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Standardisation mandate to CEN, CENELEC and ETSI in support of Interoperability of electronic road toll systems in the Community

1 Title

Mandate to CEN, CENELEC and ETSI in support of the proposal for a Directive of the European Parliament and of the Council on the widespread introduction and interoperability of electronic road toll systems in the Community (COM (2003) 132 final).

2 Rationale

2.1 Introduction

Electronic road toll systems appeared in Europe in the early 1990s on motorways operated under a concession where the toll served to finance motorway construction and maintenance. The prime objective of such systems is to speed up toll collection, thereby increasing the capacity of the motorway. Various systems were introduced, at local and at national level. However, these systems are not necessarily mutually compatible. This has created problems for motorists, who would have to affix several tags to their vehicles in order to subscribe to the various systems. Interoperable electronic road toll systems would facilitate a smoother traffic flow and manual interventions and credit card payments could be eliminated. As a result, congestion, delays and accidents could be reduced thereby increasing road safety.

In view of the growth of international traffic, it is thus desirable for electronic road toll systems to be interoperable at European level. In addition, electronic road tolls are the potential key to the development of the information society in road transport, an objective fostered by the eEurope Action Plan, as the relevant equipment installed in vehicles will allow the deployment of value added services and safety systems for travellers. These added value services may range from the provision of automatic emergency calls in the event of an accident, to the provision of real-time information about traffic conditions, journey times or tourist information.

In order for the motorists to fully benefit from the advantages of electronic toll collection and other added value services, commonly agreed standards in support of interoperable service provision are a key prerequisite. The objective of this Mandate is to stimulate further standardisation work related to the proposal for a Directive as

provided by document COM (2003) 132 final. on the widespread introduction and interoperability of electronic road toll systems in the Community, with a view to supporting the effective implementation of the proposed legal framework.

2.2 The legal environment

The White Paper "European transport policy for 2010: Time to decide", proposed a European electronic toll service to be put in place on European roads subject to tolls. This service will be based on the principle of "one contract per customer, one box per vehicle".

Further to this White Paper, the Commission adopted, on 23 April 2003, a proposal for a Directive on electronic toll systems (COM (2003) 132 final). The proposal for a Directive defines the criteria for a "European electronic toll service" based on interoperability of electronic road toll systems and providing the basis for a road-charging policy at Community level. The Directive will apply to all types of roads, to bridges and tunnels, and even to ferry charging systems whether on TEN-Ts, inter-city or urban and is based on the "single box/contract" concept.

The proposed legal framework will support the further development of the information society by linking applications using microwave, GNSS satellite location and GSM/GPRS mobile phone technologies. By building on the systems already implemented in the market and by providing the possibility of choice/combination of the three recommended technologies, the legal framework provides room for smooth and progressive migration towards interoperable systems as part of the "European electronic toll service". To fulfil this objective, the legal framework sets a calendar for implementing the European service; a short-medium term solution, until 2005, taking into account existing systems mainly based on microwave technologies, while the long term solutions, for 2008-2012, should be based on mobile communications technologies and satellite positioning.

2.3 The standardisation environment

Recognising the importance of commonly agreed standards to support the efficient implementation of the legal framework, Article 4 (4) of the proposed Directive indicates that the Commission will ask the European Standardisation Organisations:

"To make every necessary effort to adopt standards applicable to electronic toll systems, particularly with regard to microwave technology and systems using satellite positioning and mobile communications technology".

Existing electronic toll systems using short-range microwave technologies vary greatly throughout the Member States currently using them. Aspects of Dedicated Short-Range Communications (DSRC) using 5.8 GHz microwaves have been standardised in CEN and ETSI. However, the individual implementation of these standards by the relevant service providers does not necessarily guarantee full interoperability.

Infrastructure standards covering mobile and satellite communications exist or are in the process of being developed. However, standards relevant to the application of the technologies to road tolling need to be considered urgently, as does the technical

standards required to support the European electronic toll service as set out in Article 4.1 of the Directive (including among others, payment system security and clearing structures between service providers).

The draft Directive also requires the relevant standards to take due account of other legislation, such as the relevant Directives on electro-magnetic compatibility or telecommunications terminal equipment and this also applies to legislation regarding personal data protection and privacy.

