

11th BESTUFS Workshop, 18th – 19th September 2003, Palmela/Portugal

Thematic focus:
“ITS in urban goods transport“

Participants list:

Company Name	Name
ACCESS Eurocities for a New Mobility Culture	Mrs H. Brégand
ACEA	Mr M. Hollingsworth
APVE Portugese Electric Vehicle Association	Mr R. Stüssi
C.S.S.T.- Centro Studi sui Sistemi di Trasporto	Mrs F. Scisciòt
CDV- Transport Research Centre	Mr I. Fencì
CDV- Transport Research Centre	Mr M. Macko
Camera Municipal de Setubal	Mrs M. Cousiena
Comune di Genova	Mr D. Villani
Deutsche Post AG/ DHL Express Deutschland	Mr P. Sonnabend
Diepens & Okkema	Mr R. Jorna
Directorate-General for Inland Transport	Mr J. Lemos
EBS	Mr P. Merimaa
ECONSULT	Mr J. Schrampf
Faculdade de Engenharia da Universidade do Porto	Mr A. Pérex Babo
Forum for City Logistics	Mr G. Petri
GART	Mr A. Lagrange
Grupo Luis Simões	Mr J. Faria
IBI Group	Mr G. Scott
INECO	Mrs P. Sánchet
INECO	Mr C. García Cárceles
Innovagency	Mr R. Alves
Interporto Bologna SpA	Mr A. Aulicino
Logistema	Mr R. Félix
NEA Transport research and training	Miss S. Pop
NEA Transport research and training	Mr M. Quispel
POLIS	Mr S. Haon
PROINCA	Mr G. Montero
PTV Planung Transport Verkehr AG	Dr D. Wild
PTV Planung Transport Verkehr AG	Mr M. Huschebeck
RAPP Trans AG	Mr H. Abel
Servizio Mobilità e Traffico Comune die Ferrara Italia	Mrs M. Zanarini

Final Minutes

Company Name	Name
Topolisz Ltd	Mrs V. Siegler
Tracon	Mr P. Tiks
Transman Consulting for Transport System Management Ltd	Dr J. Monigl
Trinity College Dublin	Mr H. Finlay
University of Maribor	Mr S. Bozicnik
Ultra	Mr G. Kita
VUD	Mr P. Zitnansky
VUD	Mr J. Mikula

AGENDA

Day 1
18th September 2003

Chairman: Dieter Wild, PTV AG

First Day: 18th September 2003

1. Welcome and introduction

- 1a. Welcome and introduction by Dieter Wild, PTV AG
- 1b. Introductory remarks Robert Stüssi
- 1c. Welcome by the mayor of Palmela
- 1d. Short self-introduction by each participant

2. Examples from cities

- 2a. Presentation by Mr Ricardo Félix, Logistema and Mr. Rui Dias Alves, Innovagency
"Improving city transportation & distribution networks in Portugal: Mobility and Flexibility on city supply chains and improved conditions on city traffic and citizens' requirements"
- 2b. Presentation by Mr Ivan Fencel, CDV
"ITS based access control system to be implemented in Brno"
- 2c. Presentation by Mrs Vera Siegler, Topolisz Ltd
"Route Optimisation and City Logistics in Budapest"

3. Innovative approaches on ITS from service providers

- 3a. Presentation by Mr Ronald Jorna, Diepens & Okkema
"Integration traffic management information with freight transport management systems"
- 3b. Presentation by Mr Gregor Kita, Ultra
"Talk-track a System for Transport Management and its Positive Impacts on City Logistics"
- 3c. Presentation by Mr Daniele Villani, Comune di GENOVA (Italy)
"M.E.R.Ci project, Ecological Mobility Resource for the city",

4. Technical visit at Volkswagen AutoEuropa

5. End of the first day

<p style="text-align: center;">AGENDA Day 2 19th September 2003</p>

Chairman: Dieter Wild, PTV AG

Second Day: 19th September 2003

6. ITS opportunities and barriers from operators view

- 6a. Presentation by Mr Graeme Scott, IBI Group (UK)
"The STREETWISE project - Addressing Traffic Information Needs of the Freight Industry"
- 6b. Presentation by Mr Costa Faria, Grupo Luís Simões
"Technology and processes: the road map to productivity"
- 6c. Presentation by Mr Dieter Wild, PTV AG
"Urban Freight and Intelligent Transport Solutions"
- 6d. Presentation by Mr Peter Sonnabend, DHL (and Mrs Anna Marchisio, IVECO)
"Vehicle development and transport logistics in the information age"

7. Group discussion / round along the table

All workshop participants (including also participants without presentation) are asked to actively participate and to prepare a very short statement on their view and expectations regarding ITS in urban goods transport. E.g. to express the occurrence of special solutions, to highlight additional special problems, to recommend supporting or regulating policies or to address open questions which need to be answered, etc.

8. End of the workshop

DAY 1

1. Welcome and introduction

- 1a. *Welcome and introduction by Dr Dieter Wild, PTV AG,
-Structure and aims of the workshop.*

The chairman, Mr Wild, opens this 11th BESTUFS workshop. He welcomes the participants (39 people are present). He thanks Mr Stüssi for organising this workshop and he thanks the Municipality of Palmela for their hospitality.

