

## IVU.PANORAMA



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Driverless metro operating with IVU.plan

## IVU.PROJECTS



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In use at SSB

## IVU.PANORAMA

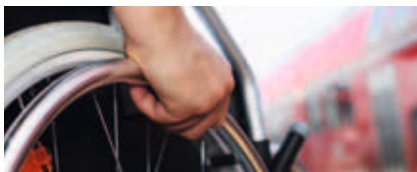


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# PLANNING SYSTEMS

From paper to intelligent software by Andreas Langenhan



The industrialisation which began in the late 18<sup>th</sup> century also brought with it urbanisation and an increased need for mobility in Europe. The growing industrial regions drew increasing numbers of people into the rapidly expanding towns and cities. This led in turn to a growing separation between the home and the workplace. Every day, workers had to travel to and from their factories and offices, and with the increasing numbers of commuters, the need also developed for a reliable and punctual public transport network. The technological inventions from the early 19<sup>th</sup> century to the start of the 20<sup>th</sup> century provided the basis for such metropolitan mass transport systems and thus for the successful development of the public transport services of today.

At first there was only the horse-drawn omnibus, but the arrival of the steam engine and later the electric motor and internal-combustion engine made it possible to transport more and more passengers by road and rail. The technological advances led to a drastic increase in levels of traffic. Faced with the resultant traffic jams and delays, both passengers and operators soon felt the need for timetables, reliable planning, and the control of the transport services. Right from the start, punctuality, reliability and effectiveness were key requirements. With only paper and pencil at their disposal, planners, engineers and scientists developed the first methodology for transport planning. The planning problems

were broken down into individual steps, in much the same way as can be found today in modern computerised planning systems. The transport network with all its stops and lines was modelled on paper, and the appropriate travel times were added. On this basis, the timetable was then drawn up and copies printed. Only then was it possible to link the numbers of trips in an appropriate fashion with vehicle schedules.

Not only vehicles were required, but also drivers. Soon there were regulations about how long a driver could be in control of a vehicle. The start of work, break intervals and the length of shifts were all precisely defined in order to avoid fatigue. All these times had to be included in the planning and various rules had to be taken into account. And these scheduling rules were almost as complex as they are today. It is impressive how the 'old' planners managed to produce good schedules for the workforce using only a slide rule, pencils, scissors and razor blade. As the personnel scheduling became increasingly complex, various aids were quickly developed. For example, an enormous magnetic board was used as the basis for planning. Trips were added using colour-coded magnets and these could then be put together to form vehicle and personnel schedules. The planning procedure was then followed by manual planning of driver rosters and dispatching.

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Dr. Helmut Bergstein, Member of the Executive Board

**Dear Readers,  
Dear Customers of IVU,**

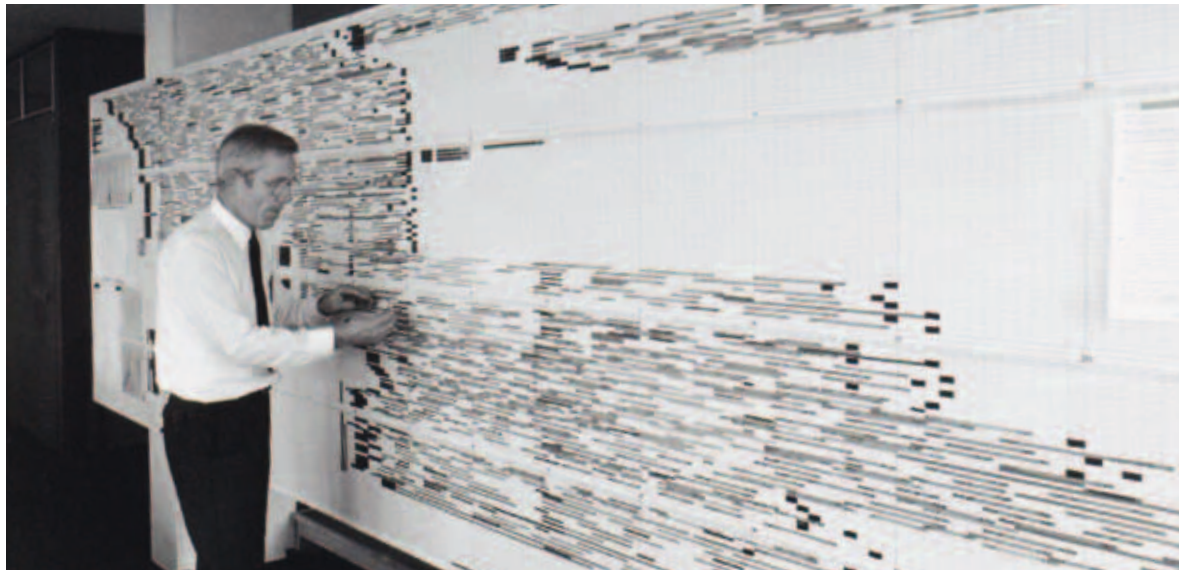
According to the Datamonitor market analysis group, rail transport alone accounts for some 2.6 trillion passenger kilometres (PKM) every year. And by 2014, Datamonitor expects this figure to increase to about 3.8 trillion PKM. These levels of transport services can only be operated with reliable IT solutions which are able to meet the increasingly complex demands of steadily growing transport demands.

