SIRI - CEN PT Standards context

June 2021

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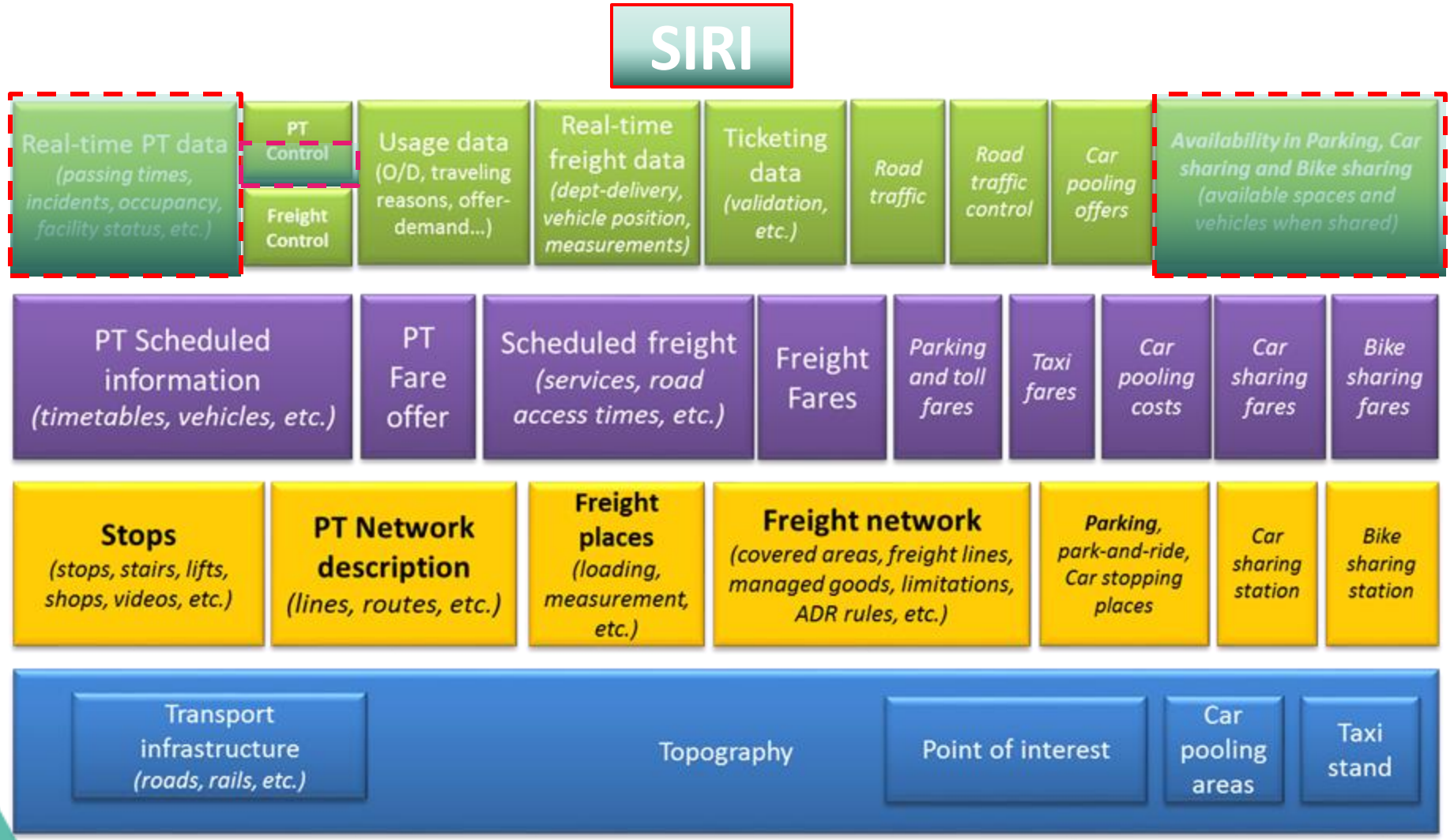
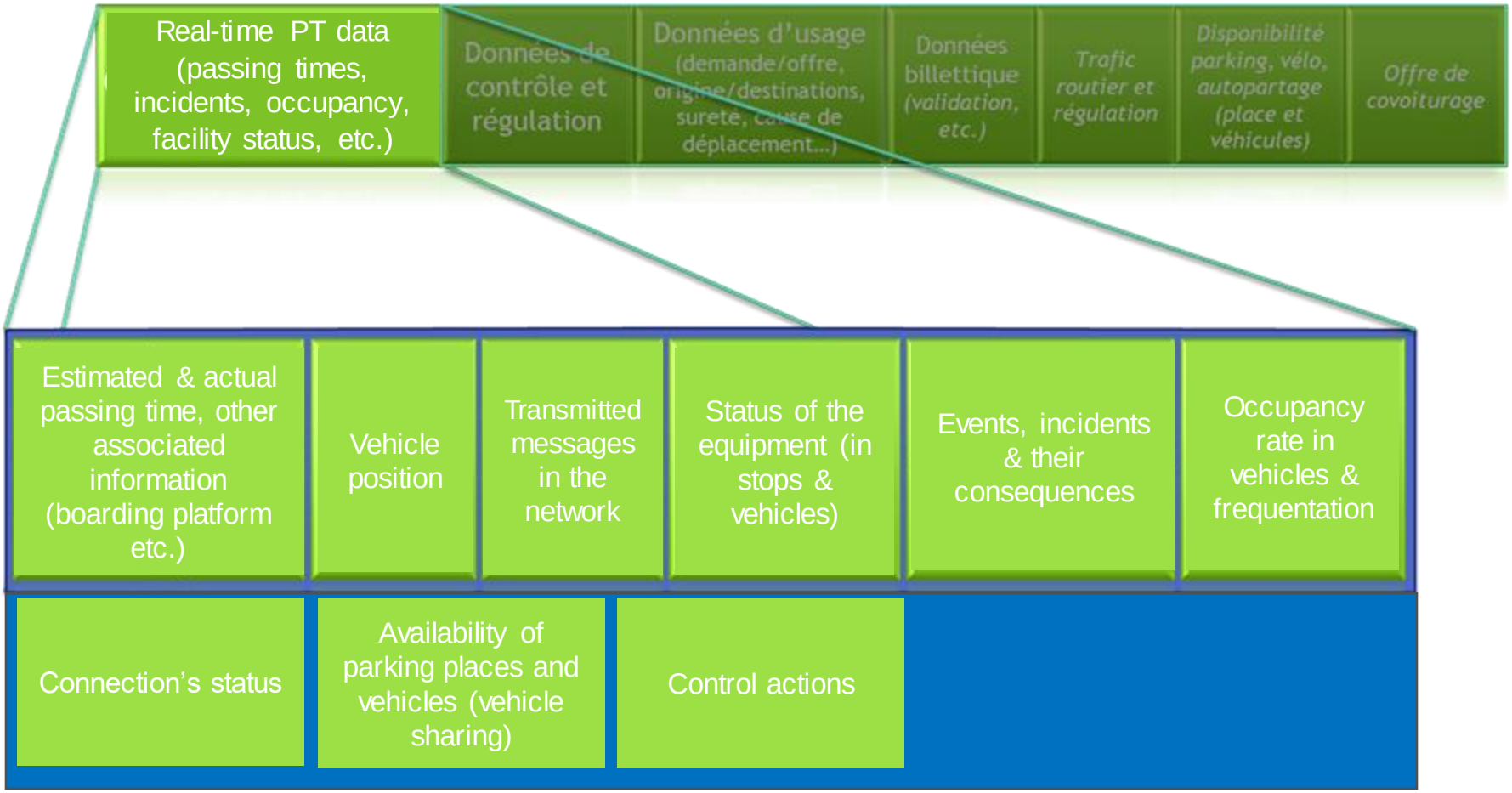
Data4PT has received funding from the European Union's DG for Mobility and Transport under grant agreement No MOVE/B4/SUB/2019-104/CEF/PSA/SI2.821136