Mr Wild describes the goals, the approach and the current status of Thematic Network BESTUFS. He explains the focus of BESTUFS and the topic of the current workshop. There is a special website for the Thematic Network BESTUFS where all information about the previous and coming workshops and conferences can be found (www.bestufs.net). Amongst others, the workshop minutes can be found here and as well the handouts of the presentations.

The subject of this 11th workshop is "ITS in urban goods transport". ITS examples from cities will be given as well as innovative approaches of service providers. After the presentations there is room for discussion in order to get a clear vision on those aspects and issues where more attention should be paid. Mr Wild expresses the hope that the workshop will be interesting for each participant and invites the participants to bring forward issues that are considered useful for this workshop.

With regard to ITS, a lot of new developments are going on in this area. Some of these new developments will be presented today. To have a common understanding of ITS: ITS will always be used for information and communication to optimize the processes.

Next the participants introduce themselves and explain their role/interest in BESTUFS.

- 1b. *Introductory remarks, by Mr Robert Stüssi, perform Energia*

This 11th workshop is taking place in Palmela, Portugal. Mr Stüssi welcomes the participants and expresses the hope to have a very fruitful workshop. Furthermore he thanks the Portuguese Directorate General for inland transportation for their support. And he especially introduces the Municipality of Palmela who is the host of the workshop.

- 1c. *"Welcome by the Mayor of Palmela", Mrs Ana Teresa Vicente*

The Mayor of Palmela, Mrs Ana Teresa Vicenta gives a short welcome to the participants. Palmela is a small historic town with Palaeolithic origins and Roman Muslim History. This town is situated on the south bank of the Tagus River (25 km from Lisbon), close to the port town Sétubal. Palmela is 1 out of 19 municipalities which is situated around Lisbon, the capital of Portugal. The municipality covers an area of 460 m², meaning it is one of the largest municipalities.

The Municipality is linked to important infrastructure: two big motorways and also two big railways lines, and in the future perhaps a High Speed Train. Beside this, port and shipbuilding activities are taking place in Palmela. Furthermore, Palmela has the following characteristics of economical development:

- Exploiting natural resources: e.g. wine, cheese
- Industrial development: e.g. Volkswagen factory
- Development of goods logistic systems.

Mrs Ana Teresa Vicenta is happy that there is a Thematic Network like BESTUFS, she hopes that the Municipality of Palmela can benefit from BESTUFS.

You can download the handouts of the presentations which were held on this workshop and other annexes belonging to this minutes from www.bestufs.net under page "workshops", then click on "18th & 19th September 2003" and on "downloads".

In case you have problems with downloading, you can also contact the BESTUFS Administration centre at bestufs@nea.nl or call +31 70 3988 356 / +31 70 3988 357.

2. Examples from the cities

- 2a. *"Improving city transportation & distribution networks in Portugal: Mobility and Flexibility on city supply chains and improved conditions on city traffic and citizens' requirement", by Mr Ricardo Felix, Logistema and Mr Rui Dias Alves, Innovagency.*

Nowadays, the problem of mobility in the city centres is increasing with the frequency of deliveries and motorization rate, resulting in increased air- and noise pollution. The traditional approach is to limit the mobility acting on conditioning access and transit. But using an integrated strategy, respecting the requirements of all parties and reconfiguring supply chain processes supported by state of the art information technology could be a solution.

In this presentation we will show you a strategic model which is already adapted by the city Évora (Portugal). Furthermore we will show you information technology systems which are already tested in several recent projects in the area of Lisbon. First I will give a brief description of the Evora's mobility context, explaining the fundamental goals to be pursued with the deployment of a new supply chain system for the city. Evora's urban logistic system is characterised by presenting high percentage of flows proceeding from wholesalers that are based on classic systems of commercial intermediation bundled with logistic intermediation offers. In addition, high volume, highly frequent deliveries of specific product categories are distributed on an own account basis and by local professional service providers.

The mobility system designed by Logistema intends to reduce the distribution vehicles traffic in terms of distances and number of trips, and try to assure service levels identical to the ones that currently exist. Besides this the system induces low emission by the usage of electrical vehicles. We have based the system on two fundamental vectors considering issues from the demand- and supply side. Concerning the demand side; we want to reduce flows without reducing mobility by using: flow aggregation, warehousing outside the city wall (distribution platforms), better licensing process to ensure adequate infra structure. With regard to the supply side, we want to reduce the global trip times without compromising service levels, by working together with public owned logistics and transportation companies 'shared distribution' and using public information systems to support flow, vehicle and stock management. Furthermore mobility will be charged in order to finance new public services.

From research it is obvious that the entire system's feasibility and adoption level will depend on the existence of adequate regulations. Therefore it is necessary to define circulation limits, according to time frames, types of vehicles etc. To design 'Circulation Passes' to be able to encompass different types of vehicles and time frames, and deploying innovative access control mechanisms. Important is as well to design global incentives for the adoption of the system across the value chain, these may include investment co-financing schemes.

(More detailed information can be found in the handouts, which you can find on the BESTUFS internet site)

Questions/ discussion:

- Mr Petri: The plans you are bringing forward in your presentation, did these plans putted into action, what is the status?
- Mr Félix: We have prepared everything together with the city. At the moment we are waiting for political support. All the ICT concepts are prepared and are ready to put into action. In Lisbon some ICT solutions are already implemented. The plan is to integrate all technologies.
- Mr Sonnabend: Why do you deploy from scratch and don't you use existing logistics?
- Mr Félix: For the solutions that we found, we took the existing logistics into consideration. Our solution is respecting the requirements.