Scaling is therefore the key trend shaping current solution developments. With increasing numbers of vehicles, drivers and stations having to be planned and controlled every day, reliable software solutions are an essential prerequisite for well-functioning public transport services – all over the world.

Take a look with us at some of the tasks we encounter internationally. Whether in Germany, Austria, France or Denmark, and now even as far away as Australia, countries and cities are addressing the challenge of modernizing their public transport systems and equipping them for the future. The systems from our IVU.suite provide them with the support they need.

You will also be able to find out more about our latest product developments at the UITP Mobility & City Transport Exhibition in Dubai (10<sup>th</sup> – 13<sup>th</sup> April 2011). Come and visit us at Stand No. 3B500.

**I hope you enjoy reading this issue. ■**



An enormous magnetic board as the basis for planning

→ continued from page 1

Here too, it was still completely normal to use large sheets of papers, coloured pencils, and slide-rules.

But no sooner had the drivers been allocated in the monthly plan, than the first changes would be necessary. If a driver fell ill, for example, it was necessary to write out all the duties which were affected and determine which replacements were available, and then to carry out mental calculations to match the right duties to the right drivers. Such alterations can now be made with just a mouse click. Following the development of the first programmable calculating machine by Konrad Zuse in 1941, computers were soon developed which could be used to describe such complex systems as the planning of duty rosters in transport companies by means of mathematical models, and for the automation of repetitive processes. Interestingly, the use of computers did not begin with simple routine procedures. With the support of scientists, it was eventually possible to solve complex optimisation problems on mainframe computers. For example, in the 1970s the HOT system was developed by Hamburger Hochbahn with the aim of providing support for vehicle scheduling and the planning of duty rosters. For the time being, however, computers were very expensive and could only be operated by specialists, so that the use of computer technology remained restricted to large companies.

With the emergence of the first Personal Computers and the MS-DOS operating system in the late 1970s, the conditions were in place for making computer software applications more widely available. Very soon, tools had been developed to support routine procedures for preparing duty and vehicle schedules, giving the dispatchers more scope for their core planning duties. On 13 July 1984, MICROBUS was launched on the market as the first system able to provide effective vehicle and duty roster planning, while also being able to print out notices and timetables. With this, IVU and bertram+ partner were offering a novel

technological solution. MICROBUS was the first automated planning system which did not require a mainframe system. At first it ran on a VICTOR Sirius 1 with a 10 MB hard drive and a monitor resolution of 400 x 800 bpi. MICROBUS was first installed by Wolfsburger Verkehrs GmbH, where it was used to optimise the vehicle and duty roster planning. Already at that time, a graphical roster planning option was integrated. Alongside MICROBUS, other developers also produced applications in the following years, such as REKOM in East Germany, as well as PRO, epon, Interplan, and MFS from western countries. This resulted in lively competition, which stimulated the rapid development of the systems.

The next innovative step was initiated by the availability of Windows 3.1. This meant it was possible to use a graphical user interface, which made the systems considerably more convenient to operate. Planning systems were paired with relational databases and were therefore able to act as the central database for other systems in the transport company. As computers became more and more powerful, they were able to carry out increasingly complex calculations. Mathematical methods made it possible to generate algorithms for the optimisation of extremely complex arrangement and work processes – and all at the press of a button. In addition to extended validity and journey time concepts, it also became possible to integrate ship services and long-distance transport, thus covering the entire public transport network. In addition, the systems can now operate in an increasing number of languages and are finding applications all over the world. There is an international demand for reliable, punctual and well-organised public transport services like in Germany. With advances in technology, the planning systems are also being developed further. The inclusion of the latest mobile computer technology and the deeper integration in the World Wide Web are only two of the trends which will shape the planning systems of the future. ■



# COPENHAGEN: DRIVERLESS METRO OPERATING WITH IVU.PLAN



The Copenhagen Metro provides rapid urban transport services for travellers 24 hours a day, 7 days a week on 21 kilometres of line – and without any drivers. In only 23 minutes, its passengers can travel from the Vanløse end station to Vestamager or to Copenhagen Airport. For the timetabling and vehicle scheduling, the operator Metro Service A/S, a joint enterprise of Azienda Transporti Milanesi (ATM) and Ansaldo STS, has chosen to use IVU.plan, the advanced planning system of IVU Traffic Technologies AG.