Standards and categories



Data categories in mobility



Public Transport related business cases

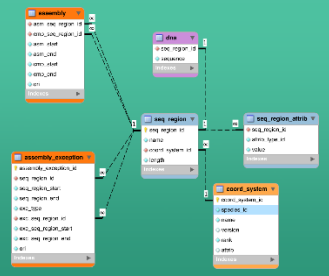
- Multiple and often complex buisiness cases
- Each system or tool has a specific (and partial) point of view

Mobility needs analysis and transport plan definition (Authorities)	
Scheduling and production plan	Rostering, scheduling (timetable, vehicle, run times…)
Operations	AVMS (Automateg Vehicle Monitoring System)
Passenger Information	Journey planner, displays, app & web sites
Indicators and statistics	Analysis, BI, optimisation
Fare offer definition and Ticketing	Ticketing systems

PT Standard dependencies and relations

TRANSMODEL

Conceptual data model covering
all the public transport data domaine



NeTEx

XML

Exchange data format for scheduled information

SIRI

XML

Exchange data format for real time information

OpRa

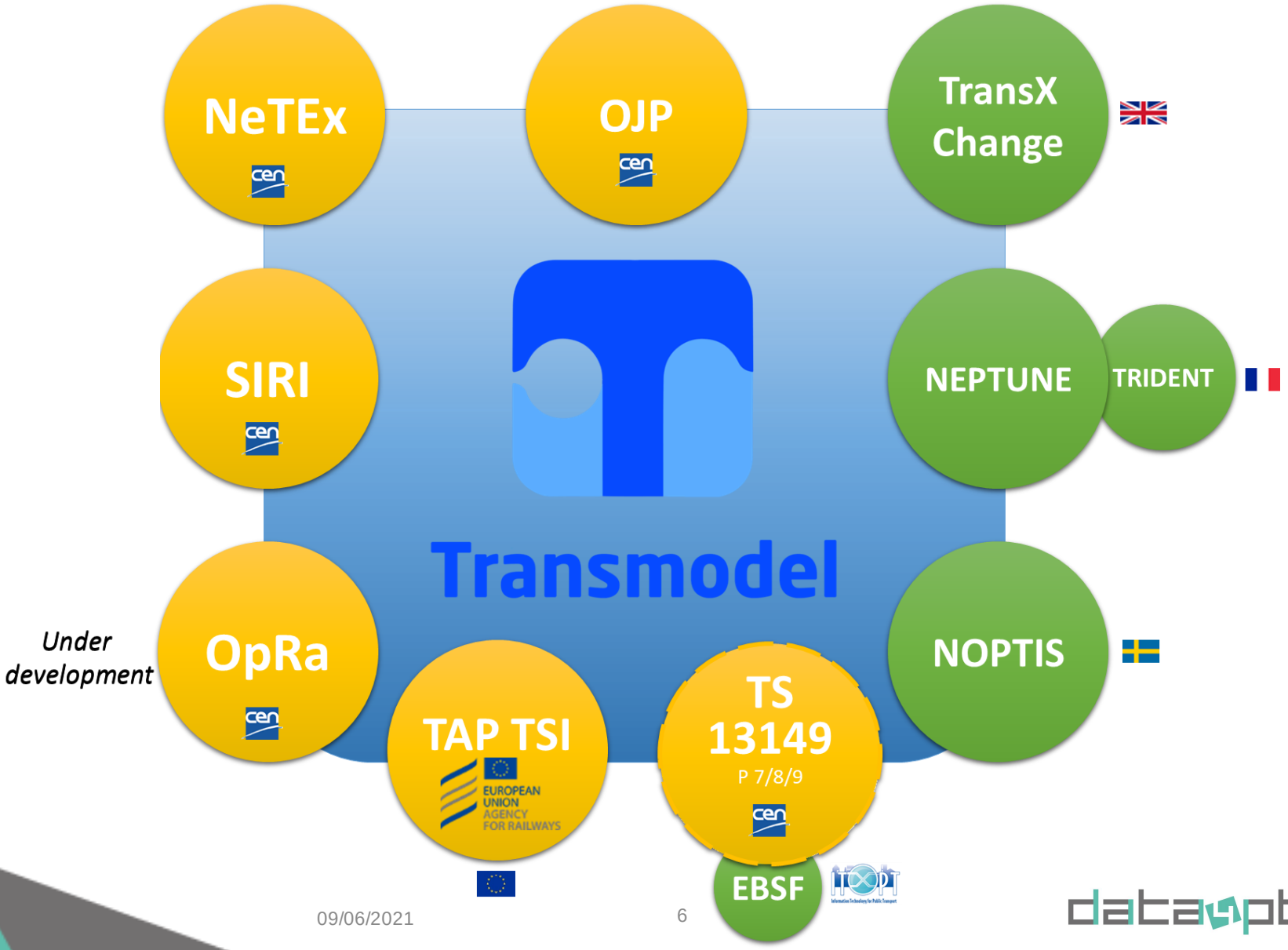
XML

Exchange data format for observed information

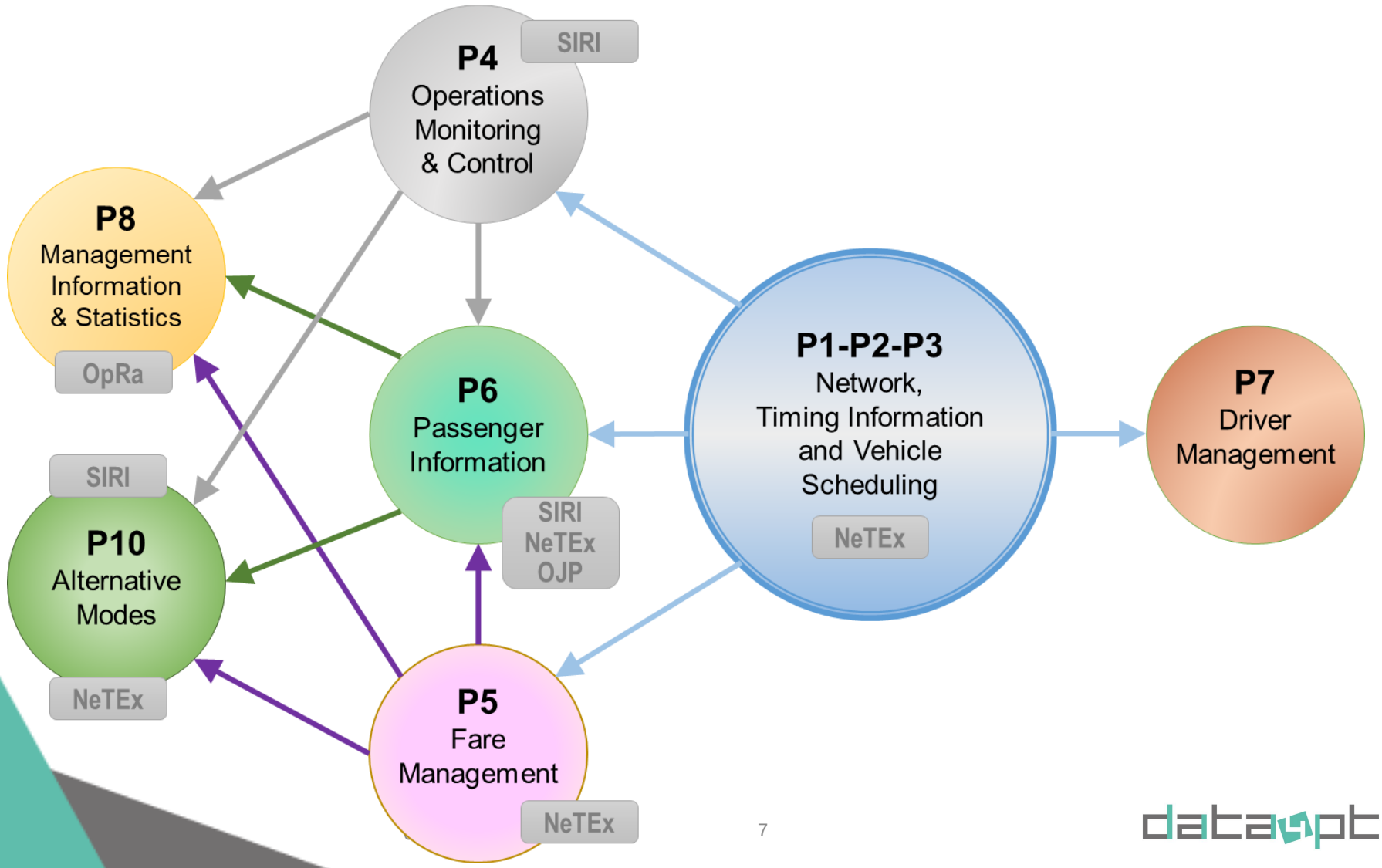
