

WP6 : Equipment and operational aspects

Minutes of the 4th Working Group Meeting, held on the 9th and 10th of October 2008 in Prague / Cz

List of participants

	Cluster Members		
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2	Thomas BRANDT	TÜV Rheinland InterTraffic	D-Cologne
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5	Magdalena DROBNIAK-SALITRA	MPK	PL-Krakow
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7	Francois RAMBAUD	CERTU	F-Lyon
	Invited Experts		
8	Ciaran DE BURCA	Quality Bus Network	IRL-Dublin
9	Carlos GAIVOTO	CARRIS	P-Lisbon
10	Marcus HERBERS	Trade World One	D-Düsseldorf
11	Bettina Hick	MAN Ferrostaal	D-Essen
12	Zdenek JAROLIN	DPMB	CZ-Brno
13	Rolf KAMSTEEG	ING Lease Nederland	NL-Amsterdam
14	Frank MÜLLER-EBERSTEIN	Müller-Eberstein Services	D-Dresden
15	Stephan RUTSCHER	Barnimer Busgesellschaft	D-Eberswalde
16	Andreas SCHWENDEMANN	Siemens Österreich	A-Wien
17	Tsvetan TSOLOV	SKGT	BG-Sofia
18	Dr. Zoltan Adam Nemeth	SZKT	HU-Szeged

0) Aim of the 4th working group meeting (WGM):

In the cluster “equipment and operational aspects” this 4th working group meeting was dedicated to the topic: “*upgrading of fleets and maintenance strategies*”, with focus on these specific items:

- Exchange database for second hand Rolling Stock (bus and tram)
- Exchange database for Spare Parts, creation of an EU database (bus?, trolleybus?, tram?...)
- Maintenance organization and main issues
- Fleet management system
- Key Challenges and Policy/Research Recommendations.

Two background papers were prepared and sent out to the experts beforehand.

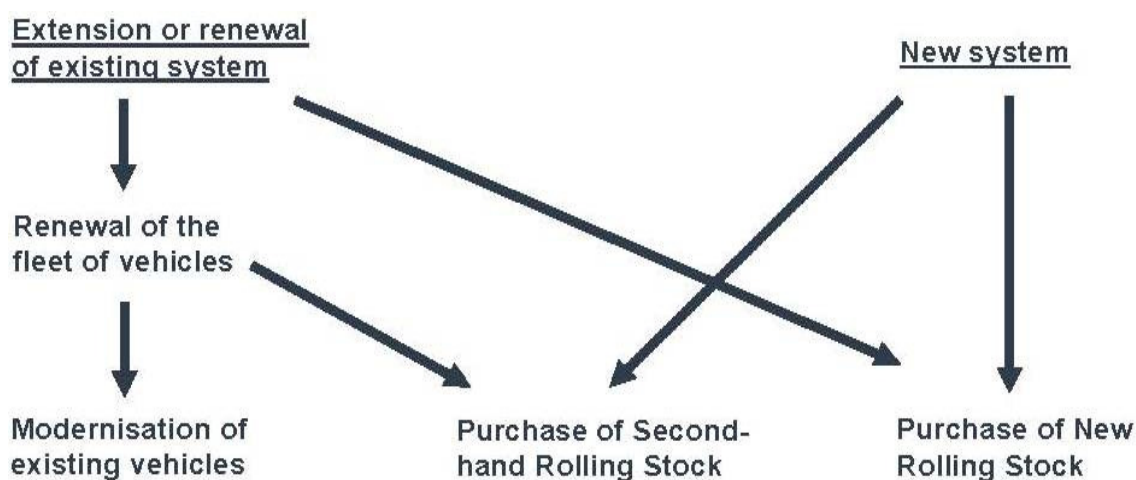
- On exchange database for RS maintenance and secondhand purchasing
- On fleet management, with two items, organization / management of vehicle maintenance facilities and fleet control system.

Day 1

Presentation by MAN Ferrostaal through Bettina Hick:

MAN Ferrostaal is a part of the MAN Group. There are internationally active manufacturer of vehicles, engines and machinery. MAN Ferrostaal is represented all over the world with 2,200 employees and therefore able to choose the most reliable partner for any customer.

Ms Hick demonstrated the standard process for transfer of used vehicles on a project for the Transport Service of Budapest. In advance she had pointed out to strategically scope of action. Represented in following chart:



On delivery of used vehicles there are following advantages:

- readily available
- proven technology
- cost-effective.

Compared with new vehicles the refurbishment of used vehicles has an overvalue of 60 %. Additional cost develop through:

- adjustment of infrastructure
- on-board equipment
- workshop maintenance.

In several CEE-Countries there are various assistance measures for used vehicles and spare parts. These have to be questioned.

A tailor-made solution has to be developed for every customer. Following phases have to be examined during the consulting process:

a) Analysis

The analysis includes analysis of existing tracks concerning the compatibility to the second hand vehicles.