A round-the-clock driverless service requires a high degree of organisational precision, not least because of the narrow window of only four hours per night, over five nights per week, which is available for the regular maintenance activities.

While the work is being carried out on one part of the system, the services on the rest of the system have to remain fully operational. “For the maintenance work, we have divided the lines into 13 separate sections,” explains Claudio Cassarino, Managing Director of Metro Service A/S.

## Such complex tasks require flexible planning systems and intelligent algorithms.

“Every night, the service on track of one of the sections is interrupted while maintenance is carried out. The work follows a regular schedule which is repeated every eight weeks. Various strategies are adopted to bridge the gap in services during the maintenance work. On single track sections, shuttle bus services are offered, whereas on double- or multiple-track sections the service

is shared between the tracks which remain operational.” Such complex tasks require flexible planning systems and intelligent algorithms. With IVU.plan having been used successfully by ATM in Milan since 2001, the subsidiary Metro Service A/S also chose to adopt the IVU solution.

“But it isn't only because of the success of IVU.plan in our parent company ATM that we decided to use the system. A particularly important point for us was the intelligent solution for the timetable planning overnight in combination with the necessary maintenance work,” Cassarino adds. “This task could be solved without any problems by IVU.plan by means of well conceived algorithms and customer-specific adaptations.” ■

# THE IVU DISPLAY PLANNER IMPROVES QUALITY OF PASSENGER INFORMATION IN STUTTGART



In order to make sure that the information provided for passengers using Stuttgart's public transport services about departure times, stops and the transport network is always up-to-date and clearly printed, Stuttgarter Strassenbahn AG (SSB) has chosen to use IVU display planner. With this solution from IVU, individual print-outs with a uniform layout can be produced to display at each stop and station. It will no longer be necessary to prepare numerous separate elements, and the complicated manual adaptation of the information to be displayed will be a thing of the past. During a thorough test phase, SSB was convinced by the flexibility of IVU's solution and the advantages it has to offer. Only six weeks after commissioning the full installation, the system was already in operation and providing all the display information for the city's tram and underground services. By the start of March 2011 the

printed displays at all 700 bus stops will also be produced using the new system.

The data for the preparation of the display print-outs is taken from the public transport company's own database. The IVU display planner can be integrated in the existing system landscape without any problems. The set of PDF files it generates

## Individual print-outs with a uniform layout can be produced to display at each stop and station.

can be used to produce print-outs which are each marked with the barcode of the display case they are intended for, considerably simplifying their subsequent handling.

With the aid of a graphics editor, the layouts for the individual display cases can be defined quickly and easily. Dummy elements can be determined

and positioned for all necessary types of data, such as the timetable, the route, network plans, a map of the locality, image files, or advertising. The plans can be adapted in terms of colour schemes and fonts so as to conform to the operator's corporate design. The uniform presentation of the passenger information within the Stuttgart Public Transport and Tariff Association (VVS) has thus taken a significant step forward, and in addition to the improved quality of the displays, SSB has also been able to reduce its costs.

The majority of the timetables, network plans and local maps are produced in colour, and the print-outs are weather-resistant and photostable. The consistently high quality of the print-outs and their legibility will make it much easier for customers to find their way around the city. ■



# NEW CONTROL CENTRE FOR WIENER LINIEN

Vienna: New control centre for vehicle scheduling, passenger information and traffic monitoring



A control centre able to accommodate all control operators, the passenger information system, and the operational disturbance management was the goal of Vienna's public transport service Wiener Linien. In 2010 a completely new control centre was established with 16 workstations, each equipped with 6-8 monitors in accordance with the latest ergonomic standards. In the past, line dispatchers had been distributed over a number of locations throughout the city but now it became possible to bring all the control personnel together in one place. IVU Traffic Technologies AG was given the responsibility for installing the operational software for the new control centre, after they had equipped the previous workplaces with its ITCS solution IVU.fleet and with its IVU.realtime system for passenger information.

In addition to the workstations for the control operators, the new control centre also includes an acoustically screened area where passenger information can be provided, and an area for the central operational disturbance management. In the event of major disturbances, provisions are

made here for the on-going fleet management and for the response to the disturbance. The centralisation makes it possible to exchange information about disturbances quickly and easily, to reach decisions about the appropriate measures to be adopted, and then to inform the passengers as quickly as possible.

It was urgently necessary to develop a dialogue protocol in order to carry out such central activities. By means of this protocol, all control centre operators are provided with the informa-

## **The new control centre now makes it possible to react more quickly to disturbances.**

tion they need about journeys and duty rosters, and the information can also be recorded and archived. All relevant data is registered about arrival and departure times, the times at which selected positions are passed, and also changes or cancellations of services, and failures to report for duty. In addition, the controllers can add their own comments and explanations to the protocols, and these are available even in the event of disturbances such as a crashed operations control

system. This means it is not necessary to keep time-consuming handwritten notes, and sources of error are considerably reduced. This function was developed by IVU especially for Wiener Linien in accordance with their specifications, and has already gone into operation successfully.

