

Minutes 2nd BESTUFS II Workshop
“Last Mile Solutions: Concepts and Experiences“
21-22 April 2005,
GVZ Hafen Nürnberg, Germany

List of Annexes:

Annex 1: List of participants

Annex 2: Agenda

List of Presentations:

1. Optimising last mile processes by trip planning and fleet monitoring “Results from the INVENT/VMTL project”, by Dr. Dieter Wild, PTV (D)
2. Innovative German example and the views and experiences of Deutsche Post “Packstation: the automated delivery solution”, by Peter Sonnabend, DHL (D)
3. Offering an alternative for doorstep delivery: The Kiala approach by Matthias Schwalm, Kiala (D)
4. E-thematic: The network on e-fulfilment by Karel Vanroye, Buck Consultants International (B)
5. Lessons from ISOLDE and measures for the future, by Axel Eisele, City of Nürnberg (D).
6. Presentation GVZ Hafen Nürnberg
7. New vehicle concepts suited to last mile distribution by Laurent Walle, Cybernetix, (F)
8. RFID as a technology and as a logistics concept “Current commercial applications, who takes the benefits and potentials for the last mile”, by Mr Antti Permela, VTT (FI)
9. Last mile operations improvements through an enhanced signing strategy “The Park Royal industrial estate experiences in West London”, by Kevin Ratnasingam, MVA (UK)
10. Effects of new concepts on vehicle demand and performance, by Dr. Martina Dörnemann, DaimlerChrysler AG (D)
11. Results from French case studies, by Daniele Patier, LET (F)
12. Research results and recommendations for cities, by Dr. Heike Flämig, TU Hamburg-Harburg (D)

DAY 1 – 21 April

Welcome and introduction

The workshop was opened by Dieter Wild. The second BESTUFS II workshop addresses the approaches of “Last Mile Solutions”. As BESTUFS II focuses on small and medium sized cities it is good to be in Nuremberg. Harald Leupold (managing director of the Hafen Nuremberg-Roth) welcomes everybody and provides some details on the location and excursions taking place in the afternoon.

Next, some general information about the city of Nuremberg is provided by Axel Eisele. As the 6th largest economic centre in Germany, the region of Nuremberg has 2.5 million inhabitants, creating 900,000 jobs. Because of the excellent geographic location, logistics is very important for the growth of the economy in this area.

Dieter Wild explains that Prof Klaus holder of the chair of logistics at the University of Nuremberg as well as other companies and institutes with specific knowledge and know-how on logistics are located here. Dieter Wild thanks Axel Eisele and Harald Leupold for the support during the organization.

Dieter Wild presents the BESTUFS II project. BESTUFS II has been extended for another 4 years after the successful BESTUFS I Thematic Network during 2000-2003. The next workshop is planned on 29 and 30 September in Hungary. Theme for the workshop will be “the problems and characteristics of urban freight in small and medium sized European cities”.

Moreover, the first conference is planned on 23 and 24 June 2005 in Amsterdam, the Netherlands. Theme for the conference will be “Solutions for Air Quality and Noise Problems in Urban Freight Transport”. This is a hot topic in Europe due to the European legislation which puts strict limits on the amount of particles and NO_x in the air. This is already causing problems in member states such as Germany and the Netherlands and affects/blocks plans for construction of new residential and business areas.

More information on the activities and events of BESTUFS is available at www.bestufs.net. Also the BESTUFS Administration Centre can be contacted. Contact details are:

Martin Quispel BESTUFS Administration Centre S.W. Churchillaan 297 P.O. Box 1969 2280 DZ RIJSWIJK The Netherlands Phone: +31 70 3988 356 Fax: +31 70 3988 426 e-mail: bestufs@nea.nl
--

The aim of the workshop is to collect different aspects on “Last Mile Solutions”, to address the main arguments and to become familiar with the recent developments. The “Last Mile” is the most costly part of the whole supply chain. Recipients must be at home to receive the goods in most cases. Furthermore, there are conflicting interests between actors involved in the city. Within the workshop various measures will be addressed such as time windows, night delivery, dedicated road infrastructure, etc. Recent examples on last mile solutions from the service providers DHL and Kiala will be presented, innovative approaches for planning and execution of last mile operations, e.g. by trip planning, fleet monitoring or by the application of RFID will be discussed. Finally, the impact on the urban traffic situation will be assessed elaborated by recent research initiatives. The workshop also includes a technical visit of the GVZ Hafen Nuremberg that is developing to a trimodal logistic node in the heart of Europe and the DHL parcel hub in Nuremberg Feucht.

