



ERTICO

INTELLIGENT TRANSPORT SYSTEMS AND SERVICES-EUROPE

ERTICO's position on European Commission Mid-Term Review of the 2001 Transport White Paper

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Introduction

The Mid-Term Review of the Transport White Paper places the innovation and deployment of Intelligent Transport Systems and Services at the very heart of Europe's transport needs. In the Review the European Commission recognizes that ITS is key to unlocking the potential of the road network and describes ITS as a "promising priority" (WPR p.5) area for development.

The Review marks a policy shift for the Commission; a shift away from trying to get traffic off the roads and towards trying to manage and optimize the movement of people and goods across all modes. While the 2001 White Paper laid great importance on the revitalization of the rail sector to counter the growth in road transport, the Commission now believes that all modes of transport- including road- have a role to play in fulfilling transport needs. Intelligent Transport Systems are vital to the "broader, more flexible, transport policy toolbox" (WPR p.5) that the Commission hopes to provide through the review.

ITS will allow the EU to get more from the transport network, in greater safety and with less impact on the environment. This is crucial to European competitiveness, integration and the creation of a single market. ERTICO and its Partners continue to explore the basic technologies and the applications that will allow Europe to harness the benefits of ITS technology.

ITS is the key to generating integrated solutions to transport challenges.

ERTICO recognises that in addition to the technologies and organisational models, the necessary European framework conditions need to be established that will allow the deployment of affordable ITS solutions into the market.

Role of ERTICO

ERTICO was set up in 1991 at the initiative of leading members of European industry, Ministries of Transport and the European Commission. ERTICO is a professional body that represents the interests and combined skills of the European ITS community. Among its membership ERTICO now counts the key players from the ITS Industry, Infrastructure Operators and Users, as well as EU Member States.

ERTICO is a cooperative society under Belgian Law, with equal shareholding Partners. Activities are financed by annual membership fees and through project funding from others, including the European Commission.

Founded on the basis that technology can be brought to market through cooperation, ERTICO provides a platform for ITS solutions to develop through a portfolio of research and development activities and deployment fora.

ERTICO activities focus on using ITS technology to keep people and goods moving in Europe.

Currently, our work is focused on:

- Improving the safety of road users.
- Making transport more efficient across all modes.
- Enhancing the security of all transport.
- Strengthening national and international cooperation on ITS.

The aim of this paper is to communicate ERTICO's comment on the relevant ITS issues arising from the European Commission's mid-term review of the Transport White Paper. [Communication from the Commission: 'Keep Europe moving - Sustainable mobility for our continent' [Mid-term review of the European Commission's 2001 Transport White Paper] 22/06/06.]

The comments refer to specific points made by the Commission.

Detailed Comment

The Commission's Policy Objectives (Commission Point 1.1)

ERTICO supports the Commission's policy objectives of maintaining mobility while ensuring sustainability, to put transport policy at the heart of the Lisbon agenda.

ERTICO strongly supports the Commission's observation that the transport sector must innovate to achieve these objectives. For 15 years ERTICO and its Partners have been at the forefront of ITS-based transport innovation, helping to bring such technologies as eCall, satellite navigation, traffic information and collision avoidance systems into people's lives.

Nevertheless, ERTICO recognises that in addition to the technologies and applications, the necessary European Framework conditions should be established to allow the full market deployment of ITS. In addition, public investments may be necessary to converge in-vehicle and intelligent infrastructure systems.

Evolving Context (Commission Point 1.2)

ERTICO welcomes the Commission's evaluation of the shifting context of European transport policy; with EU enlargement, slower economic growth, globalization, energy concerns and the external threats all now factors that must be considered in transport planning.

In particular, ERTICO welcomes the Commission's recognition that transport "is fast becoming a high-technology industry" (WPR p.5) and that "technological innovation in transport contributes directly to the European competitiveness, environmental and social agendas" (WPR p.5). In this respect the relevance of ITS systems and services should be stressed.

ERTICO agrees that intelligent transport systems are among "promising priority areas" (WPR p.5) which should be properly researched if transport networks are to reap the rewards of ITS solutions.

