



eSafety Forum

Recommendations FINAL

**The 3rd Plenary Session of the eSafety
Forum, Brussels 25 March 2004**

Recommendations

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This report was produced by the eSafety Forum Working Groups for the Information Society DG and represents the view of the experts on improving Road Safety in Europe with the use of Information Communications Technologies (ICT). These views have not been adopted or in any way approved by the European Commission and should not be relied upon as a statement of the European Commission's or the Information Society DG's views. The European Commission does not guarantee the accuracy of the data included in this report, nor does it accept responsibility for any use made thereof.

1 INTRODUCTION

eSafety is a joint industry-public sector initiative aiming to reduce the number of accidents by using new Information and Communication Technologies. **Advanced Information and Communication Technologies (ICTs)** can contribute significantly to road safety, enabling sophisticated safety systems that improve road users' chances of avoiding and surviving accidents.

The eSafety Forum is a joint platform involving all the road safety stakeholders. It was established in 2003 as a joint platform for all eSafety stakeholders. The general objective of the Forum is to promote and monitor the implementation of the recommendations of the eSafety Working Group¹ and to support the development, deployment and use of intelligent vehicle safety systems.

The eSafety Forum Working Groups are focusing on specific priority topics that are important for the implementation of the recommendations of the eSafety Working Group, and are in line with the priority actions brought forward in the Commission Communication on eSafety².

During 2003, the seven eSafety Forum Working Groups continued their tasks throughout the year. The Forum held two Plenary Meetings, in Brussels in April and in Madrid in November. The full results of the seven Working Groups are presented in the 2003 Summary Report.

This document presents the most **important Recommendations of the eSafety Forum**. It is based on a draft produced by the Working Groups, and finalised in the 3rd Plenary meeting of the eSafety Forum.

In addition, this document presents a Status Report of the HMI Working Group, and Recommendations on the use of 24 GHz range band for automotive Short-Range Radar, prepared jointly by the Commission and the industry.

¹ The 2002 eSafety Working Group that produced a list of 28 Recommendations

² Commission Communication Information and Communications Technologies for Safe and Intelligent Vehicles, COM(2003) 542 Final, 15.9. 2003

2 The Recommendations of the eSafety Forum on Accident Causation Analysis

HAVING REGARD TO

- The need for consistent EU accident causation analysis to underpin the work required within the eSafety initiative, as identified in the recommendations of the HLG report;
- The work done so far by the EU, Member States, industry groups, and institutes on accident causation;
- The EU-funded projects which have investigated or will investigate particular aspects of accident causation (for example MAIDS, SafetyNet and ETAC).

THE ESAFETY FORUM,

- Stresses the importance of providing consistent European accident causation analysis to make a safety diagnosis and assess the impacts of safety systems on accidents and thereby to identify priorities;
- Takes note of the preliminary work done by the working group to analyse existing data sources;
- Takes note of the restrictions that exist that make simple aggregation of existing accident data sources impractical;
- Takes note that nevertheless, real opportunities exist to make parallel analysis from existing data to provide a useful part of the required accident causation picture;
- Takes note of the definition from the working group of the task necessary for undertaking parallel analysis on the basis of consistent methodologies;
- Takes note that this task is substantial and cannot be undertaken on a voluntary basis;
- Takes note that longer term requirements will also be necessary to provide a complete picture on accident causation as a basis for evaluation and to complement other existing initiatives, to avoid the necessity in future to try to combine different analyses from different data sources.

