



## Identifying ITS Opportunities for the HA ITS Research Newsletter: September 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, see the web site: [www.itsradarinternational.info](http://www.itsradarinternational.info). To contact us and let us know what you would like this project to deliver please email us at: [ITSRadarInternational@trl.co.uk](mailto:ITSRadarInternational@trl.co.uk)

### ■ ABOUT ITS RESEARCH

The research projects covered in the European Research newsletters are mainly those which receive funding from the European Commission, through programmes such as the Seventh Framework Programme, EasyWay (implementing ITS on the Trans-European Network) and the e-Safety initiative. Updates on European ITS research projects aim to inform the Highways Agency about project progress and notify when significant milestones and deliverables are achieved. News of newly launched and forthcoming ITS projects are reported to keep the HA up to date with the latest research being carried out in Europe.

### ■ MEETINGS

#### **SIMBA II Workshop**

Source: [ERTICO](#)

The next SIMBA II workshop will take place on 26 October 2009, in Shanghai and will involve stakeholders in the area of ITS from China and Europe discussing the requirements for cooperation between Europe and China in Research and Development of ITS technologies and services.

Key topics for cooperation to be covered in the workshop include mitigation of environmental impacts from road transport, improvements in traveller information provision and traffic safety. The key objective of the workshop is

to formulate specific recommendations and contribute to the European Commission's research agenda.

The objectives of SIMBA II are to increase road safety, mobility and transport efficiency through the exchange of technological know-how and best practices.

### **ITS Radar International will continue to monitor SIMBA II**

#### **Opportunity to attend FP7 Information Days for Transport**

Source: [European Commission](#)

An information day will be held over 28 to 29 September 2009, in the Charlemagne building, Brussels. The event will give the opportunity to learn more about proposals which can be submitted under the call published on 30 July 2009, and provides an opportunity to present ideas and search for partners.

The first day of the event, 28 September 2009, may be of particular relevance to the HA as it will focus on the Sustainable Surface Transport Call and in the afternoon will feature major presentations on the Green Cars Initiative, a new action being launched by the European Commission.

Some of the areas for research specified in the call include:

- Traffic and information management
- Policy Support
- New transport and mobility concepts.

For more information about the call for proposals see the [ITS Radar International article](#).

### **HA recommended to consider attending**

#### **■ CALLS FOR PROPOSALS**

#### **EC's FP7 Call for Research Proposals**

Source: [CORDIS – FP7](#)

On 30<sup>th</sup> July 2009 the EC issued a new call for research proposals. A call for "ICT for safe, clean and smart mobility" may be of interest to the HA and is summarised below.

ICT for safe, clean and smart mobility (Part of Challenge 6) – "ICT continues to provide new intelligent systems that assist the driver to avoid accidents, provide drivers with real time information to avoid congestion, and optimise a journey or the engine performance to improve energy efficiency. Autonomous on-board systems are complemented with vehicle-to-vehicle and vehicle-to-infrastructure co-operative technologies and improved, flexible traffic network management. The future transportation system needs cleaner and more efficient vehicles, energy-efficient intelligent infrastructure (including cooperative traffic control and management systems), as well as new mobility concepts. Improving safety remains a key objective."

Within the above Challenge there are a number of research topics that may be of interest to the HA:

- **Objective ICT-2009.6.1: ICT for Safety and Energy Efficiency in Mobility.** Available funding – IP (Large-scale integrating project)/ STREP (Small or medium scale focused research action): EUR 48 million (£42 million), of which a minimum of 50% to IPs and a minimum of 30% to STREPs and CSA (Coordination and Support Action): EUR 5 million (£4.4 million)
  - ICT for Intelligent Vehicle Systems - for further improving road safety and overall performance of transportation systems. This can include: advanced methods for traffic situation detection and communication (including vulnerable road users), technologies for addressing digital footprint, data security and privacy of in-vehicle applications. Projects need to take an integrated approach to safety, considering together the infrastructure, vehicles, drivers and other transport users
  - ICT for Clean and Efficient Mobility - for further improving energy efficiency and reducing CO<sub>2</sub> emissions in all modes of transport. This can include: new tools, systems and services supporting energy-efficient driving based on co-operative infrastructure and energy-optimised, adaptive traffic control and management technologies and systems for urban areas and inter-urban road networks. Also included are methodologies for assessing the impact of advanced ICTs in energy efficiency and CO<sub>2</sub> reduction
  - Coordination and Support Actions - A common research agenda for energy efficiency by enhancing international cooperation; increased user awareness and dissemination of research results by supporting the Intelligent Car Initiative and the eSafety Forum, by supporting standardisation and by preparing a common showcase for cooperative systems.
- **Objective ICT-2009.6.2: ICT for Mobility of the Future.** Available funding- IP/STREP: EUR 32 million (£28 million) and CSA: EUR 5 million (£4.4 million)
  - Field Operational Tests for Integrated Safety Systems and Co-operative Systems - to assess improvements in the efficiency of the transport system, in the safety of all road users and in making individual mobility more comfortable. This includes large-scale test programmes aiming at a comprehensive assessment of the efficiency, quality, robustness and user-friendliness of close-to market systems, before their full-scale deployment in Europe. Where needed, performance validation of safety-related co-operative systems can be envisaged in controlled proving ground environments emulating realistic levels of complexity.

The deadline for submission of all proposals is 26 October 2009.

