



Better transport through technology

November 2008 Newsletter

Welcome to new Corporate Members **MMB Associates** (www.mmbassociates.com), **Roke Manor Research** (www.roke.co.uk), **Traficon** (www.traficon.com), and **Connexionz** (www.cnz-uk.com).

Thank you to Foundation Members the **Highways Agency** for hosting the first meeting of the new CVHS Interest Group, to Foundation Members **Faber Maunsel** for hosting a joint Smart Environment & Automotive User Interest Groups meeting, and to Foundation Members **telent** who provided a venue for the Public Sector Liaison Group.

News from ITS United Kingdom



Enforcement Interest Group

This was the second Interest Group started by ITS (UK) in response to interest from Members. It launched in April 1999 with the support of Golden River Traffic and the Metropolitan Police Service. It has been chaired from the start by Trevor Ellis, and its by now long-serving current Honorary Secretary is Colin Wilson (IBI Group). Many of the original participants in the EIG are still actively part of it, so it was with some pride that many of them convened for the ninth annual EIG conference in the City of London late in October. The conference heard a presentation on the environmental benefits of point to point speed enforcement by Timo Thornton of Speed Check Services, and also reports on recent and upcoming

developments from Q-Free, Mouchel, and TRL. It is usual for the EIG to be well connected with overseas colleagues, so Q-Free of Norway and the Dutch traffic police also sent speakers.

The event was sponsored by RedSpeed, Civica, Speed Check Services and Mouchel, and attracted around 70 enforcement specialists.

Congratulations to John Walker of Thales on winning the feedback form prize draw for this event.

Passenger Information Interest Group

The PIIG runs a well established programme of two seminars per year; one in Scotland and one in London. The many exciting developments in information and ticketing over recent years, has led to an increased interest in the Group which now has some 80 subscribing participants.

During October, the time came again for the Scotland seminar, which was held on a sunny afternoon in Edinburgh and included a selection of updates both topical to

Scotland, and of a more general interest. With Princes Street being dug up for the new tram, and buses on diversion all around the works, the scene was well set for discussing new public transport services, and the optimum delivery of existing ones. Presentations were given on OneTicket in south east Scotland (Atkins), Travel information services Transport Scotland directly delivers or supports (Transport Scotland), Keeping the public informed, reliable data in yields reliable data out (Mott MacDonald), Welsh bus concession smart card scheme (Atkins), National traffic management (Trafficlink), and TransXChange in operation (First Group).

Wales Interest Group

Early in November Foundation Members Traffic Wales convened a meeting of the Interest Group for Wales, ITS (UK)'s only geographically based Interest Group and one which, because of this, offers a unique opportunity for professionals active in very different topic areas to meet up and exchange information. The Group met on in the village of Coryton on the outskirts of Cardiff, and was able to hear presentations from the Welsh Assembly Government, SWWITCH (South West Wales' voluntary transport consortium which consists of Swansea, Neath Port Talbot, Carmarthenshire and Pembrokeshire), VOSA, and Dyfed Powys Police. To give a non-Welsh perspective, Essex County Council had also been invited to attend and give a presentation. There was lively discussion about all the topics covered, and an emerging theme of the lack of resources available to carry out work which those in the Group consider essential. As ever, transport has to compete with other public sector spending priorities, for what is to start off with a limited amount of funding.

Road User Charging Interest Group

This large and lively Group held its second annual conference in London in November. This Group is truly international in its scope, due to its subject matter, and on this occasion representatives of both the Norwegian and the Slovenian road administrations gave presentations. Transport for London also gave an interesting report from the London Technology Trials of alternative RUC technologies in the "mini-zone" in Southwark, where TfL has been testing possible technology routes for moving on the London congestion charge technology from the ANPR based one which has been in use since the charge was introduced. The UK Technology Strategy Board was also well represented, as would be expected due to its current work in the area of Time Distance Place charging. The TSB gave an overview of its activities, and one of its currently funded projects, 3GRSE (Third generation road side equipment) have an update in its own right. Dave Wetzel, the former Vice Chairman of Transport for London and a key member of the political team which introduced the congestion charge in London, also addressed the conference.

