

WP6 : Equipment and operational aspects

Minutes of the Working Group Meeting 29th and 30th of March 2007, Barcelona/Sitges

0) Aim of workshop session:

This expert meeting represents the first official working group meeting in a row of four meetings held within the SPUTNIC project. This work group (WG) represents the knowledge exchange platform of WP6 “Equipment and operational aspects”.

The entire workshop session was held on the afternoon of Thursday the 29th (day 1) and on the morning and first half of the afternoon of Friday the 30th of March (day 2).

The WG member consists on one hand of the cluster partner TÜV Rheinland (leader), CERTU, IFTEC and MPK and on the other hand of the experts who were invited for this specific WG.

List of participants

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1) **Day 1 (Thursday, 29th March):**

Some word definitions at the beginning:

- Refurbishment or Retrofitting: to enhance and improve the vehicle as it was at its first life day,
- Upgrading: to improve the vehicle with some additional features or functionalities

The presentation of questionnaire results along with some additional comments of each participants was the ice breaking start of the work session. The questionnaires itself were filled out by the experts before the meeting and were summarised in an excel-file by the cluster leader.

The main items under discussion were as follows:

Leipzig:

- major changes 1991 / 2006
- development of the fleet of vehicles from the early 1990th till today with a reduction of tram-units and a increase of bus kilometres (185 km in 1990, 1.200 km in 2006)
- reduction of staff in maintenance and of vehicles and infrastructure

Lisbon:

- low floor vehicles except trams in the mountain areas (touristical aspects) – lot of illegal parking
- 1990 renewal of bus fleet
- Today there are 45 tram-vehicles and they are doing only maintenance by themselves
- 100% low-floor fleet in compliance with legal requirements
- Existing problems with platforms in bad conditions

Sofia:

- inhomogeneous and very old fleet (cannibalism) – lack of funds for infrastructure
- Small and young metro-fleet, that shall be extended in future time
- Inhomogeneous fleet with busses, trolley busses and tram
- Bus:
 - o important in public transport in Sofia
 - o Very old fleet with some activities to refurbish and purchase
 - o to less investments to keep standard – cannibalisation of vehicles to keep vehicles rolling
- Tram:
 - o problems with spare parts → cannibalisation
 - o started activities to refurbish tram stock
 - o little low-floor-percentage referring to the lack of funds
- Decreasing funds for investments in infrastructure; vehicles are prior
- Approx. 1 mil € p.a. for maintenance and investments in infrastructure
- Public transport in competition with 6 privat operators

Zagreb:

- tender for new buses; environmental issues: less noise (low floor articulated tram) + CNG/biodiesel buses; accessibility for PRM: special services with minibuses
- 121 bus lines with 300 busses (60% of the fleet is low-floor)
- They purchased 70 trams (100% low-floor) and further 70 within the next 2 years, financed by the municipality of Zagreb
- 40% of the fleet is prepared for bio-diesel → difficulty: not enough bio-diesel available on market
- 40% of fleet is in prepared to turn on CNG after reconstruction of bus depot

Krakow:

- not too big decrease of the patronage (70% to 60%); PT-actor gets no subsidies for operation
- common platforms for bus and tram in some cases; decentralised management
- 60% in modal split for public transport (without structural changes since the 1990th); Challenge to keep current situation in the modal split
- Busses / Trams are using same platforms and lanes
- 80% of the bus stock is low-floor → there is no need to reach 100%; target is ~75%
- Existing cooperation with Bombardier to refurbish/modernise trams
- In competition with a huge number of private operators
- Problems:
 - o inhomogeneous fleet
 - o mixed types in one depot
 - o privatisation and strategy of the municipality
- preference to trams because of the huge capacity

Brno:

- subsidy for CNG buses; automatic control system; low floor busses on some lines and identified on timetables + special services with 3 minibuses.
- Trolleybuses: look for subsidies (vehicle and infra), but more expensive
- Modal split of 60%
- Partial low-floor fleet
- Trolley busses are 20% more expensive than diesel busses