The new control centre now makes it possible to react more quickly to disturbances in Vienna's public transport system and thus to further improve the service Wiener Linien is able to offer its passengers. The controllers not only cooperate much better with each other, but are also in much closer contact with the passenger information service and the operational disturbance management.

A video wall makes information visible for everybody in the control centre and accelerates the flow of information. Every day, up to 390 buses and 400 trams are dispatched easily and flexibly, and together with the metro service they cover more than 181,000 kilometres. In other words, the vehicles of Wiener Linien travel some 4 1/2 times around the world every day – and now even more effectively thanks to the new control centre. ■

# THE MVV TICKET NAVIGATOR

More than 2.2 million passenger enquiries answered



Since its introduction in June 2006, more than two million passengers have made use of the interactive ticket information service offered by Munich's MVV public transport utilities. With the MVV Ticket Navigator, customers can obtain advanced information about the best tickets for the journeys they are planning. The newly developed service has met with considerable interest, and customer demand has been rising steadily. This positive reaction pleases MVV's managing director Alexander Freitag: "The current level of about 60,000 enquiries a month demonstrates the increasing importance of online ticket advice, in particular for tourists and visitors. With its options for specific target groups, MVV Ticket Navigator offers a range of services which is currently unique in Germany."

The online tariff information service was developed by IVU Traffic Technologies AG in Berlin. In order to be able to do justice to the special needs of MVV's various groups of customers, three specific target-group options were developed: The Ticket Navigator Express is easy to use and offers an uncomplicated service for tourists and

occasional customers. Simply by clicking on the starting point and destination on the MVV S-Bahn network plan it is possible to produce a personal timetable and to determine the tickets needed and the corresponding prices.

Ticket Navigator Profi is by far the most popular option, chosen by some 60% of all users. This offers a much more extensive range of functions and represents the central element of the online tariff service. It is intended primarily for passengers who are already familiar with the Web site. With only a few queries they can determine the best tariffs for several journeys, group trips, etc. The system can even take into account available tickets or charges for Park + Ride facilities.

Passengers who travel regularly in Munich and have more complex demands and may be considering several possible routes can make use of the Ticket Navigator Route. After entering the starting point and the destination, this option shows all possible routes including details of service frequencies, travel times, and prices. About 10% of all users choose this service.

In order to be able to provide such complicated information, the IVU software engineers developed a sophisticated algorithm to calculate tariffs. This convincingly combines precision with flexibility and high performance levels. On the basis of this powerful algorithm, the system is suitable for a variety of applications in all fields involving best-price calculations on the basis of complex rules. This means that the users have many possible applications at their disposal.

This wide range of functions offered by the IVU solution and the orientation towards various special target groups are the reasons why the online tariff service has proved so popular. For the passengers of MVV it has become much easier to choose the most economical ticket option thanks to the Ticket Navigator. Motivated by this success, IVU and MVV are now looking to the future and are jointly planning to expand the Ticket Navigator by adding new functions such as online ticket purchasing. ■



# IVU HOSTED THE 18<sup>TH</sup> RAILML<sup>®</sup> – CONFERENCE IN BERLIN

Aim of the conference: to work together in promoting the interoperability of railway data

Around 25 railML<sup>®</sup> project partners accepted IVU Traffic Technologies AG's invitation to the railML<sup>®</sup> conference in Berlin. The central focus of the conference was the development of ultra-modern solutions for smooth interoperability of railway data. This was the 18<sup>th</sup> time that railway companies, software and consulting businesses as well as international scientific institutes had come together to make data transfer in railway traffic more efficient and system-independent. After all, the seamless exchange of data between the various software systems is decisive in ensuring that passenger information is available quickly and reliably via Internet or mobile phone. In order to solve compatibility problems such as these, the common description language railML<sup>®</sup> (railway markup language) was developed around ten years ago. Since then, the project partners have met twice a year in order to further promote the shared standard and to develop sustainable solutions.

The focal points of the 18<sup>th</sup> conference were the further development of the railML<sup>®</sup> 2.0 scheme, preparation of the next release as well as up-to-date reports from the working groups in Germany, Switzerland and Canada. "Following almost ten years of evolution, railML<sup>®</sup> has developed into a standard for exchanging railway data which is currently being intensively used by numerous railways in the Berlin area and by Verkehrsverbund Berlin-Brandenburg GmbH. Just as passengers today expect perfect, reliable connections for their train every day, so too are railway operators and planners interested in a

seamless exchange of data in advance and for invoicing purposes," said Vasco Paul Kolmorgen, coordinator of the railML<sup>®</sup> initiative. Drawing on the experience gained through use of railML<sup>®</sup> 2.0, an improved interface version will be created in the months to come, and made available to the project partners as well as other interested parties free of charge.