AND RECOMMENDS THAT:

- **The short term task of providing better accident causation analysis from existing sources, as defined by the working group, be carried out by the end of 2005;**
- **EU funding be identified to have this task carried out in the shortest possible time;**
- **The working group continue its work to prepare for the defined task to be carried out and that a stakeholder workshop be held to prepare agreed questions from analysis users;**
- **This work be supported by Member States, industry, user groups and other stakeholders;**
- **Work continues on the development of the longer term needs to prepare, at European level, for improved accident analysis methodologies and build a road safety information system.**

3 Recommendations of the eSafety Forum on eCall

HAVING REGARD TO

- the progress in the eCall Driving Group, especially the drafting of a MoU to secure parallel commitment, agreeing a harmonised architecture for pan-European in-vehicle emergency call (eCall) and defining potential business models with the identification of benefits for all stakeholders;
- the work done in the project E-MERGE on an end-to end system and service architecture, specification of the required interfaces, the work supporting standardisation, and the successful demonstrations of eCall;
- the Commission Recommendation on the caller processing that entered into force in July 2003;

THE ESASAFETY FORUM,

- TAKES NOTE of the automotive industry's position emerging from the work in the ITS Working Group of ACEA, the position papers received from Germany and UK, and information regarding the status in NL, Sweden and Finland;
- TAKES NOTE on the need to restructure and enforce the eCall Driving Group;
- STRESSES the importance of keeping the time-table for the deployment of eCall in all new vehicles in Europe as a first example of the eSafety implementation, and the importance of committing all key stakeholders to a common, concrete rollout plan for eCall;
- EMPHASISES the need to have a clear understanding on the exact status of E-112 implementation in the Member States, and the necessary incremental investments for realisation of eCall;

AND RECOMMENDS THAT:

- **the eCall Driving Group reinforces its membership by inviting new members from public authorities, insurance industry, mobile telecommunications, navigation and aftermarket equipment and system suppliers in view of having the new strengthened structure in place under the current chairmanship for its next meeting in April;**
- **the eCall Driving Group seeks immediately signatures to the eCall Memorandum of Intention, to secure the commitment of all stakeholders to create a concrete roll-out plan;**
- **the Commission sets up the Public Safety Officers Communication Forum without delay, and invites it, as a priority, to discuss the actions for implementing E-112 and eCall;**
- **ERTICO invites its Public Authorities Platform to review the progress in eSafety and especially in eCall from the perspective of the Member States, and to agree national eCall implementation strategies;**
- **the FP6 Integrated Project GST undertakes a study on the status of the implementation of E-112 in the 25 Member States;**
- **the Commission organises a High-Level meeting with the Member States, inviting both transport and interior ministries, to discuss eCall implementation road map;**

- **the Member States, the automotive industry and other key stakeholders commit to the development of the eCall rollout plan by signing immediately the Memorandum of Intention upon its release for signature.**

4 The Recommendations of the eSafety Forum on Real-Time Traffic and Travel Information

HAVING REGARD TO AND TAKING INTO ACCOUNT THE IMPORTANCE OF

- The need of road users to have access to the most actual traffic information throughout Europe;
- The relevance of this information to improve the safety on the streets and the flow of traffic as well as to reduce the stress during driving;
- The work done so far in some, but not all countries of the European Union to establish the relevant traffic information services firstly for the main roads and even to extend them then regionally to urban applications;
- The understanding that the transmission of the standardized service called "Traffic Message Channel" within the FM-broadcasting system (RDS/TMC) has proven at the time being to be the most cost effective solution to reach all vehicles on the roads.

THE ESAFETY FORUM,

- Recommends strongly that the service should be expanded as fast as possible to all countries of the European Union so that a RTTI-service is provided everywhere in Europe;
- Takes note that this requires the establishment of the whole chain of traffic information and its continuous operation. The chain consists of
 - o The data collection and interpretation (i.e. the transfer to an already agreed set of standardized event codes together with a code for the localisation of the event);
 - o The encoding of these standardized messages to prepare for the transmission via all possible means (fixed, wireless two-way communication and - most recommended - broadcasting);
 - o Receivers to decode the information - in vehicles mostly car radios and navigation sets allowing dynamic navigation by recognition of the RTTI service.
- Takes note that the data are broadcasted via FM - and in some regions also via DigitalRadio. The transmission is either unencrypted and consequently free of an extra charge - or encrypted to allow the collection of a direct or indirect fee from the customer;
- Emphasises that because all services are run to agreed European standards, the consumer's equipment can be made compatible allowing a seamless use of RTTI throughout Europe.

