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3RD EUROPEAN INTERMODAL TRANSPORT REGULATION SUMMARY

**“MOBILITY-AS-A-SERVICE: FROM THE HELSINKI
EXPERIMENT TO A EUROPEAN MODEL?”**

A SUMMARY OF THE PRESENTATIONS

Florence, 9th March 2015

**Editors: Matthias Finger,
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Forum Summary Document

■ PROGRAMME

08.30-09.00	<i>Introduction to the Forum</i> Matthias Finger Director of FSR-Transport Area and Chair of Management of Network Industries, EPFL Claire Depré Head of the Unit "Intelligent Transport Systems", DG MOVE, European Commission
A	<i>Mobility as a Service: The New Transport Paradigm in the City of Helsinki</i>
09.00 -10.30	Sampo Hietanen CEO, ITS Finland Veera Kojo Senior Officer for Legal Affairs, Ministry of Transport and Communications Finland Steffen Schaefer Senior principa City IT Solutions, Siemens Ag Round table discussions
10.30-11.00	COFFEE BREAK
B	<i>The Changing Transport System: New Passengers Needs and New Mobility Solutions</i>
11.00-12.30	Trevor Garrod Chairman, European Passengers Federation Svend O. Leirvaag Vice President Industry Affairs, Amadeus Martina Mueggler Head of Innovation, Car Postal Round table discussions
12.30-13.30	LUNCH BREAK
C	<i>Breaking Down Barriers – What Is Needed? Technological Solutions to Drive Innovation</i>
13.30-15.00	Bertil Hysten FSR Transport Adviser Alberto Di Felice Government Affairs Europe, Qualcomm Florian Kressler Project Manager Innovation & E-Mobility, AustriaTech Daniel Geraskov Transport Policy Europe, Deutsche Bahn Round table discussions
15.00-15.15	COFFEE BREAK
D	<i>The Regulatory Challenge to Create a Market Place for Mobility. How Much EU? How Much Subsidiarity?</i>
15.15-17.00	Thomas Avanzata Director of European Department, UITP Merja Kyllönen MEP, Member of TRAN and ENVI Committees Claire Depré Head of the Unit "Intelligent Transport Systems", DG MOVE, European Commission Round table discussions and conclusions

The present document summarises the content of the presentations delivered during the [3rd Florence Intermodal Forum](#), and the following paragraphs offer short summaries of each presentation, illustrating the main points made and matters treated. The thoughts and opinions reported do not necessarily reflect the views of the contributors, as they have been collected by the authors of this Summary.

To open the presentations, go to florence-school.eu, choose “transport” from the top menu bar and select “Forums” among the “activities”. Clicking on the title of the Forum will take you to the relevant page. Alternatively, by clicking on a presentation’s icon you may activate an internet link taking you to the full presentation, when available. Presentations are hosted on the FSR website by permission of the authors.

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3rd Florence Intermodal Forum				Villa la Fonte San Domenico di Fiesole 9.3.2015
Mobility-as-a-Services: from the Helsinki experience to a European model?				
Matthias Finger				
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Introduction to the 3rd Florence Intermodal Forum

Prof. Matthias Finger, Director of FSR-Transport and of the chair of Management of Network Industries (MIR), École Polytechnique Fédérale Lausanne (EPFL)

In his introduction to the 3rd Florence Intermodal Forum, Prof Finger presented the Florence School of Regulation within the European University Institute, its history, functioning and position. He continued by describing the FSR Transport Area’s goal of growing as a platform for open discussion among relevant stakeholder who share the aim of contributing to the ongoing debates about the emerging challenges in the transport sector and the related regulatory changes. On this occasion, the presence of speakers and attendees who have never been at the Florence Transport Forum before was particularly significant: this was the most tangible example of how the novel concept of Mobility-as-a-Service is introducing new actors to the transport arena.

Opening the Forum, Prof Finger focused on the digitalisation wave that has already transformed many traditional industries and is now about to challenge the transportation sector: the most outstanding trend is the duplication of the traditional physical layer of transport with a new information layer. On the one hand, such changes and innovations have not escaped the attention of the European Commission: the 2011 Transport White Paper pointed at “the availability of information over travelling time and routing alternatives” as a prerequisite “to ensure seamless door-to-door mobility, both for passengers and for freight” (art. 41, COM(2011)144). On the other hand, the city of Helsinki had acknowledged the increasing role of the ICTs early on and has had its own original approach to its citizens’ changing mobility needs: “Mobility-as-a-Service” is gaining prominence as a possible solution to the long-standing challenge of seamless mobility, overcoming the boundaries between the different transport modes and achieving an integrated

transport system for both people and goods.

This 3rd Florence Intermodal Forum aimed at critically reflecting on the concept and practice of “Mobility-as-a-Service”, looking at the regulatory requirements for possibly making the Helsinki approach generalizable and applicable in the rest of Europe.



Mobility-as-a-Service: from the Helsinki experiment to a European model? – Introduction to the Forum

Claire Depré, Head of the Unit "Intelligent Transport Systems", DG MOVE, European Commission

Ms Claire Depré introduced the 3rd Florence Intermodal Forum highlighting a few key concepts defining the current situation and emerging trends in transport in Europe.

First of all, Ms Depré stressed that the innovation can play a role to bring different transport modes together, to better answer today's challenges in transport, to reflect users' needs, and to satisfy evolving mobility needs. One should not forget that the "old" challenges for transport identified by the 2011 White Paper have not been solved: there is still the need to make transport more sustainable, namely optimised in terms of capacity, more efficient in its operations, and effectively characterised by little impact on environment. However, there are also new mobility needs: today citizens are expecting to be provided with personalised services also in transport, as they got used to in other areas such as telephony and banking. Indeed, society is asking people to become more flexible; as a consequence, citizens are formulating new requests to be provided with more flexible services!

Innovation is per se a huge opportunity to improve the functioning of the transport system. On the other hand, it has to be used to open a much wider window of opportunity also to change the behaviour and the way stakeholders have been working in the last decades. In the Commission's view, the Commission itself should play a role to support the creation of a different eco-system that is much more cooperative and interconnected as to achieve the ultimate goal listed in the 2011 White Paper of door-to-door seamless mobility.

