

eCall - saving lives through in-vehicle communication technology

eCall automatically calls the emergency services and transmits location data from the scene of road accidents. Thus, the response time of the emergency services is cut drastically, saving lives and resulting in less severe injuries.

The implementation of eCall is the most prominent objective of the eSafety initiative. eSafety is a public-private partnership which aims to increase road safety through accelerated deployment and use of Intelligent Safety Systems, built using advanced information and communication technologies (ICT).

Actions are urgent! At present, more than 40,000 people are killed and 1.8 million injured in about 1.4 million annual traffic accidents on the Union's roads. The economic loss caused by the crashes amounts to more than €160 billion per year.

eCall will help

eCall will make a large contribution by reducing the number of fatalities and mitigating the severity of injuries.

Cars that dial 112

When in the event of an accident a car senses a major impact, its eCall device automatically calls the nearest emergency centre (Public Safety Answering Point – PSAP). For the calls to work all over the European Union, the single European emergency number 112 (see box below) is used. The car trans-

“eCall is a good example of how we can increase the quality of life of European citizens through innovation and use of new technologies.

It has huge potential. Every year, it can save 2,500 lives in Europe, with very large socio-economic benefits.

We cannot wait any longer: we have to work together and sort out the barriers remaining to the implementation of eCall”
(Viviane Reding*)

mits a so-called minimum set of data. The exact geographic location of the crashed car is part of the set. The fact that the rescue services immediately get the accurate location data drastically cuts their response time: the ambulance, to pick an example, will be on the spot much quicker.

Studies suggest that response times in rural areas will be cut by 50% and in urban environments by 40%. It is evident that such reductions in response time will save lives. Estimates predict that up to 2,500 lives will be saved in the European Union per year.

Shorter response times will also result in less serious injuries. This offers better healing and recovery prospects. As regards economic savings,

up to €26 billion could be saved per annum, were all cars equipped with eCall.

Manual dialling possible

By pushing a button in the car, the call to the emergency centre can also be made manually. In either case, be it made manually or automatically, there will also always be a voice connection between the vehicle and the rescue centre in addition to the data link. Thus, further details on the accident can be given if anybody in the car is capable of speaking and answering questions.

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 several languages are spoken in the emergency centre.
- E112 is a location-enhanced version of 112. It is crucial for mobile calls. The telecom operator gives the location information to the emergency centre which in return must be 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. It requires emergency centres and emergency service chains that are capable of dealing with calls coming from an in-vehicle eCall device and of processing the minimum set of data, including location data, which is automatically transmitted in the eCall even if voice communication is not possible.



eCall roll-out planned for 2009

At a high-level meeting between the European Commission and automotive industry in February 2005, the full-scale roll-out of eCall was scheduled for 2009: from September 2009 on, eCall devices will be fitted into all new cars. However, for eCall to function, emergency centres must be equipped with location-processing capabilities by that time, in order for the emergency centres to be able to receive eCalls. (see E112 in the box overleaf)

Some Member States are ahead

The operation of the emergency centres is in the hands of the Member States, their regional or local authorities or appointed agencies. Some Member States are ahead of others as to the full implementation of the single European emergency number 112 or its location-enhanced version E112. For instance, in 12 out of 25 Member States, E112 is already working. This is very welcome because this location-enhanced version is an indispensable prerequisite for eCall. eCall cannot work without emergency centres that possess the necessary technical equipment.

Emergency centres must be upgraded

In order to raise Member States' awareness of lacking equipment and to speed up their investments in the emergency centres, the European Commission adopted "The 2nd eSafety Communication – Bringing eCall to Citizens" on 14 September 2005. In it, the Commission sets out four principal actions to be taken by the Member States to overcome the bottleneck caused by the lack of upgrading of many emergency centres:

- all Member States should sign the eCall Memorandum of Understanding (MoU). Its purpose is to ensure the implementation of eCall in such a way that the system will work all over the European Union,
- Member States should promote the single European emergency number 112 and E112. Only Denmark, Finland, the Netherlands and Sweden use it as sole emergency number, and 13 Member States are not yet capable of processing location information (E112),
- therefore, Member States should upgrade their emergency centres to handle location-enhanced E112 calls and then enable them to process the information coming in via eCalls and
- last but not least, all Member States should modernise their entire emergency services to enable e.g. ambulances to use accident location data. Emergency centres should be

able to forward all information including accurate location to the fire brigade, hospital emergency rooms etc. In addition, staff must be trained on the new functionalities. To take full advantage of a possible voice link to the crashed car, centre personnel should also be qualified in gathering accident information in several languages.

Recent Progress

The Memorandum of Understanding (MoU) had already been signed by two Member States: Finland and Sweden. On the occasion of a high-level meeting on 18 October 2005, four more Member States took this first step: Greece, Italy, Lithuania and Slovenia. Cyprus, the Czech Republic, Denmark, Germany and the Netherlands, stated in the meeting that they would soon sign it. Commitment to eCall is also coming from outside the EU: Switzerland was one of the first MoU signatories, and Norway is closely following all eCall developments.

The 20 Member States present on 18 October reported on the progress they made in the implementation and upgrading of 112, E112 and eCall. All of them gave strong support to eCall and its implementation. Commissioner Reding* congratulated Member States on the progress, but also noted that she would continue to monitor developments closely, and that by the end of 2005, a 'critical mass', or a majority of Member States should sign the Memorandum of Understanding.

(*Viviane Reding is European Commissioner responsible for the Information Society and Media)

See also:

- Fact sheet 35: i2010
- Fact sheet 44: 112
- Fact sheet 48: eSafety

All fact sheets and more can be downloaded from "Europe's Information Society Thematic Portal", below.

Further Information:

- **eSafety Home Page:**
http://europa.eu.int/information_society/activities/esafety/index_en.htm
- **Europe's Information Society Thematic Portal:**
http://europa.eu.int/information_society/
- **eScope – the eSafety Observatory:**
<http://www.escope.info>
- **Information Society and Media Directorate-General, Unit G4 – ICT for Transport:**
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