AND RECOMMENDS THAT:

- **A proposal should be presented to the Council of the Transport Ministers of the European Union to endorse that:**
- **All countries within the European Union should agree or should be advised to enable and to extend the installation of the chain of information needed to establish Real-Time Traffic Information Services in their countries, to have 80% of all population throughout Europe able to be served with adequate, standardized services by the year 2010.**

5 The Recommendations of the eSafety Forum on Research and Technological Development

HAVING REGARD TO

- The fact that a wide range of Regional, National and European research, technology and demonstration projects are being carried out;
- The fact that these activities may contribute to addressing the recommendations of the eSafety Working Group.

THE ESAFETY FORUM,

Has analyzed, in an intensive consultation process, the current RTD activities in this area at the Regional, National and European level with the aim of:

- Establishing mechanisms for monitoring, aligning and steering such projects so as to maximize synergies and disseminate results;
- Identifying the priorities for research areas for integrative European research, technology and demonstration projects in the field of eSafety.

Has identified, on the basis of this analysis, the RTD gaps and derived recommendations for future research priorities.

Has observed that more than half of R&D efforts analysed focus on electronic systems and enabling technologies for accident prevention and protection systems within vehicles. The present European “eSafety research activities” does not reflect the necessary systems approach.

AND RECOMMENDS THAT:

Further EU wide R&D programs focus on an integrated approach involving the vehicles, the infrastructure as wells at the driver. In particular, the focus should be in the following areas:

- **Accident causation R&D including the development of a EU wide methodology for the analysis of present data and demographic aspects;**
- **R&D into the required technical architecture and structure for post accident incidents, civil protection and emergency management;**
- **EU wide assessment and verification (with international comparison) of efficacy of safety measures and systems implemented in vehicles and infrastructure – including the establishment of methodologies for a comprehensive cost benefit analysis including Models, simulation and pilot studies to evaluate the influence of new technologies;**
- **Human Factors - Analysis of collective interactive road use, collective understanding of road traffic and error compensating mechanisms as input for technology development;**
- **Systematic assessment of the impact of intelligent road and information infrastructure on safety for all road use - Especially study opportunities of cooperative infrastructure to vehicle communication and the inter-vehicle communication systems.**

6 The Recommendations of the eSafety Forum on Road Maps for implementation

HAVING REGARD TO

- The progress in fulfilling the eSafety Matrix, containing eSafety relevant systems, together with the explanation of those systems and acknowledging that also infrastructure based improvements are needed for fulfilling the main target for 2010.
- That it was concluded to focus on a small number of systems with a high road safety potential that can be realized within the next years while also considering other promising systems which will be introduced later.

THE ESAFETY FORUM

- *Stresses* the importance to have a common agreement on the following items:
 - o **Electronically controlled stability program (ESP);**
 - o **Advanced surroundings perception devices.**

having the first priority for eSafety Systems as vehicle based technology;

- *Emphasises* the need to have a European agreement with all responsible Road authorities to support the following items:
 - o **Dynamic traffic management (Variable Message Signs);**
 - o **Local Danger Warning.**

at appropriate problem locations on the road network, as infrastructure based technology, which is basically likely to be realised within the next years because the technical capability is available, networks are to be completed, harmonisation is ongoing, and the RTTI Working Group is working on important prerequisites.