Safety (Commission Point 4.3)

ERTICO supports the Commission's promotion of an Integrated Approach to road safety as the most efficient and sustainable way to achieve the objective of halving the number of deaths by 2010. This requires not only even safer vehicles, but also safer infrastructure, improved driver skills and behaviour and better enforcement of existing legislation. As the Commission asserts, improvements to vehicle design and technology "including technologies for accident avoidance and vehicle infrastructure co-operation" (WPR p.13), as well as road infrastructure and driver behaviour as reflected in the conclusions of the CARS21 Group, will form an important part of this action.

However, it is not clear from the WPR whether the Commission fully recognises the potential for ITS to save lives, or how much still remains to be done to bring about those savings.

The ITS systems being developed by ERTICO and its Partners have the potential to have a huge impact on road safety. ERTICO's work envisages a world where ITS systems can detect hazards on the road ahead and inform the driver even before they are visible; where ITS keeps vehicles at a safe distance from one another; where ITS keeps drivers informed of the local speed limit and where ITS monitors drivers for signs of fatigue and tells them that it's time to take a break. However, in addition to "smart vehicles", such an integrated approach requires research, development and investment in intelligent infrastructure, as well as road user training.

ERTICO is ideally placed to help realise the Commission's call for action to "implement an integrated approach to road safety which targets vehicle design and technology, road infrastructure and driver behaviour" (WPR p.13). ERTICO's broad and diverse Partnership, drawn from industry, government and others, puts ERTICO in the unique position of being able to develop integrated solutions to these safety challenges.

For further details of ERTICO's current and prospective work in this area, see Annex I

Security (Commission Point 4.4)

ERTICO supports the Commission's assessment that the international security context for EU Transport policy, has changed markedly since 2001 and that the threat from terrorism has impacted transport more than any other sector.

ERTICO welcomes the Commission's call for action to evaluate whether air security rules should be extended to land and intermodal transport and believes that ITS has a vital role to play in new and heightened security measures. ERTICO believes that ITS systems are key to striking the balance between the need to protect travellers, transport facilities and transport workers against security risks and the need to make sure transport continues to operate effectively and efficiently. Security measures need to be considered carefully and in a way that does not adversely affect efficiency and competitiveness. However, the remaining major challenge in this area will be to reconcile the need for individual data protection with European security requirements.

Through its involvement in the European Security Partnership for the 21st Century (ESP 21), ERTICO is looking actively into how ITS might best be deployed to increase security in the mobility sector. Possible applications include Intelligent Vision Systems that may automatically spot suspicious behaviour at transport hubs and automatic tracking and alarm systems that may speed the response to threats.

For further details of ERTICO's current and prospective work in this area, see Annex II

Urban Transport (Commission Point 4.5)

ERTICO supports the Commission's evaluation that city dwellers, more than anyone else, directly experience the negative effects of their own mobility and therefore, they may be more open than most to innovative solutions for creating sustainable mobility.

ERTICO believes that the urban environment can benefit greatly from the early deployment of ITS technology and that in turn, urban areas may act as a proving ground for technology that could then be rolled out much more widely.

A broad range of ITS solutions have a role to play in the urban environment. Better traffic management and accident avoiding technologies such as traffic light synchronisation, intelligent traffic lights, motorway congestion measures (dynamic variable speed limits), temporary one way traffic diversions to ease flow and automatic traffic direction instructions will help keep traffic flowing.

Especially in the Urban Transport context ERTICO sees the evolution of ITS technology providing the connected, well-informed traveller with a series of mobility options. ERTICO strongly supports the Commission's proposal to publish a Green Paper to identify what action can be taken at a European level. The setting of European standards for new technology and interoperable data exchange systems (DATEX2) is crucial to its successful deployment. However, the EU has always to take into account the subsidiarity principle when acting on urban affairs.