With regard to Mobility-as-a-Service, Ms Depré reported the Commission's interest towards this concept, as it is based on a complete change of perspective that is worth being investigated: in fact, it takes a much more user-centric approach that makes passengers' behaviour potentially more sustainable. Furthermore, Mobility-as-a-Service is not that much about technology; it is rather about understanding the potential of a new different articulation of activities between public and private.

In this framework, a much more cooperative approach becomes even more necessary. The role of the Commission should be to enable the necessary conditions for this shift to happen: in more practical terms, this means offering a guarantee for this new mobility market (as well as the new offers and services that are the building blocks of this mobility market) to have fair and non-discriminatory conditions thanks to clear rules of the game. At the same time, this means also offering the appropriate guarantees for the end user thanks to norms on passengers rights, correct information, data protection and privacy. As a consequence, the tasks of public authorities are likely to change as well: with the implementation of the new mobility concept they should be less concerned with the provision of services yet more responsible for enabling services to happen. Such an enabling role covers a wide range of tools that go from setting regulation, to

financially support some service to incentivise and mobilise private capitals to offer certain services.

To conclude, Ms Depré recalled the European Commission 2014 “roadmap for delivering EU-wide multimodal travel information, planning and ticketing services” (SWD(2014)194): to remove lockages and creating a favourable environment for delivering genuine EU-wide multimodal travel information, planning and ticketing services (which are the building blocks of the seamless mobility idea) the specified barriers have to be addressed in a coordinated and coherent manner. Bearing in mind the existing regulation and the existing transport reality, this barriers’ removal should aim at setting up a framework that supports the creation of these services to achieve seamless mobility.



Mobility as a Service: The New Transport Paradigm

Sampo Hietanen, CEO, ITS Finland

Mr Sampo Hietanen started his presentation of at the 3rd Florence Intermodal Forum by showing a [video](#), explaining the potential of the implementation of the concept of Mobility-as-a-Service.

Mobility-as-a-Service is a mobility distribution model in which all customer's major transportation needs are met over one interface and are offered by an integrated service provider in an ecosystem made of infrastructures, transportation services, information and payment services, which are organised to ease the transport customer's experience. At the moment this is the solution that the city of Helsinki has elaborated to optimise the mobility experience of its citizens, yet the principle that lies behind the application might be applicable in other contexts, based as it is on the integration of the transport network through internet.

In order to explain what Mobility-as-a-Service is, Mr Hietanen suggested an analogy with the telecom industry, as transport sector is now in the same situation where telecommunications sector was in the '80s.

Similarly to telecoms in the '80s, transport users today do not think about a user-based mobility package, as is common practice in telecommunication sector today. Learning from the telecoms experience, the most interesting and revolutionary characteristic of the sector as it is today came through the generalizability of the service initially provided on a national basis: evolution of business leading to global services for transport could be skipped by smart regulation. From his business perspective, Mr Hietanen highlighted that innovation often comes thanks to regulation, as it was, for instance, in the case of the enabling role played by the GSM regulation in creating the right framework to make the mobile business possible.

In telecommunications, digitalisation has made the business more visible, more accessible and more global, and regulation has then followed to enable this possibility to become a widespread reality. In transport today, most of the services are provided in a given geographical context. Interestingly enough, there seems to be a technical limit, as internet is not yet integrated in the transport network and infrastructure. But technology is there, and regulation could play a role in facilitating such a shift and developing internet-based transport.

Mr Hietanen stressed the value of the savings that could be made, if the gap between transport and internet is filled: on the one hand, this would be good for the operators, as the ARPU (Average Revenue Per User) in transport can be estimated to be about 300EUR/month (which is even significant if it is compared to the only 30EUR/month for telecom services!). On the other hand, this could benefit the user as digitalisation could improve productivity and increase efficiency, while sharply decreasing the ARPU. Giving one example, Mr Hietanen pointed out that

the average car is used only about 4% of the time: it goes without saying that there is a lot of efficiency to be gained! Integrating the components of the transport chain would make the consumers free to choose which mode to use, and give them the certainty that qualitative reliable service is at their disposal.

One of the biggest challenges of digitalisation of transport pertains to the fact that transport is a global large system, and there is a lot of (sometimes hidden) regulation, so simultaneous change from a lot of actors is needed. Coherent planning is at the core of the Mobility-as-a-Service idea, and Helsinki is pursuing this also integrating the Finnish Funding Agency for Innovation. In Helsinki, as in many other cities, public money goes into arranging and producing the actual transport service (including fleets, infrastructure and data) that is currently provided and subsidised separately by transport authorities. In Mobility-as-a-Service, all transport services are provided and subsidised jointly through mobility operators. The first steps of identifying these operators and awarding them contracts (through competition) have been taken.

To conclude and summarise the next steps for the implementation of the Mobility-as-a-Service idea, Mr Hietanen explained that a radical comprehensive change of mentality has to take place, namely:

- 1) Commercial operators as first: The market driven approach ensures that new state-of-the-art consumer services evolve, and traffic operators allow the creation of minimum viable products.
- 2) Supporting the evolution of the ecosystem: An ecosystem including both public and private transportation is needed. Public authorities evolve and adapt their role as to become a partner for commercial mobility operators.
- 3) Shaping the society: The government will no longer provide services but it will enable services to be provided to the citizens through a new organisational model.



Innovative services and digitalization in transport sector

Veera Kojo, Senior Officer for Legal Affairs,
Ministry of Transport and Communications,
Finland

At the beginning of her presentation at the 3rd Florence Intermodal Forum, Ms Veera Kojo said that the Ministry of Transport and Communications perceives itself as one of the actors that has to take actively part in the shift that Mobility-as-a-Service entails: it acknowledges that the public administration has to play a key enabling role as facilitator for innovation.

