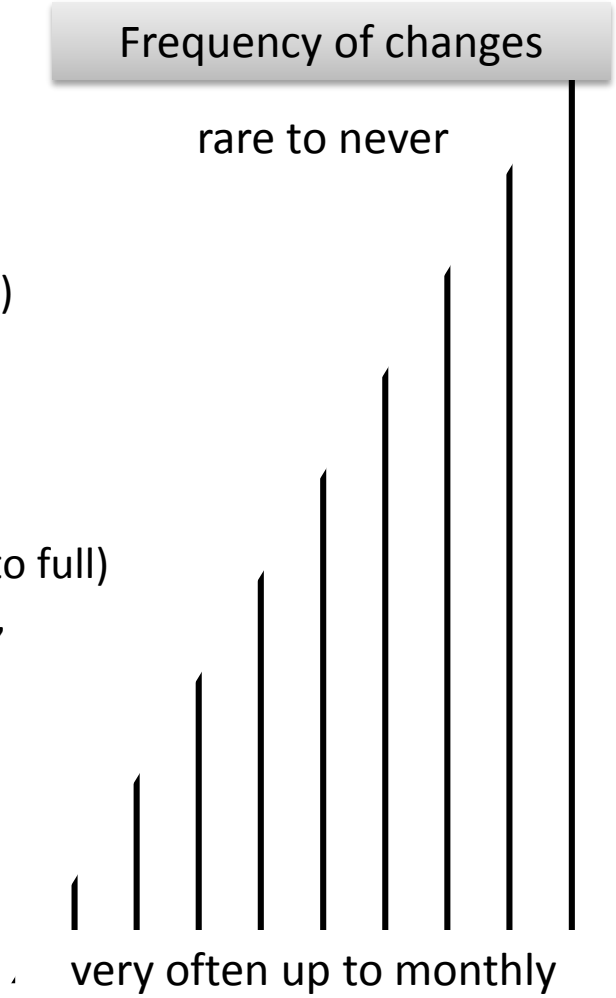
includes basics like
Parking Sites and Groups of Parking Sites,
Parking Spaces and Groups of Parking Spaces

as well as Opening Times, Tariffs, Accesses,
Infrastructure and Service elements …

Frequency of static parking data (examples)

not a fixed order, just indicative

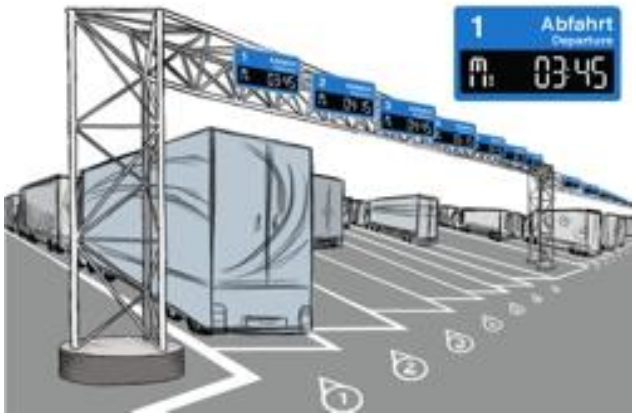
- Location Reference of Parking Site
- Special type of parking (e.g. airport parking)
- Motorway junction, address, adjacent road(s)
- Layout of parking site (e.g. building parameters, dimensions)
- Layout of parking spaces (e.g. dimensions)
- Owner, Operator information
- Number of spaces
- Service facilities (e.g. petrol station, restaurant)
- Tresholds (e.g. an occupancy value for switching the status to full)
- Information on special places (e.g. families, disabled, trucks, refrigerated)
- Site regulations (e.g. no smoking)
- Service facility details (e.g. number of hotel rooms)
- Equipment (e.g. wireless internet, number of toilets, …)
- Electric Charging information
- Tariffs
- Opening Times



EU 885/13: „change of situation … immediately notified“ and „no less than once a year“

Special elements for truck parking

- Standards and Security (dogs, fences, flood light, guards, ….)
- Permits and Prohibitions (smoking only outside buildings, picnic, …)
- Hazardous Materials (from DATEX Level A standard)
- Mixed usage of groups of parking spaces (for example by time slots)
- Additional Service Facilities
  (Motel, Restaurant, …)
- Additional Equipment
  (Toilets, Dumping station, …)
- Special Elements:
  - Drive through parking space,
    compact parking, queue parking
- Junction name and number



Compact parking (© BASt)