GTFS

GTFS RT

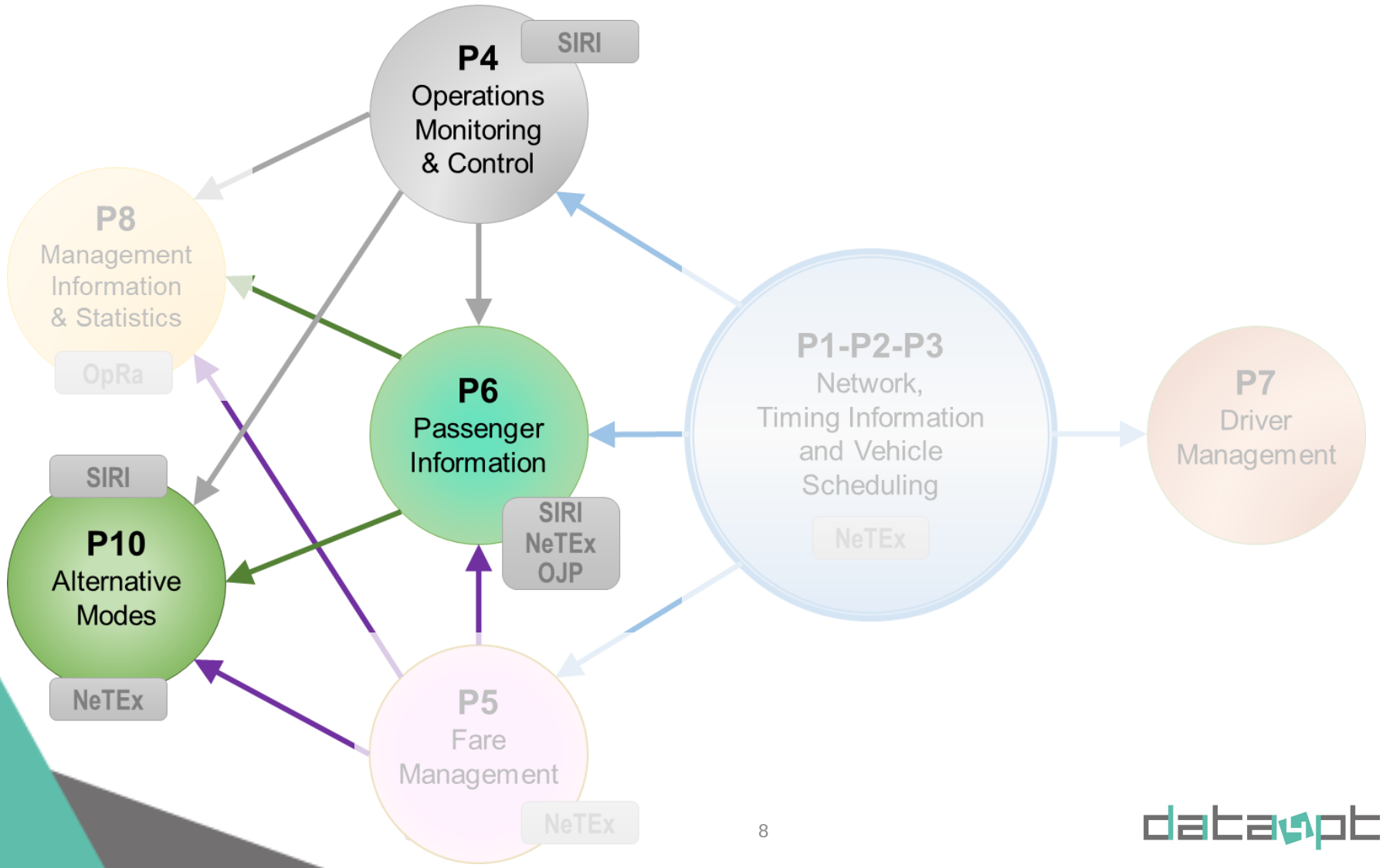
Transmodel ecosystem



Transmodel content



Transmodel content associated with exchange standard SIRI



SIRI

Name : SIRI *(Service Interface for Real-time Information)*

Reference : EN 15531-1 - Business case
EN 15531-2 - Communication
EN 15531-3 - Services
TS 15531-4 - Facility monitoring service
TS 15531-5 - Situation exchange service
a Part 6 should be available in 2022 for a detailed description of Control Actions