Automotive User and Smart Environment Interest Group

In November, the Automotive User and the Smart Environment Groups joined up to discuss vehicle emissions. The AUIG has a strong focus on HMI issues and is interested in driver behaviour, one aspect of which of course is how driving habits can affect emissions – there are definitely "clean" and "dirty" drivers. The joint meeting heard about research done by the University of Leeds which illustrated this very well, with a sample of drivers taking the same vehicle around the same route and having their behaviour, and its effect in terms of "clean" or "dirty" driving, recorded. This was followed by a presentation of the Foot-LITE project, which is developing an in-vehicle advisory interface for drivers, which will encourage safer and "cleaner" driving behaviour and lead to long term improvements in driving habits. Foot-LITE is due to deliver its

results in 2010, and the project partners are Hampshire County Council, the Institute for Advanced Motorists, MIRA, Nissan, Auto-txt, Ricardo, the ACPO ITS Committee, TfL, TRW Conekt, and Zettlex.



At the end of the meeting, the discussion was opened up to consider whether this approach to changing driver behaviour and thus reducing emissions, will work in real life. Will it be acceptable to the public? There is some evidence from research undertaken abroad, that drivers do respond to this type of real-time information. Where drivers taking part in research have been able to compare their own results with those of others, for instance using a web based method, this has also been seen to encourage

improvements. Ultimately, should we concentrate on controlling emissions using these and other methods, or is the real key actually to control demand? The consensus of the meeting was that both must play a part in future measures.

The SEIG is chaired by Professor Margaret Bell CBE of Newcastle University, and the AUIG by Mark Fowkes of MIRA, both of whom shared in running the meeting, which was hosted by Faber Maunsell in London.

Procurement Workshop

Continuing a new activity for 2008, that of informal workshops, ITS (UK) assembled some twenty people in Birmingham to discuss procurement issues. The workshop set out to answer a list of questions:

- How is ITS technology procured now? What works well in these approaches? What could work better?
- What are the key objectives of the procurement process? How do we find the balance between what is quick and affordable now, and provide value through life?
- Do the procurers have the right skills and knowledge? Do the suppliers?
- How do we measure successful procurement? Are our measurement criteria the right ones? What will need to change for the procurement processes for ITS to be measurably better?
- How do we best use procurement to achieve desired outcomes, such as improved network performance?
- What will be the procurement implications of technology-enabled vehicles and of evolving architectures?
- How do we best achieve high levels of ongoing performance from ITS equipment and services?
- How do we deal with radical changes to policy and strategy, and meet new agendas and challenges?
- Buy? Lease? Private finance?

In order to set the scene and ensure an informed discussion, informal presentations were made both by procurers and suppliers at the start of the programme. The

workshop was chaired by Mike Schofield of Atkins, who is the current Vice Chairman of ITS (UK), and Mike presided over a robust exchange of views and the composition of an outline which will in due course be published as a set of ITS United Kingdom recommendations for how ITS procurement in the UK can be improved.

ITS United Kingdom Calendar

Tuesday 2 December **Women in ITS Interest Group** London
Tuesday 3 March **Public Sector Liaison Group**, TBC
Thursday 11 December **Council Meeting** – London

Special Deals for ITS (UK) Members on external conferences

- 1) **Transport Ticketing 09**: 27-28 January 2009, London
 - 10% member discount. Please contact Harpreet.Sohanpal@clarionevents.com for discount.
- 2) **6th Annual Road User Charging 2009**, 26 – 28 January, Thistle Marble Arch, London, W1
 - 10% discount to members. Please contact neil.mckinnon@centaur.co.uk for discount

News from Members

RedSpeed: Look beyond the Average

It is time for roads authorities in the US and elsewhere to look more closely at the use of average speed enforcement as a means with which to open up a whole range of societal benefits, says Daniel Zaydman, Managing Director of RedSpeed International Ltd. Having been trialled on the A13 in Essex, England, his company's RedFusion multi-point average speed enforcement system is currently in the advanced stages of UK Home Office Type Approval - which many consider the "Gold Standard" for enforcement equipment. It illustrates just what is possible, he continues: RedFusion has a minimum separation distance between cameras of just 50 metres [150 feet]. That makes it possible to implement enforcement in very tight geometries, so you can have enforcement zones in front of schools, in front of hospitals, in city centres and on highways - literally anywhere, in fact. "The beauty of creating a multi-point, multi-lane environment is that it takes us away from the application of enforcement for discrete purposes such as red light running or speeding. It makes it possible to use enforcement to more effectively increase safety while also reducing carbon dioxide emissions and at the same time bringing about calmer traffic flows. "That, in turn, allows the police to concentrate on fighting real crime elsewhere."



