

DIGITAL SOLUTIONS START WITH INTEROPERABILITY

How standardization propels public transport into the next level

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INFORMATION TECHNOLOGY
for PUBLIC TRANSPORT

BUSWORLD foundation

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AGENDA

Let's meet

How standardization propels public transport into the next level

We need you!

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WE ARE ITxPT

WHO WE ARE

The **non-profit association** that enables an **open architecture, data accessibility and interoperability** between IT systems. The members of ITxPT develop the IT architecture **for public transport** and other mobility services together, **based on standards and best practices**.

MEMBERSHIP-BASED

- 160+ members in 28 countries
- PTA, PTO, Industry and Associations

WHAT WE DO



An architecture for
interoperability



A community for
innovation



A label for
compliance

ITxPT TEAM IN THE ROOM



Anders Selling
Secretary General



Pascale Guyot
Members Relations



Emmanuel de Verdalle
Technical Committee Chair



Tu-Tho Thai
Manager, Projects &
Partnerships

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WHY STANDARDIZE?

FOR YOU & THE INDUSTRY

- **Facilitate data exchange & sharing**
 - Between different organizations
 - Between different sectors
 - Between different systems
- **Reduce costs** of development & Scale-up

TO PROPEL INNOVATION

- Stimulate **tailored solutions to meet multiple and different needs**
 - Same questions = same answers
 - Localize / Personalize with the same base
- A **community** to rely on

ITxPT SPECIFICATIONS FOSTERS INNOVATION

S 01

Installation Requirements

Power Supply Interface
FMS Interface
Other Interfaces (audio, antenna, wireless, etc)
IP network
Space
On-board IP
Harness

IP network and hardware layer

S 02

On-board

0 Protocols DNS and MQTT
1 Module Inventory
2 Time service
3 GNSS Location
4 FMStoIP
5 VEHICLEtoIP
6 AVMS
7 APC
8 MADT
9 MQTT Broker

Inventory

- to be provided by
- to be subscribed to

S 03

Back-Office

TRANSMODEL ecosystem
NeTEx (Network Timetable exchange)
SIRI (Service Interface for Real-time Information)
OJP (Open Journey Planning)
S03P01 – TiGR (Telediagnosis for intelligent Garage in Real-time)