2b. "ITS based access control system to be implemented in Brno", by Mr Ivan Fencl, CDV.

Mr Fencl presents the ITS based access control system which is implemented in Brno in the Czech Republic. First he gives a short introduction about the city of Brno. This city is the second largest city of the Czech Republic and has 390,000 habitants. Brno is as well as an industrial as a cultural city. When we take a look at the road network in this city, we see that Brno has in total 803 km roads, from which are 184 km national roads and 619 km are local roads. These local roads are the property of the city of Brno. In the city centre an automatic access system is in place. This system has 10 telescopic pillars and 15 fixed barriers, like CCD camera, traffic lights and IR light or halogen lamp.

The reason why we introduced this system in the city of Brno is to give the pedestrians better protection in the city centre. Furthermore this system improves the goods transport management and the access management for residents. Besides this, the noise in the city will be reduced and also a reduction of the cars in the city centre improves the environment.

Questions/ discussion:

- Mr Hollingsworth: Can you tell me what the business structure in the inner city is? Are there big outlets or small shops?
- Mr Fencl: This is mainly a shopping area with small shops. Therefore we have a 3.5 tons maximum. There is some competition between the shops in the city centre and the big shopping centre just outside the city. You will find big outlets just outside the city centre.
- Mr Abel: Do you have some success indicators of this project?
- Mr Fencl: This system is not implemented yet. It will be implemented in 2004/2005.

- Mr Jorna: Will this system be used to regulate the current regulations? Therefore there will be an option for customisation, e.g. using electric vehicles.
- Mr Fenc: No, this is not foreseen at the moment.

2c. *“Route Optimisation and City Logistics in Budapest”, by Mrs Vera Siegler, Topolisz Ltd.*

Mrs Siegler starts her presentation with a short movie about the city of Budapest, Hungary. She first gives some general information about Hungary and Budapest. In Hungary live around 10 million people. Budapest counts 2 million inhabitants, nearly 10,000 streets, 22,000 crossings and 200,000 traffic rules.

Topolisz Ltd. is a company that provides maps data and applications concerning traffic and roads. We have 1:1000 scaled maps with address information. Road controller and specialists are registering data of potholes, road failures, missing road signs and broken lamps. They identify the exact spot via GPS and transfer the data into the dispatcher centre. Furthermore a control on the spot will be carried out, meaning the traffic rules will be checked as well as any other object in traffic control. Everything will be indicated on the data system. Besides this a classification of roads by function was made, divided in: highest priority roads, main roads, low priority roads, non-significant roads. Every road has its own colour in the data system. Points of Interest are indicated in the system as well, like airports, petrol stations, parking areas, railway station etc. And zones for special vehicles are stated. In short the static traffic database consists of a whole traffic network, including complex graphs, nodes and edges.

Based on this traffic database Topolisz Ltd. provides an application to optimize the routes. This application consists of three levels. In the first level the shortest or quickest route between two locations will be found. In the second level an optimum sequence of locations optimal route will be provided. And a more sophisticated route planning is available in the third level.

Questions/ discussion:

- Mr Hollingsworth: In the applications of Topolisz there are several levels. What are the costs of these levels? Is there a high demand?
- Mrs Siegler: A lot of applications are for free. There is for instance a free service for route planning between two points. The internet use, Info Touch and the WAP system are for free. With regard to the on-board navigation device, the costs are depending on the requirements of the user. We have different users. Route planning is demanded by small companies most of the time, they buy the information system. The price depends on the type of maps they need (e.g. Budapest centre, suburbs, national coverage etc.). Therefore we have several prices. The Hungarian Post uses our system for scheduling the parcels.
- Mr Finlay: Can you anticipate to blockages, work on the roads etc.?
- Mrs Siegler: We get all the information from the Municipality. The data will be compared with the data in our system and will be adjusted if necessary. But this is time and day depended.
- Mr Jorna: Can you include events in the system? Like concert, football games etc?
- Mrs Siegler: It is connected to the system, but not everybody uses this part of the system. It is possible though.

3. Innovative approaches on ITS from service providers

3a. *"Integration traffic management information with freight transport management systems", by Mr Ronald Jorna, Diepens & Okkema*

Mr Jorna is working at the company Diepens & Okkema; a traffic and transport consulting company. The presentation of Mr Jorna will be about integrating traffic management with freight transport management. We see that freight transport management systems (FTMS) and traffic management systems (TMS) have a common aim; fostering an efficient, safe and environment friendly transport. However both systems are developed in isolation. TMS is developed by road authorities; who lays the focus on overall level of traffic. On the other hand FTMS is developed by road haulage companies; this system focuses on the optimum use of their vehicles, minimum costs and optimum service levels. Furthermore we can divide three types of traffic information. First we have historical information; the statistics per road segment. Secondly we have information on planned events; road works, special events, time windows etc. And finally we have the information on unplanned events (real time): weather, incidents, unusual congestion etc.

