

Minutes of the eSafety Forum Workshop "User Benefits Drive the Market"

and eSafety Awards Ceremony
Diamant Conference & Business Centre
Bd. A. Reyerslaan 80, B-1030, Brussels
Wednesday, 5 November 2008, 09:00 - 17:30

Setting the scene

The chair **Hans-Jürgen Mäurer**, Co-Chair of the IRM WG, opened the workshop and welcomed the participants.

André Vits from the European Commission gave a short overview of the past workshops and eSafety Awards. The purpose of the workshops is to contribute to the deployment of eSafety systems by discussing the key implementation issues. The past workshops have dealt with the utilisation of in-vehicle systems in dynamic traffic management and more generally the status of deployment. This year the topic is user benefits - key information to various stakeholders.

Vito Mauro from Mizar Automazione gave a keynote presentation: Which benefits and which users? He pointed out that PROMETHEUS already introduced many of these applications 20 years ago, of course technologies offer more possibilities nowadays. Some best practice examples show accident reductions in France of -47% with speed cameras, and in Italy -50% in selected intersections.

Awareness is not always enough to drive the market. Safety came first (when price not considered) in the Eurobarometer as selection criteria. But this does not translate to user's willingness to pay. Market depends strongly on marketing and advertising, fashion and prestige. Could there be a direct, tangible return from eSafety? Example is the black box which records the trips and reports to insurance company. More than 650.000 are installed in Italy. Including active safety in EuroNCAP could be very effective as well. Road Operators could also benefit, the concessionaires could even raise the tariffs. Without political pressure there will be no investment.

ITS is normally a winner in pilot schemes but loser in real deployment. Traditional measures are easier to deploy. Traditional measures have large literature and consensus, which is not the case for ITS. With regard to the Italian insurance scheme, they have saturated the market, but in some areas they have reached 5% penetration. This is basically an anti-fraud, anti-theft system extended to other applications. In Brazil it will be obligatory in all new cars, from the beginning of 2009.

Identifying correct models for cost and benefit sharing are key to success in the long term. Some very effective systems exist, but unfortunately there is a clash between personal freedom and safety, which is hindering the deployment of the most effective systems.

Results from studies on benefits of eSafety systems

Yves Page from Renault reported on the effects of eSafety systems on accidents and their consequences - results from TRACE.

One example of TRACE analyses: five-star with ESC and emergency braking system compared with four-star system would reduce serious injuries by 70%. According to TRACE, the most effective safety systems are mandatory ISA, eCall, pre-crash braking, and pre-crash warning. Most of the other systems have very poor efficiency and benefit-cost ratio.

What about the responsibility of the driver, will he/she lose control with too much technology around. For some systems there are no counter-effects, e.g. emergency braking. For others where driver is in the loop, this has to be taken into account in the model of assessing the impact. Driver reaction etc is based on assumption, so there is need to get more data. This is why Field Operational Tests (FOTs) are needed.

The selected 20 safety applications address about 85% of the driver's needs. There were no special analyses on motorcycle accidents. The effects of the pre-crash systems demand a very complicated analysis. The side effects (behavioural adaptation) of the Cruise Control and other similar were analysed to some extent, but only based on certain assumptions.

Kerry Malone from TNO presented the socio-economic assessment of 12 intelligent vehicle safety systems - results from eIMPACT. The results of eIMPACT are based on the most recent empirical results and studies. There were in all 12 systems for in-depth analysis. Both systems currently on the market and systems under development were included. Both positive and negative effects were looked into. Also traffic impacts were covered.

The study showed the highest potential is with ESC, Lane-keeping systems and (active accelerator pedal version of) Intelligent Speed Adaptation. The figures are for 2020. For ESC, there will be close to 100% penetration. For other systems, high penetration needs a number of positive actions in order to happen. eIMPACT was also looking into benefit-cost ratio. But systems which have B/C ratio under one should not be discarded.

Homologation, standardisation, dissemination support need the support of the European Commission. The eSafety Forum can play a part there. FOTs are also important. Future research should look into combinations of systems and different deployment strategies. There were no special analyses on motor cycle accidents.

Risto Kulmala from VTT presented the impacts of five cooperative systems - results from CODIA. CODIA study (VTT, TRL) looked into five cooperative systems: I2V Dynamic speed adaptation, V2V local danger/hazard warning, I2V reversible lanes, V2V post-crash warning and V2V/I2V cooperative intersection collision warning. The safety analysis was looking into nine safety mechanisms, positive and negative effects as in eIMPACT.

The most effective systems regarding safety are dynamic speed adaptation and cooperative intersections. About 15% of all congestion in Europe is accident-related. Hence, accident reductions will also have substantial impacts on congestion and congestion-related costs estimated to be 1-2% of the GDP in EU countries. There were a lot of uncertainties, e.g. system cost and market penetration, and many assumptions had to be made. Some systems could be brought to the market as after-market nomadic devices. What will happen with the demand of the regulations and demands on CO2?