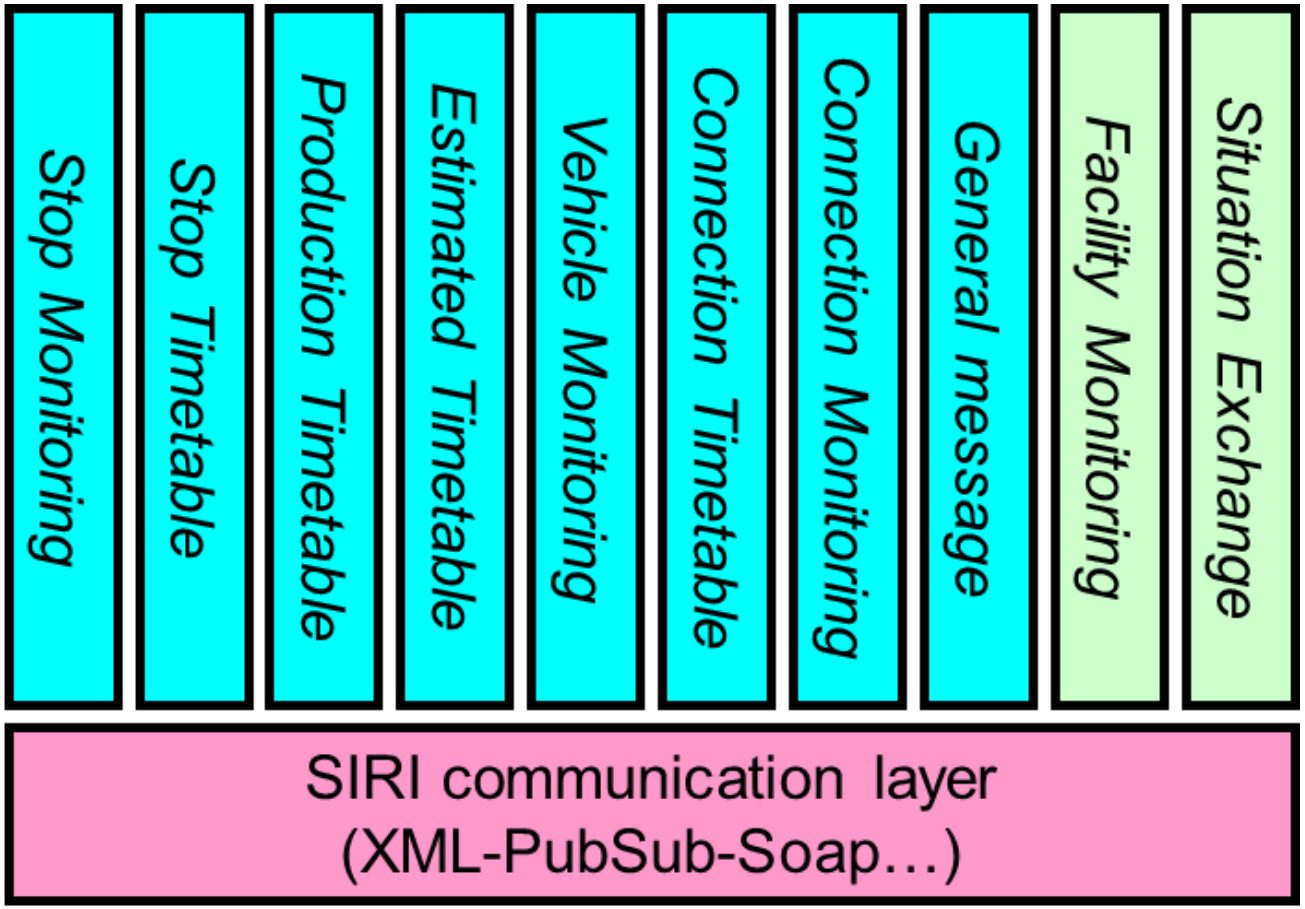
Status : Part 1, 2 and 3 are European Norms
Part 4 and 5 are Technical Specifications

Conceptual model : *No*
Exchange format : *Yes (XML or JSON, SOAP or REST)*
Data category : *Public transport real-time data*