Ms Kojo recalled that the transport system is facing unprecedented historical challenges. For example, looking at private car ownership, we are heading to 'the global traffic jam' as by 2020 the number of private cars will double and it will quadruple by 2050 without proportionally larger infrastructure capacity. However, it is also true that there is big room for efficiency improvements as today average use of a car is about 4% of the time, and one car is used on average by 1.2 persons. Tackling this problem entails using different, or rather additional, tools from those we have today: this also means a change of attitude from ownership to "user-ship".

During the last century the transport sector has faced many revolutions, and digitalisation will be the next one. As Ms Kojo put it, transport is affected by external factors in many ways and is developing with respect to different sorts of changes: first and foremost, the changing energy supply; secondly, the ever closer relationship between physical and virtual mobility; thirdly, the automation of transport; fourthly, online purchase and online shopping; last but not least, the increasing common understanding of the idea of transport as a service which entails a combined approach to the different transport modes. Indeed the core function of the transport system, which is to ensure safe and smooth connections to its users, has not changed and will not change in the future either. However, the focus of the responsible Ministry has shifted from infrastructure and capacity to services and connectivity.

Mobility-as-a-Service builds on what already exists but it takes the current transport system to the next level by developing it into a co-operative and interconnected ecosystem, where boundaries between different transport modes are blurred or disappear completely and transport infrastructure and data serve as a platform for customer-oriented mobility services. This is done with the ultimate goal of providing customers with better and personalised services with freedom of choice to satisfy their door-to-door mobility needs. Ms Kojo recalled that although smart mobility is often connected to urban transport, Mobility-as-a-Service paradigm is aimed at tackling mobility problems in sparsely populated and remote areas as well.

So, what is needed from the Ministry of Transport and Communications (and the public administration in general) to make Mobility-as-a-Service become a reality?

- 1) Clear vision, bold experimenting: the Ministry has to play a role in coordinating and creating a shared vision with all actors and stakeholders involved in planning and implementation of mobility policies. Mobility-as-a-Service will become a cross cutting element in different policies, not just transport, and it will be a task of the Ministry of Transport to coordinate with the other Ministries and Agencies.
- 2) Cross-sectoral de-/re-regulation: there are different parts of legislation that have to be looked at horizontally and harmonised to support the implementation of Mobility-as-a-Service. Areas, where regulation has to be reshaped, are for example privacy and consumer protection and market access rules; the use of data has to be regulated.
- 3) Open data and interfaces: this is a crucial element for implementation of Mobility-as-a-Service.
- 4) Global cooperation: Mobility-as-a-Service is not a national project, as it aims at having a world-wide MaaS standard and interface. This requires intensive co-operation with various actors both at international and EU-level.
- 5) Public-Private-People Partnership: the realisation of Mobility-as-a-Service requires active cooperation between public sector, businesses and users.

To conclude, Ms Kojo recalled that from the Ministry's point of view the core function of transport is to guarantee safe and smooth connections in a sustainable and economically viable way: Mobility-as-a-Service proposes a new perspective to achieve a win-win situation. In this, the Ministry has to play a key enabling role to make this technically and legally possible and socially acceptable.



Integrating mobility services from various operators

Steffen Schaefer, Senior Principal for IT Mobility Solutions, MO MM ITE, Siemens AG

With Siemens as an experienced company Mr Schaefer presented a practitioner's perspective on Mobility-as-a-Service. He started his presentation with the observation that, while alternative modes are gaining prominence, road transport with private cars remains the most used mode of transport with a share of between 50-70% followed by public transport with a share of 20-40%.

Siemens has a cross sectoral perspective as it has been active in both sectors for a long time: for road by providing traffic management and signalling systems and in public transport by providing control systems for rail as well as ticketing solutions.

Currently, however, Siemens is experiencing a significant change in the needs of its customers: a variety of new mobility services have emerged that complement traditional individual road traffic and public transport. Most importantly bike sharing has increased significantly in importance over a period of about 5-10 years all over Europe and is still growing. Car sharing is very strongly growing especially in Germany, driven by German automakers. The reason car sharing has become so much more popular in recent years is connected to technology. Through the enabling technologies – such as users' smartphones and on board units – car sharing has become free floating and spontaneous. This changed users' attitude and pick up rates of those subscribed to a car sharing service have gone up significantly. In a similar way different taxi apps have gained prominence in recent years.

Mr Schaefer stressed that the companies providing these new services have a distinct quality in the transport system: they know the customers and know how to monetize their (new) mobility needs. An important element of this knowledge about the customer lies in the fact that all these new services require the provision of personal data, incl. payment data. This makes a huge difference to the existing models: with the exception of subscriptions for monthly passes public transport is completely anonymous as is private car transport.

In the current transport environment the setting up of new operators as proposed by the Mobility-as-a-service idea, is not easy. The analogy to the telecom companies might be useful. Existing transport companies can be described as full-stack companies: they own for example the network of bus stops, the vehicles, drivers as well as communication and distribution channels. The new entrants, on the other hand, merely offer a new interface to an existing service. These can be classified as retailers. As such they have three qualities:

- Knowledge of the customer
- Knowledge of the business
- Ability to sell the service and collect revenue

In this perspective the taxi App Uber is also a retailer that however enables a new service operator, which is the individual driver using his private car. In principle the challenge is to bring together physical service providers and (new) retailers.

There is need for a new type of platform that takes into consideration the business, the technical and the legal perspective. There are different ways in which the retailing can be organized, yet some basic features are needed: it has to mediate between the players in the market and create a new transport ecosystem. The B2B platform can be open or closed, and the mediating role can be done also by the big players in the field as these have the capacity for doing so and can invest on a long term basis. These players would then be in a position to decide who can join their common platform. In Germany car manufacturer Daimler set up the moovel platform which integrates several companies for car sharing, bike sharing and taxi services. This shows that also a platform can be run by one of the big players in the field. Another option would be to create a completely open platform which allows access to all mobility market participants. It is however unclear how such a platform could be financed and operated.

In both cases the platform would bring benefits for travellers, operators and transport authorities.

