

# eCall differences



*In the March issue of BAPCO Journal we reported on the ground swell of support that is building up across Europe for the introduction of eCall and the fact that the UK has declined to sign the Memorandum of Understanding. In this issue, Ian Readhead, President of BAPCO, and holder of the Communications Portfolio for the Association of Chief Police Officers (ACPO), explains how the operation of the UK's Telematics Protocol differs from the proposed eCall system, and what role BAPCO could play in ensuring that both industry and professionals are fully prepared for the 'telematics' future.*

*Photographs are courtesy of Durham Constabulary Collision Investigation Unit.*

**T**he UK police service, along with the other emergency services, is keen to support any technology that can potentially help reduce the volume of deaths on UK roads, which in 2006 amounted to 3,172. Aside from the significant human cost of such potentially avoidable tragedies, it is estimated that the total cost to society for each collision that results in a fatality is in excess of £1 million.

ACPO demonstrated its support for the eCall concept by being involved in the development stages of the system as early as 2001 through the E-Merge project. This work led to the development of the Telematics Protocol, which is the agreement between relevant stakeholders that sets out the preferred method of handling emergency calls originating from Telematics devices within the UK.

The European Commission sees eCall as a key tool in reducing road deaths by enabling emergency services to arrive at traffic accidents more quickly, deploy the right resources and reduce the severity of injuries by earlier medical treatment. The Department for Transport, the government department with ownership of this area of business, whilst supportive of the eCall concept has yet to commit the UK to signing the eCall Memorandum of Understanding. As was reported in the last issue of BAPCO Journal, the DfT are currently of the view that it is far from clear that the business benefits claimed for eCall would ever be fully realised in the UK.

Leaving these fundamental concerns aside, there are significant differences in the way that the UK, Europe and, indeed, North America have approached the eCall concept both in terms of the business model adopted and in the technology that has been deployed. Through the involvement of Police Inspector Lee Warhurst, secretary of the ACPO Communications Portfolio Group and member of the BAPCO SE Committee, in the European Commission's PSAP Expert Group, it is hoped that the gaps between the UK and European models can be narrowed so that ultimately the systems will work seamlessly across the European continent.

Following the April meeting of the group, Lee reported that he had seemed to be the recipient of some criticism levelled at the UK for not having shown support for eCall by signing the MOU. However, he was able to point out that unlike some nations that have signed the MOU, we actually have an eCall system up and running in the UK that actually works.

Interestingly France – which has the largest volume of eCall equipped vehicles in Europe – is also yet to sign the MOU.

Concurrent with progressing work within the European arena, we have been discussing the issues surrounding eCall with colleagues in BAPCO's North American sister organisation, APCO, through the Global Alliance in order to seek a degree of standardisation across both continents.

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*Single vehicle collisions on rural roads are the ones most likely to benefit from the more speedy response promised by eCall.*

I think it is naive to think of the motor trade as anything other than a global industry. In order to make it cost effective for manufactures to equip all their vehicles with eCall devices, at a price consumers are willing to pay, the onus is on parties involved in the service delivery chain to try and reconcile the differences in approach that currently exist.

However, the degree of disparity resulting in the gaps between the UK, European and North American models might be considered to be a "bridge too far" to breach. Unlike the majority of Europe, and all the US, the UK uses a two level PSAP system for handling emergency calls from the public. The call is answered by an emergency call handling agent (predominantly British Telecom or Cable & Wireless) – this is the Level 1 PSAP – who then connects the call to the appropriate emergency authority in terms of function and geography – the Level 2 PSAP. This principle was established in the early days of the public telephone service over 70 years ago, and has survived the opening up of competition in the telecoms market. Any model adopted within the UK for handling eCalls needs to accommodate the inclusion of dual-level PSAPs.

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A further complication arises as a result of the role of the service provider – organisations which offer additional services such as breakdown assistance, vehicle tracking, route guidance, and even remote unlocking of the vehicle. In the UK these organisations add value for the emergency responders by providing additional information over and above that included within the minimum data set of the eCall message. Service providers can also be included in both the European and North America models but there is a crucial difference in where they sit in the service delivery chain.

In practical terms the UK is already handling a number of eCalls which derive from services offered by BMW and Volvo. These systems have been adapted to comply with the standard required by the UK – Telematics Protocol. This states that the voice call from the vehicle must be routed directly to the Level 1 PSAP whilst the data set is routed via the third party service operator before being delivered to the same PSAP.

The system is quite different in Europe and the US. If a service provider is involved there, both the voice and data

calls are routed to that third party service provider before being connected to the appropriate level PSAP. If this model were to be replicated in the UK it would add an unnecessary and inefficient additional link to the chain that could increase deployment and response times. In order to reduce overall costs, the eCall MOU does not specify the inclusion of third party providers which means that all the data received by the Level 1 PSAP must originate from the vehicle itself.

In terms of the technology, the UK and Europe are currently quite closely aligned, both using the GSM + SMS-based system which effectively separates the voice and data elements of the eCall, the former being carried by the GSM channel and the latter being delivered by an SMS message.

The US model is rather different. There they use GSM plus In-Band Modem (IBM). This solution has the advantage that both voice and data elements of the eCall are transmitted via the same GSM channel which means they do not have to be rejoined because they are never fully separated. However, this may not be an advantage from the resilience point of view because if one element is lost, both are. There is also an inherent delay in transmission of the voice element by up to 20 seconds. The European Telecommunications Standards Institute (ETSI) working party has recommended adoption of IBM as the European standard, although it acknowledges that a 20 second delay before the voice element can proceed is not acceptable.

There are other technical issues to be resolved, for instance there is debate about whether the system should SIM or SIMless. In the UK, emergency calls (so by definition eCalls) cannot currently be made without a SIM card. This is to reduce inappropriate 999 calls but also to ensure that emergency services can call the user back if the line is lost.

There is also a difference in the criteria for automatic activation. The eCall MOU only requires the driver's airbag to be deployed to initiate an eCall while the Telematics Protocol requires at least two nominated sensors to be activated. While these differences are not irreconcilable, they are real.

So, where does BAPCO fit into this picture? It is important that we understand what is happening in Europe because it is always possible that as eCall systems begin to go live in various Member States that the European Commission will decide to mandate its use. So, it is crucial that BAPCO members understand the differences between the UK system and the current eCall MOU, and why they exist.

Beyond that, BAPCO can have a vital role in communicating these differences effectively to both the suppliers of the technology and the business process designers and policy makers.

However they are organised, and whatever technology is deployed, what all the business models rely upon is input from professional and suitably trained call handlers.

There is an opportunity for BAPCO to add value to this element of the process through the adoption of its accredited training materials, irrespective of whether the call handler is sitting in a private service provider's, emergency call handling agent's, or emergency authority's call centre.