Transport & Energy (Commission Point 5.0)

ERTICO supports both the Commission's assessment that successful transport and energy policies must be closely intertwined and the Commission's call for action to promote energy efficiency through the optimisation of the potential of each mode of transport. ERTICO agrees that the issue of 'mastering energy use' must be pursued with urgency and looks forward to the Commission's Action Plan on energy efficiency. ERTICO believes that an Integrated Approach is the most efficient and sustainable way to energy efficiency. And in this integrated approach all relevant parties should take their part of responsibility: the automobile and supplier industry by developing "cleaner" vehicles, the fuel industry by providing alternative fuels, policy makers by creating demand for CO2 efficient solutions and alternative fuels and the owners of the vehicle by becoming more CO2 conscious when buying and using a vehicle.

ERTICO believes that ITS systems will be vital to optimising the performance of the transport network and could have clear secondary benefits for the environment, both in terms of emissions savings and use of space.

In support of this goal ERTICO intends to investigate the potential environmental benefits of applying ITS technology to the mobility of people and goods. As in the urban context, smart infrastructure with smart and improved traffic management have a key role to play to achieve better energy efficiency of transport

Reducing Congestion and Increasing Accessibility (Commission Point 6.1)

ERTICO supports the Commission's assessment that congestion poses a grave threat to European economic growth, quality of life and the environment. It seems unfortunate, however, that no agreed EU wide quantification of congestion is available.

ERTICO also supports the Commission's judgement that co-operative systems based on vehicle-to-vehicle and vehicle-to-infrastructure communications have the potential to greatly improve network efficiency and ease congestion.

ERTICO welcomes the Commission's call for action to upgrade infrastructure to allow the deployment of co-operative systems. ERTICO firmly believes that ITS solutions have the potential to reduce congestion and to optimise transport networks, however adequate investment in infrastructure, public or private, will still be needed.

ERTICO agrees with the Commission that the right balance will need to be found between infrastructure improvement and environmental concerns. ERTICO believes that ITS solutions can contribute to striking that balance.

Mobilising all sources of financing (Commission Point 6.2)

ERTICO supports the Commission's assessment that it is vital that Member States mobilise all available sources of financing to meet transport needs. ERTICO has a key role to play in the pan-European implementation of these solutions.

ERTICO believes that it is crucial that the Commission continues to financially support the research and development of first generation ITS solutions as these will pave the way for a second generation of ITS solutions.

However, the immediate priority must be to find funding for the deployment of these first generation solutions, especially where they are hindered by implementation difficulties. This is particularly the case with projects which have indisputable social and economic benefits.

Smart Charging (Commission Point 6.3)

ERTICO notes the Commission's observation that charging for the use of infrastructure is becoming increasingly common in the EU, especially for financial reasons. ERTICO sees a crucial role for ITS in order to ensure interoperability of road-charging systems across the EU, but at the same time supports the Commission's call for reflection and consultation on smart infrastructure charging. Any infrastructure charging system should be socially inclusive and should not place additional burden on industry or citizens. Mobility is a key driver of the EU economy and should remain affordable.

Intelligent Mobility (Commission Point 7.0)

ERTICO welcomes the Commission's recognition that new infrastructure alone cannot solve congestion and accessibility problems and supports its aim of making optimum use of existing transport infrastructure.

Transport logistics (Commission Point 7.1)

ERTICO welcomes the Commission's commitment to developing a framework strategy for freight transport logistics in Europe. ERTICO believes that ITS solutions will support the future of freight transport in Europe.

ERTICO is working towards systems which are in a position to give freight operators real time information that will help them to choose the most secure and efficient route for their consignments.

Intelligent Transport Systems (Commission Point 7.2)

ERTICO supports the Commission's assertion that new transport technologies that will soon come to market will provide EU citizens with new services, allow better traffic and capacity management and allow better tracking for security purposes.

The breadth and diversity of ERTICO's Partners, who represent industry, government as well as others, means that ERTICO is in a strong position to help develop the new services that the Commission seeks.

ERTICO supports the Commission's assessment that development of a European open architecture could help ensure interoperability of systems and welcomes the Commission's commitment to launch a major programme to roll out intelligent infrastructure for road transport.