Bratislava:

- CNG buses has decreased the operating cost (by 15% less than for diesel)
- 4% low floor buses, 0% low floor tram and trolleybuses; cannibalism on old vehicles like in Sofia (cutback of bus-vehicles from 570 to 450).
- CNG-Busses are 15% more economically than diesel busses
- Problems:
 - o punctuality → trying to solve this by using a AVM system in some areas of the city
 - o inhomogeneous fleet
 - o only 10% to 15% of the spare parts of an vehicle can be used for vehicles of different age of same typ
- best practice referring to a homogeneous fleet is to cooperate with 2 or 3 producers to reduce dependence, elevate flexibility and competition between producers.

2) Day 2 (Friday, 30th March):_

The objectives of day 2 were to find out and discuss the key problems and therewith the key challenges of PT actors in CEE Countries.

Cluster conclusions:

1- General statements

- o A need to keep the high share level of PT travel mode that can be observed currently
- o an inhomogeneous and too old RS fleet (lack of spare parts, availability problems, cannibalism on old RS)
- o a bad state of infrastructure, with a high need to convince politicians that it is the first priority (before RS)
- o a lack of funding that increases the difficulty of priority choices on a matter quite complex that should be managed regarding the whole system approach
- o to maintain the current technical choice in the existing network, tramway or metro for the heaviest corridors
- o BRT approaches don't appear as actual potential solutions that could be used (for example, tramway and metro project have priority in Sofia at this time)
- o at last heterogeneous situation between countries and cities, regarding also their size.

- 2- Challenges on Infrastructure (the first priority)
 - increase the urban space dedicated to PT, or give priority to PT
 - improve the enforcement of car parking regulation by police
 - dedicated lanes: there are concerns with usage by taxis in some countries (congestion for the PT vehicles)
 - increase the quality level of infrastructure (riding comfort, accessibility for PRM)

- 3- Challenges on Rolling Stock
 - problems of technical safety and reliability and different rules (Krakow: expensive control by independent office, each 6 months for buses, every 2 years for tram; own responsibility of the operator in Bratislava)
 - difficulties to chose the best economical way between these 3 options: refurbishment, second-hand, new vehicle
 - (good results in Zagreb with second-hand buses and now forbidden; good result in Bratislava with second-hand tram, by contract with Nürnberg and Vienna)
 - need of a careful economic study that integrates also maintenance, energy consumption and noise issues
 - need to consider the local situation (manufacturers, employment)
 - need to consider the consequences on workshop design
 - customer willingness to travel on low floor vehicles;
 - choice of alternative fuel that remains economically affordable, and easy to operate (look to local conditions relating to independent supply, filling time,...)

- 4- Challenges on AVM systems (the bridge between Infra and RS)
 - optimisation of fleet traffic control
 - difficulties: compatibility of different systems in an urban area

- 5- Challenges on ticketing / passenger information systems
 - not the first priority
 - implementation has began in most cities (for example the dynamic information systems suitable to the blind people implemented in Prague and in Brno)
 - big problems of fraud (not accountable, old fare system) and vandalism

- 6- Challenges on services for persons with reduced mobility
 - the concern on this issue is starting
 - low floor vehicles are introduced slowly by purchasing new vehicles, even for tramways (low floor by upgrading is possible?)
 - need to improve the stop platform and its location near the tracks, compatible with the low floor (see the two examples of solutions operated in Leipzig – common platform for bus and tram in Krakow)

- 7- Outsourcing and calls for tender issues
 - In general, agreement on outsourcing what is not the core business of an operator (maintenance of vehicles and infra); a gain of 30% on maintenance cost in Krakow; however maintenance outsourcing could be costly, for instance in case of inhomogeneous fleets; outsourcing is also linked to public/private strategies that are negotiated.
 - Call for tender: difficulties to analyse the best choice, regarding the life cycle cost, a need for increased standardisation for maintenance and cost reasons