The next meeting of the railML<sup>®</sup> initiative will take place in March 2011 and will be arranged by Österreichische Bundesbahnen (ÖBB). ■



## IVU ACTIVE IN KEY TRADE ASSOCIATIONS

Since autumn 2010, IVU Traffic Technologies AG has been a member of both the German Railway Industry Association (VDB) and the Committee on Eastern European Economic Relations (Ost-Ausschuss der Deutschen Wirtschaft – OA). This means that the software company is now active in two leading trade associations relating to its fields of business.

The VDB brings together leading German manufacturers of products for the rail industry, organizes internal exchanges of views and opinions,

and also represents the common interests of its members externally. IVU is able to contribute to the Association the knowledge it has acquired over more than 30 years of developing software for public transport operators. The goal is the continuous further development of its systems in close contact with its customers in order to be able to guarantee powerful, state of the art railway technologies for the future.

The Committee on Eastern European Economic Relations represents the interests of German

companies in the markets of Russia, Belarus, Ukraine, Central Asia, of the Caucasus, and of south-eastern Europe. Many of the countries in this area are currently investing heavily in the expansion of their public transport infrastructure. With its international experience and its expertise, IVU aims to contribute to the intensification of the business relationships with the region and to play an active role in market developments from an early stage. ■

# 'BAIMPLUS' RESEARCH PROJECT CONCLUDED

IVU supports barrier-free travelling



For five years, the six partners of the BAIMplus project and the initial BAIM project have been working under the leadership of the Rhein-Main-Verkehrsverbund (RMV) to develop a detailed information system for barrier-free travel. The result is an information system for people with limited mobility which is unique in its depth of detail.

Together with passengers and representatives of the associations for people with disabilities, the project partners have cooperated intensively to establish the requirements for such a system. For example, travellers are now not only told about the availability of lifts or escalators, but are also given information about the width of doors, the slope of ramps, the location of disabled toilets and access ramps, where to enter compartments which are best suited for wheelchair users, load limits, the gap between platform and vehicle, or also the availability of automatic passenger information systems at the stations. All this information is to be made available by the end of the year for stops and stations, and also for routes for changing between buses and rail transport in the Rhine-Main region. And from month to month the information network will be expanded, because even after conclusion of the research project data will be continuously updated and new data added. In order to be able to filter the relevant infor-

mation quickly and easily from the enormous range of stored data, various search profiles were developed in the course of the research project, such as 'Wheelchair user with accompanying person', 'Traveller with young child' or 'Traveller with rolling walker'. In each case the information system can determine the appropriate barrier-free transport chain. It is also possible to enter individual requirements and the appropriate filtering is then carried out.

But the general principle is always that there can be no information service without data. Therefore IVU has developed its IVU.pool timetable data management system further in the course of the two projects to include barrier-free arrangements and any barriers at stops and stations and in vehicles. Access routes of varying complexity can be modeled in detail and exported for the HAFAS/IVU.journey timetable information. Sets of rules can be used to define conditions under which search attributes can automatically be assigned on the basis of locally collected data – an important pre-condition for the integration of search profiles.

In the BAIMplus research project, IVU investigated in particular the possibility of implementing various versions of access routes. During a lengthy period of reconstruction, for example,

this makes it possible to store data to accurately present the changing access routes.

In addition to the Federal Ministry of Economics and Technology, RMV as leader of the consortium, and the Berlin-Brandenburg public transport association, the three software houses IVU Traffic Technologies AG, HaCon Ingenieurgesellschaft GmbH and SemanticEdge have worked on the project, as well as the 'Technology and Disability' research institute of the Evangelical Volmarstein Foundation. "With the BAIM and BAIMplus projects we are pleased to have taken another important step towards providing 'mobility for all'," explains Jörg Franzen, head of project at IVU. "The cooperation with the public transport associations and companies is an important factor for us in the further development of our systems. Because only by working together we can guarantee that the planning system, schedule data management, and timetable information are fed by a steady flow of data and that the level of information provided for the passengers continues to improve – without any disproportional increase in the efforts required for data maintenance." ■

BAIM provides barrier-free public transport information for people with restricted mobility. Further information is available at [www.baim-info.de](http://www.baim-info.de)