For further details of ERTICO's current and prospective work in this area, see Annex III

The Global Dimension (Commission Point 8.0)

ERTICO supports the Commission's observation that the transport sector is "inherently international" and that European transport policy needs to be part of a "broader relationship with third countries and organisations" (WPR p.19). ERTICO welcomes the Commission's recognition that Europe is a "leading provider of transport services and technology" (WPR p.19) and that Europe is in a strong position to "project its know-how and best practice abroad" (WPR p.19).

ERTICO supports the Commission's aim of bringing about the "convergence of EU and international norms (WPR p.20)" in order to open export markets for EU technology.

ERTICO strongly supports the Commission's call for action to "continue to develop differentiated EU transport cooperation and policy and industrial dialogues with main trading partners and regional groupings" (WPR p.20). To further this aim, ERTICO has significantly strengthened its international co-operation efforts in recent years past years, identifying China, India, South Africa and Brazil as priority regions. ERTICO believes that by contributing to the establishment of European standards in emerging markets, international co-operation activities provide early market access opportunities.

For further details of ERTICO's current and prospective work in this area, see Annex IV.

Conclusions

ERTICO welcomes the Commission's focus on innovation, especially on ITS systems and services, as crucial to meeting European transport needs. ERTICO, together with its Partners, will continue to provide the European centre of excellence in this field.

However, it must not be forgotten that mobility as well as vehicles need to stay affordable for customers and that ITS solutions cannot flourish without adequate investment in improved and ITS enabled infrastructure, nor without the setting of European standards for new technology and interoperable data exchange systems that will allow vehicle to vehicle and vehicle to infrastructure communication.

Annexes to ERTICO Position Paper on the European Commission Mid-Term Review of the 2001 Transport White Paper

Annex I- Improving Safety

ERTICO is active at all levels in support of this goal, co-chairing the eSafety Forum Steering Group with ACEA and the European Commission, and supporting the eSafety Forum Working Groups.

Other ERTICO work includes:

- The PReVENT project, which is developing and evaluating advanced active safety applications for driver assistance and comprises over 50 private and public organisations
- The GST project, which has developed an overall architecture for end-to end telematics service delivery, enabling safer, more efficient and more comfortable driving.
- The SAFESPOT project which aims to develop and test the technology that will enable vehicle sensing and vehicle-to-vehicle cooperation, thereby extending the driver's view of his environment in time and space.
- The ADASIS Forum, which has the goal of enabling an appropriate information exchange interface between navigation map databases and ADAS applications.
- The FeedMAP project, which is working to ensure that all in-vehicle applications dependent on map data have accurate and up-to date data to work with.
- The HeavyRoute project, which aims to develop an advanced route guidance system so that road freight operators can find the safest and most cost-effective routes throughout Europe.
- The SpeedAlert Forum, which aims to make sure that whatever route the driver chooses, he/she will have a good overview of the speed limits that apply, with the help of in-vehicle speed limit information systems.
- The AIDE project, which is working to ensure that in-vehicle information services do not distract the driver and are integrated safely.

In the coming years, ERTICO sees the potential to bring ITS to bear on several new areas which will contribute to better road safety. Future work could include:

Accident Assessment

- Research towards the establishment of harmonised European accident databases capturing information relating to the vehicle, driver and infrastructure associated with the accident.
- Research and development activities to develop predictive and statistical methodologies to support the impact assessment and effectiveness of measures that support road safety.

New Active and Passive vehicle systems

- Further research and assessment into the protection of vulnerable road users, aimed at decreasing the cost and increasing the reliability of sensor and recognition technology.
- Further development in the simulation, testing and verification of human injury biomechanics, vehicle crashworthiness and protection.

Cooperative systems

- Continued research on the development of a functional, open, scaleable architecture that will allow seamless communication between vehicles, as well as between vehicles and infrastructure.
- Large-scale demonstration/field tests for deployment of cooperative systems.

Post accident & emergency management

- Future investigations into the synergy between eCall and emergency management and civil protection.
- Research on additional elements that could be included in the eCall message.
- Investigation into how eCall could be integrated into two wheelers.

