



Identifying ITS Opportunities for the HA Technologies Newsletter: December 2009

■ ITS RADAR INTERNATIONAL PROJECT

This project is providing intelligence for the Highways Agency on ITS developments in Europe and around the world. It is carried out by TRL and AECOM on behalf of the HA. The project summarises key information for decision makers and practitioners on activities related to Intelligent Transport Systems (ITS). The project covers specific areas of key interest to the HA.

Regular newsletters are being produced, covering information which is in the public domain. For more information about the project and the services provided, the web site can be reached at: www.highways.gov.uk/itsradar.

To contact us and let us know what you would like this project to deliver please email us at: ITSRadarInternational@trl.co.uk

■ ABOUT TECHNOLOGIES

Intelligence on developments in new and emerging technologies relevant to ITS are reported on. Technologies deployed in various other arenas are reviewed and their applicability in the world of transport is analysed.

Intelligence is gathered which demonstrates links between promising pilots, ideas and concepts and deployed ITS tools. This service enables earlier consideration of new technologies and in addition identifies cases where consideration has been given to new ideas, but may be held in abeyance due to the associated 'risks'.

■ MEETINGS

Transport Science and Technology Congress 2010: TRANSTEC Delhi 4 – 7 April 2010

Source: www.ewebevolution.com

The 3rd International Transport Science and Technology Congress (TRANSTEC 2010) is taking place in New Delhi on 4-7 April 2010. Keynote speeches, research presentations and interactive poster presentations will explore:

- new technologies and transport systems
- environmental and innovative transportation systems components
- sustainable transport
- green transport solutions

- the rise of developing countries as a major player in transport industry and a global economic power
- advanced systems for transport operations
- transportation modelling and simulation.

Emphasis will be placed on the methodological, theoretical and practical advances in science, engineering, and technology of transportation and environmentally sustainable transport systems. Particular emphasis will also be given to transport in developing and lesser developed countries.

TRANSTEC Delhi will aim to increase and improve collaboration between universities and industry in the area of transport science in Europe, America, India and elsewhere.

ITS Radar International will monitor the outcome of the congress

Keywords: Training

Seventh Triennial Symposium on Transportation Analysis: Tristan VII 20 – 25 June 2010

Source: www.sintef.no

The seventh Triennial Symposium Transportation Analysis (TRISTAN VII) is taking place in Tromsø, Norway on 20-25 June 2010. This international scientific conference will feature discussion on advanced transportation applications and technologies as well as presentation of computational-oriented research.

ITS Radar International will watch for the published programme

Keywords: Training

Call for papers for the 17th ITS World Congress 25 – 29 October 2010

Source: ITS World Congress

The 17th ITS World Congress will be held in Busan, South Korea over 25 to 29 October 2010. The theme for the congress will be "Ubiquitous Society with ITS".

Scientific and Technical papers for the Congress are now being invited. Technical papers may address not only technical subjects but also political, institutional, business and economic aspects of ITS. Scientific papers will be reviewed by highly qualified reviewers from the three World Congress regions before being accepted. Further information on requirements for submitting technical or scientific papers can be found on www.itsworldcongress.kr.

Suggested topics for papers include:

- Traffic Control and Congestion Management
- Intelligent Demand Management
- Electronic Toll Collection
- Road Pricing and Congestion Charging
- Advanced Driver Assistance Systems

- In-vehicle Safety Technology
- Autonomous Vehicle Systems
- Human-Machine Interface

The deadline for submission of draft scientific / technical papers and Special Session proposals is 31 December 2009. Successful applicants for scientific /technical papers and Special Sessions will be notified in April 2010.

Further information can be found in the [17th ITS World Congress Call for Papers](#).

HA recommended to consider submitting papers

Keywords: Demand management, In-vehicle systems, Payment, Policy, Project, Safety, Traffic management

UK ITS takes to world stage

Source: [Traffic Engineering and Control, November 2009, pg. 432-435](#)

Over 30 UK exhibitors took part in the ITS UK pavilion at the 2009 ITS World Congress in Stockholm in September. The Highways Agency has been involved in many of the schemes that were on show.

In association with the ITS World Congress, the International Benefits, Evaluation and Costs (IBEC) Working Group organised a seminar on Road Pricing. The seminar concentrated on strategic objectives, policy, monitoring, measuring and managing of road pricing schemes. Presentations are available from the [IBEC web site](#).

[E-FRAME](#) (Extend FRAMEwork architecture for cooperative systems), an EC funded project providing support for development of co-operative vehicle and infrastructure systems, also conducted a workshop during the ITS World Congress. The workshop discussed the potential benefits of co-operative vehicle systems, the architecture, and the penalties if a common architecture is not used.