Temporal scope : *Mainly real-time, but also the underlying short term plan*

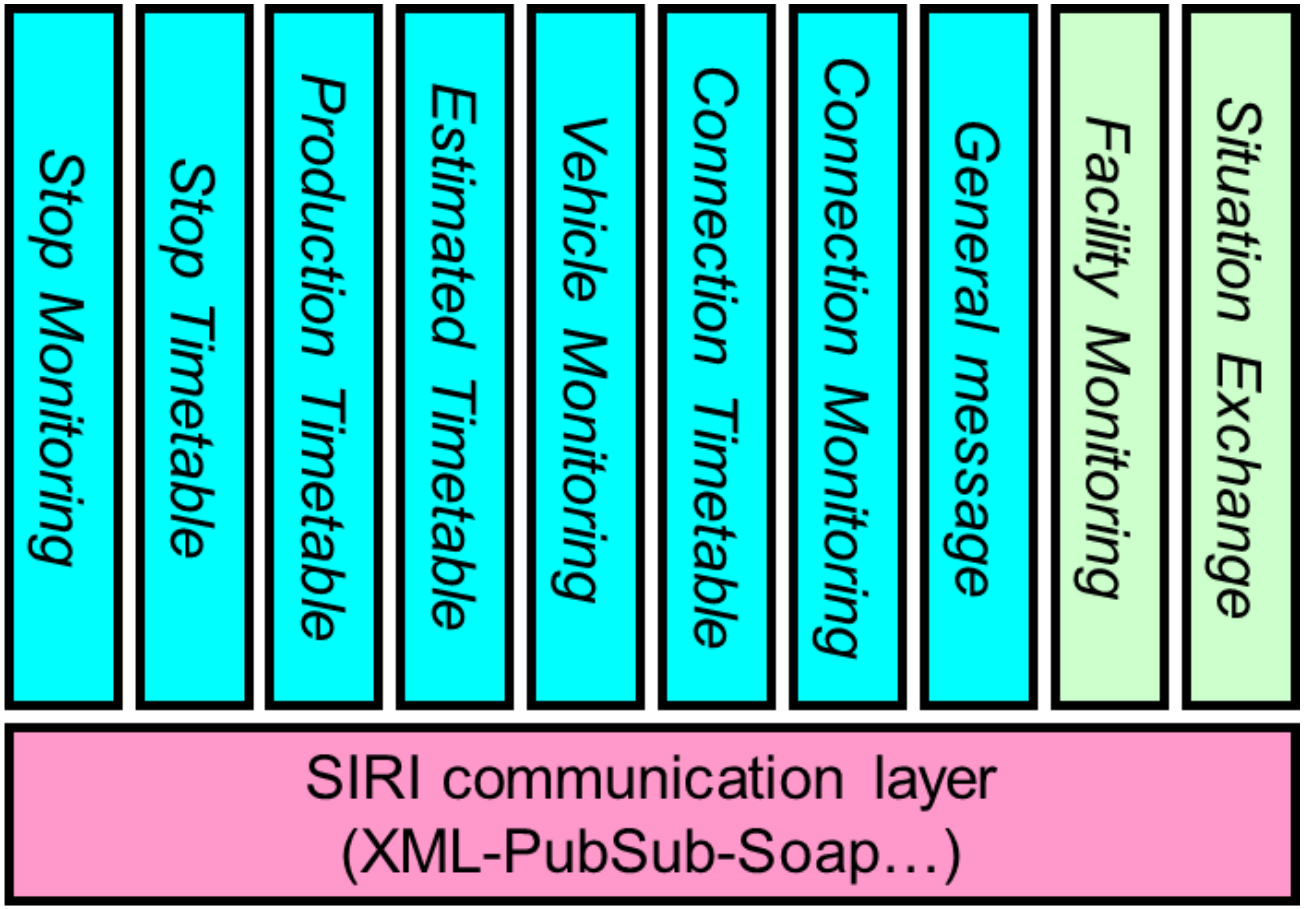
Main scope : Public transport real-time information.
Example of covered objects : dated journey, passing time, situations, vehicle location.