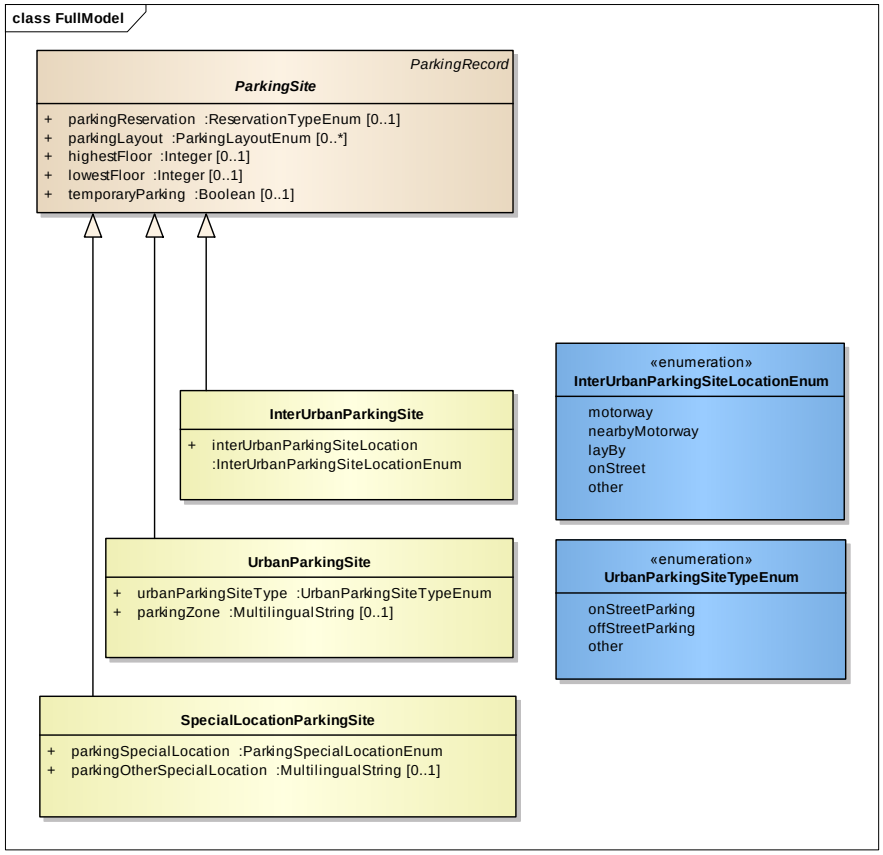
A DATEX II Profile

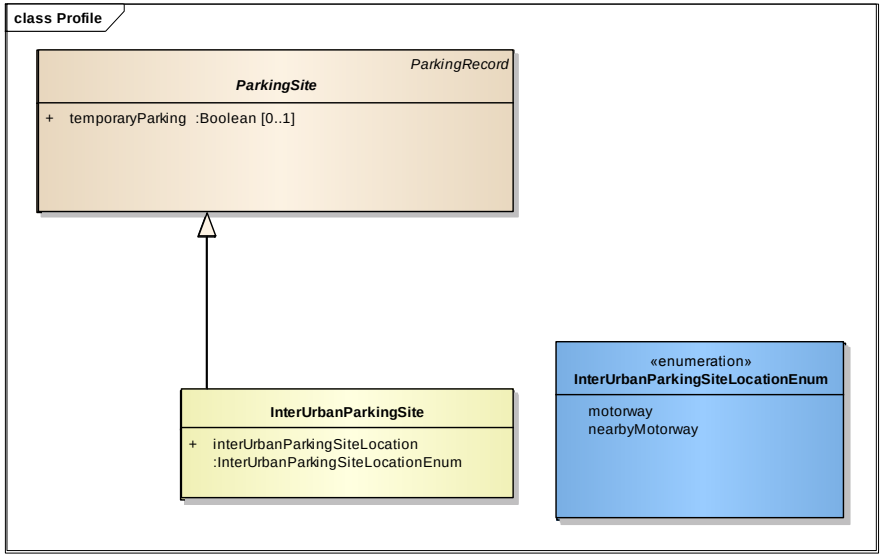
- The DATEX data model (Level A) is complex and very extensive.
- There is a large complete schema (currently more than 15000 lines).
- Applications typically process only a small part of this data model:
  - Certain type of publication
  - Not all optional attributes
  - Only certain enumerated values

Software costs often correspond to the number of classes
→ aim to minimize

- Therefore it is useful to implement only the actually required elements in the software
- → Tailored XML schema
- With respect to a particular use case this is called a DATEX II profile

Example on profile





Overview on Parking profiles and their evolution

Predecessors: DATEX class 'CarPark' and light Parking Extensions

from around 2011

Input from Swedish Rest Area Extension, UK, OCIT-I, OCIT-C, German MDM cities

DATEX II Parking Publications
Approved Extension in DATEX II 2.3

- Urban
- Interurban
- Special facilities

includes Truck Parking

Input from TPEG PKI, ITS Belgium, EU regulation, The Netherlands, Czech Republic, UK and others

Truck Parking Profile

full compliant with EU 885/2013

≈ 90% of Parking Publications' content

Final version (called 1.0a) in 11/2014, DATEX 2.3 published in 12/2014

Standardisation in in CEN/TS 16157-6

CEN ballot foreseen in 1st half 2015

Input from German ministry of Transport, Road Operators (Bavaria)

German ITP (Sub-)Profile

e.g. calling special attention on distinction between motorway and "nearby motorway rest areas" (Autohöfe)

≈ 45% of Truck Parking Profile

Version 00-06-00 created in 11/2014 – currently final iteration with German stakeholders

Bavaria started early implementing on predecessor version in 2014, going in operation in 1st half 2015