- *Stresses* the importance of using in-vehicle technology to improve data basis for traffic management and danger warning

AND RECOMMENDS THAT:

- **The eSafety Working Groups continue to work on priority topics such as eCall and RTTI;**
- **Vehicle manufacturers continue to increase significantly the availability of ESP – Systems on the Market within the next two years;**
- **The relevant stakeholders launch consumer awareness and information regarding ESP to be enhanced by suitable means (e.g. public campaigns);**
- **A focus should be made on surroundings perception sensors for enhanced driver assistance system applications, as they are key technology for the next breakthrough in primary and secondary (active and passive) vehicle safety.**
- **The stakeholders act to remove without delay the remaining obstructions in areas such as risk assessment, liability and legal issues, which delay the market introduction of those systems. Industrial partners should work and agree on uniform telematics platforms on-board vehicles.**

7 The Status Report on Human Machine Interaction

Following the publication of the European Statement of Principles (ESoP) for in-vehicle information and communication systems, responses from the Member States concerning application of the Principles have been studied. The Working Group has also compared this approach with similar ongoing initiatives in the USA and Japan, and the main issues involving HMI relevant to development of eSafety have been elaborated.

The multiplicity of actors involved in delivering information services has been noted and the implications for the driver assessed. The increasing availability of “nomad devices” and, to a lesser extent after-market systems, give particular cause for concern as their lack of integration within the vehicle may cause additional driver workload. Although the ESoP is valuable in clarifying issues under the responsibility of manufacturers, it is now recognised that other stakeholders including system users have their part to play in ensuring that the benefits of eSafety systems can be safely delivered to drivers.

Finally, the lack of agreed criteria to assess HMI has been noted and the inappropriate use of specific partial criteria is not considered helpful. Some approaches to addressing the identified problems have been identified and now need to be validated.

In view of the importance of HMI in delivering the benefits of eSafety systems, work will continue during 2004. HMI issues will be properly addressed within an overall risk/benefit framework. This is particularly important given the rapid recent development in nomadic devices and the involvement of many more actors in providing information content and services.

The state of the art in HMI is insufficiently developed to specify unambiguous criteria to ensure safe HMI and, clearly, further research is needed (which is ongoing in EC and other programmes). Nevertheless, eSafety systems are being deployed now and poor HMI design will not serve the driver. Without an appropriate framework to handle HMI issues there is also a risk that system providers will be unable to develop eSafety systems to their full potential.

The objective of the HMI work during 2004 is to establish recommendations for ongoing actions; specifically for the stakeholders (car manufacturers, system manufacturers, service providers, fleet owners and employers, drivers, public authorities) who are suggested to be responsible for undertaking concrete tasks within defined time scales. Presently, an HMI “Solutions Matrix” is being developed and will be discussed in detail with Stakeholders in a specific one day HMI Workshop in Brussels on June 8th.

It is anticipated that developments will be required in the following areas:

- To extend and develop existing HMI principles, e.g. to include post-manufacture issues;
- To widen appreciation of the principles amongst different stakeholders;
- To monitoring the effectiveness of the principles in contributing to the overall aims of the eSafety initiative.

8 The Recommendations of the eSafety Forum on International Co-operation

HAVING REGARD TO

- Global efforts in eSafety that are being coordinated in the spirit of MoU's between ITS-America, ITS-Japan and ERTICO;
- The strong interest for international collaboration in the EU, North America and the Pacific region, which is seen as essential to help to achieve the eSafety goals;
- The need to strengthen synergies and information exchange, and to apply best practices, avoiding possible duplication of effort;
- The call to coordinate international aspects of the eSafety Forum and its Working Groups;
- The outcome of the International Co-operation Working Group (IC-WG) meetings, on July 17, 2003 in Paris, November 18, 2003 in Madrid and on March 10, 2004 in Detroit.

THE ESAFETY FORUM,

- Notes that the IC-WG is focusing on promising cooperation themes, based on the 28 Recommendations of the November 2003 report of the eSafety Working Group, which include:
 - o Accident Causation Analysis;
 - o Cost Benefit Analysis;
 - o Human Machine Interaction;
 - o Cooperative Systems (Vehicle-Vehicle-Infrastructure)
- Emphasizes the need for the IC-WG to identify international best practices whose introduction could support achievement of eSafety targets;
- Welcomes expert correspondents from outside Europe as members of the eSafety Working Groups.