3. Scope of the Mandate

Based on the proposal for a Directive on the widespread introduction and interoperability of electronic road toll systems in the Community, the European Standardisation Organisations, CEN, CENELEC and ETSI, are invited to prepare a coherent set of standards, specifications and guidelines in support of the requirements set by the proposed Directive COM (2003) 132 final.

The Mandate shall be executed in two phases:

The objectives of the first phase are:

- To analyse the emerging legal framework from the perspective of standardisation requirements and to identify the needs for additional standardisation work. The work should be carried out with the active involvement of the "Intelligent Transport Systems Steering Group (ITSSG)" which has been set up under the umbrella of the Information and Communication Technology Standards Board (ICTSB) and which includes representatives of all major market players. This analysis and the recommendations for further standardisation work shall be discussed in an open meeting with the view to reaching broad agreement from relevant stakeholders. A report, including the assessment and the recommendations for any further standardisation work shall be presented to the Commission not later than 6 months after the acceptance of the Mandate. Subject to the progress of the draft Directive, specific parts of the analysis may be indicated as provisional. Broad agreement on the recommendations for further standardisation work shall be reached through an Open Meeting with participation of all stakeholders.
- To prepare for a detailed Work Programme, covering the necessary standardisation work in support of electronic toll systems. The Work Programme should reflect the calendar and technical requirements laid down in the proposed legal framework with respect to the provision of the "European electronic road toll service", as defined by Article 4.1 of the proposed Directive, and the required levels of interoperability as defined by the legal framework. The Work Programme shall, in particular, define clear objectives, task assignments and timetables for the delivery of the required standards. The Work Programme shall be presented to the Commission not later than one year after the acceptance of the Mandate.
- To encourage, in particular CEN, as a matter of priority, further standardisation covering aspects of Digital Short Range Communications (DSRC) using 5.8 microwaves with the objective to enable the provision of on-board units (OBU's)

which are interoperable with all current DSRC EFC systems within Europe. In addition to the standards, the ESO's shall develop an interoperability testing scheme permitting the practical verification of interoperability between implementations

The objective for the second phase is:

- To implement the standardisation Work Programme as agreed in the first phase. The Commission will consult member States on the proposed Work Programme prior to its implementation. The execution of the specific standardisation tasks shall be carried out with active involvement of all relevant stakeholders.

4. Modus operandi and co-ordination aspects

The objective of this Mandate is to complete and accelerate the standardisation work in support of an efficient implementation of the proposed legal framework taking into account the timetable set by the legal framework with respect to the provision of the "European electronic road toll service". The European Standards Organisations, CEN, CENELEC and ETSI shall establish adequate and efficient co-operation mechanisms in view of achieving widest possible consensus amongst all parties concerned. In addition, arrangements shall be made to establish relevant international co-operation. In this respect, the following principles shall be followed:

- While carrying out the work described by the Mandate, the European Standards Organisations, CEN, CENELEC and ETSI shall take due account of the evolution of the discussions related to the final adoption of the emerging legal framework.
- The "Intelligent Transport Systems Steering Group" shall be invited to monitor the execution of the standardisation work requested by this mandate with the view to implement a coherent and commonly agreed standardisation strategy
- Co-operation with relevant industry fora and consortia shall be established.
- International co-operation shall be ensured, in particular with IEC, ISO and ITU as appropriate.
- Results of relevant EU research projects shall be considered.
- Particular attention shall be given to the involvement of national organisations and authorities concerned with the implementation of the proposed legal framework.
- Consumer requirements and generic e-accessibility principles shall be implemented.

5 Execution of the Mandate

5.1. Within two months of the date of acceptance of this Mandate, CEN, CENELEC and ETSI shall present a report to the Commission setting out the arrangements they have made for the execution of this Mandate. Particular attention shall be given to the

involvement of all relevant stakeholders and to the working arrangements with relevant consortia and fora.

5.2. Within six months of the date of acceptance of this Mandate, CEN, CENELEC and ETSI shall present a report containing the report specified in Phase I of this Mandate.

5.3 Within one year of the date of acceptance of this Mandate, CEN, CENELEC and ETSI shall present the proposed Work Programme to implement the recommendations of the report.

5.4 CEN, CENELEC and ETSI are invited to put in place as soon as possible, adequate monitoring mechanisms for the execution of the work.

5.5 With acceptance by CEN, CENELEC and ETSI of the Mandate the appropriate standstill period in accordance with Article 7.1 of the Directive 98/34/EEC as amended will start.