# AUSTRALIA: ADELAIDE'S BUSES NOW ALSO OPERATING WITH IVU.PLAN



Adelaide



Punctual bus services even at remote stops

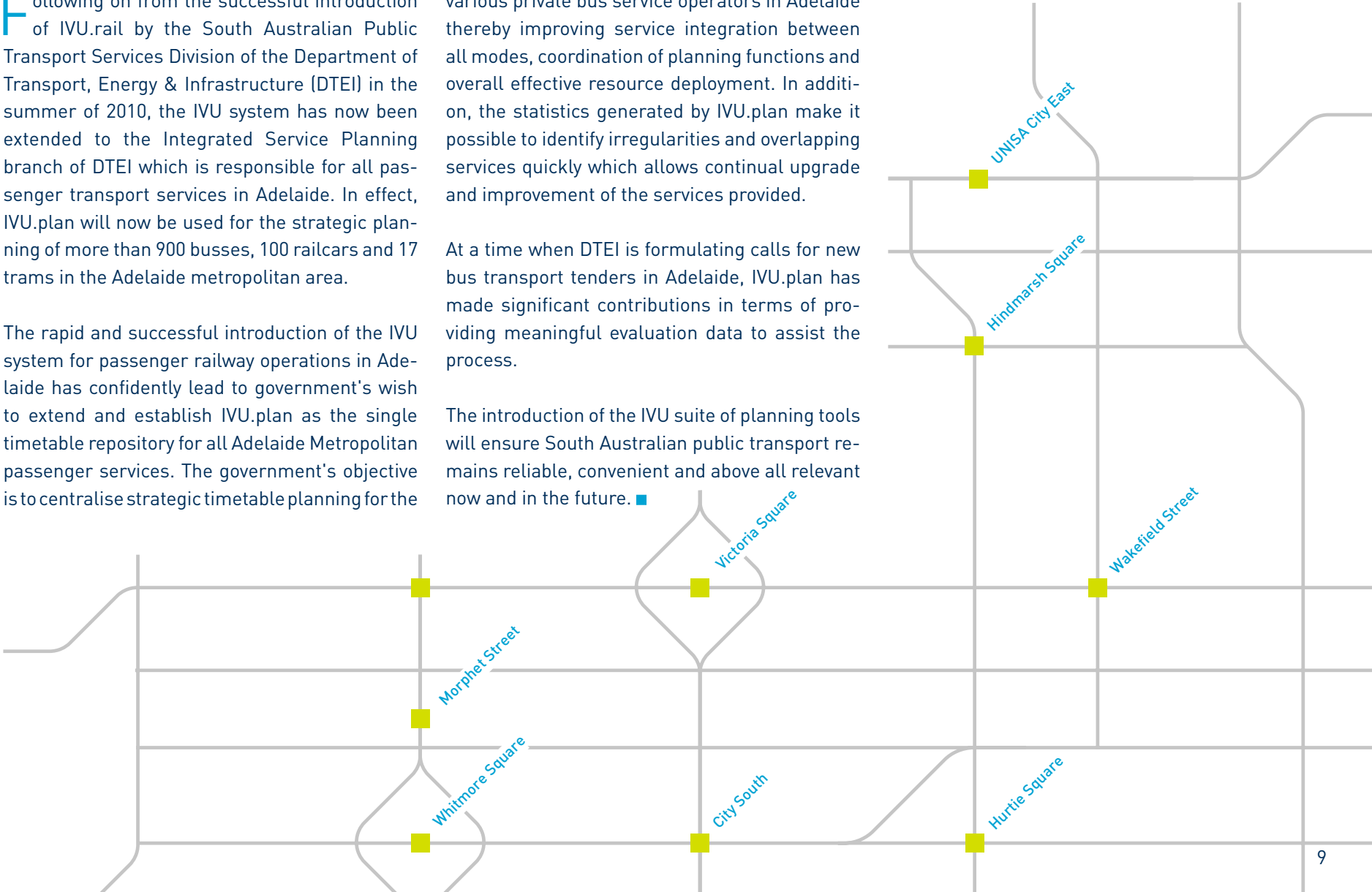
Following on from the successful introduction of IVU.rail by the South Australian Public Transport Services Division of the Department of Transport, Energy & Infrastructure (DTEI) in the summer of 2010, the IVU system has now been extended to the Integrated Service Planning branch of DTEI which is responsible for all passenger transport services in Adelaide. In effect, IVU.plan will now be used for the strategic planning of more than 900 busses, 100 railcars and 17 trams in the Adelaide metropolitan area.

The rapid and successful introduction of the IVU system for passenger railway operations in Adelaide has confidently lead to government's wish to extend and establish IVU.plan as the single timetable repository for all Adelaide Metropolitan passenger services. The government's objective is to centralise strategic timetable planning for the

various private bus service operators in Adelaide thereby improving service integration between all modes, coordination of planning functions and overall effective resource deployment. In addition, the statistics generated by IVU.plan make it possible to identify irregularities and overlapping services quickly which allows continual upgrade and improvement of the services provided.

At a time when DTEI is formulating calls for new bus transport tenders in Adelaide, IVU.plan has made significant contributions in terms of providing meaningful evaluation data to assist the process.