Members Norfolk selects Members Cityspace Vision Clever Content Management system to deliver bus departures and council announcements to screens in Norwich City Centre

Norfolk's Passenger Transport Group has selected *Cityspace Vision*, an integrated content management system from Cityspace, to deliver bus departures and public announcements to its network of information screens within Norwich City Centre. Initially delivering scheduled bus departures, but moving to integrate real-time data feeds before Christmas, the system will allow Norfolk County Council to own the content and control delivery of public announcements and promotion of Council services to the 22 screens at bus stops, six Park & Rides and the busy Castle Meadow interchange. "Norfolk has seen bus passenger numbers grow exponentially – bucking the national trend," said Jeremy Wiggins, Transport Development Officer, Norfolk Passenger Transport Group. "We've made a sizeable investment in making bus travel an attractive proposition to residents and visitors to Norwich, and the delivery of accurate departures and valuable public information through *Cityspace Vision* will further promote the ease and reliability of bus travel." In addition to delivering scheduled and real-time bus departures to the existing network of screens at bus stops across the city centre, the council plans to use *Cityspace Vision* to deliver timely and seasonal messages, from the promotion of bus passes and recycling facilities to drink driving awareness at Christmas, public events and important disruption announcements.

Satellic goes to Town on Tolls

Satellic Traffic Management is showing its first system for city or urban tolling, together with a new process for alerting drivers to their vehicle's emission output. The Germany-based company already operates the world's largest satellite-based tolling system covering highways in its home country. Its new urban tolling system is being shown at the World Congress in a Volkswagen van that can give "live" demonstrations on New York's roads. Satellic says its system can



use either satellite coverage, which involves placing an onboard unit in vehicles, or a booking system via the internet or other means for more occasional visitors to a city. The latter option is combined with automatic number-plate recognition for enforcement purposes. "Both options use the same back-office system to handle customer relations and management, which enables users to start with one charging option then moving to another," said Dr Marc-André Funk, Satellic's director, innovation and research. The emissions modelling system - being shown for the first time - is a value-added service that can run on the same onboard unit that would be used for the satellite-based tolling system. It monitors factors such as speed, rolling resistance, and how hard the engine is working to calculate the CO2 emissions and fuel consumption. This information is then delivered to the driver in the form of green, yellow or red lights to show how economically he or she is driving. The data from thousands of vehicles can be collated, anonymised and used to create maps that show city authorities which streets create high energy consumption on vehicles. Measures such as re-sequencing traffic lights can then be implemented to improve traffic flow and thus fuel efficiency.

Golden River Traffic “weigh in motion” system enables safe reopening of historic bridge

Tyneside’s iconic High Level Bridge has reopened to restricted road traffic. Unauthorised crossings are discouraged by Golden River integrated Marksman WIM and ANPR system. The reopening allows more effective public transport linking Newcastle and Gateshead. It has also proved that Automatic Number Plate Recognition Cameras can play a positive role in allowing controlled use of a highway which would have otherwise remained closed. The High Level Bridge was built by engineer Robert Stephenson and opened by Queen Victoria in 1849. It spans 440m metres of the Tyne Valley with the river some 40m below the six spans. However the bridge had been closed to all traffic since March 2005, when safety checks uncovered the need for major repairs to the historic wrought iron structure.



Image courtesy Network Rail

Despite over £30 million being spent on renovations and renewals by Network Rail, reopening to road traffic looked to be in jeopardy. A strictly controlled weight limit needed to be enforced to ensure the bridge’s longevity. While traffic surveys indicated that before its closure, the High Level Bridge carried just 6% of cars, it was the busiest crossing for public transport, carrying almost half of cross-river bus passengers. The bridge has therefore been strengthened to a level which can accommodate bus traffic and once again offers a direct link for taxis and buses travelling between Newcastle and Gateshead. In order to enforce the traffic restrictions, which also include a 20mph speed limit, the planners have utilised Golden River “Weigh In Motion” electronic measurement equipment to monitor speed and access restrictions. A Golden River Traffic Marksman WIM unit is linked to an Automatic Number Plate Recognition (ANPR) system. The solution automatically ensures that all vehicles crossing the bridge are weighed and their number plates compared with a ‘white list’, a database of any buses or taxis authorised to use the bridge. If a vehicle not on the white list crosses the bridge or any vehicle exceeds 20mph, a picture of the vehicle along with its number plate, weight and speed is recorded and the council is then alerted. “Without a proven, reliable means of ensuring that the traffic restrictions could be met, it simply wouldn’t have been possible to safely reopen the bridge to any sort of road traffic” says Martin Rodgers, Golden River Sales and Marketing Director.