Human factors

- Investigations of human behavioural adaptations to the introduction of novel technological cooperative and driver assistance systems.
- Development of adaptive HMI principles and systems that would allow the road user to interact optimally with the vehicle and infrastructure.

Road engineering and network operations

- Research at a pan-European level on developing safer road markings, signing and signals, lighting, barriers including VMS and road works, taking into account all driving conditions.

Annex II- Improving Security

ERTICO believes that ITS systems are key to striking the balance between the need to protect travellers, transport facilities and transport workers against security risks and the need to make sure transport continues to operate effectively and efficiently.

Real-time information on the movement of goods can help prevent dangerous incidents in an unobtrusive manner. Intelligent Vision Systems can automatically spot suspicious behaviour at transport hubs while automatic tracking and alarm systems can speed the response to threats.

Through its involvement in the European Security Partnership for the 21st Century (ESP 21), ERTICO is looking actively into how ITS can best be deployed to increase security in the mobility sector.

Future ERTICO work is likely to include:

- Research into the development of secure communication and information networks.
- Research on how to protect vehicle, infrastructure and cooperative systems against unauthorised access and/or unauthorised operation.
- Research on how to ensure a secure transport of consignments representing security or road safety risks, such as dangerous goods in containers and by lorries through Europe.
- Research, testing and assessment on how to improve security through the identification of potential hazards (e.g. moving vehicles) as well as for the identification and recognition of vehicles.

Annex III- Efficiency and Sustainability

ERTICO is already involved in a series of projects that aim to increase transport efficiency. These include:

- The CVIS project that aims to design, develop and test the technologies needed to allow vehicles to communicate and network directly with the roadside infrastructure.
- The AGILE project that is looking into how to bring services that will be provided by Galileo- the European satellite navigation system - to market.
- The EuroRoads project that aims to ensure that these new services have access to interoperable road data that is inexpensive, up-to-date, and quality assured, by leading the way to a unified concept for the definition, exchange and supply of publicly held road data.
- The RCI project, which is pursuing interoperability of road charging, by developing an open, integrated framework that enables interoperable free-flow road charging at a technical level.
- The ETNITE project that is undertaking a targeted effort to improve the scope and quality of ITS training and education in Europe, to make sure that we will be able to continue developing and adapting the mobility sector to the challenges of the future.
- The TMC Forum, which is the focal point and workshop of the Traffic Message Channel (TMC) community.
- The Road Traffic Information Group which is a joint initiative of the TMC Forum and the Transport Protocol Experts Group (TPEG) Forum. The Group aims to ensure synergy in the development and operation of future Road Traffic Information (RTI) technologies.
- The Frame Forum, which is promoting the European ITS Framework Architecture and providing guidelines and a common approach for the planning, development and implementation of ITS throughout Europe.

However, there are still many areas which require further research if ITS is realise its potential as a tool for optimising and managing traffic. Future ERTICO work in pursuit of the Commission's goals might include the following:

Cooperative systems

- Further research to develop new concepts for mobility systems that offer users full "door-to-door" services that could realise complete multimodal journey support from origin to destination.

Urban Mobility

- Further research and field operational testing on dynamic, information-led traffic management utilising embedded information, real-time data transmitted from the vehicles, individual route planning, access control to routes, lanes, and parking.

Long-distance Freight Transport

- Research on the development of standardised systems that support the transit of heavy vehicles on a pan-European scale.

Tracking and Information

- Development of tracking technologies, to establish a seamless information chain to increase planning efficiency, achieve productivity gains and foster security.

Mobility Management & Information Provision Optimised Road Space

- Research into improving links between traffic control centres across Europe in order to enable traffic management on long stretches of road and allowing management of incidents, congestion and alternative routes.
- Research on reliable fallback strategies to ensure reliability against intrusions and other disturbances of information flows
- Development and testing of more effective traffic incident and emergency management methods in order to reduce road closures.
- Development and testing of methods for mobility and traffic management in case of special events - both man-made and natural.

Data Collection

- Creation of an agreed European definition of congestion and measuring methods as well as establishment of a European observatory to compile the results and keep track of the progress.
- Development of real-time travel time prediction methods and increased reliability of short- term traffic forecasting models together with clear service level indicators to improve information and management.