AND RECOMMENDS THAT:

- **There be wider international presence at the 2004 IC-WG meetings in Parma on June 17, and in Nagoya in October during the ITS World Congress**
- **The international co-operation is pursued with reciprocity, so that the European experts are invited to meetings and seminars organised by the US and Japanese parties, and can follow the ongoing activities;**
- **A global list of proven near-term-applicable accident-reducing techniques / policies be assembled;**
- **eSafety demonstrations be identified and publicized, e.g., during the 2004 and 2005 World and European ITS Congresses, as well as those in USA, Japan and other nations;**
- **The IC-WG joins with the other eSafety Working Groups to co-ordinate actions that aim at deployment of larger volume eSafety technologies in 2005 and beyond, in particular inviting the chairs to join the future meetings.**

9 The Recommendations of the eSafety Forum on 24 GHz Short-Range Radar

HAVING REGARD THAT

- The rapid and co-ordinated development and deployment of SRR within the Community requires that harmonised radio frequency bands be available without delay and on a stable and permanent basis, so as to provide confidence to industry to make the necessary investments;
- The 79 GHz range band has been identified by CEPT as the most suitable band for long term and permanent development and deployment of SRR, with the introduction of this measure by January 2005 at the latest. However, SRR technology in the 79 GHz is still under development and will not be available in the short term on a cost-effective basis. In order to benefit from an early introduction of SRR in the Community to meet the objectives of the e-Safety Initiative, an alternative solution has been found in the 24 GHz band as technology is already available for operation in that band. Therefore, sufficient radio spectrum should be made immediately available on a harmonised basis for a limited period of time in the 24 GHz band (21.5-26.5 GHz);
- The protection of other services operating in or near the temporary band(s) must also be ensured by introducing specific operating limits for such SRR systems and by moving the latter's operation to the permanent 79 GHz range by a final transition date. Such transition date has been estimated in agreement with industry as being 1.1.2014, the date by which the threshold of 8.3% penetration level is likely to be reached. This date is considered in any case as the latest date until when new SRR can be put into operation;
- Appropriate precautions should be available where the threshold is exceeded earlier than predicted, in case data for computation of the threshold are lacking or where harmful interference occurs before the threshold is exceeded;
- Local national precaution measures may also be required such as deactivation of SRR in order to protect radio astronomy services;
- SRR equipment is normally part of a complex integration of the electrical harness, automotive design and software package of a vehicle; stand alone 24 GHz equipment should not be put on the market in the Community, except to replace an original vehicle-mounted SRR equipment.

THE ESAFETY FORUM,

- Takes note that the 79 GHz range radio spectrum band shall be designated and made available for automotive short-range radar equipment as soon as possible and no later than 1 January 2005, on a non-interference and non-protected basis;
- Takes note that the 24 GHz range shall be designated and made available from 1 January 2005, on a non-interference and non-protected basis, for SRR which are original equipment - fitted initially or as a replacement in a vehicle by the original vehicle manufacturer. The 24 GHz range shall remain so available until 1.1.2014. After 1 January 2014, the 24 GHz range shall cease to be available for SRR which equip vehicles which shall not have been registered, put into service or put on the market before 1.1.2014 in the Community;
- Stresses the importance of the work done by the Commission Services in order to adopt the legal instruments that will allow the implementation of the above solution.

AND RECOMMENDS THAT:

- **The Commission proceeds with the appropriate legal initiatives;**
- **The automotive industry endorses the above solution for the use of the 79 GHz band and the limited use of the 24 GHz band;**
- **The Commission and industry ensure that adequate effort is put on the development of the SRR 79 GHz technology, in order to make it available on a cost effective basis with the required time schedule.**
- **The automotive industry co-operates with the Commission and the Member States by taking the necessary control measures resulting from the limitations imposed by the restricted use of the 24 GHz band: including to cease to register, put into service and put on the market the equipment, when the time limit or the limit of penetration rate is reached;**
- **Member States take all necessary legislative, regulatory or administrative measures, for the implementation of the above solution.**