Q-Free launches Next Generation Product Portfolio on ITS World Congress in New York



“More than 20 years of experience is built into our new product portfolio. Q-Free will be positioned as a technology neutral solution provider. We will take a leading position in supplying RUC and Traffic surveillance systems based on DSRC, ANPR and GNSS components and systems. DSRC based road user charging systems are and will continue to be one of the key components in the Road User Charging

industry. ...Through this product launch at the ITS World Congress in New York we bring the most advanced, easy to use and reliable DSRC products to the market. They minimize the life cycle cost and maximize customer satisfaction”, CEO of Q-Free, Dr Øyvind Isaksen, says.

The transponder (OBU 610) is the smallest transponder of its kind, yet powerful enough to support both single and multiple protocol applications. It is designed to meet consumer demands of being high quality, non-intrusive and modern, whilst blending into the interior of any modern vehicle and will typically have a battery lifetime of more than 7 years. The system is future proof and backward compatible and will operate on any toll road infrastructure supporting CEN (European Committee for Standardization) DSRC (Dedicated Short Range Communication) standard.

Siemens Extends Family of ELV Controllers

Following the highly successful introduction of Siemens' Extra Low Voltage (ELV) Intersection controller and rapid growth of ST900 ELV installations, the company has now launched an ELV pedestrian controller. Enabling the implementation of a total ELV policy for all new sites, the new ST750P pedestrian family is certified to TR2500 and provides Pelican, Puffin and Toucan control strategies at both low voltage (230V) and extra-low voltage (48V) drive levels. According to Keith Manston, Siemens' Head of Product Management, the new ST750P family is closely related to the acclaimed ST900 range of high performance traffic controllers and optimised for pedestrian control. 'Not surprisingly, the new ST750P family is also compatible with the whole range of Siemens street furniture, including Helios LED signals, LED nearside signals and LED wait indicators, all offering significant power cost savings over conventional solutions' he said. 'Significantly, the use of ELV provides reduced power and cabling costs as well as improved lamp monitoring of very low power LED traffic and pedestrian signals. ELV also provides increased electrical safety for both members of the public in the event of any damage to the installation and personnel working on or around the intersection.' he added. Basically, the ST750 is an LV controller, designed to switch incandescent and standard CLS LEDbased signal heads. Where standard LV lamp switching is required, the ST750P provides the ideal solution, whilst retaining the robust and proven design features of the ST700P. For totally ELV installations, the ST750P ELV provides a highly innovative 48V system based on the successful ST900 ELV intersection controller.

Newcastle's trial ST900 ELV site has already recorded a 72% reduction in energy usage and has been judged a 'total success'. As a result, Steve Farrell, Senior Traffic Signal Manager for Newcastle City Council, is not alone in looking forward to the introduction of a completely ELV pedestrian controller. 'It is good news, and just as important as the traffic controller,' he said. 'All new junctions in Newcastle will be ELV and a priority list is being drawn up



which will target the highest energy using junctions for refurbishment.'

Trial ST750 controllers are expected to be installed before the end of the year and full production is scheduled to commence early in 2009.

Portsmouth leads UK by installing Video Analytics For City Centre Security

A market-leading CCTV system, based on behaviour-recognition software and state-of-the-art intelligent cameras, has been installed by Portsmouth City Council, to increase the effectiveness of the camera monitoring. Perceptrak(tm), supplied by

Members Smart CCTV Ltd of Havant, has been set up to watch quiet areas such as car parks, stairwells or corridors in buildings and streets at nighttime. Perceptrak(tm) uses the latest software to analyse images using up to 18 pre-defined criteria such as 'converging people', 'fast car' and so on. When it sees something untoward happening, the system sends an alert to the control room. This allows the security officer to make a human decision on whether to monitor the scene and make an appropriate response. It also ensures that many more



scenes are being watched than is normally possible, hence helping to make Portsmouth city a safer and more trouble-free zone. Ray Stead, CCTV manager at Portsmouth City Council, who decided to install Perceptrak(tm) for the City, said: "Following a successful trial period in 2006, we decided to install the system on a more permanent basis to prove proof of concept after improvements had been made to the software and because of the quantifiable benefits to the control room outcomes." Nick Hewitson, managing director of Smart CCTV, added: "We believe that this is the first fully installed example of video analytics being used in a city centre control room in the UK. As a local company we are very pleased to be working with Portsmouth City by providing leading edge technology to make their CCTV control room one of the most effective in the UK." In the area covered by the Portsmouth City Council control rooms, there are 142 cameras with live monitoring, and the CCTV operators watch over 24 monitors simultaneously. Perceptrak(tm) is run in the background looking at some of those cameras that are not displayed to the operators until an alarm sounds.