Keywords: Architecture, Education, Payment

The 2nd Annual Traffic Management Conference (incorporating the 6th Bus Priority Conference) May 2010 in London - "Getting People to Places"

Source: www.ptrc-training.co.uk

The 2nd Annual Traffic Management Conference, incorporating the 6th Bus Priority Conference is taking place in London in May 2010. Under the theme "Getting People to Places", this two-day event will cover traffic engineering and management including bus priority issues. Those who attend will learn how to invest in new technology and introduce innovations to improve services for users.

ITS Radar International will watch for the published programme

Keywords: Traffic management, Training

■ HOT TOPICS

Application of in-vehicle wireless communications

Source: www.wired.com

In-vehicle wireless connectivity could make our world more efficient. Availability of real-time traffic data from cars as probe vehicles has the potential to produce better traffic data, which would be available to other vehicles, enabling them to avoid congestion. This could have a considerable impact on emissions and travel time. Wireless technologies would enable cars to communicate with each other and the infrastructure, as well as tracking the location of surrounding objects to avoid collisions. These technologies are not available right now, so in the interim, other consumer based uses are being found for in-vehicle internet access.

Keywords: Communications, Cooperative vehicle systems, Environment, Geographic information, In-vehicle systems, Safety

Conservative announcement on average speed cameras

Source: Local Transport Today, 6-19 November 2009, pg. 6

Theresa Villiers, shadow transport secretary, announced that if the Tories were elected, the planned roll-out of average speed cameras across all roads would be stopped. However, Villiers added that restricted use of such cameras does not prevent them from being used on UK roads in the future. Average speed cameras could still be used on motorways and major roads where there were safety issues that could not be addressed by other means.

Keywords: Monitoring, Policy, Safety

■ PROJECTS

Average speed cameras for 20 mph zones

Source: Surveyor, 30 October 2009, pg. 18-20

The government is considering implementation of average speed cameras to enforce speed limits in 20mph zones. The journal article details a number of benefits that distance-over-time cameras on higher speed roads have demonstrated:

- reduction in the number of road accidents (demonstrated in the Netherlands, Italy, Austria and the UK)
- reduction in congestion
- reduced environmental impact (Rotterdam recorded a 5-10% reduction in air pollution and reductions in noise)
- on high speed roads, average speed cameras have been found to be very effective for making drivers comply with speed limits and to result in a reduction in the number of killed and seriously injured (KSI) - by 65% in a study in Nottinghamshire and 60% and 85% on A43 and A428 in Northamptonshire.

See also the ITS Radar International article on average speed cameras on Managed Motorways (www.itsradarinternational.info) which notes the

application of networks of average speed cameras in 20 mph zones (rather than a sequence, as currently deployed on motorways).

Keywords: Enforcement, Identification, Monitoring, Safety

Improvement in V-traffic real time information service in France

Source: www.ertico.com

[V-traffic](#), a provider of real time traffic information in France, has improved the reliability and coverage of its data thanks to Mediamobile's real time traffic information from Bordeaux, Lille and Nantes. The V-traffic network has expanded from a coverage of 80,000km of carriageway to 320,000km by using floating car data. Mediamobile is collecting and analysing floating car data from 100,000 vehicles in real time.

Keywords: In-vehicle systems, Monitoring, Traffic information

TrafficScience traffic information service to launch in Russia

Source: www.itsinternational.com

Motorists in Russia will have access to the latest information on the road conditions. UK-based ITIS, a provider of real time and historic traffic information, has signed a legal agreement with the Russian company Progorod to licence its 'TrafficScience' technology. TrafficScience will be provided initially in Moscow, with other cities following later. ITIS will use Progorod's GPS data and RDS-TMC service to provide traffic-related data into vehicles and to the Government. IVR (Interactive Voice Response) telephone services will be available.

Keywords: In-vehicle systems, Traffic information

■ RECENT PUBLICATIONS

High speed wireless broadband for travellers

Source: *Engineering and Technology*, 12-25 September, pg. 69-71

Transport applications are relying more and more on real time data which requires communication-based technologies. This is creating a convergence at both network and device levels between the transport and telecoms sectors.

The article discusses wireless communications on trains, ships, planes, coaches and buses. Provision of the Internet to vehicles, which are constantly on the move, passing through long tunnels or away from the infrastructure, is challenging, but possible, thanks to wireless communications, satellite and cellular technologies. The world's longest wireless broadband corridor will be provided by Newcastle-based Nomad Digital for the 600km rail link from London to Glasgow.

Keywords: Communications

Drive-by mapping and measurement using improved positioning tools

Source: *World Highways*, October 2009, pg. 42

Topcon launched its new IP-S2 vehicle-mounted device used for precision mapping and surveying. It has capabilities such as dual frequency GNSS signal tracking and positioning, and detection through inertial sensors. Sensors available include 3D laser scanners, LIDAR (LIght Detecting And Ranging) and/or video cameras. These types of systems allows drive-by mapping of locations and accurate measurement of infrastructure in difficult conditions such as tunnels, urban canyons and under bridges without causing significant delays to other road users.