This issues have to be considered:

- track gauge + vehicle envelope
- wheel profile
- switch control
- power supply
- platforms
- electromagnetic compatibility
- etc.

b) Selection of potential Rolling Stock

The potentials of well-preserved used vehicles in the West-European Transport Services are present. In advance the number of potentials will be declining because the process of refurbishment in the West-European Transport Services is predominantly completed. The customers have to pay attention that partly technology progresses will approach them. In this respect special training measures have to be aligned. Comparable used vehicles are hardly still present in East Germany because of the refurbishment of TATRA vehicles. With the use of TATRA vehicles a know-how at the Transport Services in the CEE-Countries exist.

c) Customisation

During the customisation the existent vehicles have to take an inspection. That followed the definition of necessary maintenance steps, than the definition of refurbishment and modernisation, definition of the required changes for approval by the local authorities. Further steps are translation of the necessary documents (e.g. Manuals) and the definition of the final inspection of the vehicles.

d) Concepts of Modernisation

The technical aspects are the inspection of all mechanical and detailed parts and replacement of the main components. For the passenger comfort was revised the optical improvement (e.g. new paint, new windows, modernised interior design, air-condition, passenger-information etc.)

e) Delivery

Attention should be paid to

- professional charging and discharging
- application for authorisation of the special transport (guidance of traffic, escort by police)
- assistance during customs clearance

Before the final commissioning of the vehicles the technical support for the commissioning has to find solutions to meet the local standards to achieve the necessary licenses.

f) Training

The collective training of the personnel has to be defined. Training of the driver can be done by an experienced employee of the current operator.

Training for the workshop employees: The existing know-how can be passed on in form of workshop training by the development of a useful workshop concept:

g) Maintenance Support

Workshop equipment, these include:

- analysis of the existing workshop and development of an optimum workshop concept,
- workshop-modernisation,
- delivery and installation of workshop equipment.

h) After Sales Service

Handover of documents as

- fleet documentation (functional description, work instruction, workshop instruction, etc.),
- vehicle documentation (vehicle data, inspection-, damage-, repair- and maintenance reports),
- material (bill of materials, spare part management).

The spare part supplies have to be developed considering the spare part concept of customers.

In the case of Budapest has shown that the use of 2nd-hand rolling stock has let to a know-how transfer in terms of maintenance standards and reorganization of the depot. The entire time of the whole project took 2 years.

In another case the selling German company has brought spare parts for their remaining older vehicles from the buying company in Hungary.

A further area of worthwhile application of second hand vehicles is the field of network extensions or the start of a light-rail system in very short time because of the quick availability of used rolling stock.

Presentation by Szeged Transport Company (SZKT) through Dr. Zoltan Adam Nemeth:

After 1990 similar problems than in other CEE-Countries have arisen in Szeged, e.g.: In Szeged 116 mio Euro were foreseen for the reconstruction of the electrical network. 80 % of the infrastructure had to be renewed together with tram and trolley network extensions and for the purchase of new vehicles only 29 mio Euro were foreseen.

In 1997 in Szeged 12 used vehicles KT4D (film) from East Germany were bought which were modernised in the maintenance workshop. Beyond that TATRA trailer cars were rebuilt to railcars with the local technical know - how.

Such serious structural measures have to be considered for technical know - how and economy.

Apart from the refurbishment of trams 2nd-hand trolley-buses were acquired und modernized in self direction. Particularly to emphasise is the reconstruction of used Diesel Citaro-buses to Trolley-buses.

In this connection the same note is valid as the reconstruction of tram trailer cars to railcars.

Day 2

Presentation by the ING GROUP, specialist in bus and coach leasing (fiscal and financial knowledge):

This company, created from a merger in 1991, has Dutch roots, and is pioneer in combining banking insurance and asset management. It is present in more than 50 countries and employs 119,000 employees world-wide. This company works mostly in Netherlands, Italy, and Uk, and begin to work with the new members, where advantages in fiscal and legal matters can be found.

Briefly, the market trends are as follows:

- in Western Europe due to the concession policy of the EC in public transport:
 - o much shorter contracts than in the past,
 - o higher depreciation because the buses need to be replaced sooner (average aging of buses in the Netherlands is around 5 to 8 years) -
 - o many contracts demand new buses due to environmental issues (Euro5,CNG, hydrogen.

The buses are only used for a minor part of its economic lifecycle.

- in Eastern Europe
 - o Eastern Europe needs to upgrade it's public transport system drastically.
 - o huge investment in new is not feasible.
 - o re use the second hand portfolio of Western Europe.
 - o relatively young buses need to be sold with a financing solution.

It can be said that there is a need for a total life cycle management of buses.

This presentation has launched a wide debate that highlighted these following key-points:

- the maximum in leasing is 10 years
- the leasing model analyse deeply and strictly the financial risk
- the leasing model analyse also the quality of the roads, relevant for ability to keep the bus in good shape
- leasing is always more expensive as purchasing new vehicles, but easier and faster to get
- for tram cars, it's more difficult to get a contract...

Presentation of Siemens: An overview of experiences in the field of 2nd-hand rolling stock for mass transit systems:

This company is in fact interesting for markets in the CEE Countries since 50 cities are running tram and metro networks.