Siemens has experience with its own platform that was deployed in 2014 in Berlin. The platform “Schaufenster Elektromobilität” consists of 15 operators including car sharers, public transport operators and an option to buy parking tickets. The app allows to jointly buy tickets for all services through a single platform. The system is in use and technically working, yet it is not yet commercially viable on a wider scale.

Mr Schaefer illustrated his final point on the relevance of regulation with a practical example from Singapore: Siemens had developed a concept for an integrated platform that was commercially promising and would have potentially unfolded many positive effects in the congested centre of Singapore. Yet the project was not implemented because of a set of legal uncertainties: for instance it was unclear which level of taxes would have to be paid on cars that are used for car sharing, which according to providers of car sharing services should be classified as public transport vehicles rather than private ones. Another issue concerned the rights for these cars to use parking spaces. This example shows that regulation has to set the right incentives. Technical systems that allow a convenient and commercially viable use of these services are “up and running” at this stage, as illustrated by the experience in Berlin.

**3RD FLORENCE INTERMODAL
FORUM**

Trevor Garrod
Chairman, European Passengers'
Federation

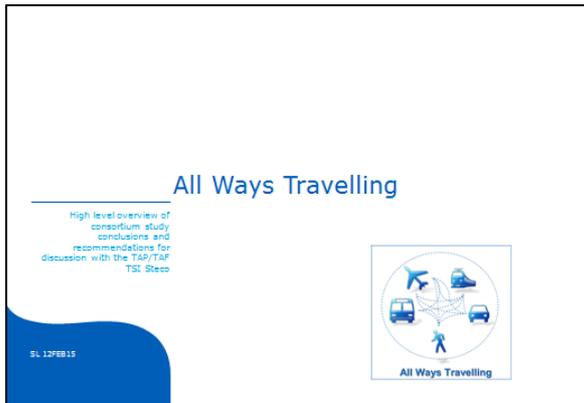
**The Changing Transport
System: New Passengers
Needs and New Mobility
Solutions**

Trevor Garrod, Chairman, European
Passengers' Federation

At the beginning of his presentation at the 3rd Florence Intermodal Forum, Mr Trevor Garrod introduced the European Passengers' Federation and outlined the new passengers' needs, the related rising challenges and new possible mobility solutions.

For many public transport users, nowadays the needs are what they have always been, namely a safe, stress-free, efficient journey at a reasonable price and, that is most importantly, easy to find, book and use. Mr Garrod stressed that, for the user, often public transport is part of a journey chain, so information on different options enabling an informed choice is particularly relevant for customers. Furthermore, Mr Garrod pointed out some changes among the needs of passengers. First and foremost, thanks to the introduction of new technologies people expect also transport to be easier and quicker. Secondly, changes have become visible in private transport (car design), so customers expect innovative solutions that enhance comfort and accessibility in public transport as well. Furthermore, new inventions have given people extra opportunities that they want to take advantage of (ie using folding bikes). Fourthly, priorities have shifted and, at least in certain countries, numbers show that owning a car is less important than it was in the past, and younger people tend to postpone the date when they get their driving licence and their first car. New emerging needs also derive from changing working patterns and hours and the increased perception of the importance of inclusivity.

Mr Garrod pointed out that the main challenge for urban public transport is to provide an ever more targeted service that answers the specific need of every single customer. Therefore public transport has to be a frequent service that brings people where they have to go, it has to allow easy transfer between lines, it has to provide customers with easy to obtain real-time information, it has to be easy to purchase, it has to offer sufficient space for belongings that customers want to take with them, and it has to offer the possibility to be integrated with cars and bicycles (parking and rental). Good practices show that schemes for integrated tickets or mobility cards can work well and may help both regular travellers and tourists on the move, if they are easy to understand and include services active 24/7. Furthermore, passengers' confidence needs to be boosted thanks to a system that is as simple, consistent and reliable as possible. Therefore, Mr Garrod concluded, the challenge for the public transport sector is to embrace new technology that satisfies new emerging needs and expectations yet not overlooking that above all the transport system needs to be easy, flexible and inclusive.



All Ways Travelling

Svend O. Leirvaag, Vice President Industry Affairs, Amadeus

Mr Leirvaag began his presentation by pointing out the relevance of Amadeus' experience in multimodal travel retailing. Amadeus connects providers of travel services, most importantly airlines, with travel agencies and other travel retailers. Being in the market since the very beginning of computerized reservation systems Amadeus has created the biggest neutral market place of its kind worldwide.

Amadeus furthermore provides the technical back office solutions which manage for example check-ins at airports. Amadeus has recently moved into the rail sector through a partnership with BeNe Rail, and started developing a community platform for the global hotel industry.

In the context of these types of distribution models the degree of deregulation of the industry plays an important role. Deregulation of the airline sector brought about computerized reservation systems and in the beginning the American industry tried to establish their platforms also in Europe. Amadeus was originally established as a European response, and has since managed to successfully compete with US based competitors globally.

Mr Leirvaag pointed at the effects that deregulation and liberalisation have had on the travel market in general, and on the EU airline market in particular, where the European consumer now enjoys the benefits of the most competitive airline market in the world.

As an example he pointed out that recently Ryanair started distributing their products to travel agencies on the Amadeus platform, in spite of previously following a strategy of avoiding any indirect distribution. Ryanair is increasingly competing directly with other airlines and as a consequence now sees the need to "take its product to the market" to capture and keep market shares. If open and competitive market conditions apply in an equal fashion to all players, there is an incentive for competing travel providers to be available for purchase in a transparent and neutral market place. This will also benefit the European consumer, and as long as dominant players are not biasing or monopolising information.

Public transport providers are generally operating in regulated environments, and will therefore not have a business incentive to share or distribute their information or products to third parties.

Mr Leirvaag went on to present some of the key findings of the All Ways Travelling study for the European Commission on the key drivers for multi-modality. These are (in no particular order):

- There must be non-discriminatory access to travel information

It is obvious to most that eventual deregulation and competition in the rail industry at a level that is similar to that of the airline industry, would drive multimodality, as competition would

create incentives for transport providers to be visible in the market place, and share information, in order to be attractive to potential alternative buyers searching and comparing the best offers on a neutral and transparent platform.

