Technological innovation is essential for sustainable, efficient and competitive mobility in Europe. Intelligent transport systems (ITS) in particular address the challenges that Europe faces in the transport sector. Deployment of ITS in Europe needs to be accelerated in a coordinated way and European standards, for example for the exchange of data, should be set. This is the thrust of the European Commission’s ‘Action plan for the deployment of intelligent transport systems in Europe’ — the ‘ITS action plan’ for short — and the accompanying proposal for a directive laying down the framework for the deployment of ITS, both adopted on 16 December 2008. The plan aims to make road transport, and its interfaces with other transport modes, more environmentally friendly, more efficient, safer and more secure.

ITS applications in road transport include electronic tolling, dynamic traffic management with variable speed limits, parking guidance and reservation, navigation devices and driver assistance systems like electronic stability control and lane departure warning systems.

Why a European action plan?

The adoption of the ITS action plan is a response to the slow and fragmented uptake and deployment of ITS in road transport. For other transport modes, comprehensive initiatives are already being pursued, such as single European sky ATM research, river information services, the European rail traffic management system and the vessel traffic management and information system in maritime transport.

Action at EU level on ITS adds value by accelerating the pace of ITS deployment. In an area where many countries and actors are involved, it provides a Europe-wide coordination framework which will ensure the provision of seamless ITS services through greater interoperability of systems.

Why ITS?

ITS can make a significant contribution to the EU’s efforts to pursue its broader goals for transport via a variety of applications for the different modes. And ITS can make it easier to link the modes, for example by means of multi-modal trip planners.

The EU wants to encourage ‘co-modality’ in freight logistics chains, which means the efficient use of different modes on their own and in combination, and aims to cut congestion and reduce the number of accidents on Europe’s roads. The goals also include reducing energy consumption and improving energy efficiency, cutting greenhouse gas emissions and reducing dependence on fossil fuel.

February 2009
Action plan priorities

The ITS action plan contains measures to boost the deployment and interoperability of ITS solutions for road transport across Europe. The Plan follows a series of consultations and is intended to create the appropriate coordination framework and to mobilise industry, the EU Member States, infrastructure and service providers and other stakeholders.

Priority actions include optimising the use of road and traffic data, including information-sharing. The data used by ITS applications must be reliable, accurate and continuously available across borders. Other priorities are improving road traffic management on European transport corridors and in cities and promoting the compatibility of different ITS systems used in vehicles.

Key actions* include:
• establishing procedures for Europe-wide traffic and travel information services;
• developing an open in-vehicle ITS platform architecture, integrating various ITS applications;
• proposing a legal framework for European coordination on the Europe-wide deployment of ITS (which is the scope of the proposed directive).

Clean transport

ITS applications have a key part to play in making transport ‘greener’. The ITS action plan refers to the ‘green transport corridors’ concept, where ITS technology and different modes of transport are integrated to enable more environmentally friendly transport over long distances between major hubs.

The action plan also highlights the potential of ITS solutions for road-use and zone-based charging, as well as for journey planning, in-vehicle navigation and eco-driving support.

Key actions* include:
• developing a multi-modal European ITS framework architecture and an ITS architecture for urban mobility, including an integrated approach for travel planning, transport demand and traffic management, emergency management and for the settlement of road, parking and public transport charges;
• promoting the development of national multi-modal journey planners and enabling their connection on an EU-wide basis;
• finalising the implementation of the interoperability of electronic road-toll systems.

Taking the EasyWay

EasyWay is a three-year project co-financed by the EU under the trans-European transport network programme. Building on the earlier euro-regional projects and involving 21 Member States, it addresses the EU-wide deployment of ITS, focusing on developing ITS services that offer cross-border continuity, a similar look and feel and a uniform level of quality.

http://www.easyway-its.eu

Transporters benefit from integrated ITS systems such as navigation, digital tachograph, fleet and freight management and electronic toll payment.

Toll payments are fully automated, eliminating the need to stop at the toll gate.
Efficient transport

ITS also helps make transport more efficient. For instance, real-time traffic and travel information (RTTI), in some cases linked to satellite navigation, is now available from both public and private sources. And in many parts of Europe, ITS technologies are already being used to improve transport management operations and facilitate interchange between modes — notably between road and rail. This encourages co-modality.