When we take a look at the users of these information systems, we can distinguish: freight users in general, long-distance freight users and urban distribution users. With regard to the freight users in general they can run into: accidents, congestion, planned and foreseen events, road blocks, strikes, hazardous goods restrictions etc. The long-distance transporters have other operational difficulties which they need to take into account, like: waiting times at borders, operating hours customs, time tables of ferries, information holiday periods etc. The urban distribution users on the other hand have municipal time-windows, specific municipal legislative restrictions and physical restrictions (e.g. height, width, roundabouts) etc. which they have to take into account. In short every user has there own needs, and there is a greater need for real-time information. The technologies that enable us to gather this information for the users are: internet, teletext, printed media, variable message signs, info booths, radio, RDS-TMC, GSM and WAP services, GPRS, trip and route planning, service providers, floating vehicle data etc.

In conclusion we need to integrate traffic information with freight transport management. New technologies are available to guarantee a cheap collection and distribution of traffic information. These new technologies give clear benefits for the freight transport sector and traffic management sector. The element that stays unclear is the business model and the willingness to pay. Who will pay is the main question, and the answer is not given yet.

Questions/ discussion:

- Mr Wild: In Germany an example of such an approach is given in Berlin where a so called VMZ (Verkhers Management Centrale) was implemented, supported by the Berlin Municipality. Siemens the winning company of this model now has severe problems with finding customers for it.
- Mr Jorna: Yes, TMC in the Netherlands has the same problem at the moment.
- Mr Monigl: The problem is to get a good feedback from the transport companies, isn't it?
- Mr Jorna: It is. But the feedback is important, because with this information you can sell your information system better.

3b. *“Talk-track a System for Transport Management and its Positive Impacts on City Logistics”,
by Mr Gregor Kita, ULTRA*

Mr Kita works for ULTRA, a company that is founded in 1989. ULTRA's core business is research, design, development and marketing of industrial electronics systems, telecommunication systems and data services. During the years we developed several ITS systems for transport management. We have the M-pay system; this is a mobile payment system. We have designed the Talktrack system; a vehicle location, monitoring and communication system. Besides this we have produced 'ULTRA Energy': a fuel supply chain management system.

The mobile payment system is an unique system. With the mobile phone the user can pay car parks, taxi's, busses, lemonades in a vending machine. It works very simple. The user has to dial to the M-Pay centre, add the amount he/she has to pay, then place the mobile phone against the terminal and the transaction will be placed. The mobile phone becomes your mobile wallet.

The Talktrack system is a mobile unit which has GPS & GPRS modules, position tracking, vehicle control, signal connections, an open door sensor and a hands-free phone installation. Furthermore a keypad is necessary to use this system. The keypad can be used as a mobile phone, includes a SOS / INFO button, voice station and is able to give the road conditions etc. Within the Talktrack system the control centre is indispensable. We have an Web portal control centre and a WAP portal. These control centres provide information of vehicle location, paths, digital maps and driving analysis (e.g. speed), warnings of dangerous situations, communication with the vehicles etc. The data from these Talktrack centres are also being used for data mining purposes.

The final system that we produced is called the ULTRA energy system: a fuel supply chain management system. The ULTRA energy system together with the Talktrack system has definitely an good impact on transport in urban areas. Through automatic delivery scheduling, planned routes, truck-load optimisation and deliveries according to optimal time and delivery conditions, there will be optimisation of truck transport in the urban areas. Besides this by using these systems there will be produced less noise, less congestion and less air pollution.

Questions/ discussion:

Mr Dias Alves: Concerning the mobile payment system, how is the client identified?

Mr Kita: We have developed the terminals and that have inscription keys and an ID-number. This ID-number is important, when the user calls to the M-pay centre they see the phone number, so they know who it is.

Mr Jorna: What are the costs of the Mobile payment service is it only the connection you pay for?

Mr Kita: Yes only your connection costs.

3c. *"M.E.R.Ci project, Ecological Mobility Resource for the city", by Mr Daniele Villani, Comune di GENOVA (Italy)*

Mr Villani presents the M.E.R.Ci project which takes place in Genoa, Italy. M.E.R.Ci means Ecological Mobility Resource for the city. This project started in March 2003, and has been financed by the Ministry of Environment through the Environmental Protection Program. It is a system of goods distribution based on the use of zero-environmental impact vehicles. An exchange centre (hub) is used and receives the incoming goods for the city. These goods are then forwarded to the historical centre of the city by electronic vehicles.

Within the demo area (from the hub to the historical centre is about 5 km) 100-150 packages per day are delivered, for a total of 5-8 delivery operations every day. The distribution excludes deliveries to fresh foods stores, jewellery shops, drugstores/ pharmacies, banks and offices.

The project has logistic, environmental and distributional objectives. One of the objectives is improvement of the economics, the quality of logistics and definition of the services with new added values and new functionalities. Another objective is to promote rational use of intermodal transportation. Furthermore, an objective is to realise a reduction of the environmental impact, the transit and stop area around the project zone and of course a reduction of the goods distribution traffic in urban zones and their impacts on the urban traffic flows.

The project applies advanced technologies to optimise the distribution circuit. It builds a data processing and telecommunication infrastructure to constantly manage and track the results. This allows to keep every stage of the project under control. Logistic management, providing information, web publication and optimised planning of the goods delivery operations and real time control of delivery operations are the main functions.

Questions/ discussion:

Mr Dias Alves: Who is paying this project? And what is the role of the operators in this project?

Mr Villani: The project is financed by the Ministry of Environment through the Environmental Protection Program.