Costs, Pricing, Payment and Finance

- Research into the role of pricing in all its forms (road pricing, taxes, parking costs, subsidies, incentives) as a demand management tool.

- Assessment of the effect of transport pricing policies and contribution of pricing practices towards accessible, equitable and sustainable transport systems goals.
- Evaluation of relationship between quality and price elasticity of public transport and their effect on mobility choice

Information Service Delivery

- Research to identify the correct information and optimum time for pre-trip planning and dynamic journey modification.
- Development work into real-time traffic information systems, in combination with a European digital road map database including traffic restrictions, road condition data, and parking availability to allow reliable travel time prediction and better route selection.
- Studies on Human Machine Interfaces, both ergonomic and cognitive, as well as on consumer values and decision-making.
- Better information on real costs, safety, personal security multimodal solutions and impact on sustainability will improve informed decision-making.

Making Transport more Sustainable

Improving network efficiency, through the type of ITS systems that ERTICO is currently looking into, will have clear benefits for the environment, both in terms of emissions savings and use of space. However, in future there may also be opportunities for ITS systems to share traffic information with intelligent vehicle energy management systems which can help vehicles and drivers to use fuel in the most efficient way possible.

ERTICO is proposing research into this issue that will investigate how the use of external information as well as that from on-board systems, could be linked to engine management and emission control systems.

External information would include such factors as traffic conditions, topography, local air quality or designated environment zones, while on-board information would take into account on-road geometry data from the vehicle navigation systems.

With such ITS systems in place, vehicles will be able to warn drivers when their driving becomes inefficient, or even take steps to improve that efficiency.

Annex IV- International Co-operation

ERTICO has significantly strengthened its international cooperation efforts in recent years. In the past years, we have identified China, India, South Africa and Brazil as priority regions. ERTICO believes that by contributing to the establishment of European standards in emerging markets, international cooperation activities provide early market access opportunities.

ERTICO's activities in China have moved from the stage of defining key priorities to actually facilitating the use of European knowledge, technologies, systems and services in that country. The DYNASTY project demonstrated the benefits of traffic data collection and broadcasting using the Traffic Message Channel (TMC). The ERTICO-coordinated SIMBA project will build on these efforts, continuing the cooperation with Chinese authorities to define strategies for full-scale implementation of traffic data collection and traffic management services in major Chinese cities and for major events such as the 2007 ITS World Congress, 2008 Beijing Olympics, and 2010 Shanghai Expo.

The positive results in China have inspired the transfer of this approach to other emerging markets. Activities through the ERTICO-coordinated EU-India project have been launched in India for priority areas such as eSafety, Galileo, tolling, real-time traffic information and fleet management. Early indications show that this cooperation has already brought clear benefits to both regions.

With the SIMBA project, the international activities portfolio will be extended to include Brazil and South Africa. The main focus of this project will be on research cooperation and technology transfer in the fields of infrastructure, automotive and ITS.

Since the expansion of the European Union, interest in the development and deployment of ITS have been on the rise in Central and Eastern Europe. The CONNECT project aims to enhance ITS deployment in the region and solidify the fruitful cooperation between authorities from the Czech Republic, Hungary, Poland, Slovakia and Slovenia. ERTICO is also looking into establishing closer collaboration with Russia on ITS issues.

Furthermore, ERTICO is promoting national ITS competences in Europe through its support for the innovative small and medium-sized enterprises and major ITS stakeholders organised in national ITS organisations. The Network of National ITS Associations aims to provide a new impetus to the promotion and support of national ITS organisations both in Europe and across the world. ERTICO provides the secretariat for this Network.

Europe-wide cooperation in the field of eSafety is another key focus area for ERTICO. The eSafety Support office, coordinated by ERTICO, acts as an independent secretariat that promotes eSafety activities throughout Europe, offering organisational assistance to the eSafety Forum and its Working Groups and stimulating ongoing work in the field of Intelligent Vehicle Safety Systems.