These are welcome developments but are not without remaining issues which need to be addressed from a European perspective, such as geographical continuity of service, securing accurate and reliable real-time data and adequate coverage of all available travel modes. In particular, cross-border arrangements are often missing. The ITS action plan seeks to address such issues.

Key actions* include:
- ensuring the free provision of minimum universal traffic information services;
- developing specifications for the continuity of ITS services, especially for traffic monitoring and management, by using state-of-the-art technologies;
- supporting the implementation of eFreight and ITS applications for freight logistics.

Safe and secure transport

ITS-based road safety and security applications have proved to be effective when deployed. A coordinated effort is required to foster their deployment on a wider scale.

Indeed, ITS systems can save lives: it is estimated that two technologies alone — the electronic stability control driver assistance system and the pan-European in-vehicle emergency call system eCall — could save 6 500 lives per year in the EU when fully deployed.

Driver assistance and other safety systems, navigation and tracking and tracing systems all have a role when it comes to promoting transport safety.

Key actions* include:
- supporting the deployment and installation of safety and security-related systems;
- supporting the implementation platform for the harmonised introduction of pan-European eCall;
- supporting the provision of information on secure parking places for trucks and on telematics-controlled parking and reservation systems.

* For the full list of measures, see the ITS action plan.

Real-time traffic information for drivers helps fighting congestion, reducing bottlenecks and pollution.

A vehicle involved in an accident sends its precise location, obtained by satellite positioning, via a communication network to an emergency centre.

Via the Internet: travellers and hauliers plan optimal transport modes, routes and times for their journeys based on online sources of multi-modal traffic and travel information.

IT for efficient freight logistics

Production and distribution networks depend on high-quality, efficient logistics chains to organise the transport of goods. ITS tools for traffic management are an essential component of these chains, especially for just-in-time logistics. ITS can also help maintain an electronic flow of information where the physical flow of goods is accompanied by a paperless trail (eFreight*).
Looking ahead: implementation

The specific measures contained in the action plan combined with an harmonised framework for ITS deployment in Europe (as described in the proposed directive) should provide the best possible context in which ITS can flourish and contribute significantly to a more sustainable mobility for Europe.

The actions in the action plan serve a short- to medium-term perspective. Various actors — the European Commission, EU Member States and industry — are responsible for implementing them. This may involve legislation, financial support or other types of action. In the long term, these actors need to continue to work together to establish a common vision for investment in the transport system of the future.

The European Commission will report in 2012 on the progress made in implementing the action plan and on any further action required.

A win-win scenario

Many stand to gain from efforts at European level to promote ITS, including transport users, the logistics and transport industry, industry involved in ITS and — thanks to a cleaner, more efficient and safer and more secure transport system — society at large.

Road users will benefit from reduced congestion and accidents, for instance. The logistics and transport industry will be able to maximise productivity thanks to more effective operation of the road network. Encouraging greater harmonisation regarding in-vehicle devices and applications will promote ITS uptake and can enhance road safety. And travellers and hauliers will find it easier to plan multi-modal journeys throughout Europe.

Alternatively, doing nothing at European level would lead to a further deterioration of the road traffic situation on key indicators like congestion, accidents, air pollution and greenhouse gas emissions. Wider transport policy objectives would be harder to achieve, and ITS deployment would be fragmented.

This is why ITS are a smart move for Europe — and why the ITS action plan is the best way to deliver coherent, concrete results.

An expanding market

In recent years there has been a significant increase in sales of in-car electronics devices, especially of portable navigation devices. Conservative estimates suggest that the market penetration in the EU of dynamic traffic information and navigation services, as a percentage of all road vehicles, will rise from 1.5% in 2005 to some 9% in 2010 and 43% in 2020. And — as another example — electronic fee collection is expected to be used by nearly half of all vehicles (about 46%) by 2020, compared with 3.7% in 2005. As these and other ITS technologies are taken up faster and are more widely used, economies of scale are likely to bring down their cost to the benefit of both citizens and professionals.

For further information:

The homepage of the European Commission’s Directorate-General for Energy and Transport:
http://ec.europa.eu/dgs/energy_transport/index_en.html

The ITS action plan, COM(2008) 886:
http://ec.europa.eu/transport/its/road/action_plan_en.htm

doi: 10.2768/27483
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