Intelligent Transport Systems in Action - Summary

On June 6th 2011 the European Commission successfully organised in Lyon its 2nd Conference on Intelligent Transport Systems (ITS) in Europe. It provided the opportunity to present and discuss the so far accomplished work results of the ITS Action Plan and outlined the current status of the implementation of the new legal framework, the ITS Directive 2010/40/EU.

The main topics were the European Commission’s White Paper on the future transport policy – a roadmap to a single European transport area -, and the progress in the implementation of the ITS Action Plan and the ITS Directive, with sessions focussing on traffic and travel information, the eCall emergency system, the open-vehicle platform, intelligent truck parking, urban ITS and funding of ITS. Presentations and panel discussions were clustered along three thematic areas: Collaboration and Coordination, ITS Applications, and Data and Information for ITS.

Conference Opening Session

In his opening speech the Director General of DG Move, Mr. Matthias Ruete, addressed current challenges in the context of the White Paper. This third White Paper exercise was published in March 2011, and for the first time ever a transport policy needs to be developed for the whole European continent. A key issue for the 2011 transport white paper consists in the reduction of CO2 emissions by 60 percent by 2050, compared to 1990.

Main challenges for the updated European Transport Policy are:

- the fragmented internal European market (including rail, maritime, road and in a certain extent aviation),
- the still not existing Single European Transport Area (one market),
- growing congestion of transports over the next decades (increases of around 80 to 160 percent),
- globalisation as Europe is still a leader in many industry sectors including the transport sector but has to face increasing worldwide competition,
- climate change and increasing CO2 emissions (contemplating a “business as usual” scenario, transport will be responsible for 50 percent of all CO2 emissions in Europe by 2050),
- knowledge and better understanding of supply chain networks.

As a second speaker, Mr Gérard Collomb, Mayor of Lyon, shared his thoughts on transportation issues and challenges from the perspective of a large urban (city) centre. ITS are one way to resolve problems related to accessibility and traffic pollution in the major European cities. The city of Lyon represents a pioneering role in terms of transportation and investment in public transport. The Vélo’v system of Lyon, a bicycle rental service run by the city of Lyon in cooperation with a large advertising company, is an excellent example of successful private-public partnership. Its aim is the reduction of motorised traffic within the city limits and with it the reduction of pollution; as a plus it creates health benefits for the residents resulting from less pollution and increased exercise.

Mr. Zoltán Schváb, Deputy State Secretary for Transport of the Ministry of National Development, Hungary, expressed the opinion that ITS applications should play an important role for the establishment of a more sustainable, environmentally friendly, energy efficient and competitive transport system in the future. It is undisputed that competitive transport systems are essential for the European competitiveness and economical growth. However, this challenge of efficiently operating transport system has to be answered in a sustainable way, with ITS playing an important role in this. The realisation of the aims and tasks of the ITS Action Plan and Directive can lead Europe to develop a more sustainable transport system.

Mrs Silvia-Adriana Ticau, Vice-Chair of TRAN Committee in the European Parliament, emphasised the Parliaments’ focus on the employment sector, and the travel between workplace and home, making the investment in a European inter-modal transport system a priority. The objective lies in making optimum use of existing transportation systems by the use and application of ITS. There is a need to increase transport security and reduce pollution as well as to invest in cooperative systems. Another very important factor is standardisation, both for the public and private sector, to enable solutions which are welcomed by the market.
Mr Fotis Karamitsos, Director, DG MOVE/C, presented the current progress of the ITS Action Plan and the ITS Directive, with progress being made in all six Priority Action areas.

In the maritime sector the progress of ITS systems has come close to full deployment (e.g. the pan-European system that follows up vessel traffic and provides all the necessary transport information). The road sector is lagging behind the other sectors in the development and deployment of ITS, partly because of the well established obligations for Member States and the industry that need careful consideration.

