European Initiatives for IT in Public Transport


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Information Technology for Public Transport
ITS applied to Public Transport business

The information systems ensure nowadays a strategic continuous virtual link between Infrastructures, vehicles and passengers in order to follow and to optimize the process of transport public.
ITS in Public Transport: to do what?

Customers expect more and more flexibility between transport modes in urban and sub-urban areas:
- Extended multimodal transport offer day and night
- Interoperability guaranteed at any time
- Passenger information in real time
- High quality services (comfort, accessibility, vehicle design)
ITS issues today in Public Transport

Today’s systems
- Proprietary
- Inextensible
- Costly
- Poor ergonomic for the driver
- Vehicles are not ready for ITS
→ ITS stand-alone on-board systems
ITS issues today in Public Transport

Today’s systems
- Difficult installation
- Redundancies
- Multi-connectors
- Wiring issues

→ PT vehicles are not ready to receive such ITS systems
ITxPT vision

BEFORE ITxPT

WITH ITxPT

AVMS, Ticketing, DPI, Videosurveillance, WiFi

by

PersonTrafik 2014 – ITxPT presentation
ITS onboard architecture

Tomorrow’s systems
- Pre-equipped vehicles
- Modular and open architecture
- Ergonomic improvements
- Less costly

→ ITS shared on-board systems
EBSF : Backoffice context

Vehicle Exchange
- Operator 2
- Operator 1b
- Operator 3

Operator 1
- Op.1
- Op.1b
- Op.1

Operator 2
- Op.2
- Op.2
- Op.2

Operator 3
- Op.3
- Op.3

Operator 4
- Op.4
- Op.4

Operator 5
- Op.5
- Op.5
- Op.5

Operator 6
- Op.6
- Op.6

PTA 1
- PTA 2
- PTA 3
- PTA 4
- PTA 5
- PTA 6
- PTA 7

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ITxPT vision : the advantages

- Key and new interoperable functions (increase global quality of services of PT systems) offering a full interoperability on a PT territory
  - Display Passenger Information (DPI)
  - Automatic Vehicle Monitoring (AVMS)
  - Communication gateway
  - Remote Maintenance (RMS)
  - Multi-Application Driver Terminal
  - …

- Avoid proprietary interfaces & inextensible systems
- Simple on-board installation rules (vehicles pre-equipment)
- Reduce global cost of IT architecture (standardization and sharing of key features)
- Open and Service Oriented Architecture (data sharing)
- Based on Standard Internet technologies
Standardization adoption steps

- CEN TC278 WG3 SG1: onboard data communication
- EN13149 standard
  - Part 7: Network & System Architecture
    - Specifications for interfaces mechanisms and communication protocols
    - Final review for publication before in 6 months maximum (end 2014)
  - Part 8: Physical Layer for IP communication
    - Specifications for connectors, wires, …
    - Published in 2013
  - Part 9: Services Specifications
    - Catalogue of services including data model description
    - Work in progress for first publication in 6 months maximum (end 2014)
- Collaborative work with IPKOM German project and VDV
Standardization adoption steps

- **CEN TC278 WG3 SG 9 : NeTEx**
  - Network and Timetable Exchange
    - Part 1: Network Topology (waiting for official publication)
    - Part 2: Network Timing Information (waiting for official publication)
    - Part 3: Public transport fares exchange format (not yet complete)
  - EBSF and 3iBS implications:
    - NeTEx provides a way to distribute long term planned information from planning systems
      - Network – Places, Stops, Zones, Lines etcetera
      - Timing information – Vehicle Journeys, Interchanges, Vehicle Scheduling etcetera
    - IFOPT taken into consideration Detailed description of Site possible
Standardization adoption steps

- CEN TC278 WG3 SG 7 : SIRI
  - Service interface for real-time information relating to public transport operations
    - Part 1, 2 and 3 voted positive for version 2
    - Part 5 SIRI SX – ongoing discussion of a new version

- EBSF and 3iBS implications:
  - SIRI version 2 has a number of enhancements that support needs addressed in EBSF
  - SIRI version 2 is more consistent internally
ITxPT association: Objectives

- The standard IT architecture for Public Transport specifies communication protocols and hardware interfaces to offer a full interoperability of IT systems in PT applications.

- The mission of the ITxPT association is to support the deployment of standards and practices for onboard plug-and-play of IT-systems for Public Transport and the relevant back-office features.

http://www.itxpt.org
ITxPT association : Technical Platform

- ITxPT Test & Integration Platform
  - Implementation on a testbench of a working standard for plug-and-play IT-systems applied to public transport
  - Support, maintain and promote this working standard
- Unique integrated European technical IT platform to specify, test, qualify and showcase IT solutions

- ITxPT platform video

http://www.itxpt.org
The ITxPT Wiki offers online documentation center always up to date.

ITxPT members can contribute to its content

ITxPT Wiki : the reference on “Information Technology for Public Transport”
The ITxPT Initiative Members will have access to the ITxPT platform to test their devices and applications in real operational conditions, supporting the uptake of this plug-and-play solution. By limiting the risks during the integration stage, these tests will facilitate the deployment process in operation.

- **Join us** on [http://www.itxpt.org](http://www.itxpt.org)

- **Visit us** during PersonTrafik 2014