Web site https://www.vdv.de/siri.aspx and http://siri-cen.eu soon

SIRI


Situation Exchange
Facility Monitoring
General message
Connection Monitoring
Connection Timetable
Vehicle Monitoring
Estimated Timetable
Production Timetable
Stop Timetable
Stop Monitoring
SIRI communication layer
(XML-PubSub-Soap…)

SIRI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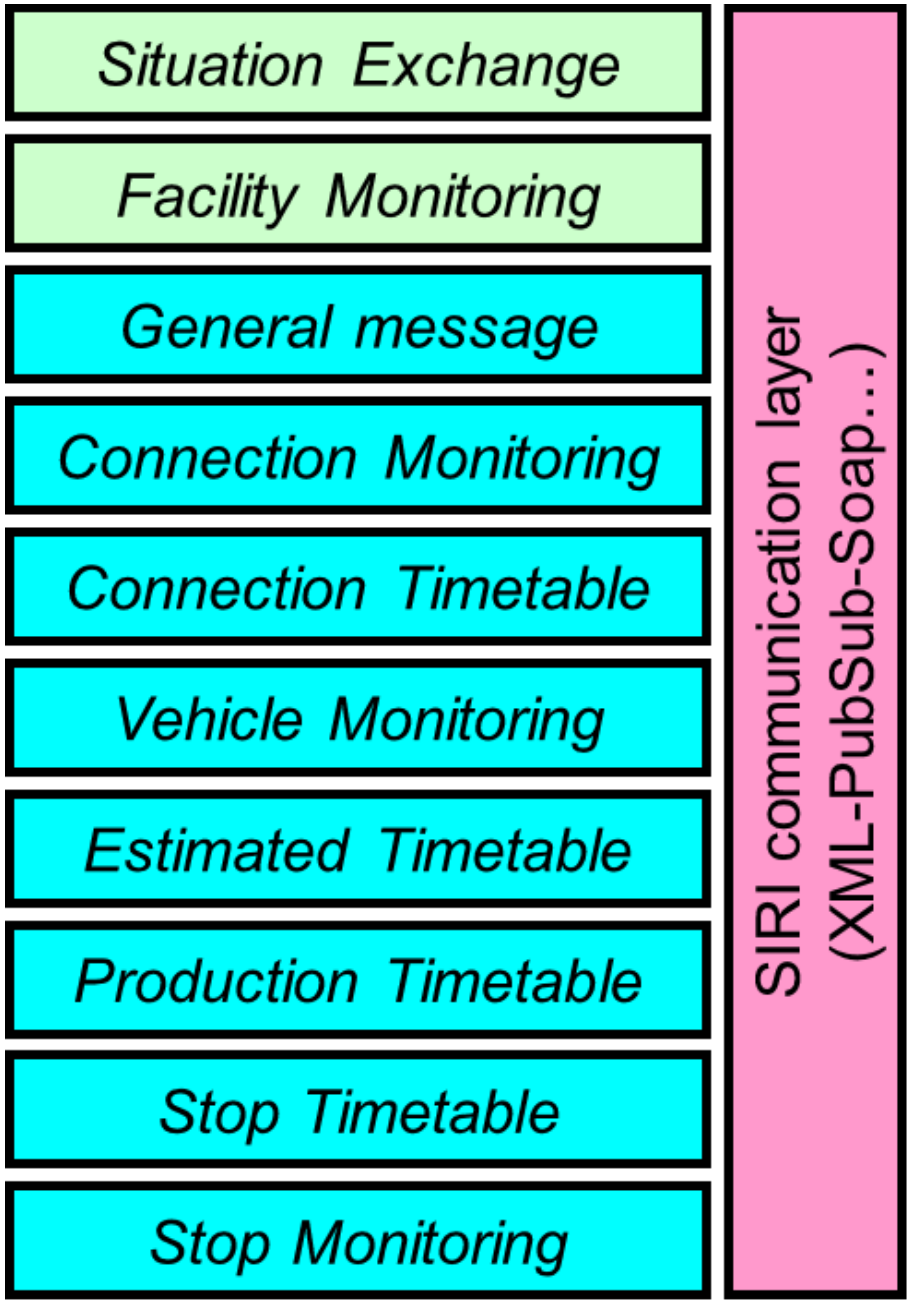