ZIP Bus Priority Corridor Launched

During November, the A3 ZIP Corridor, a bus priority route that runs from Clanfield to Gunwharf Quays in the centre of Portsmouth, was launched. The event marks the completion of six years' construction work and the start of the operation of the corridor using the full range of benefits incorporated into the design. Jointly built by Members Hampshire County Council and Portsmouth City Council, in consultation with local residents and businesses, and in partnership with bus operator First Hampshire & Dorset, the route, which has been branded 'ZIP', is designed to offer more transport choice, improve connections with the wider transport network in South Hampshire and provide a high quality alternative to the car. Bus Route 41 has been branded ZIP and the logo appears on the buses themselves, together with the bus stops and shelters along the route. Said Councillor Mel Kendal, Executive Member for Environment at Hampshire County Council: "Many proven bus priority features have been employed on the A3 ZIP Corridor, including bus lanes, traffic signals that give priority to buses at major junctions, new high quality bus shelters with special accessibility features, electronic bus information screens and CCTV for both traffic monitoring and security. "Now that the project is moving to full operation we can begin to assess how well it actually works," continued Councillor Kendal. "The results will help to shape the development of similar improvements in Hampshire; although we have completed this scheme, it's the start, rather than the finish."

Phase-Out of Mifare® Classic media from the ITSO Environment

ITSO has made a decision to phase out Mifare® Classic 1k and 4k customer media from the ITSO environment. This precautionary decision is in response to the theoretical risk posed by Mifare® Classic security issues, despite posing no immediate threat to the ITSO environment. This pro-active phasing out of a customer media platform from ITSO is a long term process and the first part of this requires members to stop issuing Mifare® Classic customer media by 31st December 2009. The second phase of the process will be when ITSO removes support for Mifare® Classic from the ITSO Specification. This will occur once the last ITSO Mifare® Classic card has either expired or been withdrawn; the latest date being 31st December 2016. This announcement has no impact upon the functionality or validity of Mifare® Classic media currently in circulation within ITSO schemes across the UK. Merely, this phase-out of the Mifare® Classic media over the coming seven years takes into account the lifespan of current cards to allow transition of ITSO schemes to alternative media types at the natural expiry of the media. There is no need for Mifare® Classic media currently in circulation to be recalled or withdrawn. As ITSO is a multi-platform Specification and environment, it offers its members a range of alternative Customer Media types for future card issue. This means that users of the ITSO Specification can migrate to another platform whilst still remaining compliant to the Specification. For further information please consult the additional documents currently available to all on the ITSO website at <http://www.itso.org.uk/page207/lang1/Home/Itso-Press-Releases> or contact Valentina Barker, ITSO Marketing and Communications Manager at marketing@itso.org.uk.

Ordnance Survey's head of marketing wins 5 out of 7 graduation awards

Dr. Liz Ratcliffe, head of Product Marketing and Propositions at Ordnance Survey, Britain's national mapping agency, has won five of the seven top prizes at the Chartered Institute of Marketing (CIM) for her studies on the Executive Diploma course. Studying one weekend a month over a six month period via the CIM's Executive Programme, Liz Ratcliffe graduated, with one thousand other students, in the Professional Postgraduate Diploma in Marketing. She received her awards, two of which - Top UK Student and Top International Student – were presented on behalf of the Worshipful Company of Marketors by Master-



Elect Peter Goudge, at the Graduation ceremony on 12 Nov at Symphony Hall, Birmingham. The Marketors, whose aims include the promotion of excellence in marketing, is the City livery company for marketing professionals. With over 12 years experience in marketing and business development, a BSc in Geography (Bristol) and PhD from Bristol University and the United States Geological Survey, Dr. Ratcliffe said 'I am delighted to be gaining this qualification and to have won five of the top seven prizes is absolutely wonderful.' She added 'I am glad that all the hard work paid off and that I did justice to the excellent tutors at CIM Academy. I am also proud to be able to demonstrate excellence in strategic marketing when working for Ordnance Survey.'