The ITS Action Plan and ITS Directive 2010/40 are to establish a framework for the coordinated deployment and use of mature systems and solutions, to set common priorities and to agree on the development of specifications and standards that focus on compatibility, interoperability and continuity of ITS-for-Roads. Two major initiatives relate to the European ITS Committee (established in December 2010) and the European ITS Advisory Group (call for applications ended June 10th 2011).

Mr Juhani Jaaskelainen, Head of Unit, DG INFSO/G4, reminded that Commissioner Ms Neelie Kroes has given her full support for the implementation of the ITS Action Plan and Directive through the Digital Agenda for Europe (DAE). The Digital Agenda is a comprehensive road map to a prosperous digital economy in 2020 and one of the EU 2020 flagships.

Mr Liam Breslin, Head of Unit, DG RTD/H2, explained that Transport Research supports an increased integration within the transport system especially through ITS. The trend in the surface transport area is to move towards a full integration of the transport system by fostering connectivity and integration between vehicles, infrastructure, users and the complementary transport modes, from a multi-criteria perspective. Transport Research is driven by policy initiatives, such as the ITS Action Plan and Directive, the European Green Cars Initiative, the Freight and Logistics Action Plan and the Urban Mobility Action Plan.

Major trends in ITS identified relate to a move from passive to active safety, the development of better human machine interfaces, and novel approaches in traffic management, intelligent infrastructures and automatic transport systems.

Panel I: Collaboration and Coordination

- Urban ITS Expert Group:

The White Paper stresses the need for a new urban mobility paradigm. One important aspect concerns a broader application of intelligent transport systems (ITS) in cities, which has triggered the creation of the Urban ITS Expert Group, whose objective is to promote the use of ITS in urban areas and to foster interoperability and continuity of services. The group will provide guidance on the use of ITS to improve urban mobility as well as to exchange and promote best practices. There is a need for change concerning (urban) mobility issues. Besides the effects on the environment, it is important to ensure the quality of life for the present and future generations. ITS has proven to be a powerful tool to support these goals.

The Urban ITS Expert Group’s three main tasks are: identifying and exchanging best practice, elaborating on guidelines and identifying the need for further standardisation on a European level. The Group focuses on four key areas: traffic and travel information, smart ticketing, traffic and access management, and ITS for urban logistics. The guidelines for these key applications in urban ITS deployment are planned to be finalised by November 2012.

- Results of the study on the current state of the art and practices of funding ITS:

The study fits in the ITS Action Plan, Action 6.3 and aimed at the “Development of guidelines for the public funding of ITS facilities and services, based on an assessment of their economic, social and operational value”. Although the potential of ITS for smarter, cleaner and safer transport is known, the situation today demonstrates a slow and fragmented implementation across Europe, a low degree of inter-modality, and therefore a patchwork of regional and local solutions. The main problem drivers identified concern the lack of interoperability and effective cooperation and privacy and liability issues.
The key findings of the study suggest that there is a need to address a.o. good practice guidelines at policy level in relation to arrangements that affect the public finance of ITS; support to ITS practitioners (e.g. web-based resources) including the development and maintenance of appropriate tools and instruments; and the establishment of a more robust evidence base building on existing arrangements in key areas available in the Member States. The study recommends continuing investigations to support the development of robust guidance and tools and to better describe the role and importance of European funding in ITS deployments.

The study suggests four recommended priority areas that would benefit from the development of guidelines. A first recommended area is covering (National) budget and finance processes. This action includes support to internal processes (cost indications, C/B...), the justification of investments in ITS, the ITS schemes appraisal (verification of contribution to policy), the monitoring and evaluation of ITS and analysis of financial partnerships (collaboration, co-financing...). The second area covers the use of enabling instruments such as the European ITS Action Plan and ITS Directive, development of funding conditionalities (standards & architecture) and assessment of effective organisation (institutional, roles and responsibilities...) and collaboration partnerships (with umbrella associations) enabling bundling of forces. Under the third heading guidelines need to be developed for the mobilisation of investment actors (importance of European funding) whereas the fourth recommended area covers exploration of alternative funding sources (use of private and innovatory finance).