Useful protocols

Governed by CEN,
Facilitated by ITxPT

CONCRETE EXAMPLE WITH S03P01

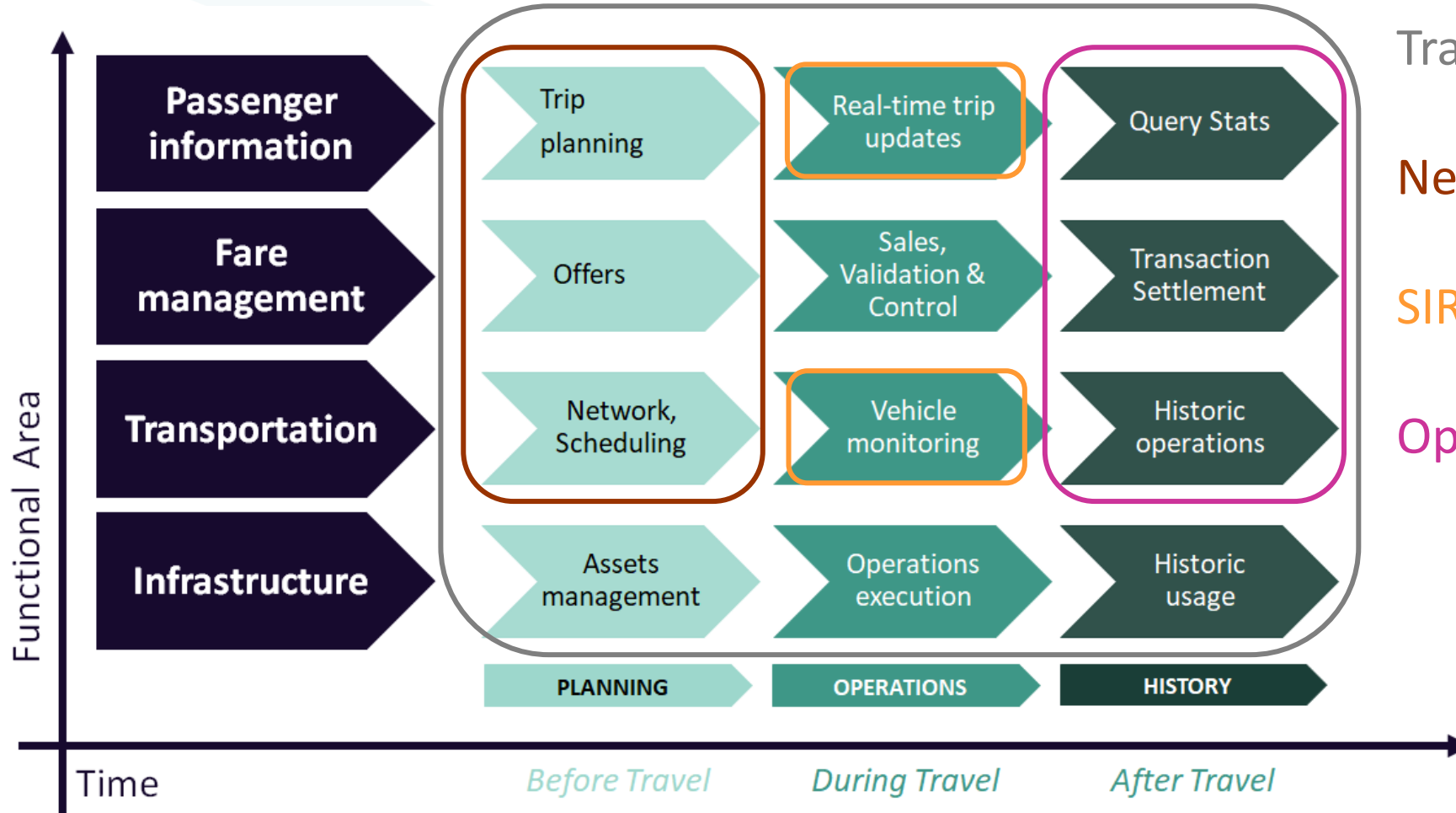
PRINCIPLES

- A standard interface to **access vehicle data remotely**
- Works in **heterogeneous fleets with different brands and models**
- **Standardized header** for all event messages that can be:
 - Ordinary operational event
 - Abnormal operational event
 - Vehicle or ITS Failure
 - Maintenance warning


BENEFITS

- **Prevents**
 - **Vendor lock-in**
 - **Costly patching** of several proprietary “open” interfaces
- **Supports**
 - **Global harmonisation** that reflects the community’s needs
 - **“Plug and play”** principle

EU STANDARDS AS THE BACKBONE OF MAAS



Transmodel 

NeTEx 

SIRI 

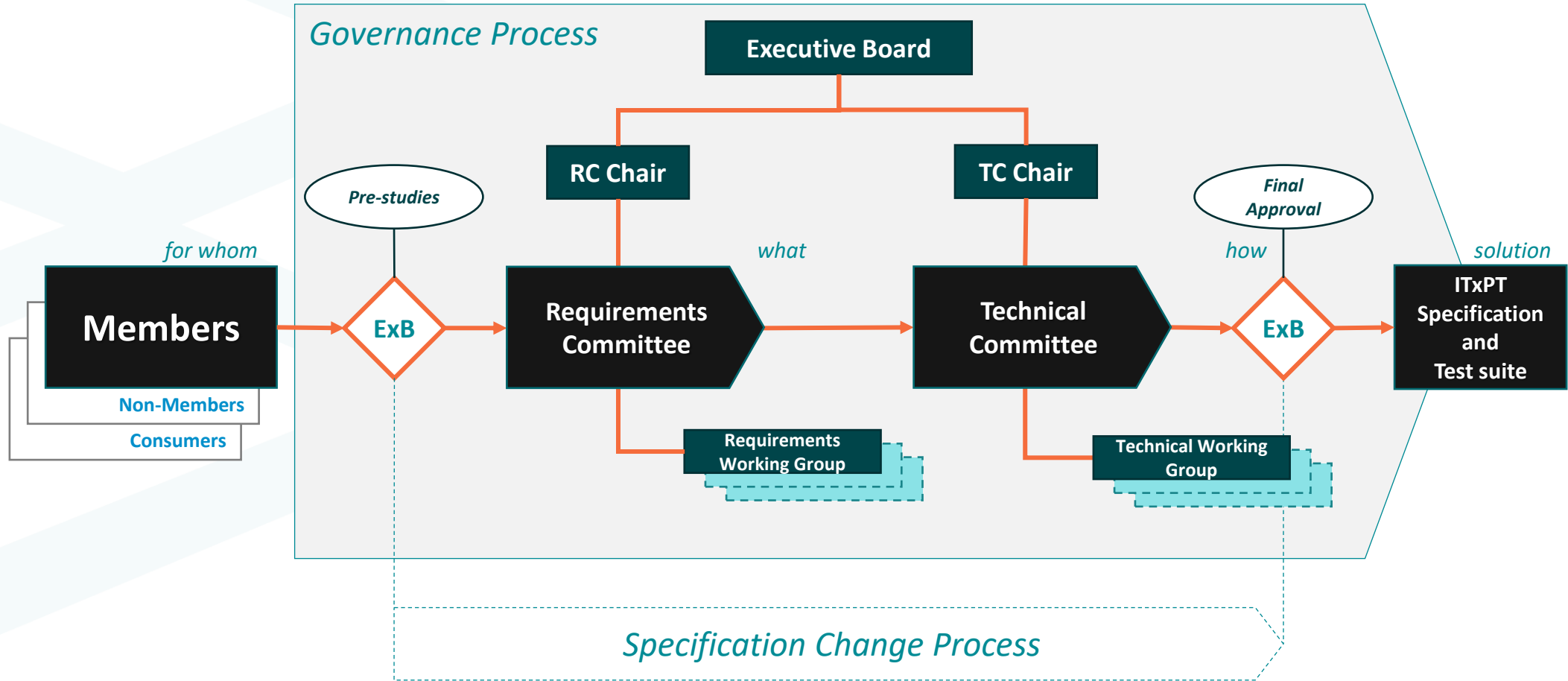
OpRa 

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GET INVOLVED!



QUESTIONS? COMMENTS?