*All presentations of this workshop can be downloaded from the BESTUFS website:
http://www.bestufs.net/workshops/2005-04-21_nuremberg.html*

***Presentation 1: Optimising last mile processes by trip planning and fleet monitoring
“Results from the INVENT/VMTL project”, by Dr. Dieter Wild, PTV (D)***

Questions and discussion:

In order to optimise the trip planning and monitoring, it is important to get the tracking information and situation on the congestion and traffic intensity in real-time. Therefore, it is necessary to invest in IT infrastructure and get the feedback from the user side. Currently, real-time information is not available for all roads. In Berlin a public-private-partnership has been set-up for a traffic information centre to provide this type of information to road users and planners. There are several of these traffic information centres in Germany. Furthermore, it is possible to integrate different data sources, such as floating car data and models that predict the traffic situation based on historical data, weather conditions, events, etc.

Comparing with no planning system, the improvement by using a trip planning system regarding the time savings is 10 to 15%. The actual traffic information is now available on the level of national roads. However, also in some cities traffic management activities take place. Comparing with the business as usual, the improvement in terms of time saving is considerable. When asking about the future of the technology, the answer is quite promising. It is a prototype by now, which could be produced as a standard product in the future. More companies will be possible to integrate the technology in their vehicles to improve their efficiency. However, big investments are required and there are consequences for the market operators.

A question is raised on the flexibility of the system, e.g. to change the schedule at the last minute. It is explained that this is a decision of the dispatcher. The schedule is usually been made a day before the delivery day, therefore it is impossible to take goods out of the vehicle in such circumstance. However, it is good to know such information as the driver can optimise his route, e.g. he doesn't need to go to a delivery point in cases where already is known that no one will be there to accept the delivery. It means that mileages can be saved. Also, dispatchers can optimise the route based on their familiarity of the area, when there is congestion on the road or cancellation of some deliveries.

Presentation 2: Innovative German example and the views and experiences of Deutsche Post “Packstation: the automated delivery solution”, by Peter Sonnabend, DHL (D)

Questions and discussion:

In normal home-deliveries still 1 in 15 of the deliveries fails on first delivery attempt because the recipient is not at home to accept the package. Therefore, Packstation provides a solution.

Considering the size of pack box, the maximum is 120*60*60 cm, which makes it possible for all standard size parcels to fit in the box. As to those exceptions in terms of size and quantity, DHL offers special deliveries and will not be posted to Packstation.

The selection of the sites is essential, concerning the security and safety of the contents and users of Packstation. Currently, the ideal place is to set up in big companies. As there are many employees who can pick up their parcels after working hours and the guards of the company provide high security level. Another frequently used location is the train station that many people will go through in the working hours. The design of Packstation has been under lots of tests and has proven to be reliable and secure. The frequency of usage of the Packstation per customer per year has not been studied yet. It mostly depends on the location of the site. On a daily basis, around 10 to 14 parcels are dropped at a Packstation. There are many factors that influence the result, such as the number of registered customers in the area, the number of Packstations in the region and the distance to the customers living or working place. It has been found that a customer doesn't want to travel a long way to reach a Packstation to pick up or drop off packages. Therefore the choice of good locations close to the transportation hubs or working/living areas is crucial for to success.

The application of the use of Packstation is simple. A customer only needs to register on time to make use of the system. Regarding the impact of the Packstation system on the use of type and size of delivery vehicle, the trend is clearly to use large vehicles instead of small vans. Due to bundling of consignments more packages can be dropped at one point, instead of multiple drops at each household. This causes increased payload and a need for higher load capacity of the vehicles.

In general, customers are satisfied with the Packstation service provided by DHL. Local authorities have been involved in the first stage to deal with the permission and the choosing of sites. It takes about 6 months between the site selection and the first use of a Packstation. Customers don't need to pay extra money for the service and Packstation is fully financed by DHL through the saving in logistics.

Presentation 3: Offering an alternative for doorstep delivery: The Kiala approach by Matthias Schwalm, Kiala (D)

Questions and discussion:

The Kiala service is suited only for non-food products. Delivery of fresh products is not provided by Kiala.

Kiala is a closed system which doesn't deliver goods for other companies. It has its own logistic system to control the transport and delivery of goods. There are some subcontractors involved who perform certain operations within the Kiala system.

In case of companies which have their own transport facilities, Kiala will cooperate with them to bundle products and do part of the delivery job which optimises the supply chain for both.