If the EU is to develop a neutral marketplace for multi- or inter-modal travel information, before de facto deregulating the rail and public transport sectors, it is necessary to ensure non-discriminatory access to travel information for providers of information and ticketing services. The Commission may need to intervene to ensure such information access as well as the neutrality of this travel information marketplace, similar to that which exists for air travel through the Code of Conduct for Computerised Reservation Systems (Reg 80/2009).

- EU must increase its support of joint undertakings and industry initiatives to develop standards and a technology framework for multimodal interoperability

In the rail industry currently less than five percent of tickets are sold indirectly while in the airline sector the number is between 40 and 60 percent. The airline industry is highly standardised and technically interoperable, while the rail industry is not. The ongoing industry collaboration between railway undertakings and members of the distribution industry, like Amadeus, is therefore critical to developing the technical interoperability that can support third party ticket distribution for rail and public transport across the EU, which is a key building block for enabling the seamless, multimodal, passenger transport system outlined in the White Paper.

- Commercial conditions for carriage on multimodal/intermodal journeys or passenger rights need to be clarified

Mr Leirvaag also mentioned that the report focuses on the need for horizontal and cross-sectorial regulation, especially related to passenger rights and conditions of passenger transport, and a consistent legal framework still has to be achieved. There also needs to be a reasonable balance between the operators' commercial freedom to establish conditions for carriage and regulation to protect passengers.

Finally, he emphasised that the study identifies that in addition to the availability of comprehensive, up-to-date, and trustworthy information on availability and prices of multimodal travel options, improved physical connectivity between transport modes is a precondition for multimodal travel and for modal shifts to take place.

Mr. Leirvaag added that the report had found that consumers are only likely to find multimodal options attractive if they are visible and combinable through effective connections at airports, railway, and bus stations.

Infrastructure developments and planning must therefore increasingly address the need for improved connectivity and passenger flows between transport modes, and Amadeus believes that multimodality must be developed first where such connectivity already exists, to create a network of multimodal "fast track" corridors, which can grow as physical connectivity is improved.



New Passengers Needs and New Mobility Solutions – an operator's point of view

Martina Mueggler, Head of Innovation, Car Postal

Ms Mueggler began her presentation by pointing out the company's longstanding experience in public transport with bus services provided in Switzerland for over a hundred years. She presented several initiatives and developments that have moved the company towards a more broadly operating mobility provider that is active abroad and along the mobility chain.

Postbus has a strong position in the competitive bus market in Switzerland but also invested in other areas and new markets such as bike and ride sharing. Another important sector with an intermodal component that Postbus is active in is system services: Among others, these include systems for ticket controlling, passenger counting and money collecting.

There are some noteworthy mobility trends in Switzerland that speak in favour of Postbus' strategy. Overall passenger transport has increased by 17% since 2002, whereas public transport has had much stronger growth rates (30%) than individual motorised traffic (15%). Ms Mueggler presented that this increase in demand for public transport is the result of a better offer and higher quality of service. There is a tradition of discount passes in Switzerland: over 50% of the Swiss population have travel subscriptions that offer full or half fare reduction for a yearly payment. Starting in 2015, the new "Swiss Pass" will allow to integrate subscriptions on different transport modes (i.e. bike sharing, car sharing, public transport, ski passes) on one single card.

However Ms Mueggler highlighted a major challenge for public transport operators: 80% of Swiss households still own a car making it the most common means of transport. But, as in other countries, there is a trend that the number of driving licences among young people is decreasing every year. Another challenge that can be identified is the growing cost of public transport. Prices for public transport have gone up significantly and are growing above the rate of the average consumer price index.

Together with the EPFL, The Canton of Valais, the city of Sion, and the University of Applied Sciences and Arts Western Switzerland (HES-SO) Valais-Wallis, Swiss Post Ltd has launched the Mobility Lab Sion in 2014 to find answers to these challenges. The common objective of the five partners is to develop the interdisciplinary synergies to be found in all aspects of mobility, to showcase experimentation and to implement new mobility solutions for public benefit. Among others, the Mobility Lab is working on the following projects:

- Check-in – Be-out (CIBO): A ground-breaking e-ticketing solution based on smartphones and WiFi technology will allow users to be able to travel without buying a ticket, knowing that they will pay for the service afterwards

- Developing ride sharing as a complement to traditional transport options, especially in regions that are not as well served.

Finally, Ms Müggler made the point that access to public transport needs to be improved: this includes on the one hand extending the integration of modes to newer services such as bike, car and ride sharing. Secondly, the availability of information about fares needs to be improved: in spite of the existence of good offers and discounts for public transport in Switzerland potential customers avoid public transport because they perceive it as too complicated or believe it is too expensive. And thirdly, real-time information and mobile applications (i.e. information and booking platforms) are becoming more and more important for the accessibility and attractiveness of public transport systems.

Bertil Hylén

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**Breaking Down Barriers –
What Is Needed?
Technological Solutions to
Drive Innovation**

Bertil Hylén, FSR Transport Adviser

At the 3rd Florence Intermodal Forum, Mr Bertil Hylén presented two case studies and, out of these experiences, outlined general conclusions and recommendations on supporting development and innovation in mobility at the urban level.

Mr Hylén illustrated his point by presenting the development of transport connections in the different context of local connections in Sweden (Stockholm area) and southern Spain (Alicante).

- first and foremost, administrative barriers have to be broken down and this is particularly relevant for barriers between public and private/individual modes. A voluntary cooperation system in Sweden www.samtrafiken.se (with more than 50 members) provides information and the possibility to buy combined tickets for different transport modes that make up a journey. This is an achievement of a combined private and public initiative as well as the result of a favourable administrative environment.
- Secondly, protectionism can never be allowed as this is not beneficial for the customer. The example of the access restriction to the Alicante airport shows that black markets flourish, where customers are not satisfied by formal services.
- Thirdly, it is necessary to start thinking outside the boxes, and provide the customer with personalised travel solutions. The rapid spread of smartphones and apps shows that new stakeholders can successfully enter the market, and much can be gained from experience in other similar contexts.
- Last but not least, initiatives have to be taken: new technological inputs might be useful, yet they may not be the only solution to the emerging transport issues. For instance, Alicante's local bus service is an easy yet effective solution connecting the city centre with the airport in a 20 minute loop.