The introduction of the IVU suite of planning tools will ensure South Australian public transport remains reliable, convenient and above all relevant now and in the future. ■



# IVU.LOCATE PROVIDES A BASIS FOR DECIDING ON LOCATIONS FOR BRANCHES AND PARCEL STATIONS

Interview with Endre Erdelji,  
expert for branch and geo-information systems at Deutsche Post

As one of Germany's largest postal service providers, Deutsche Post AG has a huge network of branches and DHL parcel stations all over the country. Customers can go to the branch to hand over or collect their letters and parcels, and in many cases also to do their banking with the Postbank, or they can simply acquire the latest stamps for their collection. If their work means that it is not possible to visit one of 14,000 post office branches during regular opening hours, there are more than 2,500 parcel stations where deliveries can be collected 24 hours a day or parcels can be checked in for delivery. In order to make such an all-round service as easily accessible as possible for the customers, it is essential to have a location planning system which is well thought out and based on extensive geographical information. In this interview, Endre Erdelji, expert for branch and geo-information systems at Deutsche Post, reports about the challenges he faces and how the choice of locations for branches and parcel stations is optimised.

**Endre Erdelji, in times when e-mails, text messages and e-post are becoming increasingly popular you are still operating a dense network of post office branches across Germany. Why is personal contact with your customers still so important?**

Direct contact every day with two to three million customers in some 14,000 branches gives us the opportunity to experience immediately how our customers react to the content and quality of the service we offer. In addition, we are the only company to ensure basic postal services for the whole country, which is a legal requirement. This is another reason why we are present for our customers all over Germany.

**In order to be able to reach all customers nationwide, the precise positioning of the branches and parcel stations is crucial. According to which criteria do you select the locations and to what extent does geo-information play a role?**

Of course, when selecting locations we have to take into account the regulations for the provision of the postal infrastructure, which are legally binding for us. That imposes considerable limitations on the optimisation of the locations.

A number of factors influence the planning of the branch network, and these have to be weighted differently. For example, they include the accessibility, the customer frequency and the vicinity of the future location. We also take into account the local demand for postal products and services, the competition in the neighbourhood and retail setting. All this also applies outside the densely-populated regions, for example at shopping malls or railway stations.

This raises some very complex questions which can no longer be answered without the deployment of special geo-information systems and geo-data. In addition to the usual analytical methods, such as socio-demographic surveys, a wide range of GRID-analyses also provide a basis for decisions relating to the choice of locations. But after all the analyses, the location determined with the geodata and systems must also be subjected to an inspection before the final decision can be taken.

**What database do you use for your location decisions?**

In addition to the usual commercial and market data available on the market, we also draw on the microgeographic database of our subsidiary Deutsche Post Direkt as well as other in-house data sources. As a result of our cooperation agree-

ment with Microsoft, we not only have unlimited access to the BING Maps aerial imagery, but also have the possibility of a GPS-precision geocoding. Furthermore, within our applications we have the opportunity – via WebMapService (WMS) – to access the map material from OpenStreetMap, Tele Atlas and Haupka. This makes it possible for us to obtain a very good image of the surroundings of any potential branch site, irrespective of the state of the initial material.

All the information is collated and processed in the very powerful central GeoServer of IVU. Via the recently established geodata infrastructure (GDI) this data is available to various users within the Deutsche Post group.

**In addition to some 14,000 branches, Deutsche Post also has 2,500 parcel stations. Which customers use these primarily and how do you ensure that you target this group of customers?**

More than 1.5 million customers have already registered to use the parcel stations – and that number is still rising. This shows that DHL is offering the customers real added value with this service. In particular, people who are out at work all day benefit from the service offered by the parcel machines around the clock seven days a week. We have established by means of corresponding analyses that these include users with an affinity to online shopping, who above all appreciate the flexibility offered by the parcel stations. When choosing locations we take a variety of factors into account, including the residential structure or the pedestrian flow at a location, for example commuters passing through a central railway station or other public places.

**What tools do you use for which purpose?**

Under GeoServer and clients, applications of the IVU.locate geomarketing GIS are used which are





Endre Erdelji, Corporate Headquarters

adapted to postal requirements. The GeoServer not only acts as a central database, but also takes on computationally demanding client tasks, for example the extensive geomarketing operations. In addition, it is also used as map server for the WebMapService. IVU.locate thus delivers the basis for the planning location decisions relating to branches and parcel stations. And with the media planning we also use IVU's GIS solution.