Concerning the operators, most of the time there are two operators, one delivers the goods and the other operator stays in the centre.

Mr Finlay: How did you determine the costs involved, are delays, risks, security etc. Included in the costs?

Mr Villani: The extra costs in the project are at the moment paid by the Ministry. But next year the Ministry will not pay anymore, so we have to find another solution.

Mr Monigl: In every project the same problem occurs, who is paying for it? To answer this, maybe it is a good idea to look who benefits the most of the system. This is the Municipality, so they can pay a certain amount.

Mr Villani: I do think it is a political decision.

DAY 2

Mr Wild gives a short summary of yesterday.

6. ITS opportunities and barriers from operators view

6a. *“The STREETWISE project - Addressing Traffic Information Needs of the Freight Industry”,
by Mr Graeme Scott, IBI Group (UK),*

Mr Scott presents the Euro-regional STREETWISE project. This project exists of seamless and effective travel information and coordinated management of traffic across borders using ITS. The priority of this project is Freight & Fleet management. Therefore STREETWISE has done a study on traffic information. They have based this study on all the STREETWISE area, but with a particular focus on Ireland. The aim of the study was facing the problems of long-distance freight operators and the needs of the freight industry to improve long-distance cross-border travel. Besides this they investigated the demand for new Pan-European services and they have taken the business case for freight oriented services into account. The study was built on previous STREETWISE works and gave an analysis of freight movement patterns. Therefore interviews with key organisations were taken and a survey is made of the Irish hauliers. Furthermore a workshop with the Irish freight community was organised.

The travel information we wanted to gather in the project we divided in three stages. First: what information do we want to gather? Secondly: How (the delivery method) and finally: Where? (priority locations for investment).

The main view of the industry that came out of the interviews, questionnaires and the workshop is that 85% think that real-time travel information is the greatest potential. They see static/ quasi-static information as some value information. They want to receive information on road works, major incidents, weather and big events before their trip and during trip. Other information like secured parking areas and country specific restriction is also a need for the industry. Several recommendations came out of the workshop. Companies are aware that high quality information can be important to assist decision making. Secondly they have the opinion that alternative routes and travel time has to have a priority and not just the delays. Finally they want that in longer term, traffic information has to be integrated into other equipment and systems they use. Also recommendations came out of the workshop regarding the role of the government and road operators. There should be a continuation of developing high quality traffic data. Furthermore the government could consider incentives for using telematics systems, trucks could provide additional data to road operators.

Questions/ discussion:

Mr Finlay: Do you propose a business plan (including a vote of all the parties)?

Mr Scott: First I would propose to use the existing services. Not explicit to use a business plan.

6b. *“Technology and processes: the road map to productivity”*
by Mr José da Costa Faria, Grupo Luis Simoes (Portugal)

Grupo Luis Simões is a family owned company established in 1948. We have 11 companies, 1300 employees and 24 sites in Iberian Peninsula. We have many major clients like: Heineken, Knorr, LÓreal, Michelin, Toys 'R us, Carrefour etc.

We are the leader of Iberian transport in Portugal; we have 10 freight operation centres in Iberia and 1200 vehicles. We offer several services to our clients, like; Full truck load (FTL), Less-than-truck load (TLT), distribution and freight management. In total we drive more than 100 Million Kms per year and we transport more than 2 Million tons a year. We are the leading fast moving consumer goods logistics service provider in Portugal and we use high performance Information Systems. We have high availability of warehousing (>130.000 sqm) and transport vehicles. Furthermore we build up a high density network of logistics operation centres and cross-docking regional platforms.

Our company uses several information systems, like: Warehouse Management System – GEODE and the Distribution Management System – SID. We use Barcode readers, GPS and on-board computers. We operate with the Warehouse Management System – GEODE since 1995. The systems capacities are: inventory control, product recall, it is able to give reports/statistics and it's able to track the articles.

The Distribution Management System – SID also has the capacity on tracking. We use this system for order management, transport planning, freight and delivery management. This system helps us to control the cross-docking platforms and like the GEODE system it is able to give reports/statistics.

With the Barcode Readers we are able to increase the productivity, to reduce operative errors and to standardise procedures.

We use on-board computers with GPS. This system allows us to get real time data about the location of vehicles and their cargo. We are able to give route management and the follow up. Furthermore it is possible to have continues communication between any of the vehicles and the Operation Control Centres. The GPS system is able to give very detailed information. For example it can give information about the delivery status of the goods, temperature control inside of the trailers, accurate driving data (average km and speed per trip).

Using all these systems helps to reduce the costs. We calculated that you can save on the communications costs about 40%, tolls expenses 18%, empty mileage 10%, vehicle immobilization 56%, fuel 8% and unproductive drivers 6%. These are all good reasons to use these systems, and to promote the use for the future.

Questions/ discussion:

- Mr Bozicnik: What is your vision on intermodal transport and ITS?
I noticed that you are also very active concerning Distribution Centres. Do you see the distribution centres in the future more generalised or more specified?
- Mr Costa Faria: My opinion is that intermodality is the future for international cargo. The road can't absorb the total growth. Things have to change. However, developing intermodality can't be done against road transport. It has to be done with road transport.
Regarding distribution centres. I foresee big Distribution Centres around the city with public providers to transport goods into the cities. I think we need a system inside the city to combine the transport; this can give a competitive advantage.
- Mr Hollingsworth: You decided to make a Distribution Management System yourself, what was the reason?