Transforming mobility through connectivity

Alberto Di Felice, Government Affairs Europe, Qualcomm

Mr Di Felice focussed on the connectivity and mobile data aspect of a new mobility paradigm.

He opened by outlining the concept of a new system of mobility, which has to be seen in the context of the internet of everything or the internet of things. Broadly speaking, there have been three phases in the development of the internet: first (1990s-early 2000s) people were provided with internet access through stationary computers and less than 1bn users were connected to the network; in recent years (mid 2000s-early 2010s) the internet has become something that is mobile and increasingly available everywhere reaching about 3bn users; the next and ongoing step (mid 2010s onwards) is characterised by a wide connection of all types of devices and systems, such as industry production appliances, the health care sector, and the transport infrastructure. In this process wireless will be the primary connection method yet the other standards such as the new LTE play an important role. Thanks to its experience in wireless communication, nowadays Qualcomm is involved in the process of developing standards and providing the technology to produce chips that combine the different functions a smartphone (or different kind of devices in the future) needs to offer. This means combining both computing power and additional features such as geo-location, graphic processing and multimedia.

The currently foreseen next step in this process involves connecting cars and integrating all the existing mobile technology features in them. Mr Di Felice stressed that this is the field where the idea of a new type of connectivity is most developed and closest to becoming operational.

In a context of an interconnected city environment (smart city) there is an autonomously communicating infrastructure involving water, electricity, smart energy grids, waste management and intelligent buildings. Therefore, it is possible for cars to sense and interact with their surrounding: street signs, buildings, points of interest and even parking spots. Solutions currently worked on for private cars can give an example of how also other transport modes can become more interconnected in the future.

For all these services to function, next to the availability of the technology, the build-up of physical infrastructure is necessary, and the densification of connectivity in urban areas will be a key requirement. This includes wifi, which is a short range technology, but also the 3g and 4g networks. Another area is the development of licensed spectrums which will become necessary for transport systems that require a guaranteed connectivity. For driverless cars for instance it will be necessary to have a guaranteed connection to operate safely.

Mr Di Felice summed up that the outlined growth of the internet comes with a set of challenges that the industry needs to address:

- Performance: devices need processing power, reliability and network capacity
- Efficiency: energy network and computer resources
- Security: authentication, malware control, identity and data protection, privacy
- Access: coverage, multi-band support, interoperability
- Affordability: lower cost per bit, lower device cost

Failure to address these areas will limit the growth and performance potential of the Internet.



TRANSFORuM – Roadmap on a European Information, Management and Payment System

Florian Kressler, Project Manager Innovation & E-Mobility, AustriaTech

At the 3rd Florence Intermodal Forum, Mr Florian Kressler presented the results of the recently concluded European Project TRANSFORuM – Roadmap on a European Information, Management and Payment System, which developed four roadmaps derived from the 2011 Transport White Paper thanks to the involvement of different stakeholders throughout the last two years.

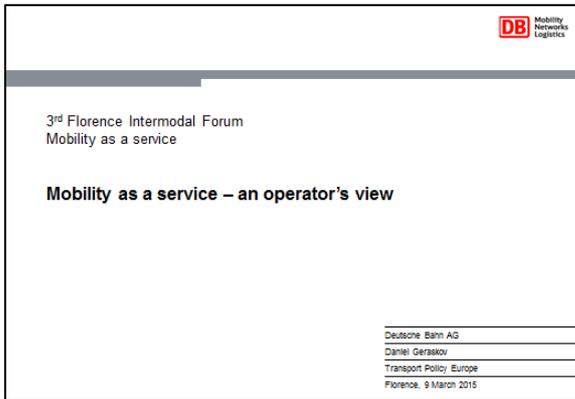
To recall, in its different packages TRANSFORuM had been working on the following four goals: 1) Halve the use of 'conventionally-fuelled' cars in urban transport by 2030; phase them out in cities by 2050; achieve essentially CO₂-free city logistics in major urban centres by 2030; 2) Shift 30 % of road freight transport to rail and waterborne modes by 2030, more than 50 % by 2050; 3) Complete the European high-speed rail network by 2050; triple the length of the existing high-speed rail network by 2030; 4) Establish a framework for a European multimodal transport information, management and payment (MIMP) system until 2020. With regard to this fourth goal, Mr Kressler stressed one very important characteristic of this goal: since this goal was formulated in the White Paper on Transport in 2011 and large number of regional and local system have been established and technological advancement, such as the widespread use of smartphones have completely change the landscape and the way users interact with transport operators and between each other.

Therefore, one of the main challenges addressed by the Project is concerned with the level of integration that the European multimodal mobility system needs to reach with the existing environment (made of local and regional systems, information systems, management systems, payment systems already differently integrated) in order to have an impact on the European transport system.

The conclusions that emerged at the end of the Project could be summarised as follows: first and foremost, Europe is lacking a vision and common understanding on how an integrated European Multimodal, Information, Management and Payment system should look like. There are very different interests at stake, and the players not always have the same understanding of the problem and the same preferred option. In particular operators compete on the same market and there is still little agreement on the bigger picture. Secondly, in order to more towards a more integrated European Multimodal, Information, Management and Payment system some technical issues need to be addressed. Yet these do not really present large barriers whereas many institutional issues (related to the willingness to cooperate and open up established systems and sharing information) are more difficult to overcome. Thirdly, the business case for providing and

sharing data to favour the end customer for mobility services is still missing. Furthermore, the establishment of a European Multimodal, Information, Management and Payment system requires standardised data formats and exchange practices. It should be borne in mind that finding an agreement on common standards should not undermine possible innovative processes. Related to this, the different roles of public and private sector should be defined, in particular with regard to the responsibility of the quality of the data and the services provided. Also, access to data by the traveller is a multifaceted issue that relates to aspects such as the removal of barriers (e.g. language barriers), the provision of real time data information, and the exchange of cross-border data.