**So for the media planning you rely on geo-information and corresponding geomarketing solutions. What are the key factors when you are putting together your 'Einkaufaktuell' advertising and information medium?**

The software solution of IVU and SAP used for 'Einkaufaktuell' is a fully integrated publishing logistics system, which provides efficient assistance through all the processes from the targeted assembly of the medium through the distribution to the invoicing. This means that national media planning can be carried out conveniently right down to the individual delivery areas. An integrated geoinformation system makes a variety of selections possible. In addition to the production data it is also possible to draw on other lists and maps, for example map material from the ADAC motoring club, to provide detailed information for the advertising customers about the distribution areas they can book.

In addition to these geographical selection options, socio-demographic data or structural data also flow into the media planning. Important criteria include purchasing power, age groups, or the housing structure. With the aid of these very complex selection options we can localise selected target groups down to individual house numbers in the individual delivery areas. In addition the geomarketing system also includes

location data about the competitors of the advertising customer in question. By combining all the available data, it is even possible to present the attractiveness of the customers branch locations and those of the competitors. The result is then the ideal specific distribution area.

## Temporal flexibility and individuality when addressing target groups

**What are the main advantages offered by geomarketing tools in particular in media planning?**

Companies carrying out household advertising want to target this as accurately as possible. With the help of geomarketing systems they can precisely define the customer potential of their location and also reach specific target groups in the region. Characteristics are taken into account such as purchasing power or household structure. Data about customer potential and pedestrian flows are also used to describe the relevant catchment area. This can minimise scattering losses, thus reducing the size of printing runs

and cutting costs. At the same time, the effectiveness of the advertising measures is increased.

**Temporal flexibility and individuality when addressing target groups seem to be main trends in the communications and logistics sector. In your opinion, how will that affect the future of the letter and parcel business and dialogue marketing?**

These trends are already affecting us today. We have been working on the topic of temporal flexibility for some time already – you only have to look at the development of the parcel stations as a 24/7 service, which is of considerable benefit for people who are at work all day. The 'E-Postbrief' is the first reliable, fully-confidential and binding form of Internet communication, and this can be used anywhere at any time. In dialogue marketing, the ability to address individual target groups is without doubt the key criterion for success. The challenge here is to find the right response to the growing importance of online marketing. With customer-specific platforms such as allesnebenan.de, meinpaket.de or the services of our subsidiary nugg.ad we are on the right path. ■



One of 2,500 DHL parcel stations

# IVU.RAIL CONTROLS AND OPTIMISES FRANCE'S RAIL FREIGHT TRANSPORT

Europorte orders the IVU system for planning and personnel dispatching



The French rail freight transport company Europorte, a subsidiary of the Eurotunnel Group, will in future be using IVU.rail for planning its timetables and services and for its rolling stock and personnel scheduling. This software solution, which has been specially developed by IVU to meet the needs of its railway customers, will replace Europorte's existing system, so that the company will improve even more punctuality, reliability and flexibility in freight transport. The operations of a total of hundred trains per week will be planned using the system.

Europorte is a French company with a workforce of 600, specialising in rail transport for goods and materials all over France and neighbouring countries. Europorte is also composed of GBRf, one of the leading British rail freight hauliers. The operational network of Europorte includes centres at Dourges in the north of France, Lerouville in the Northeast, Lyon, and Dijon in the East as well as Toulouse in the South. Organising freight transport calls for highly flexible planning and dispatching systems. For certain goods it is necessary to allocate special containers, for example to maintain specified temperatures or

to offer safety measures such as fire protection. Each class of freight has its own requirements and rules which have to be observed. In particular in the case of perishable goods, for example, punctual delivery is absolutely essential. This means that robust and secure software systems are required which not only satisfy the complex demands of freight transport but which can also fulfil the requirements of the rail company itself. Europorte has found the solution in IVU.rail, which utilises special operating rules and planning algorithms to determine the most economically viable option in each case.

IVU's software system has been specially adapted to the conditions faced by rail operators. "We are proud that with IVU.rail we have developed a solution that can meet complex requirements such as those involved in rail and freight transport," explains André Shooman, department head of IVU Traffic Technologies AG with responsibility for international projects. "More and more rail companies worldwide are choosing IVU.rail. And I am sure that we will continue to be successful – because together with our customers we are constantly developing our systems further." ■

## SAVE THE DATE

**IVU on ANDINATRAFFIC, Bogotá**  
from 14<sup>th</sup> – 15<sup>th</sup> March 2011, Stand No. 51

**IVU on UITP, Dubai**  
from 10<sup>th</sup> – 13<sup>th</sup> April 2011, Stand No. 3B500

**IVU on GEOMATICA ANDINA, Bogotá**  
from 23<sup>rd</sup> – 24<sup>th</sup> May 2011, Stand No. GEO 15

**General Meeting**  
25<sup>th</sup> May 2011, Berlin

## IMPRINT

**Publisher**  
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**Editorial**  
Madlen Dietrich,  
Corporate Communications

**Concept and Design**  
www.plexgroup.com

**Print**  
Ruksaldruck, Berlin