

Passenger Terminal EXPO 2010

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BRUSSELS, BELGIUM

THE 16TH INTERNATIONAL CONFERENCE AND EXHIBITION FOR PASSENGER TERMINAL
DESIGN, MANAGEMENT, SECURITY AND TECHNOLOGY

PRT AND APMS AT AIRPORTS AND BEYOND



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TUESDAY 23 MARCH 2010

PRT AND APMS AT AIRPORTS AND BEYOND

Automated transportation and its positive impact on airports and cities

**Welcome to the session and introduction –
Conference Chairs**

A look at innovative new forms of moving passengers around airports and cities, reviewing current projects and exploring what can be achieved in the future. Automated people mover (APM) and personal rapid transit (PRT) transportation solutions have the potential to become two of the cornerstones of urban transit. They are already highly favoured by airports, and have been adopted by them in many parts of the world.

Attendees will benefit from gaining an insight into what automated transit, in particular personal rapid transit (PRT), is and what it can do to improve airport and city design and service for the passenger.

09.00-09.10

CHAIR: Tom Voge, Senior Consultant, Transport & Mobility Leuven, Belgium

CHAIR: David Holdcroft, PRT Manager, BAA Heathrow, UK

Part 1: Examples from airports and cities: commercial, planning and passenger aspects

09.10-09.40 **David Holdcroft, PRT Manager, BAA Heathrow, UK**

Heathrow's personal rapid transit system: an update on progress

The world's first personal rapid transit system is about to go into passenger service at Heathrow Airport. This presentation will explain the benefits of PRT, look at some of the challenges faced in developing the system and report on current progress. A look forward to future possibilities will also be included.

09.40-10.10 **Christopher Elliott, Director, Pitchill Consulting Ltd, UK**

Personal rapid transport: how is safety assured?

The Heathrow PRT will be entering service about the time of this conference. As well as all the usual safety issues for an automatic system, this has also to meet the stringent requirements for safe

operation of an airport. The presentation describes how safety is assured for the Heathrow PRT, and the role of independent safety verification. Around the world many airport operators have been considering PRT because it has the potential to solve ground transportation problems, with massive consequences for efficient use of real estate and for the quality of the travel experience for passengers. It is now a feasible and proven option, but operators may still be concerned about safety. This presentation will show how a systematic and constructive approach can deliver a safe, reliable and user-friendly system.

10.10-10.35 **Thomas Ludwig, Head of Automated People Mover Services, Logplan, Germany**
PRT systems in an APM world

Over the past two years personal rapid transit (PRT) systems have become increasingly considered in design and planning options for the airport environment. The increase in popularity for the PRT system is mainly due to the new system currently undergoing tests at London Heathrow. Prior to this system very few quasi PRT systems existed, including the system built in Morgan Town, West Virginia in 1975. In order to evaluate how this technology can be utilised at airports, this presentation will compare the PRT system with the widely implemented automated people mover (APM) systems, and seek to draw from the pros and cons of both technologies. The presentation will conclude with a discussion on how PRT could affect various airport project types.

10.35-11.00 **Robbert Lohmann, Marketing Director, 2getthere, Netherlands**

Translating lessons learned at Masdar to an airport environment

2getthere is going through the process of supplying and installing the world's first urban personal rapid transit system at Masdar City. The presentation will focus on taking the lessons from the project and applying these to an airport environment. Issues covered will include spatial planning and integration into the environment, safety and security, vehicle design and accessibility. The presentation will also address if and how PRT can change the way future airports are built/reconstructed, with a focus on accessibility as a USP to travellers.

11.00-11.20

REFRESHMENT BREAK

11.20-11.45 **Tom Voge, Senior Consultant, Transport & Mobility Leuven, Belgium**
Citymobil and EU PRT project overview

The audience will be given a broad overview of past and ongoing development experiences, and results from R&D projects as well as real-life applications of PRT technology in Europe and beyond. This will be based on involvement in a series of EC-funded projects (Cybercars, Cybermove, Netmobil, Citymobil) on this topic since 2001. The most recent of these projects is Citymobil, which has as one of its test sites the system currently being tested at Heathrow Airport. In more detail the presentation will cover technical and operational issues, safety, performance, business cases and financial viability, and end-user views and perceptions.

11.45-12.10 **Suzanne Hoadley, Membership Services Coordinator, Polis, Belgium**

The perspective of cities

Interest in automated transport systems is growing within local authorities. This interest is being nurtured in a body called the Reference Group, which is coordinated by the European project, CityNetMobil. This project provides support to Reference Group members through: 1) Small-scale demonstrations ('showcases') of automated vehicles in order to raise local awareness; 2) Supporting the networking of interested authorities in order to maintain momentum for advanced transport systems; 3) Sharing knowledge and expertise about these systems. The presentation will give an overview of the activities of the Reference Group and future plans of some of the Reference Group members. The audience will learn about the level of interest of local authorities in automated systems and future plans, including the many challenges that they face in moving from demonstration to full-scale deployment.

12.10-12.35 **Martin Lowson, Vice Chairman, Advanced Transport Systems Ltd, UK**

PRT: the business case and revenue generation

The presentation will highlight the key features of a business case for a PRT application. In many circumstances PRT can offer major benefits in terms of the service level offered to its users, notably

reduction in transit times. These benefits can be captured either as a revenue stream via the fare box or equivalent, or as an increase in capital value for property such as hotels or offices, which are more effectively connected to other services in the local area. These capital benefits often provide the largest element of the business case. The presentation will provide some examples of such applications and indicate the scale of commercial benefits that can be expected from an effective PRT application. The audience will learn about the capability of PRT, the commercial value of time savings and ways to capture this value using PRT, and methods for using PRT to provide more effective connectivity in airports and similar applications.