To conclude, Mr Kressler highlighted some of the efforts that are actually already in place to overcome these barriers, and stressed that all actors involved have an active role to play.



Mobility-as-a-Service: an operator's view

Daniel Geraskov | Transport Policy Europe,
Deutsche Bahn

Mr Geraskov presented the experience of Deutsche Bahn as a global cross modal mobility provider. He focussed on several projects and offerings of Deutsche Bahn in the field of cross modality stressing the fact that ITS solutions are not always necessary to improve integration between modes.

In the beginning of his presentation Mr Geraskov outlined the experience of Deutsche Bahn with multimodal offers which dates back quite long. In fact five years ago the so called last mile problem was in the centre of attention, and the company followed a strategy to move from a station-to-station to a door-to-door mobility offer. Among other things a full fare pass was developed, but also other intermodal initiatives have been on the agenda of Deutsche Bahn for several years.

E-ticketing has been in use and profit generating already several years ago. Overall Deutsche Bahn can say that it has successfully integrated other modes: it has become the biggest car sharer in Germany offering integration with their rail loyalty program and it has become the leading bike sharer with bike sharing systems provided in 50 cities in Germany.

Building on these capabilities some years ago also a Mobility-as-a-Service type scheme was developed: this was piloted in Berlin and involved several modes that could be used by paying a monthly amount. Different packages were developed including a certain amount of car sharing usage, access to the bike sharing scheme and use of public transport. The reaction of the market was however mixed.

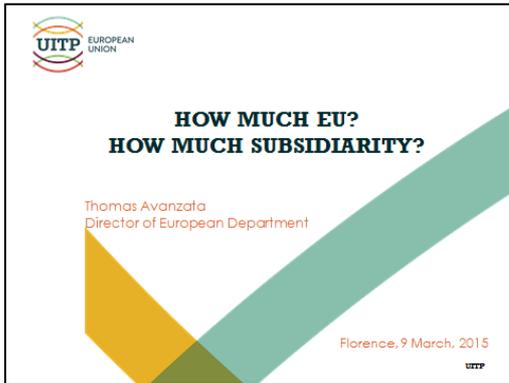
Deutsche Bahn developed a model that focussed more on the integration of local transport with long distance connections: the so called city option on long distance tickets allows the owner of the ticket to use the entire public transport system in the city he travels to and from. This service is offered free of charge for all loyalty card holders. It is important to stress that the real challenge there was to work out the contractual arrangements with all the different public transport providers in Germany for the revenue sharing.

Another solution that was developed by Deutsche Bahn several years ago called Touch&Travel enables users to log on with a smart phone and be charged automatically for the distance travelled which is automatically measured by tracking the traveller through his mobile phone. The cooperation of mobile network operators was crucial in this approach.

Deutsche Bahn puts a lot of effort in cooperating in the complex situation with 70 different public transport authorities in Germany and also 16 neighbouring countries that are involved in many cross border connections. The website of Deutsche Bahn includes all passenger train operators in its travel information service, including those of direct competitors. Furthermore 200 public transport operators are included in the search function and many tickets can be bought through the Deutsche Bahn system.

At the end of his presentation Mr Geraskov presented an ongoing project of a new mobility platform called Qixxit. According to Mr Geraskov there will be several platforms in the future. This is a good thing as the competition between these market places can thrive innovation. In this case, ITS would serve as an enabler for deploying new initiatives, however it is not a necessary condition that could replace the ultimate will of operators and other stakeholders to move ahead with intermodality.

From the policy perspective it is important to focus on creating a business friendly environment and helping the industry to create common standards, as standardization is more important than regulation.



Tendering of PSOs: what are the remaining challenges?

Thomas Avanzata, Director of European Department, UITP

Mr Thomas Avanzata began his presentation at the 3rd Florence Intermodal Forum stating that there is no single option for the EU to answer the question How much EU? How much subsidiarity? for urban transport policy. In fact, no one-size-fits-all solution can be adopted when thinking about the role the EU should play in the case of urban mobility, because of the great differences among cities.

Considering all the benefits that urban public transport could bring worldwide, UITP's goal for the sector is to double the number of passengers by 2025. In order to reach this ambitious objective EU support is needed. As far as the EU intervention is concerned, Mr Avanzata recalled that transport is a shared responsibility, and that the subsidiarity principle applies. Therefore, the EU supports the development of public transport in different ways: defining a policy and legal framework, funding the implementation of this policy framework, funding research and innovation, facilitating the exchange of experience and best practices. For each type of intervention, one may ask on the one hand, how far should and could the EU go and, on the other hand, how much subsidiarity is desired.

Mr Avanzata gave three examples illustrating that in some cases less European intervention can be advocated and in some other cases the current level of intervention is appropriate, and yet in other situations more European influence would be beneficial.

1. For ticketing, the policy framework (2011 White Paper) focuses on establishing a pan-European ticketing and information system by 2020. However, Mr Avanzata reminded that the feasibility of the much advocated European project on integrated ticketing still needs to be proven, and that it is actually questionable whether this would bring real benefits to the passengers. Therefore, UITP maintains that a bottom-up approach in this sector is necessary, and more competences should be delegated to the regional and local level.
2. PSO regulation applies to passenger transport services by rail or by road submitted to PSOs and requires the granting of financial compensation and/or exclusive rights. Yet with this regulation the EU does not impact on every aspect of the decisions that are eventually taken by local public transport authorities. In Mr Avanzata's view, there is a well-balanced situation where the competent local authorities can define their own obligations, criteria for tendering, organization of the transport service.
3. The EFSI (European Fund for Strategic Investments) is an example where more European intervention would be necessary together with more clarity and less subsidiarity, as it currently prevents optimal coordination. Mr Avanzata said it is time to overcome the contradiction of a European strategy that is increasingly impacting urban areas but is not sufficiently supported from the financial point of view because of the principle of subsidiarity.