HA recommended to investigate

Keywords: Geographic information, Monitoring

Monitoring vehicle speed on managed motorways

Source: *Local Transport Today*, *ITS Review*, Autumn 09, pg. 21

The third generation of the average speed camera system (SPECS 3™) is expected to be type approved by the end of 2009. The new camera system is more flexible than those currently available. It can be configured for use in variable speed limit sections such as managed motorways or even in a network in 20 mph zones where camera sites are not necessarily all in sequence along a carriageway.

Experience with the previous generation of average speed cameras has shown that levels of compliance are generally very high. This has lead to measured reductions in the number of accidents. The number of injury accidents on the M1 between junctions 8 and 10 during the widening roadworks decreased by 54% while the cameras were in place compared to the three year period prior to the works.

Keywords: Enforcement, Identification, Monitoring, Safety

Integrating Urban Traffic Management and Control with management of interurban roads

Source: *Local Transport Today*, *ITS Review*, Autumn 09, pg. 22

The Department for Transport (then the Department for Environment, Transport and the Regions) launched the Urban Traffic Management and Control (UTMC) programme in 1997. UTMC is focused on deployment of Intelligent Transport Systems (ITS) within urban areas.

The article suggests that a more holistic approach to network management is required. Urban road management strategies should be integrated with management plans for trunk roads and nearby motorways. An incident on a trunk road may quickly result in congestion on local roads and conversely, congestion on local roads may cause drivers to divert to trunk roads.

Crucial for this approach is the sharing of both real-time and historic information between local authority control centres and Regional Control Centres to enable better management of planned and unplanned events.

Keywords: Policy, Traffic Management

Improving the quality of real time traffic information in Europe

Source: *Traffic Engineering and Control*, November 2009, pg. 422-423

NAVTEQ's new Europe-wide real time traffic information service is benefiting from merging data from several sources to enhance the quality and timeliness of messages and service coverage. NAVTEQ is taking information from floating vehicles, national control centres and city traffic control centres and has also installed 11,000 roadside sensors in Germany. The service provides uninterrupted and up-to-date traffic information to drivers via in-vehicle navigation devices and mobile phones.

By the end of 2009 NAVTEQ Traffic European service will also be gathering user travel patterns from GPS enabled mobile phones through a tie-up with their parent company, Nokia.

NAVTEQ has recently conducted a study which shows that drivers who receive real-time traffic information via navigation devices can spend up to 18% less time driving on an average trip compared to drivers without such technology, which has been estimated to save 790kg of CO₂ per driver per year.

Keywords: Geographic information, Traffic information

Technologies for road weather information services

Source: *Traffic Technology International*, October/November 2009, pg. 75

This article discusses the technological developments which have been used to improve road weather information in the USA, Spain and Australia. In Nevada, roadside sensors and automatically activated signs provide warnings about ice on the road. The Piedrafita Traffic Centre in Galicia, Spain has been successfully forecasting the occurrence of ice with use of a Vaisala IceCast. An ice warning system was installed on a 28km stretch of the Calder Freeway in Victoria, Australia; in the event of icing, heater coils on bridge decks are automatically activated by the roadside weather stations.

Keywords: Monitoring

Developments in vehicle communications

Source: *Traffic Technology International*, October/November 2009, pg. 26-29

In-vehicle systems are becoming increasingly connected to the outside world and car manufacturers are competing to deliver the most innovative systems. BMW and Mercedes both offer systems with an emergency call function that is similar to eCall. When the system detects an incident, the crash assistance application can notify the emergency services and provide information about the type of collision, whether seatbelts were used and which safety features such as airbags were deployed.

Other developments include security functions which can be activated when the car has been stolen. It is possible to shut off the SatNav to prevent a thief from going to the owner's home. It may also be possible in future to remotely slow or disable the vehicle, or create sound within the car that is loud enough to force a thief to stop the vehicle and get out.

Ford are offering a simpler system. Rather than relying on an on-board communications system, the Ford Sync system will pair with the user's phone and use it as a communications relay.

Keywords: Communications, Geographic information, Incident, In-vehicle systems

■ GLOSSARY

E-FRAME	Extend FRAMEwork architecture for cooperative systems – EC funded project
GNSS	Global Navigation Satellite Systems
GPS	Global Positioning System
IVR	Interactive Voice Response
ITS	Intelligent Transport Systems
KSI	Killed and Seriously Injured
LIDAR	LIGHT Detecting And Ranging – an optical remote sensing technology which measures the properties of scattered light to measure the range and other information for a distant object
RDS-TMS	Traffic Messaging Channel, delivers traffic info over FM radio
SPECS 3™	Third generation of average speed cameras
UTMC	Urban Traffic Management and Control
VMS	Variable Message Sign
Wi-Fi	Short range wireless communications standard
WiMAX	Longer range wireless communications technology