12.35-14.00

LUNCH in the delegate dining area of the exhibition hall

Part 2: Results from research projects

14.00-14.30 **Jan van Dijke, Senior Project Manager, TNO Science and Technology, Netherlands**

CityMobil: advanced transport for the urban environment

Citymobil is an integrated project in the 6th framework programme of the European Union. The objective of the project is to achieve a more effective organisation of urban transport, resulting in a more rational use of motorised traffic with less congestion and pollution, safer driving, a higher quality of living and an enhanced integration with spatial development. This objective is reached by developing integrated traffic solutions: advanced concepts for innovative, autonomous and automated road vehicles for passengers and goods embedded in an advanced spatial setting. The presentation will provide insight into the various ways in which advanced transportation systems can help solve present and future mobility problems in urban environments.

14.30-14.55 **Thierry Chanard, CEO (Urban Planner), GEA, Switzerland**

Cybercars for airports: only function or also integration?

The airports are interested in cybernetic transportation systems. The most famous is the Heathrow PRT. For such kinds of services one of the

biggest constraints is the infrastructure. For instance from the ground level to the transportation level (4-5m higher), a lot of complementary infrastructures are needed to make the service as comfortable as possible for the users. The visual impact of such infrastructure is very constraining too. Many people have been eagerly awaiting these new, exciting, automated tools. If we want to break the barriers (legal, cultural, technical, administrative) we must understand these new systems as tools and not toys, otherwise nobody will use them soon after the first phase of seduction. All innovations in the field of transport are very fragile and exposed to many sorts of constraints and difficulties. The presentation will show what the level of knowledge must be if the stakeholders want the right tool at the right place, and how the European projects need experimentation sites to demonstrate their efficiency. It will also sensitise the attendees to urbanistic aspects, show how the modal shift is as important as the transport service, and demonstrate how a new transport supply must be planned on a more global scale if we want to think sustainably.

14.55-15.20 **Peter Muller, President, PRT Consulting Inc, USA**

Master plan PRT analysis for Baltimore Washington International Airport

A study was undertaken to investigate the feasibility of providing surface transportation between existing and proposed parking garages and existing and proposed terminal buildings by means of personal rapid transit (PRT). The feasibility of expanding the PRT system to provide secure inter-concourse transportation and to connect surface parking lots, light rail and Amtrack stations, as well as consolidating the rental car facility was also investigated. Level of service, capital and operating costs were compared with those of conventional automated people movers and shuttle buses. The audience will learn about the ability of PRT to solve a number of different airport surface transportation problems. The presentation will address connecting airport terminals to parking garages, parking lots, rental car facilities and rail stations. It will also address the provision of connections between secure concourses, and ways of addressing security concerns with one system that operates in both unsecure and secure

areas. Comparisons with conventional surface transportation systems will be made, to allow the audience to better understand PRT applications in airports. Phased implementation will also be addressed.

15.20-15.40

REFRESHMENT BREAK

Part 3: Studies and further deployment

15.40-16.05 **Peter Wagner, Researcher, German Aerospace Centre, Germany**

Impact assessment and simulations of automated transport systems

The EU project Citymobil deals with the impact of automated technologies on future transport systems. One question was the impact of automated car driving on the efficiency and energy consumption of a transport system. By means of dedicated microscopic simulations it could be shown that with the increasing penetration rate of automated technologies, up to 40% savings in travel time and energy consumption may be realisable.

16.05-16.30 **Jörgen Gustafsson, Chief Technology Officer, Vectus Ltd, Sweden**

Vectus PRT operational experience applied at airports.

The presentation covers the features of Vectus PRT in terms of system capacity (45km/h, 3-4 seconds headway, distributed and asynchronous dynamic moving block control) and safety (approved by Swedish railway authority compliant with APM standards). The status and experience of test track operation (more than two years) in Sweden is described, as well as the status of the first commercial deployment of Vectus PRT. The presentation will also discuss the specific features of vehicle and station design to give high efficiency and passenger comfort in airport applications. There will also be discussion of the capability for detailed simulations of Vectus PRT systems and examples showing the capacity of Vectus PRT in airport applications. The audience will see how Vectus PRT differs from other systems (APM, buses, other PRT) not only in terms of safety concepts and vehicle performance, but most importantly in terms of passenger aspects. This relates to the vehicle,

the station layouts and the flexibility of the control system to provide quick, efficient and cost-effective transportation.

16.30-16.55 **Malcolm Buchanan, Director
Transport Planning, Colin Buchanan and Partners,
UK**

**Today's airport innovations – tomorrow's urban
transport systems**

Malcolm will argue that because they face the problem of dealing with large volumes of cars attempting to enter very limited areas, airports have already contributed substantially to the development of urban transport policies. Examples are tough parking controls, high charges and the provision of good public transport alternatives. The paper considers how the latest airport innovation PRT may also be used in urban areas. The audience will learn that airports, urban centres and major new developments have much to learn from one another, and that innovative transport systems will be important to all three.

16.55-17.20 **Oliver Neuland, Designer and Program
Leader ID, Massey University, New Zealand**

In-line rail conceptual design study for Auckland

The presentation will describe an innovative design approach for Auckland's complex public transport issues: a driverless, extremely slim system for city and suburban use. Attached to existing infrastructure or running on ground level, the small units demand a unique exterior and interior layout. Topics covered will include a description of the design process: iterative process using system concept topology and geometry to design a new vehicle category; merging parallel developed interior, exterior and chassis ideas; designing for unique NZ culture; using new material and processes in a GRT.

17.00-19.30

**Brussels South Charleroi Airport will be hosting
the Passenger Terminal EXPO 2010 opening day
exhibition hall party with drinks, canapés and
excellent networking opportunities. Everyone is
welcome!**

17.45-18.45

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