- Mr Costa Faria: Yes we choose to make this system ourselves. Because this way we could provide a system exactly to our demand. We now see that it is a competitive advantage to have an own system.
- Mr Jorna: Can you indicate what could be further savings if you have the full picture of traffic in Iberia?
- Mr Costa Faria: This is very difficult to say. We have this system for one year now, and we have loads of information at the moment, but we have to use this information to do research to the actual savings of the costs.
- Mr Petri: Is your computer connected to the system of the trucks? So do you have a sort of black box in the truck? I ask this because in Denmark there is a discussion going on whether the black box need to be installed for safety reasons (to reduce accidents)
- Mr Costa Faria: Yes we have a black box installed in trucks. We want authorities and clients to know our performance (e.g. speed limits, driving times etc). Alerts are used when thresholds are passed (e.g. speeding). We have nothing to hide and want to give transparency.
- Mr Felix: Do you have any figures about safety, with the on-board computer systems?
- Mr Costa Faria: We do not have figures that show the reduction of accidents. We have seen that drivers changed their attitude because of the black box. They changed their behaviour positively. This means that there is indirectly more safety.
- Mr Felix: About the total cost reduction; how do you compare this reduction with your results. What is the return on investment?
- Mr Costa Faria: We expect that we have a reduction investment in two years time. At the moment we have very small margins on operations. But these margins can be improved with 20-25% in the future. We choose to invest in the technology, because this is the way to compete in the business.

6c. *"Urban Freight and Intelligent Transport Solutions"*
by Mr Dieter Wild, PTV AG

Mr Wild gives a short presentation on Intelligent Transport Solutions. First he gives a short overview on relevant ITS fields: access control, vehicle telematics, fleet management, tracking & tracing, GPS, traffic management and traffic information. All these fields are specified in the presentation. He starts with the access control systems which are used by some cities, like; DSRC, smart cards, VMS, Video technology and road/ area pricing. Not every city has a system like this, but the use is increasing. Like in the other presentations came forward, several systems exist for the tuck. This can be an on-board unit, PDA and mobile phone. These systems can provide a lot of information. The system can calculate the route and can be used as navigation system. Furthermore Mr Wild presents the ParcelCall project. In this project tracking & tracing is very important. The operator can follow his product through the chain from the production plant to the consumer. A lot of information is given during this process.

The demand for traffic information is growing by the day. We use this information to improve the route and trip planning, to improve the ETA calculations. Furthermore to shift transport start times and to improve the traffic situation.

- 6d. *“Vehicle development and transport logistics in the information age”,
by Mr Peter Sonnabend, DHL (and Mrs Anna Marchisio, IVECO)*

Mr Sonnabend represents DHL, he made the presentation together with Mrs Marchisio from IVECO. Unfortunately Mrs Marchisio could not be here today due to other obligations. Their presentation brings forward the vehicle development and Transport Logistics in the Information Age.

First Mr Sonnabend gives a short introduction. In the transport we discover a change in demands due to economic pressures and globalisation. For example outsourcing of warehousing and transport is at the moment a non-core business. We see integrated solutions and Supply Chain Management. Furthermore we see a structural conversion of sector around logistics integrators. Shippers, receivers and external service providers choose for bundling. Besides this diversification is taking place to accommodate different products and branches. Finally the development of digital technologies enables automation of the ‘old economy’. The process automation affects all aspects of transportation. Nowadays we work with internet portals, online tracking systems, mobile companions and automated lockers. Mr Sonnabend presents the capabilities through new technologies and the Compudaily project. The Compudaily project is a cooperative showcase for technology demonstration using 2 distribution vans.

Key features are: (1) information interface for vehicle, palmtop integrated as future access tool for IVECO Customer Assistance services, (2) logistics service platform based on functionalities of basic software, tailor made extensions to customer specifications as required, (3) totally removable device in dashboard cradle, can be removed by the driver, or altogether from the vehicle for easy re-installation in another Daily, (4) open solution for easy integration with IVECO call centre services including customer support and after sales services, (5) innovative solution at much lower costs than compared to those of present dashboard integrated technologies (Ex.Connect), (6) customisation: IVECO, together with HP and an external/internal service centre, will offer its customers to include their “own” applications on the device.

The basic technology is the following: (1) electronic dashboard trip computer, (2) wireless GSM/GPRS telephone, (3) satellite navigation and localisation, (4) barcode reader with location data memorisation (“electronic signature”), (5) installation and restoration CD for recovery from battery exhaustion, (6) PDA basic diagnostics toolkit and System Interface Personalisation.

Practical applications in the pilot are: (1) tour plan upload, dispatch to PDA, (2) tour start notification, PDA to dispatch, (3) call point arrival, PDA unlocked from cradle, (4) scanning of parcel ident barcodes with PDA, (5) summary report for call point, PDA to dispatch, (6) next call point on screen, optional navigation, (7) parallel recording of key vehicle parameters, (8) end of tour message, PDA to dispatch, (9) data download to in-house IT network.

Expectations for the future are that the automation of logistics has only started. There will be a continued need for efficient information management, growing penetration of society with information technology and successive shift from dedicated systems to integrated solutions. Furthermore, no single system is expected to offer best solution for all needs. There will be a continued reliance of many customers on individual in-house systems. However, there is an automation blueprint directed at modular platforms for internal and external users and adoption of open Internet standards (XML) as common shell to ensure interoperability. Last but not least, an operational linkup is expected of freight management and dynamic traffic control systems.