The discussion with panel and audience on Panel I highlighted that curbing mobility was not a political option, however that it was possible to change attitudes in mobility. The ideas of the Urban ITS Expert Group were widely shared and the need to share more information, e.g. on best practices, was stressed. Regarding funding, it was pointed out that most probably there are no ‘one size fits all’ solutions and that operational models not necessarily will be effective in all Member States. The panel however concluded as well that public funding (e.g. public money and private investments supported by European funding) is crucial for moving on.

Panel II: ITS Applications

- Progress on eCall initiative:

  The eCall system, when triggered, sends a data message set (MSD) to the emergency rescue center, using the single European Emergency number (112). The data message is sent either automatically in case of a serious accident or manually by the vehicle occupants. The eCall initiative has received a strong political support from the Member States and the European Parliament. During the ITS Europe Congress in Lyon, Hungary notably committed to join the other Member States and the more than 100 organisations in signing the eCall Memorandum of Understanding. Building an interoperable Europe-wide eCall is also one of the six priority actions of the ITS Directive.

  In the Impact Assessment on eCall conducted by the Commission, three different policy options for the determination of standards, specifications and regulations have been analysed “no action”, “voluntary approach”, and “regulatory measures”. The latter, “regulatory measures”, is the preferred and most cost efficient option. The legislation will have an in-vehicle part, a telecommunications part and a public safety part, each with its own timeline. In parallel to the legal process, the on-going Harmonised eCall European Pilot (HeERO) project is working intensively to conduct pilot tests from January 2011 until December 2013.

- Results of the study on open in-vehicle platform:

  The study regarding the adoption of in-vehicle platform architecture for the provision of ITS services and applications, for both commercial vehicles and private cars (Action 4.1) addresses existing barriers (notably legal), migration, harmonisation and lack of standardisation in the development of an open in-vehicle platform for ITS applications.

  The considered options for the technical in-vehicle platform architecture are generic on-board services, a standardised box, a common platform, and an off-board approach. The study includes such aspects as business and service provision, applications, security, governance, data and communication, and so on. It also points that, due to different applications and stakeholders, a distinction is necessary between commercial and private vehicles. For commercial vehicles, possible business architecture could be the one provided through the
European Electronic Toll Service (EETS regulated service). For private cars the administration and responsibility would necessarily be passed over to a single service integrator.

The study delivers eight recommendations to the European Commission:

- to align the industry initiatives and to encourage the development of standards on wired and wireless data communication between ITS components and devices within the vehicle
- to encourage the development of standards on powering and mounting of nomadic devices within the vehicle
- to encourage the development of standards on generic in-vehicle services for the provision of reliable and up-to-date basic vehicle information (e.g. location, speed, date and time) by certified in-vehicle sensors and receivers
- to use the opportunity of the revision of the tachograph specification (Council Regulation (EEC) No 1360/2002) to define the digital tachograph as essential core telematics element in the ETSI ITS station of a (heavy) vehicle
- to use the opportunity to streamline the regulatory framework and operational set-up in order to better align the governance across different (regulatory) telematics measures, such as the digital tachograph, EETS and eCall
- to consider a services model for regulatory applications and investigate whether the (current) applications, such as digital tachograph, EETS and eCall, can be migrated to a services model
- NOT to mandate eCall as an open platform for other applications due to its specific constraints, but leave eCall implementation to the industry
- to create a supportive environment without any infrastructural, legal or institutional obstacles for the industry that allows for a stepwise introduction of co-operative systems

The discussion with panel and audience on Panel II underlined the role of available and agreed standards for the deployment of applications, and the need for joint approach and co-ordinated efforts in order for Member States to be all on the same wave length. Distinction was made not only between “life savers” and services, but also between regulated and non-regulated applications.