Control Action may be added as a new service soon

SIRI: uses cases example

Realtime data hub feed

Journey planner feed

Realtime display system feed

Control Center feed and dissemination

Multi-operator connection operation

Situation management and publication

Multi-operator, shared vehicle operation (i.e. EBSF)

Etc.

Profiles

Profiles: why ?

Standards are by their nature, **consensus documents**, taking into account a wide range of requirement

Standards may contain some redundant features in order to take into account some alternate **national specific** ways of working with PT.

The scope of a standard most often goes **much further than** the one of **a single use case**

Standards' documents are often quite **large and detailed** (also due to the expected detail level and prescribed editorial rules)

Standards contains a lot of **non mandatory features** (services, attributes, processes, etc.)

Specific local rules (coding, local processes, etc.) are not described in standards

- For example, reference to NaPTAN (national Stop reference database) in UK

Profiles: why ?

As a summary

A profile

- **facilitates the implementation** of a standard
- improves **interoperability**

by

- focusing only on **what is needed**
- **filling the small gaps** voluntarily left by the standard
- taking into account the **local context.**

Profiles: what ?

The profile contains information such as:

- Details of used services
- Details of the objects used in an exchange
- Details on the options proposed by the standard
- Details on optional elements
- Precision on the codifications to be used
- …

To define a profile, you need to:

- Define/identify use cases and requirements
- Identify local constraints (processes, coding rules, reference data, etc.)
- Select in the standard what is necessary or useful to fulfil the two above
- Complement the standard with some specific (but standard compliant) local rules

From a practical point of view, profiles can be seen as an implementation guideline for a certain standard.

Resources

Support and resources (tools, etc.)

https://data4pt-project.eu/

https://www.vdv.de/siri.aspx

https://www.siri-cen.eu/

https://github.com/SIRI-CEN/SIRI

http://www.transmodel-cen.eu/

http://netex-cen.eu/

http://www.normes-donnees-tc.org/format-dechange/donnees-temps-reel/ *(in French)*

National SIRI Profiles SIRI

http://www.normes-donnees-tc.org/profils/

https://transportdatamanagement.ch/content/uploads/2020/11/SIRI_Realisation-Guide_PT_CH_V0.868.pdf

https://enturas.atlassian.net/wiki/spaces/PUBLIC/pages/637370420/Norwegian+SIRI+profile

Local SIRI profiles

IDFM

http://www.normes-donnees-tc.org/wp-content/uploads/2014/05/Profil_Siri_IDF_V2-4-STIF-20130712.pdf

http://www.normes-donnees-tc.org/wp-content/uploads/2017/01/Proposition-Profil-SIRI-Lite-initial-v1-2.pdf *(REST/JSON)*

http://www.normes-donnees-tc.org/wp-content/uploads/2016/10/SOL_IVTR_Cas-dusages_v1.0.pdf

TFL

https://www.gov.uk/government/publications/technical-guidance-publishing-location-data-using-the-bus-open-data-service-siri-vm/technical-guidance-siri-vm

New York MTA

http://bustime.mta.info/wiki/Developers/SIRIIntro

Thank you for your attention

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