Siemens Wins Major Sign Order In Nottingham

Siemens has been awarded a significant new sign contract by Nottingham City Council as part of The Nottingham ParkSmart Project which aims to establish a comprehensive

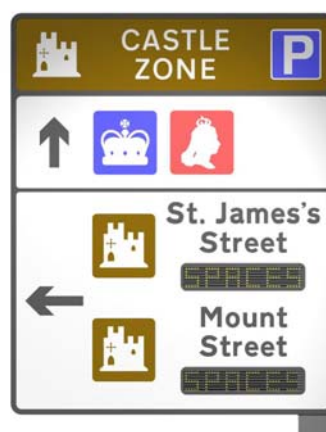
car-park guidance signing strategy by linking traffic management and destination management for five zones in the city centre. The new order includes the supply, installation, commission and servicing of 44 modular, single-pole variable message signs (VMS) and 40 non-VMS advanced directional signs in and around the centre of Nottingham. All of the signs have been designed and their locations identified for installation within the contract and all of the car park operators have supported the proposals to install detection equipment that is UTMC compliant facilitating communications with Nottingham's Traffic Control Centre (TCC). The new directional signs and the car park variable message signs are due for installation this year and it is expected that the ParkSmart Project, including the technology, will be completed by March 2009.

According to the Sunil Budhdeo, representing Nottingham City, VMS will be used at important 'decision making' points around the city centre road network to inform motorists in real-time of the availability of parking spaces in each of five distinctive colour-coded zones and several car parks. 'The information will give the drivers confidence to accept the guidance information, dissuade them from approaching full car-parks and thereby reduce congestion and minimise queuing', he said. Nottingham's road network is managed through the TCC. At present it monitors car park spaces independently to car park operators. Under the new system, data will be fed from the car park operators to the TCC and then onto electronic message boards. It

will take a further six months to roll out the whole strategy; however some of the technology needed for the scheme is already in place. The TCC is managing interactive parking signs, and it will be set up to monitor the new zones and provide internet displays of car parking availability.

The name of each zone has been chosen to reflect the individual character of that area. The zones will be Royal, Castle, Broadmarsh, Lace Market and Victoria. Each zone will be represented by a unique colour and symbol. As drivers approach the outskirts of Nottingham city centre they will see brown tourism signs, showing which zone to head for and park in for a particular tourist attraction. New street signs will feature zone colours and symbols, so that motorists will easily identify which area they are in. Information points, maps and directional 'finger posts' pointing the way to head for different attractions will also be

changed to show the zone symbols so that whether by car or on foot, people can easily recognise where they are. Free-text variable message signing boards, similar to the electronic boards used on motorways, will be introduced. These boards will provide up to



the minute information on car park spaces, traffic waiting times, incidents, congestion and nearby Park & Ride facilities. The first of these signs is already in place and being piloted on the A611.

Smart CCTV hires new business development director to grow security business

Matthew Fletcher, a seasoned sales and marketing professional with 20 years' experience in IT, has joined Havant company Smart CCTV Ltd, as business development director, heading up its new security division. He will market the company's growing video analytics portfolio, including its flagship behaviour recognition system,



PerceptrakT, particularly to retail security users. He is also tasked with expanding the business with the launch of an exciting new line of video analytics based security surveillance products aimed at residential and small to medium sized businesses.

Matthew said: "Smart CCTV has developed a great reputation since it was set up in 2003, for delivering solutions on time and in budget. As a specialist firm, it is gaining well-deserved market share in the fast-growing niche area of video

analytics." Nick Hewitson, Managing Director of Smart CCTV, will focus on the firm's transport-related security solutions for applications such as traffic management and Automatic Number Plate Reading. Nick said: "We are delighted to have Matt on board. Both the security and traffic markets are becoming major users of video analytic technology and we need to expand our management team in order to remain focused on delivering our customers both innovative solutions and value for money. Most recently Matthew was sales director for Grandeye, a specialist security camera manufacturer, following a position as business development manager at a leading IP Video and data security provider, and work for the European Space Agency. Matthew's career has spanned 20 years in the IT industry, on telecommunications systems and more recently, security video applications.

TRL Reports Published

CT155.1

Driver- ITS interfaces- update (2004-2008)

(Price £30)

CT158.1

Transport Terrorism and Vandalism- update (2005-2008)

(Price £30)

**Caption Competition Winner Announced - Jem McCluskey of Egis –
CONGRATULATIONS**



It's clever how they've grafted-on that car to act as a door-mirror...I still wouldn't 'shell out' 198 Euros for some 'dodgy' bus though!

For more information about any of the items in this Newsletter,
Contact mailbox@its-uk.org.uk

News from Members for inclusion in the January issue should be sent to
rlouis@its-uk.org.uk