A full list of calls and more detail on the calls described above can be found at [FP7 ICT Work Programme](#) then expanding the "Information Package" menu and downloading "Work Programme 2010 – Information and communication Technology (ICT)" document.

## **HA recommended to consider potential for involvement in this programme**

### ■ HOT TOPICS

#### **Lamp posts help to improve traffic management**

Source: [Thinking Highways](#)

Researchers from the University of Cambridge Computer Laboratory have designed a high-tech lamp post that is able to count vehicles passing underneath it for traffic monitoring purposes.

The lamp post currently contains an infra-red sensor. The researchers have deployed it on the main road outside their laboratory, from where it is already collecting data and transmitting it back to the laboratory via a line of sight Wi-Fi™ link. The use of other networks such as 3G or 4G mobile technologies as well as creating an ad-hoc wireless network using multiple lamp posts, are also possibilities for transmitting the data.

Further research is being carried out into what other sensors may be suitable for delivering real time traffic information and could be incorporated into the lamp posts. The research team believes that lamp posts form a very suitable platform for their sensors as they already have a wider spread infrastructure and available power. This makes them suitable for building a dense network of sensors in urban environments.

For further information contact: Dr David Evans at the [University of Cambridge Computer Laboratory](#).

#### **HA recommended to follow up**

#### **Bus lane enforcement system gains VCA approval**

Source: [Thinking Highways](#)

A new, fully automated bus lane enforcement system, developed by Siemens has been approved by the Vehicle Certification Agency (VCA).

The VCA approval of the LaneHawk system means that the Enforcement Authorities do not need to seek further approval from the VCA thus reducing the cost of implementation and time taken to install the systems.

The system uses high resolution ANPR (Automatic Number Plate Recognition) cameras and interfaces with the existing Enforcement back office facilities. LaneHawk compares potentially violating vehicles with a list of allowed vehicles, such as emergency services and taxis. The system then automatically prepares evidential records of unauthorised vehicles and sends them directly to the enforcement back office.

The system is currently undergoing trials in Essex for the potential deployment by the Essex County Council.

## **Congestion Free Hessen 2015 initiative**

Source: [ERTICO](#)

The German state of Hessen launched the "Congestion Free Hessen 2015" initiative in 2003. The initiative concentrates on three key mobility issues:

- Future technologies
- Traffic management
- Mobility Services.

In 2006 the Hessian Traffic Centre received First Prize from an EU Commission jury in the category Best Traffic Management Project for the introduction of temporary use of hard shoulder. The hard shoulder can be used as an extra lane during peak times; this had a positive effect on reducing congestion and accidents caused by traffic jams.

In addition, the Hessian Traffic Centre has built an extensive database as well as an effective traffic model, taking into account unique events such as sport events which may temporarily increase traffic. On this basis the amount of traffic expected at a certain time on a section of road can be forecast and the negative effects of road works can be managed effectively by carrying out road works when their effect on traffic flow is minimal.

Data released so far shows that congestion on Hessen motorways has seen a disproportionally high decline since the adoption of the initiative in 2003. The Hessian State Office for Road and Traffic Affairs has also been nominated for a 2009 European eSafety-Award, see [article](#).

### ■ PROJECTS

#### **SAFESPOT summary**

Source: [roadtraffic-technology.com](http://roadtraffic-technology.com)

The SAFESPOT project is an EU funded project carried out by partners from 12 European countries and led by the Italian group Centro Recherche Fiat ScpA. The project aims to develop a Vehicle-to-Vehicle (V2V) communication system that integrates the use of telecommunications and information for vehicles to communicate safety-related information. The system will give warnings and important safety-related information to drivers, either via roadside signals or directly to the on-board unit. These warnings should inform drivers in advance of the approaching situation/conditions that could affect their safety and therefore give the driver additional time to react and/or make decisions.

The system is based on three technologies: accurate cooperative localisation, local dynamic maps and ad-hoc communication networking. Additional systems developed under the project include warnings about poor road conditions and impending frontal collision and safety margins for the emergency rescue of vehicles.

The project was started in 2006 with the aim of reducing the number of deaths on EU roads and is scheduled for completion by 2010.

For further information about the project visit the project web site at [Safespot](#).

## **ITS Radar International will monitor developments**

### ■ RECENT PUBLICATIONS

#### **Safe Passage**

Source: Article in *ITS International*, May/June 2009 issue

This article describes the work done by the AKTIV project in Germany. The project concentrates on maximising the utilisation of the existing road infrastructure, particularly during road works, through the use of cooperative communication systems. The project aims to develop a system that would inform the drivers about upcoming traffic conditions and road usage restrictions (in the case of road works or accidents) by providing data on upcoming vehicles' speeds and distances.

### ■ GLOSSARY

3G	Is the third generation of telecommunication hardware standards and general technology for mobile networking
4G	Fourth-generation wireless, broadband mobile communications that will supersede the third generation (3G). No standards or carriers have yet been defined
ANPR	Automatic Number Plate Recognition
CSA	Coordination and Support Action
FP7	7 <sup>th</sup> European Research Framework
IP	Large Scale Integrated Project
ITS	Intelligent Transportation systems
STREPS	Small or medium scale focused research action
V2V	Vehicle to Vehicle communication
VCA	Vehicle Certification Agency
Wi-Fi™	Trademark of the Wi-Fi alliance that represents equipment certified for interoperability for different wireless devices