Questions/ discussion:

- Mr Finlay: I have a question regarding the lockers; who owns the lockers and how can you make the lockers secure?
- Mr Sonnabend: At the moment we have 320 lockers in use and we expect to use 500 within a short period of time. In Germany the system with the lockers is a great success, in The Netherlands on the other hand it has been a failure (in Amsterdam). It is important to have a good location. The lockers have to be placed in a direct area of living (e.g. railway station or University).
- Mr Bozicnick: What can you tell us about parcel delivery in interurban areas? Do you have any experience on this topic? What kind of development will we see in the future?
- Mr Sonnabend: We, as DHL have access to the letter mail service; they bring the parcels to the clients who live in the outline regions. I think it will be difficult to synchronise these systems at co-operation. Concerning the future; I think the future will bring us multifunctional distribution centres.

7. Group discussion

- Mr Wild: Which ITS solution should be implemented or financed? Which system do you think is good? And what are the bottlenecks?
- Mr Felix: I think that it is an interactive process. The main gaps are on the public side (road, infrastructure), they are not aware of the problems. Unfortunately there is the lack of investment; a model of taxes will not be appropriate. All the activities are reactive, there is no pro-activity. Therefore it is difficult to calculate the profits on ITS investments. Nowadays it is important to meet the market requirements. Therefore a change is needed by introduction of ITS. Furthermore it can be important that people get trained to get involved in ITS.
- Mr Haon: Financing is crucial in this process. We need to convince the politicians first, then the actors. It is important to involve the actors in the process.
- Mr Wild: The main problem is not the ITS, several systems are already developed and even are in use. But the problem is the willingness of the private side of the actors, the support like co-operation schemes can be of great importance. Concerning the politicians, they will finance everything what the voters want.
- Mr Hollingsworth: There are different types of problems concerning this subject. We have seen that there are some technological problems, therefore some standardization works needs to be done. I do not think we get a quick solution for the future. We have to live with the fact that there will arise a lot of multiple different platforms, but you see this in a lot of industries (e.g. the computer industry). It is important to get the things to be economical sustainable. Furthermore my opinion is that a wide range of things should be promoted before becoming mature. And do not select one thing for promotion.
- Mr Villani: We can distinguish two types of projects; one for citizens and one for carriers. I think the citizens require for easy low-costs systems. On the other hand, more expensive and complex system can be used for carriers.
- Mr Wild: We have seen that a lot of applications are coming (e.g. location based services). Do you think that ITS is a priority?

- Mr Jorna: ITS is a tool. ITS is not a goal in itself. We use ITS to achieve objects.
- Mr Monigl: I agree with Mr Jorna. But from the NAS countries I want to make a basic comment on freight transport and city logistics.
Concerning the actors: customers and forwarders operate on a commercial basis. They are willing to operate if there is a gain for them. City logistics that will be solved by the market is their statement. I think they should have more social interests. The role for the government is to make sustainable regulations, restrictions etc.
Besides this I see ITS provide some important tools, to improve the management. Maybe in the future it will be possible to have an electronic media (e.g. chip) which will be used for a standard. I think it is important to get an ITS standardization in goods transport.
- Mr Wild: At the moment technology is too expensive, but in the future this will decrease. We see now different tracking & tracing systems. But there are indeed initiatives that want to make standardization in these systems.
- Mr Monigl: Standardization could bring a lot of advantages. This is the reason why the government has to support this by financing it, like they do in passenger transport. But then you come back to what is said before 'passengers are the voters and goods are not'.
- Mr Felix: We have to make the voters aware of the importance of goods transport, because in the end the goods are for the customers/voters.
- Mr Wild: Freight transport does not have a high priority in a lot of cities, in the opposite of congestion. Congestion has a priority.
Furthermore I want to talk about traffic information. There is no common approach concerning traffic information. In the future you have to pay for your traffic information in dedicated channels in Germany.
- Mr Huschebeck: The city of Munich is able to provide inner-city traffic information. A general question is what to do with the traffic information. The inner-city of Munich works at the moment with time-windows. However from the survey seen on Munich traffic situation congestion in the inner city is a constant problem over the whole day. A consequent measure in my view would be, that in order to cope with this issue Munich should allow night delivery. On the other side night delivery causes a change of processes at transport operators' side. For night delivery bigger storage is necessary. Therefore, an effects modelling is needed.
- Mr Wild: Night delivery is part of the solution. Besides this night delivery is possible as we have seen in the 9th BESTUFS workshop. This workshop addressed the theme night delivery.