Panel III: Data and Information for ITS

- Results of study on traffic information and minimum safety related universal information:

According to a study recently finished for the European Commission concerning the guaranteed access to traffic and travel data, a regulated European electronic market would be the most feasible policy option. For the traffic information services on critical incidents with regard to road safety, EU-wide free information to all road users needs to be ensured and is regarded as generally desirable for both the public and private stakeholders. Requirements would be using proven technology, the consolidation of all stakeholder interests, and not to interfere with existing (commercial) traffic information services. Results can be achievable within the next 3-5 years.

The study defines safety-related traffic information, elaborating the TISA definition and building up on the DATEX II incident classes, as information about ghost drivers, dangerous road surfaces, reduced visibility, animals, people and debris in the road way, blockade of roads or tunnels, unprotected accident areas, temporary roadwork and end of queue.

The study recommends a future concept on traffic safety information service based on the two pillars RDS-TMC and a feed to service providers using other channels (such as navigation systems, smartphones etc.). Key issues for the specifications, which will be elaborated under the ITS Directive 2010/40/EU until the end of 2012, are the definition of safety-related, the question how to reach the road users best, the availability and quality of needed data; the most adequate coverage (TERN or beyond), governance and organisation challenges, and the implications of the “free of charge” model on the existing information markets.

- Results of study on information and reservation systems for secure parking:

The key issues involved in deploying a European Truck Parking Area (TPA) information service are high interest of drivers and hauliers, but little willingness to pay; poor TPA data completeness and update quality; low motivation of TPAs to cooperate with data collection; mixed policy commitment from Member States; missing TPA data standard; missing in-vehicle services; cost effective quality and maturity/reliability of detection; developing
issues for the product and market. The most effective and realistic business/organisation model are Public Private Partnerships (PPP). The study concludes with five general recommendations for the information services:

- creation of a TERN-TPA development plan and TPA service level classification,
- substantiate socio-economic case for public investment and better understand the market,
- initiate and adopt European TPA technical information harmonisation principles,
- initiate and support “PPP”-model for TPA information services with EU covenant of Member State commitment,
- and support research of reliable and cheap methods of truck detection.

The discussion with panel and audience on Panel III stressed the need to remain technology neutral, taking into account the different level of existing infrastructures in the Member States, and the need for common quality level definitions, addressing also the liability issue.

Conference closing remarks

Vice-President Siim Kallas (Commissioner for Transport) closed the conference by stressing once more the importance of ITS for transport and mobility. He pointed out that the Commission and stakeholders are working hard on the implementation of the ITS Action Plan. He agreed that curbing mobility cannot be an option, but raised the question on how to deal with multiple challenges such as increasing oil, deteriorating climate and growing congestion. Innovation, he suggested, provides a solution to tackle these obstacles as well as making the transport systems more intelligent. Smart mobility solutions within and across transport modes for passengers and freight will play a central role in bridging the gap to meet these challenges and maintaining a high level of mobility in Europe. The ITS Action Plan and the ITS Directive build a framework that helps in making an extra step to accelerate the deployment of ITS throughout Europe.

A first step would be the provision and sharing of multi-modal travel information enabling door to door travel operations. Good examples in this are available on local, regional and national level, but not yet at in a pan-European context where Stakeholders need to get excited about working on solutions. The Commissioner then introduced the 1st Multimodal journey planner Challenge, to trigger ideas and foster innovative use of available technologies. Proposed solutions can be sent in and will be published on the internet (www.eujourneyplanner.eu), and a public vote is planned for November 2011 to select the most innovative European multi-modal travel planning solution. An expert jury will evaluate in parallel the submitted ideas for a foresighted innovative planner. The winners of the Challenge will be invited to present their ideas and tools at the Commission’s stand at the next ITS world congress in Vienna 2012.