

eCall – saving lives through in-vehicle communication technology



In the near future, your car will have an electronic safety system automatically calling emergency services in case of a serious accident. Even if you are unconscious, the system will inform rescue workers of the crash site's exact whereabouts, and the ambulance will be on its way within minutes. The system, which has been baptized "eCall", is going to work all over the Europe Union. It will soon be rolled out across the EU plus Iceland, Norway and Switzerland.

Cars that 'dial' 112

As soon as the eCall device in your car senses a severe impact in an accident, it automatically calls the nearest emergency centre and transmits it the exact geographic location of the accident scene and other data. With the same effect, eCalls can also be made manually, at the push of a button. This is convenient if, for instance, you become witness of an accident.

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

Road carnage – how eCall can help

Action to reduce death figures and injuries on Europe's roads is urgently needed! In 2009, about 35,000 people were killed and 1.5 million injured in about 1.15 million traffic accidents on the EU's road network alone.

Getting an immediate alert in the event of an accident and knowing the exact location of the crash site cuts emergency services' response time by 50% in rural and 40% in urban areas. Thanks to this gain in time, eCall is expected to save up to 2,500 lives in the European Union each year, and to mitigate the severity of tens of thousands of injuries. eCall will also result in faster treatment of injured people, thereby giving accident victims better recovery prospects. Arriving at the accident scene sooner will also allow faster clearance of crash sites, thus reducing the risk of secondary accidents, decreasing congestion times, cutting fuel waste and lowering CO₂ emissions.

In hard financial terms, the EU's economic loss caused by road accidents amounts to more than €160 billion per year. If all cars were equipped with the eCall system, up to €20 billion could be saved annually.

The single European emergency number 112, E112 and eCall

In the event of an emergency, the single European emergency number 112 can be called free of charge from any fixed-line or mobile phone all over the European Union. 112 calls are given the same service level as calls to alternative national emergency numbers. Staff at the emergency centres should speak several languages.

E112 is a location-enhanced version of 112. The telecoms company knows the geographic origin of the call and transmits this information to the emergency centre which, in return, must be adequately equipped to process this data. E112 is a logical development of 112. When you are abroad, it is hard to know where exactly you are, especially in an emergency. If the emergency centre knows your whereabouts for you, its response will be much faster.

eCall builds on E112. Emergency centres and emergency service chains must be capable of dealing with location-enhanced E112 calls. They must also be able to process the minimum set of data, which eCall transmits automatically. In addition to the coordinates of the crash site, the set contains information on the type of vehicle (e.g. coach or passenger car – a fact impacting heavily on the potential number of injured people), the direction of travel (an important detail esp. for accidents on the motorway) and more data relevant for the rescue services.

Rolling out eCall: the challenges

Despite these tangible benefits from a technology that is ready to roll, eCall has still some way to go before being installed and functioning throughout Europe. This is mainly because of the need for parallel action from a range of different parties involved in the value chain:

- Firstly, all new cars leaving the assembly lines will have to be equipped with eCall devices complying with common European standards.
- Secondly, telecom operators must ensure that the mobile networks are capable of identifying the 112 eCalls. The voice call and the minimum set of accident data must be transmitted as quickly as possible from the crashed vehicle to the emergency call centre.
- Thirdly, emergency centres and rescue services must be equipped for processing the minimum set of data transmitted by the eCall. For example, emergency centres must be capable of receiving and using the accident's location data. They should also be equipped to forward all information to the ambulance, police, fire brigade, hospital etc. Unfortunately, not all the emergency call centres in all EU countries are yet able to support these functionalities.

The European eCall Implementation Platform (EeIP)

The European eCall Implementation Platform (EeIP) brings together experts from Member States and relevant stakeholders (automotive manufacturers, telecom operators, suppliers, automobile user clubs, road operators) to simultaneously work on the missing parts in the value chain. The platform guides, coordinates and monitors the progress of the implementation of the eCall service across Europe. It makes sure a timely, effective and harmonized deployment of the service.

The European Platform also coordinates the work of the National Platforms. In particular, it follows up on the pre-deployment pilot projects that are intended to test and ensure the interoperability and efficiency of the eCall service across Europe.

Broad support for eCall!

At present, 20 EU Member States have formally declared their support for the timely deployment of a pan-European eCall: Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Italy, Lithuania, Luxemburg, Malta, the Ne-

therlands, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden. Four more EU Member States have started the internal procedures that precede signing: Bulgaria, Hungary, Latvia and Poland. Ireland has stated support for eCall's mandatory introduction. Formal commitment to eCall also comes from Iceland, Norway and Switzerland. Regrettably, two Member States are still reluctant to support eCall.

Additional to government support, there are now more than 100 official commitments to eCall from industry, road safety organisations and other interested stakeholders (see www.ec.europa.eu/ecall for the complete list of signatories).

The European Parliament has been giving its full support to the deployment of eCall on multiple occasions. According to an opinion poll on the subject, the majority of European citizens want to have eCall in their next car.

Next Steps for Deployment

The Commission has reinforced its efforts to speed up eCall deployment and is helping with additional measures. These measures comprise

- support for the European eCall Implementation Platform,
- awareness-raising and education activities among consumers, drivers and car dealers
- and funding of the eCall pre-deployment pilot projects.

The Commission is also considering adopting regulatory measures targeted at different actors, namely

- the automotive industry: to mandate the introduction of an affordable eCall system in all new vehicles;
- the telecom operators: to transmit the emergency call and the associated data from the vehicles to the emergency call centres
- the Member States: to immediately upgrade their emergency call centres for efficient handling of the eCalls.

Further Information

- **eCall page:**
www.ec.europa.eu/ecall
- **iCar support:**
www.icarsupport.eu
- **Europe's Information Society Thematic Portal:**
www.ec.europa.eu/information_society