Some comments on relevant trends in PT and possible strategies:

- customers want always more comfort and efficiency, decision makers have short funds,
- in eastern countries the ridership is decreasing, while in western we observe an increase,
- often long term goals in mass transit, below the terms of politicians, but,
 - o if short term goal : purchase of used cars
 - o if mid term goal : refurbishment of cars
 - o if long term goal: purchase of new cars
- always long term partnerships are needed in mass transit, due to spare parts, guaranty, technical support, additional demand...
- hence Siemens can answer with a “system” approach which is more efficient for the customer, including passenger information, traffic control, signalling, power supply.

This presentation has also launched a debate within the group of which the following highlighted key-points represent a broad overview:

- for all operator, the most relevant need to be sure to have on time and quickly the spare parts, the guaranty to get them for a good price
- for many operators as in Bulgaria, the dream to have the same model in the network
- the risk of spare parts availability during the RS life with second hand vehicles
- the need of very good advices, technical support, while purchasing second hand RS or new ones in order to study the compatibilities into the existing network and energy supply
- one of the big advantages of second hand material is that all problems have be solved and handled already. and it is more than recommendable to add a training program for the drivers but also for the workshop personnel to the complete package.

Presentation of Trade World One GmbH (TWO): Located in Germany, India and China TWO is a specialist in developing and distributing parts mainly for the railway industry. In some cases they have already sold second hand trams.

This company meets the expected and needed quality standards and they also give a warranty. They work together with the most of the well known manufacturers such as Siemens and Bombardier. Within TWO an engineering department is dealing with the demands in the field of spare parts.

This main key-points and comments are mentioned below:

- The example of Krakow has shown that it is not efficient to gain and keep the complete know-how for the 2nd-hand rolling stock in the own company, it is better to have a broad network between colleagues of other European PT companies where solutions can be found and discussed as well as spare parts can be exchanged,
- Spare parts problems: the manufacturers are willing to help them, as they are potential clients,
- Trends in eastern countries are to keep their buses long time because it is almost impossible to sell them (Brno, until 21 years)
- Prague has sold more than 20 year old buses to Nord Korea,
- Buying 2nd-hand vehicles need quick decisions because if not, some one else can have done the deal before (difficult when a public procurement process has to be done).
- Bus and tram sector are different because there are more suppliers for buses,
- There is a need to unify the spare parts, to have more standardisation, e.g. to have the same parts for heating systems in buses and in trams.

Internet exchange platform for 2nd-hand rolling stock and spare parts

About an internet platform offering availability of spare parts and second-hand RS, the experts of the 4th WGM were unanimous to confirm, that this tool could be only a help for providing first information; after you need to have really the contact to confirm you can meet the technical requirements.

Another fact which makes such a web based platform for entire trams difficult is the very limited number of available 2nd hand trams on the offer side. There are e.g. roughly 500 of Tatra trams in the east part of Germany of which 400 stuck in cross-border-leas contracts and can therefore not been sold within the next 10 to 15 years. These 100 trams which can be offered on the 2nd hand market have to be compared with the huge number of about 6000 trams running today in Eastern Europe. It is clearly visible that the 2nd hand market is an “ending” market.

Another obstacle for a big 2nd hand RS market is the very limited subsidies for new vehicles in the EU.

Fleet Management

On the basis of the beforehand prepared and distributed background paper “fleet management” the aims, chances and risks of such a system were explained and the related pro and cons were discussed.

This theme was split up into the following two main fields:

- a) Organization and management of vehicle maintenance facilities and
- b) Management of the daily transport operation.

In a) the following themes were highlighted in the field of fleet management:

- Quality of the technical vehicle service,
- Prioritization and optimization of the vehicle service
- Applying a management process for an effective organization of the technical fleet service,
- Outsourcing,
- Co-operation between vehicle service stations and vehicle producers,
- Ensuring a spare part supply and availability without redundant store,
- Environmental awareness,
- IT-technology for fleet management.

In b) the focus was on:

- The role of AVM/AVL systems (Automatic Vehicle Management/Location),
- The role of additional tools in order to perform the fleet regulation,
- The efficiency of the automatic passenger information
- Cooperation with offices in charge of security, safety, fraud and road enforcement.

After summarizing and discussing the beforehand prepared background paper, the additional content from the attendees was as follows:

- Poland: lots of bus in peak hours (90%), difficulties to have more
- Brno: a new bus cost more in maintenance, as it has more equipments, difficulties to evaluate this over cost
- Brno: 50% of buses have only one driver, some have until 3 drivers, worse condition for the maintenance
- Brno, the priority is to purchase new buses, 30 per year while we can have only ten per year; no control system, and a need to have priority at traffic lights (more congestion is observed)
- Dublin: decision process is difficult for implementing the control system with dynamic information, several operators

Conclusion

The meeting was very fruitful. Both cluster members and the experts actively participated in discussions and shared their opinions and know how about a broad spectrum of problems and chances in the field of 2nd.hand rolling stock and spare parts and the problems involved.

The enormous benefits which could arise from installing a fleet management system were highlighted and discussed in part 2 of the WGM.