The pickup points are independent retailers or fuel stations. The locations are mainly based on the needs of the distance selling shops (market driven). Therefore Kiala looks into their flows and locations of their customers to make choices on the locations.

The frequency of the vehicle movement is around one or two times a day from the shops to pick-up places. Kiala mainly provides IT infrastructure for each shop which makes it possible to have a terminal and establish a network to process the transaction. Kiala Points are recruited.

The way it works is that goods are picked up at a Distribution Centre of a company. Next the goods are transported to a hub of Kiala. From this hub the consolidation takes place and goods are delivered at a Kiala outlet point. Then the final receiver gets an announcement and the package can be picked up.

Presentation 4: Last mile in Nuremberg “Lessons from ISOLDE and measures for the future”, by Axel Eisele, City of Nürnberg (D).

Questions and discussion:

Some comments have been made on the issue of the current situation of last mile delivery. DPD now is using the ISOLDE electric vehicles. Furthermore it is remarked that activities like bundling of pick-up and deliveries is already done in practice by big logistic companies.

Furthermore it is explained that Professor Klaus was the main driving force behind the ISOLDE project. The project received a funding by the German government of 2 Million Deutsch Mark.

There are efforts being made to change the current system in order to alleviate the restrictions of trucks and to allow the logistics companies do their work in the most efficient manner without hindrance of city access restrictions. These initiatives are supported by local authorities. Lessons have been learned through the implementation of projects in the past. It is important to create an open atmosphere, close contact and to facilitate in an open-minded way.

Presentation 5: e-thematic: The network on e-fulfilment by Karel Vanroye, Buck Consultants International (B)

Questions and discussion:

For the model to analyse the difference of E-commerce from different regions, the study categorizes the products in different groups, like flowers, books, CDs. Surveys were done based on the availability of products on websites.

It is indicated that companies tend to decentralize the distribution centre. The concept to have only one European Distribution Centre is not the trend anymore. In Europe, there are mainly two types of distribution centre: regional and local. Because the size of Europe is growing and the upcoming markets in the Eastern part of Europe, the current trend is towards DCs with a smaller reach. It can help to customize the products to fit the need of local markets; e.g. the

package style of products, language, etc.. More information and the reports are available to download from <http://www.e-thematic.org>.

Presentation 6: Presentation Güterverkehrszentrum Hafen Nürnberg and bustour

Site visit DHL Parcel Hub Nürnberg Feucht

DAY 2 – 22 April

Recap of day one by the chairman, Dr. Dieter Wild

In yesterday's presentations, two operators provided their concepts of last mile delivery. Instead of home delivery, the work was done by dropping the goods at convenient outlets. DHL does both home delivery and uses Packstation. Kiala however only focuses its business model on the use of manned pick-up points. This has advantages with respect to the optimizing the goods flows. The presentation of PTV showed the possibility of adapting the trip/route planning according to the traffic situation. This application provides cost savings for the operators and results in more reliable deliveries. Moreover, it is interesting to see the comparison of EU to U.S. and Asian countries about the development of E-business. The Nuremberg site visit showed the current activities of the port, which expands by means of a combined terminal to fit the increasing freight volume from Eastern European countries. However, the example in Nuremberg (GVZ) is an exception and there are not such models elsewhere in Germany.

From the customer's perspective, a delivery direct at the home address is more convenient. One would expect to see more deliveries made during the evening hours when the recipients are at home. The problem is however that then there is a sting peak in the need for drivers and also it provides logistical difficulties since the evening hours are usually used to pick up packages for delivery on the next day.

Moreover there is currently no extra charge for convenient deliveries at the doorstep. In future, due to the price differentiation that is likely to be introduced, home delivery will become more expensive for the customer and thus there will be a financial incentive for customers to use other systems.

Presentation 7 New vehicle concepts suited to last mile distribution by Laurent Walle, Cybernetix, (F)

Questions and discussion:

The concept needs to consider the safety impacts and possible disturbance regarding the shopping visitors and pedestrians. It will be a more convenient approach to use some dedicated freight routes in pedestrian areas, comparable with cycling paths for instance.

It will be a problem to lift the box onto the chassis, as in most cases additional equipment will be needed. The project is in the phase of working on a first prototype. There haven't been tests in practice yet. This will be done in the EU funded project FIDEUS. The small wheels could give problems on bumpy surfaces. Correct figures on the price of such a vehicle is

presently not given. Obviously the costs of such a vehicle strongly depends on the number of units produced.