8. Round along the table

- Mr Lemos: I have observed that ITS is in the end of the supply chain. ITS will affect the habits of consumers and forwarders.
- Mr Montero: I have seen in these two days a variety of ITS solutions. I expected to see in this workshop a lot of GPS, but on the contrary. I think we are in the beginning of the ITS solutions and from here more solutions will be found and will be put into practice.
- Mr Carcales: I agree GPS and ITS are on the way.
- Mr Kita: I hope that you all will participate to the next BESTUFS workshop in Maribor, Slovenia. We will show you then the 'Talk-track system' in practice.
- Mr Hollingsworth: I see a fragmented future. I think the future will bring us some open solutions instead of closed solutions. Everything and everyone has to change here, not only the customers and operators, but the administrations as well. Furthermore ITS can be expensive, economic sustainability is required.
- Mr Aulicino: We have to change the approach to customers. Besides this we have to stress the aspect about the security. I think it is important to define a standard for security.
- Mr Villani: ITS implementation is the solution. I have presented the M.E.R.Ci project in the city of Genoa, herewith I showed you the ITS solution to the traffic.
- Mr Haon: At this workshop I have seen a big development on the ITS side. This will be promising for the future.
- Mr Zitnansky: It is important that we use all modes of transport. We must not forget the interconnection.
- Mr Mikula: I have seen all interesting presentations in these two days. I think it is important that we learn a lot from the different projects. Maybe we will be able to find a standardization of ITS strategy. ITS can prevent a lot of problems.
- Mr Wild: I think you are right to say that we have to learn from each other. In general there is not a lot of attention paid to ITS by the European Commission and national authorities. In November there will be an ITS World Congress in Madrid.
- Mr Macko: This is the first time I participate in a BESTUFS workshop, and I must say I found it very interesting.
- Mr Fencel: I have seen that the public role in ITS is very important. This workshop showed me some interesting ITS solutions. In my opinion some of these solutions will be implemented successfully in the near future.
- Mr Pérez Babo: I think we are developing several good solutions based in new technologies to improve delivery in towns. However, there are reverse effects that must be considered; for example we must be careful and discern those who improve the level of congestion in the cities, with ambient and urbanities costs: lost of space for developing other transport modes, especially pedestrians infrastructure and collective transport in own site
- Mr Felix: The system is the challenge. The main question is how to find benefits for all the parties. I think a new public role must be created by the government concerning ITS. It has been a pleasure to join this workshop. The workshop far exceeded my expectations, I have learned a lot in these two days.
- Mr Petri: Cooperation between Public Private Partnerships (PPP) is concerning ITS as much important as it is in every other aspect. In addition to this ITS is required for the big companies; small companies do not have the money for these kind of investments.

- Mrs Siegler: This is my first time that I participated in a BESTUFS workshop. I have seen very interesting presentations and solutions from several projects. Cities cope in general with the same problems, and in this workshop you see what kind of solutions some cities have taken. Furthermore I found the business model very interesting.
- Mr Monigl: ITS is an important tool. I see that ITS can play a positive role in the solutions for the society and the community.
- Mr Sonnabend: I have seen that there are great options concerning ITS. I think it is important that these options need to be embedded in a sound concept. The ITS systems need to meet the business requirements. Further interoperability is important between logistic partners.
- Mr Huschebeck: ITS is used by two groups.
Transport operators; they use it to optimise their processes.
Municipalities; they use ITS for traffic regulation.
- Mr Finlay: I have learned a lot in this workshop. I think it is important that all parties have to sign to ITS will it be implemented.
Further a major barrier is the behaviour of carriers, transport operators etc. Their behaviour has to change.
- Mr Scott: I enjoyed this workshop. An interface between urban and interurban network information is important. Information is needed throughout the chain to improve operation management.
- Mr Jorna: Authorities have to give the transport operators the choice: (a) pay the price or (b) create a new distribution system with Urban Distribution Centre or load factor enforcement.
- Mr Abel: I expected during this workshop more focus on Urban Freight transport. I find the approach of the city of Genoa very interesting. The public side comes forward in this example.
- Mr Schrampf : We have seen the proof yesterday and today that the technology is available. The basis is not good yet, but will improve in the future. The most important question is at the moment who will pay for all these ITS applications and possibilities?
- Mrs Brégand: My opinion is that solutions should be found in better partnerships between authorities and transport operators.
- Mrs Zanarini: The city is required to implement access restrictions. The person who enters the city pays for it; except the residents.
- Mrs Scisciot: Many cities have the same problems. In Italy there is a good experience of the use of ITS in transport. In Turin there is a good example of a passenger traffic system. In the future we have to implement ITS in freight transport. We have seen a lot of different ITS systems we will be able to use.
- Mr Tiks: The transport operators are very interested in ITS, for them it is of great importance for the future. Concerning the cities; we see that a network like BESTUFS can inform the cities on several interesting topics concerning city distribution. I think this network is already one step in a good direction.

Mr Wild:

Thank you all for your contribution to this workshop. The next workshop will take place on 13th and 14th of October 2003 in Maribor, Slovenia. The topic of this workshop will be: "Urban freight strategies: laissez-faire or following a comprehensive strategy?".

In addition to this the fourth BESTUFS conference will take place in Prague, Czech Republic on 13th and 14th November 2003.

Besides this three other events are taking place:

- Future Urban Transport Conference: 22-24 September 2003, Gothenburg, Sweden
- FREDERIC workshop: 16/17 October 2003, London, UK
- Annual POLIS Conference: 4/5 December 2003, Köln, Germany
- Training initiative (including urban freight transport): 22/23 January 2003, Parma, Italy
- ITS World Congress: 16-20 November 2003, Madrid, Spain
- Short Course on City Logistics: 20/21 November 2003, London, UK (by University of Westminster)

Finally I would like to thank again Mr Stüssi for organising this workshop; it has been an excellent two days. Furthermore, I would like to thank the Municipality of Palmela for their hospitality.