

eCall - saving lives through in-vehicle communication technology



Imagine an electronic safety system in your car that would automatically call emergency services if you had an accident! Supposing that, even if you were unconscious, the system would inform rescue workers of your exact whereabouts. The ambulance and the fire brigade could be on their way in minutes, without the need for any human intervention. And imagine that this system would work anywhere in Europe – whatever the local language.

Such a system is not only possible; it is currently being rolled out across the European Union. The system is called "eCall" and it is one of the most important road safety actions under the European Union's "e-safety" initiative. eSafety seeks to improve road safety by applying "intelligent" safety systems based on advanced electronic technologies to road vehicles.

Cars that 'dial' 112

When a car fitted with eCall senses a major impact as in an accident, the eCall device automatically calls the nearest emergency centre. Calls can also be made manually, at the push of a button, if someone is still conscious in the crashed car.

Whether the call is made manually or automatically, there will always be a voice connection between the vehicle and the rescue centre in addition to the automatic data link. In this way, any car occupant capable of speaking and answering questions can provide additional details on the accident.

Road carnage – how eCall can help

No-one can doubt that action to reduce deaths and injuries on Europe's roads is urgently needed! At present, more than 40,000 people

are killed and 1.8 million injured annually in about 1.4 million traffic accidents on the Union's roads. The economic loss caused by road accidents amounts to more than €160 billion per year.

eCall will make a big contribution to reducing these horrifying figures by decreasing the number of fatalities and mitigating the severity of injuries. Studies suggest that eCall will cut response times of emergency services by 50% in rural and 40% in urban areas. That will save lives - estimates predict that up to 2,500 lives will be saved in the Union per year.

eCall will also mean speedier treatment of injuries and consequently better recovery prospects for accident victims. In terms of hard economics, up to €26 billion could be saved annually, were all cars equipped with the eCall system.

Rolling out eCall

Seems like a good system – right? So why is eCall not installed and functioning throughout Europe right now?

For eCall to work, all the pieces must be in place. Firstly, all new cars will have to be equipped with eCall devices. In 2005, the European Commission and the automotive

The single European emergency number 112, E112 and eCall

In the event of an emergency, the single European emergency number 112 can be called all over the European Union ("One number for all Europeans"). Calls can be made free of charge from fixed line or mobile phones. 112 calls must be given the same service level as calls to alternative national emergency numbers. It is desirable that staff at the emergency centres speak several languages.

E112 is a location-enhanced version of 112. It is crucial for mobile calls. The telecom operator transmits the location information to the emergency centre which in return must be adequately equipped to process this data. E112 is a logical development of 112; abroad, you often do not know exactly where you are, so the emergency centre should have the capacity to know it for you.

eCall builds on E112. Emergency centres and emergency service chains must be capable of dealing with calls coming from an in-vehicle eCall device. They must also be able to process the minimum set of data, including location data, which is automatically transmitted in the eCall, even when voice communication is not possible.

industry agreed to schedule full-scale roll-out of eCall for 2009. eCall devices were to be fitted into all new cars from September 2009.

Secondly, the single European emergency number 112 (see box on page one for details) must be operational for both fixed and mobile calls throughout the European Union. Unfortunately, not all EU Member States are as yet able to support the full 112 emergency procedure. At present, the single European emergency number 112, or its location-enhanced version E112 is working in 12 out of 27 Member States.

Thirdly, emergency centres and all rescue services must be capable of processing the location data transmitted by eCall. For example, ambulances need to be able to receive and process accident location data. Rescue centres should be able to forward all information to the fire brigade, hospital emergency rooms etc. In addition, to take full advantage of the voice link to the crashed car, centre personnel should be qualified to gather information in several languages.

"Bringing eCall to citizens"

Emergency centres and rescue services fall under the responsibility of national, regional or local governments, or appointed agencies. Action within Member States is therefore essential to prepare and equip emergency services for the implementation of eCall.

In 2005, with the aim of "bringing eCall to citizens", the Commission urged Member States to take the following measures:

- formally commit to the implementation of a functioning eCall system throughout the European Union;
- widely promote the single European emergency number 112;
- upgrade their emergency centres to enable them to handle E112 calls, and thus eCalls;
- modernise their entire emergency chains and train rescue personnel for the demands of the new system.

However, some Member States are ahead of others in implementing these proposals. At the current rate of progress, it is unlikely that all the elements required for a functioning eCall system will be in place throughout Europe in time for the planned roll-out date in 2009.

Further Information

- **Europa Information Society Portal: eSafety Home Page:**
http://europa.eu.int/information_society/activities/index_en.htm
- **eSafety support:**
<http://www.esafetysupport.org>
- **Europe's Information Society Thematic Portal:**
http://europa.eu.int/information_society/index_en.htm

Given these delays, the automotive industry decided in 2006 to postpone by one year the installation of eCall devices in all new cars. This is now scheduled for September 2010.

Bringing eCall back on track

The Commission has recently reinforced its efforts to keep eCall on track, with a 2006 action plan identifying measures crucial for making eCall a reality. Member States were given clear actions with deadlines for resolving the remaining problems and proceeding with 112, E112 and eCall infrastructures. Industry was asked to renew its commitment to eCall.

For its part, the Commission vowed to work on privacy and standardisation issues, and assist in field tests and public awareness campaigns.

Recent Progress

The formal commitment to eCall was first signed by seven Member States: Cyprus, Finland, Greece, Italy, Lithuania, Slovenia and Sweden. On 5 June 2007, on the occasion of an e-safety conference organised by the German EU Presidency, Germany and Austria put their signatures to the deal, and the Czech Republic and Spain announced that their signatures were imminent. Commitment to eCall also came from outside the EU: Switzerland was one of the first signatories. In the meantime, it was joined by Iceland and Norway.

Noting that the eSafety conference provided the occasion for Austria and Germany to sign up to eCall, it is hoped that the "Intelligent Car" conference and exhibition planned by the European Commission in September 2007 will produce further progress. In a press release on the day of the German and Austrian signature, Viviane Reding, European Commissioner for the Information Society and Media, said:

"I welcome that two more Member States are now joining our eCall initiative, bringing the total number of countries to 12. We have clearly achieved critical mass today. I now urge industry to keep to the timetable for equipping all new cars with eCall by 2010. I furthermore sincerely hope that at the European Commission's next event on the 'Intelligent Car', other Member States will join eCall. When the safety of our citizens is at stake, neither industry nor public administrations should shy away from their responsibilities."