Another aspect to take into account is the variety in the weight and size of packages to be transported and delivered, which is quite considerable. This could be observed during the visit to the DHL parcel hub in Feucht. The question can therefore be posed, whether it will be a more efficient system for forward companies like DHL to use them. A load unit with larger volume, can have more combinations of different weights and sizes of parcels and is therefore more efficient.

Presentation 8 RFID as a technology and as a logistics concept “Current commercial applications, who takes the benefits and potentials for the last mile”, by Antti Permela, VTT (FI)

Questions and discussion:

The technology of RFID is promising, as it enables the improvement of the performance of the whole supply chain system. The current challenge is to find out how an integration through the supply chain can be done. There are some critical technical problems to solve which cause a slow speed of cargo movements while the loading/unloading processes at the distribution centres. Also the technical equipment (antenna) is rather sensitive to the change of outside environment. For instance rainy weather will cause difficulty for reading all RF-tags in one pass. Also the radio interference between different antennas and RF-tags can be a problem to read the tags properly.

Currently, RFID applications are still rather expensive compared to the application of traditional bar codes on products. Standardisation is needed at a global level and this is a difficult process. Standardisation of barcodes also took a quite long time. It is therefore expected that the period needed for full market maturity will be rather long. The EU standard has been established which is good for the RFID equipment manufactures. However, the patents and licence fees are still under discussion. The price for a reader of RFID tags is around 2,000 euro. The situation will change soon as Nokia is now developing a new reader which is 20-30 euro in the future.

With RFID it is possible to add information on the status of transport processes to the data on the tag. Any type of codes can be added to the product information which is written on the tag at the production. Pallets with products that have each an individual RF-tag can have their own RFID. Thus it is not needed to read out all the individual tags. There are several levels (e.g. product, package, pallet, container).

Presentation 9 Last mile operations improvements through an enhanced signing strategy “The Park Royal industrial estate experiences in West London”, by Kevin Ratnasingam, MVA (UK)

Questions and discussion:

The concept of using signing strategy is another aspect of last mile delivery. It is quite often that in some large areas, you can't find the exact place for pick up or delivery even if you have the address at hand. For instance, lorries taking wood logs from forest usually spend a lot of time in actually searching for the place where to pick up the cargo. Instead of signs at

the roadside, the use of GPS navigation is a good alternative. However then there are high technical requirements with respect to equipment. This creates a barrier and prevents large-scale use.

Presentation 10 “Effects of new concepts on vehicle demand and performance “, by Dr. Martina Dörnemann, DaimlerChrysler AG (D)

Questions and discussion:

The forecast used in the simulation model is based on the historical data in the past. The aim of the simulation is to analyse the size of the impact on the logistics services. The performance of the logistic system is indicated by means of the number of kilometres driven by delivery vehicles. A database will be established providing information on the preferences of the clients. About 60% of these clients are willing to share their personal information on their whereabouts at certain times. In this way they can profit from a more advanced delivery service. The information from clients enables the logistic service providers to develop a more accurate logistic operation. The company Hermes is currently discussion internally on the use and implementation of this technology.

Presentation 11 “Results from French case studies”, by Daniele Patier, LET (F)

Questions and discussion:

France is very active and they have done a lot of experiments and evaluations. From the case studies in France, the calculation of the improvement of the environment is mainly based on a calculation based on the reduction of kilometres driven by trucks and the fuel consumption. Some projects carry out evaluation surveys (before and after measurement) every three months. For the comparison of the before and after measurement, the percentage refers the deliveries transport through the UDC. This is a share of about 20% of all freight transport going through the city centre. Regarding the internal logistic cost, the carrier operating the UDC get a 20% subsidy on their operation costs to encourage them joining the initiative. Reports are available on the UDCs in Monaco and La Rochelle. These reports and further information can be acquired via LET (Ms Danielle Patier).

Presentation 12 “Research results and recommendations for cities”, by Dr. Heike Flämig, TU Hamburg-Harburg (D)

Questions and discussion:

It is quite interesting that many participants have studied on the same concept which provides the opportunities to make cooperation in the future to share information and ideas. The feedback from the local authority to the recommendation is quite positive. No big problems have been discovered at this time. The concern of authorities and inhabitants is mainly on the pollutants of particles (PM10), NO_x and noise. Online shopping to buy food product is in Germany not a success yet. There is however an initiative launched between companies in the food industry to sell wine and food products via the Internet.