The discussion pointed out that studies should look also into impact of in-vehicle systems on other road users, especially on motorcycles (this is different from developing safety systems for motorcycles). PROCESS study looked into effects on motorcycles. Some key benefits like fun and comfort should also be included in the socio-economic calculations.

Awards ceremony

Zita Gurmai, MEP, indicated in her opening that now we know that eSafety systems can produce a dramatic reduction in road fatalities. Thereby ICT based systems should have top priority, e.g. eCall. The EP gives it full support, and would welcome a Communication on eCall deployment final steps.

Viviane Reding, European Commission stated that the help of European Parliament is crucial. The Intelligent Car Initiative, building on the eSafety Forum, is very important for Europe. On 17 September 2008, industry fully committed to continuation of Intelligent Car. So we have both industry and EP support. But the challenges remain in the form of e.g. the energy supply and financial crisis. In 2007, only a minor reduction in fatalities occurred, and further actions are needed. With the handing out of the eSafety Awards it is possible to show how prominent and tangible the eSafety element has become.

The eSafety award 2008 in the **Technology and Industry** category was given to **Bosch, and especially Prof. Zimmermeyer and his team**, for their work concerning ESP/ESC. The award was received by **Mr. Bohr, Bosch**. He pointed out that it took 16 years of investment before starting having a return on it, and wondered how many innovations will not make it due the current economic crisis. He also stated that eSafety is a positive example of good cooperation between the legislators and industry, under the vision and passionate leadership of Commissioner Reding.

The eSafety award 2008 in the **Policy and Administration** category was given to the **Swedish Road Administration, and especially to Prof. Tingvall and Mr. Anders Lie** for their work in ESC deployment and EuroNCAP. Anders Lie pointed out that the industry and administrators have to work together to get systems on the market more rapidly, and very importantly to validate them and get the right messages to the consumers.

The eSafety **lifetime achievement award** was given to **Mr. Gerhard Rollmann**, especially for his work on radar technologies. Gerhard Rollman highlighted automotive radar as a basic building block for automotive safety systems. SARA is currently focusing on international developments. He was very grateful for Commission's support.

Hermann Meyer from ERTICO mentioned in his closing address that the support of the public sector is needed, as the market alone cannot be trusted to take care of the introduction of safety systems. The support of the Commission, working together is very much appreciated.



User benefits and deployment - interactive session

The chair of the interactive session, **Risto Kulmala**, Co-Chair of the IRM WG, introduced the session. The purpose was to find out how different stakeholders are using benefit information, how it should be used, and in which form and format do the stakeholders need that information.

Alessandro Carrotta of eSafetySupport introduced the voting system to be used at the interactive session. The first trial vote concerned the identification of the sectors represented in the audience.

Irina Patrascu from FIA Foundation gave a presentation on User awareness dimension - experiences from ChooseESC! Penetration of ESC is still too low. The ChooseESC! has an international dimension. all stakeholders should be involved in awareness raising. More information at www.esafetyaware.eu.

The interactive part indicated as the most important safety technologies after ESC to be Forward Collision Warning systems, eCall and Lane Departure Warning. The most important bodies to promote ESC are the dealerships (others insurance, driving schools). About 55% of people in the room have ESC in their own car.

Sandra Pastore from Bosch talked about the Marketing dimension. She discussed two approaches: inside-out approach (from existing systems to accident data, resulting in enhanced system) and outside-in approach (from accident data to feasible system). She pointed out that user benefit is not enough, but users need to be aware of them also. Even in 2006, most of Europeans could not describe how ESC works. OEM and dealers are most often the source of information to users concerning the systems and their benefits. Bosch has trained 37 500 dealers at 50 ESPerience centers involving 110 instructors, and published 75 press releases and held 23 press conferences around ESP.

The interactive part indicated the key marketing players to be car manufacturers, followed by authorities. Most (65%) consider studies on effectiveness as very important for marketing, but amazingly some 30% think they are not so important. As regards making the systems mandatory, some 31% think this should be done when there is prove on effectiveness, also 33% think this should be done only if there is a market failure.

Carsten Weber from DEKRA and the Safety-Technopro project presented the Dealer training dimension. The SafetyTechnoPro project has looked into the requirements of professionals and general requirements for a training tool. There are a lot of requirements, has to be easy to use, easy access to different information, adaptable to different markets. Factors influencing the perceived usefulness of the systems include awareness of problems, responsibility to avoid accidents, wish to always control vehicle, risk seeking, social norms, fairness aspect, symbolic meaning of driving/ADAS, and "technophobia". Safety benefits alone do not motivate the dealers or professionals, there should be e.g. advanced pricing policies by the manufacturers, and incentives for salesmen.