**Mobility as a Service:
new European model for
sustainable transportation?**

MEP Merja Kyllönen
3rd Florence Intermodal Forum
9th of March 2015

**Mobility as a Service:
new European model for
sustainable transportation?**

Merja Kyllönen, Member of the European
Parliament

Referring to her experience as former Transport Minister of Finland, Ms Kyllonen recalled that the seeds of the transport revolution were already sowed by the Finnish Transport Ministry in 2011. This included a specific focus on safety, capacity, customers, a fight against damages to the environment and an overall more resource-efficient transport policy. Because of the financial shortages in transport, the need for a smarter way to organise transport has become quite necessary also in Finland a couple of years ago: the traditional answer of building new big infrastructures to address increasing mobility necessities is simply not a feasible option anymore. However, in order to move towards a smarter way of doing things, a big shift of mind-set was required: first and foremost, the public sector had to admit that they were not as innovative as the privates and privates know more about people's needs. Therefore, the public sector had to find a way to be innovative: the solution was to play the role of enabler of those innovations that are developed by the privates in favour of the customers.

Today, this example becomes relevant, especially because the European Institutions are working on a redefinition of the policy goals in the Transport White Paper. The Finnish way of doing might be an example worth taking into consideration. The transport sector has changed in the last four years, and a substantially different view is needed to face environmental and climate issues, digitalisation and the challenges introduced by the increasing "sharing economy". Ambitious actions have to be taken to promote greener and safer sources of energy, to make use of the potential of digitalisation for improving safe mobility, as well as to apply the principle of the sharing economy in transport. With regard to this, Mobility-as-a-Service is an example of how to implement the necessary shift away from ownership to use.

So, what is needed to build a fresh perspective for European Transport Policy? First and foremost, a new ambitious proactive European model (compared to the traditional reactive model) is needed. In fact, Europe should not let the Asian or the American way of addressing the current transport challenges prevail. Europe should take the lead and understand that transport policy must be defined in accordance with the general global aims of a greener economy, more innovation and jobs. Coordination with the new Energy Union, with the implementation of the digital single market, respect of data protection as well as consumer protection, are necessary for achieving an effective transport policy.

To conclude, Ms Kyllonen addressed the specific question of the EU's role in this process. The EU has to acknowledge that one size does not fit all, and different solutions might be developed in different contexts. Therefore, the EU should play the same role as public authorities are called to play at the national level, namely to act as an (regulatory) enabler for the new existing technological solutions by providing a guaranteed level playing field for all actors in the market so as to meet the consumers' needs in the most effective way.



Mobility-as-a-Service: from the Helsinki experiment to a European model? – Introduction to the Forum

Claire Depré, Head of the Unit "Intelligent Transport Systems", DG MOVE, European Commission

Ms Claire Depré began her presentation with three well-defined messages: first, the European Commission is not looking for a top-down one-size-fits-all mobility solution that has to be applied in the same way in all European countries; second, transport entails shared responsibility as it concerns different levels and many different actors; third, as it is also indicated by the title of the 2015 ITS Conference organised in April, the focus of the Commission this year is on moving from capacity to connectivity as a smarter way of dealing with transport and mobility.

The right level of intervention of the EU legislator has often been questioned, also in the transport sector. The European Commission is attentively looking at ITS, trying to find the right balance between direct intervention and subsidiarity. With its action in the ITS field and the digital strategy for mobility, the European Commission aims at optimising capacity and operation, with the ultimate goal to build better modal integration while keeping a user centric approach. Ms Depré illustrated concrete areas of action in order to explain the Commission's approach and level of intervention in the field: EU-wide Real-time Traffic Information Services and cooperative systems (C-ITS).

EU-wide Real-time Traffic Information Services

Within the framework of the ITS directive, the first question to be answered by the legislator as well as by stakeholders is whether there is a real need to regulate this kind of services. The European Commission recognises for itself a role of an enabler that facilitates the voluntary share of data that are already at the disposal of the national authorities, recommending the way but not obliging on the end results. By this means, the dynamic nature of the transport market is recognised: once the availability of data is achieved, it will then be up to the market to make use of them as to provide the users with timely and effective information.

cooperative system (C-ITS)

Similar to the EU-wide real traffic information services, in the framework of the ITS directive the first issue related to cooperative systems (namely the communication technology between vehicles, between vehicles and infrastructures, and between vehicles and road users) is whether there is a need for European legislation. The answer is not straightforward, but there was general agreement at the Forum that something should be done at the European level.

In November 2014, the Commission set up a Forum (C-ITS Deployment Platform) to look at the cost-benefit analysis, the data protection related issues, communication flows and related rules for security, liability, frequencies and access to vehicle data. The goal of the Commission is to publish a Master Plan on the Deployment of cooperative systems in the EU (probably in the form

of a Communication) not necessarily obliging Member States to deploy by a certain date, but rather to set a policy directive and the right framework conditions (and legal certainty) so that interoperability is ensured.

These two examples show that the approach of the European Commission is to work “upstream” on the definition of the strategy and the framework, leaving room for deployment and implementation yet not being limited to only reacting to innovation. Furthermore, Ms Depré stressed that after the definition of the strategy, incentives should be given to pilot projects with the goal to define best practices: if pilot projects show the (potential) benefit for a larger deployment, the Commission should act as an enabler, learn from the positive experience and legislate accordingly.

So, as an answer to the initial question how the EU level could contribute to the creation of a market for mobility, Ms Depré demonstrated through the examples in the ITS sector that the EU and the Commission in particular can play a fundamental role in defining the policy for the sector and also in setting up the right (regulatory) scheme to incentivise best practices to be implemented at the local level.

FSR-Transport: Events 2015

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Date	Title
6 February 2015	FSR-Conference: Smart Cities, Smart Regulation?
23 February 2015	Executive Seminar: Aviation Safety
9 March 2015	3 rd Florence Intermodal Forum
18 May 2015	10 th Florence Rail Forum
12 June 2015	4 th Annual Conference on the Regulation of Infrastructures
18 September 2015	7 th Florence Air Forum
27 November 2015	11 th Florence Rail Forum

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