Final discussion and conclusions

The presentations in these two days include many aspects: the customer’s point of view, the public viewpoints and the views from the industrial and operators’ side. It is always necessary to co-operate in a public private partnerships to work together on solving problems and improving the logistics. Furthermore, politicians also need to be involved within BESTUFS.

The development of last mile delivery is attracting more public interests nowadays. It is time to think about the real need for customer's perspective, what do they actually want? This also applies for the drivers of delivery vehicles. It is important to listen to the drivers who know much more about the real situation; a bottom-up approach. This can be difficult as the industry and operators might not be so willing to co-operate with the authorities. There can be a lack of trust regarding the interference of the government. There are signals that this is the case in the UK. If then a bottom-up approach does not provide any useful information on problems or solutions to address, the alternative is to follow a more macro-oriented approach. This was for instance the case in Berlin. In any case, when doing a survey on impacts or identifying a problem, it is important that all stakeholders are addressed and represented. At the stage of implementation the funding is one of the most crucial factors for the success of an initiative.

A reliable delivery system is appreciated; however, it is not enough. It is logical that everyone wants to receive the goods directly at their doorstep at home. The idea of doing more deliveries during the evening is a good initiative. The advantage is that the delivery will be very efficient as most people will be at home to that time. However, the obstacle comes from carriers that have problems making deliveries in the evening. Also, it conflicts with the consolidation and sorting processes. Another aspect to home delivery is that people might then start using their cars for more leisure activities and will be driving on the streets anyhow.

Another question raised is whether the particles/PM₁₀ problems are really serious. Already steps have been undertaken by means of the Euro-norms on trucks. Soon the Euro 4 legislation is there which reduces the PM₁₀ emission of new trucks by 80%. Perhaps the problem will already be solved by the new Euro standards.

Closing

Dieter Wild closes the workshop. He thanks everybody for the participants with special thanks to the speakers and Mr Axel Eisele and Mr Harald Leupold for the support in the organisation.

Next events in the field of city logistics in Europe are:

- City Logistics – final conference of the city ports project - Bologna 13/14 June 2005
- The TELLUS goods transport workshop in Gothenburg on 17 June 2005
- BESTUFS conference on *Solutions for Air Quality and Noise Problems in Urban Freight Transport* in Amsterdam, 23 and 24 June 2005

Information on these events can be acquired from www.bestufs.net. Furthermore an conference brochure will be sent out on the BESTUFS Conference in Amsterdam.

The next BESTUFS workshop will be organised by Transman on 29/30 September 2005 and will address “Urban Freight Transport in Small and Medium Sized cities”. It will probably take place in the city of Kaposvar in Hungary. The workshop in Hungary is open for contributions and ideas. Anyone who has ideas for this workshop should contact the BESTUFS administration Centre.

Annex 1: List of Participants

	Name of company / organisation	Contact person		E-mail address
1.	L.E.T.	Ms	Daniele Patier	daniele.patier@let.ish-lyon.cnrs.fr
2.	GART	Mr	Arnaud Lagrange	arnaud.lagrange@gart.org
3.	Planung Transport Verkehr AG	Mr Dr	Dieter Wild	dieter.wild@ptv.de
4.	RAPP Trans AG	Mr	Heiko Abel	heiko.abel@rapp.ch
5.	University of Westminster	Mr	Stephen Anderson	s.m.anderson@westminster.ac.uk
6.	Freight Transport Association	Mr	Malcolm Bingham	mbingham@fta.co.uk
7.	MVA	Mr	Kevin Ratnasingam	kratnasingam@mva.co.uk
8.	InRETS Laboratoire Ville Mobilité Transports	Ms	Laetitia Dablanç	laetitia.dablanç@inrets.fr
9.	NewRail	Mr	Thomas Zunder	freight@zunder.org.uk
10.	ECONSULT	Mr	Jürgen Schrampf	j.schrampf@econsult.at
11.	Deutsche Post AG/ DHL Express Deutschland	Mr	Peter Sonnabend	p.sonnabend@deutschepost.de
12.	Centro Studi dei Sistemi di Trasporto S.p.A. (CSST)	Mr	Giovanni Ruberti	giovanni.ruberti@csst.it
13.	Peter Brett Associates	Mr	Alan Peats	apeats@pba.co.uk
14.	VTT Communities and Infrastructure	Mr	Antti Permala	antti.permala@vtt.fi
15.	NEA Transport research and training	Mr	Martin Quispel	mqu@nea.nl
16.	VUD	Mr	Peter Zitnansky	zitnansky@vudba.sk
17.	POLIS	Mr	Sylvian Haon	shaon@polis-online.org
18.	Technical University of Hamburg-Harburg	Ms Dr	Heike Flämig	flaemig@tu-harburg.de
19.	PTV Planung Transport Verkehr AG	Mr	Marcel Huschebeck	marcel.huschebeck@ptv.de
20.	TFH Wildau - University of Applied Sciences	Mr	Bertram Meimbresse	hsonntag@igw.tfh-wildau.de
21.	TNT Innight	Mr	Rob Deijns	rds@tnt-innight.nl
22.	ILIM: Institution of logistics & warehouse	Mr	Bartosz Herman	Bartosz.Herman@ilim.poznan.pl
23.	KLOK GmbH	Mr	Hans-Hermann Enders	enders@klok-net.de
24.	Daimler Chrysler	Ms Dr	Martina Doernemann	martina.doernemann@daimlerchrysler.com
25.	Cybernetics	Mr	Laurent Walle	laurent.walle@cybernetix.fr
26.	BCI Global	Mr	Karel Vanroye	Karel.Vanroye@Bciglobal.com
27.	Kiala	Mr	Matthias Schwalm	mschwalm@kiala.com
28.	NEA Transport research and training	Mr	Frank Zhengqin	fzh@nea.nl
29.	Transport for London	Mr	Udoka Madueke	udokamadueke@tfl.gov.uk
30.	Stadt Nuremberg	Mr	Axel Eisele	axel.eisele@stadt.nuernberg.de