The interactive part indicated that the best way to show advantages is through interactive driving simulator, but it is also the most expensive. For training, automotive clubs and driving schools are best. The functions should be clustered/integrated based on their function.



Vincent Rupied from Arval gave a presentation on the Fleet owner dimension. He stated that about 33% of new car registrations in Europe are to business fleets, and hence these are very important stakeholders with regard to eSafety deployment. Safety is also a major concern for the companies despite the beliefs of many.

The interactive part indicated that the audience believed the main conceived preoccupation of the fleet managers to be cost, although the hype on environment and safety is there. However, in reality the fleet owners are sensitive to the cost of accidents so if they are convinced they can save money by investing to safety they will do it. For fleet operators, the most important use of telematics is to follow user behaviour, followed by accident prevention and ability to optimise rescue services.

Matthias Stenau from DEKRA presented the Incentives dimension - experiences from Safety Truck Plus. The Safety Truck Plus has produced a testing package of several systems. The package is different for vans and trucks. Driver safety, economic and load security training are shown to be important issues.

The interactive part showed that voluntary driver education is seen as an appropriate tool for advancing the take-up of safety systems (50%). But the cost of driver training is prohibitive. In Switzerland these courses are mandatory (in Finland as well).

Jacques Boussuge from ASFA gave a presentation of the Infrastructure operator dimension. Key motorway safety factors involve monitoring and road side equipment, both utilising ITS. Safety and incident management are key aspects for the road operator. The "full" coverage of FM 107.7 radio (bulletin every 15 min) and RDS-TMC exist today. The future is heading for cooperative traffic management. Speed enforcement is shown to have considerable effect on safety and thereby on congestion, and environment. In-car speed limit information reduced risk of fatalities by 40% between 2002 and 2007. We need a well-functioning information chain to update speed limit information.

The interactive part showed that more than third of the audience regarded RDS-TMC to give most value to drivers. Congestion information is the most important information (40%). What is most needed is reliability of information (88%), when compared to precision and large network coverage.

Hermann Meyer from ERTICO summed up the results of the interactive session and moderated a panel and audience discussion. He concluded that there are several services and products on the market that are ready to be used, but have not been deployed to a large extent. This should be taken into consideration so the engineering society can involve the marketing people into the deployment process.

The most wanted eSafety technologies were discussed according to the answers and it became obvious that the OEMs were interested in marketing the devices as a package, which could be summed up as ADAS and not as one by one tools to be added at the wishes of the customers. The Swedish Road Administration wanted to see more interest in drowsiness and alcohol/drug-use detection. The ESC success story was touched upon when discussing the other questions.

The difficulties in convincing politicians with complicated technical descriptions regarding the eSafety packages was touched upon. The major players as marketing organisations were discussed and the OEMs are to have the main responsibility.

Poor connections as such are mainly a result of lack of roads and can only partly be corrected by the information received through various eSafety instruments.



Hermann Meyer thanked all the participants for a most interesting day and expressed his satisfaction with the interesting results.

Risto Kulmala summed up the conclusions and gave some closing remarks. Studies show that the systems have large safety potential and thereby also congestion reduction potential. However, this potential is only realised with large-scale deployment. As Prof. Mauro highlighted: "ITS is good in pilots, poor in deployment". We need a lot of work to mainstream ITS to make it a feasible option to invest in or to purchase. Some good examples exist such as ESC and perhaps surprisingly black boxes in Italy and Brazil - but driven by anti-fraud and anti-theft, yet expected to have profound effects on safety; perhaps CO2 awareness will also drive some systems such as speed adaptation.

Awareness of benefits is important, and especially of the safety benefits. Systematic, comprehensive and well-planned marketing will bring results, as the Bosch ESC marketing example shows. Dealers and fleet owners are two groups in key position and not always properly addressed. Some good examples exist also like Bosch dealer training and the Swedish Road Administration's fleet owner oriented efforts. Incentives are important, and we probably also need new ones to make the benefits tangible to the drivers. Road operators already have effective systems at their disposal but could improve with good cooperation with other stakeholders. Reliability of information is extremely important to end users as well as network operators

Attractive packaging of systems utilising the key safety technologies is one way of promoting the systems. An important problem is to explain what the different systems are doing as indicated by different end user surveys - simple messages understood by the public and politicians are badly needed.

Concerning the workshop, Kulmala thought that the interactive session was a success in providing good fuel to the discussions. In all, he stated that we had a good workshop with some good input to the work at the eSafety Forum and hopefully also to the participants' work in their own organisations.

Finally, Kulmala thanked the eSafetySupport team for their excellent work resulting in a well-organised and smoothly flowing workshop. He also expressed his thanks to the presenters and participants for making this an interesting workshop, and closed the workshop.