	Name of company / organisation	Contact person		E-mail address
31.	Rapp Trans	Mr	Raphael Karrer	Raphael.karrer@rapp.ch
32.	Cranfiled Universtiy	Mr	Andrew Palmer	andrew@prestonsolutions.co.uk
33.	Hafen Nuremberg-ROTH GmbH	Mr	Harald Leupold	h.leupold@gvz-hafen.com

Annex 2: Agenda

First Day: 21st of April 2005

10:00 – 10:30 Registration and coffee

10:30 – 11:00 Welcome and introduction

Welcome and introduction, by the City of Nuremberg and PTV AG

11:00 – 11:30 Optimising last mile processes by trip planning and fleet monitoring

“Results from the INVENT/VMTL project”, by Dr. Dieter Wild, PTV (D)

11:30 – 12:00 Current German examples – DHL PackStation

“Impact on the last mile of parcel distribution”, by Peter Sonnabend, DHL (D)

12:00 – 12:30 Offering an alternative for doorstep delivery: The Kiala approach

by Matthias Schwalm, Kiala (D)

12:30 – 13:30 Lunch

13:30 – 14:00 Last mile in Nuremberg

“Lessons from ISOLDE and measures for the future”, by Axel Eisele, City of Nürnberg (D).

14:00 – 14:30 e-thematic: The network on e-fulfilment

by Karel Vanroye, Buck Consultants International (B)

14:30 – 15:00 Presentation GVZ Hafen Nürnberg

15:00 – 15:45 Site visit GVZ Hafen Nürnberg

16:00 – 18:00 Site visit DHL Parcel Hub Nürnberg Feucht

18:00 End of the first day

19:30 Common Dinner

Second Day: 22nd of April 2005

09:00 - 09:30 Welcome and introduction

Recap of the first day and introduction of this day, by Dr. Dieter Wild, PTV (D)

09:30 – 10:00 New vehicle concepts suited to last mile distribution

by Laurent Walle, Cybernetix, (F)

10:00 – 10:30 RFID as a technology and as a logistics concept

“Current commercial applications, who takes the benefits and potentials for the last mile”, by Antti Permela, VTT (FI)

10:30 – 11:00 Coffee break

11:00 – 11:15 Last mile operations improvements Through and enhanced signing strategy

“The Park Royal industrial estate experiences in West London”, by Kevin Ratnasingam, MVA (UK)

11:15 – 12:00 Assessing the overall impact of last mile transport on the traffic situation in cities

“Effects of new concepts on vehicle demand and performance “, by Dr. Martina Dörnemann, DaimlerChrysler AG (D)

“Results from French case studies”, by Daniele Patier, LET (F)

“Research results and recommendations for cities”, by Dr. Heike Flämig, TU Hamburg-Harburg (D)

12:00 – 13:00 Conclusion and discussion

All workshop participants (including the participants without a presentation) are asked to actively participate and to prepare a very short statement on their expectation, view and conclusions to the workshop.

End of the workshop