The Motorcycle Industry In Europe

eCall devices for L-category vehicles

EXECUTIVE SUMMARY

- The motorcycle industry considers that eCall systems can make an important contribution to riders' safety and is working towards eCall systems integrated into the vehicle

- Appropriate standards, based on the results of the I_HeERO project, must be adopted to pave the way for future deployment of eCall devices on motorcycles

- The industry calls for additional study specifically dedicated to eCall systems for tricycles and quadricycles

Mitigation of accident and injury outcomes

eCall devices are tertiary safety systems that can further enhance riders' safety, beyond the preventive and active primary safety systems that are currently deployed, such as ABS, or that are currently being researched for future deployment, such as vehicle-to-vehicle and vehicle-to-infrastructure (V2X) applications.

In 2013 the motorcycle industry joined the I_HeERO project that aims at implementing an emergency call or eCall solution to improve road safety in Europe through Public Safety Answering Points (PSAPs). ACEM members participate in this project in order to develop minimum functional requirements for PTW (powered two wheeler) eCall

systems and to prepare the basis for future standardization activities. This work will enable widespread deployment of eCall systems in the future.

Standardization of eCall solutions is important to ensure that systems are functional and compatible with the existing infrastructure, vehicles and devices. It will also help companies to guide their long-term investment decisions.

Challenges involved in developing an eCall system for motorcycles

There are significant differences between eCall devices for motorcycles and for passenger cars. In motorcycle accidents, due to their specific riding dynamics, the motorcyclist may become separated from the vehicle. Furthermore, voice connection on a vehicle-based system cannot be easily and reliably established. Sometimes, this is not even possible because in the vast majority of post-accident scenarios the rider is several metres away from the vehicle. Also, helmets act as an additional obstacle in establishing a clear and high-quality voice connection.

Motorcycle accidents have more complex crash dynamics than car accidents. This results in different injury patterns and severity which require a dedicated approach to identify the right algorithm for triggering the eCall.

Lastly, unlike cars, PTWs can fall with or without collision with a solid object and even without a rider being involved. Therefore, manufacturers should also find a definition of requirements to avoid false calls being sent to PSAPs.

Outcomes of the I_HeERO project

As a result of the work carried out, within the I_HeERO project, by the motorcycle industry, a set of minimum functional requirements for a PTW-specific eCall system, embedded in the vehicle, has been developed.

The project identified some technical incompatibilities with the existing eCall standards (mainly standard EN 16072:2015), which still need to be solved in order to allow the standard to be applied to PTWs. These incompatibilities are related to the specific vehicle dynamics and crash behaviour of PTWs, which differ fundamentally from that of cars.

This is primarily because in most of the post-accident scenarios the rider is separated from the vehicle by several metres, as explained above.

INDUSTRY POSITION ON ECALL DEVICES

- Current eCall standards were defined specifically for passenger cars and they are not compatible with the I_ HeERO recommendations for PTW eCall.

- EU regulation 215/758 concerning the type-approval requirements for the deployment of the eCall in-vehicle systems is based on the current standards for passenger cars and is not compatible with the I_HeERO recommendations for PTW eCall.

- I_HeERO final outcomes on a minimum set of PTW-specific functions should be used as the basis for feeding the standardization activities, which have already been initiated in CEN.

- Amendment of current eCall standards (mainly EN 16072:2015) or definition of a new PTW-specific eCall standard is needed to enable successful deployment (already ongoing in CEN TC278/WG15).

- An additional study specifically dedicated to eCall systems for tricycles and quadricycles is necessary in order to find, between passenger car and the PTW eCall standards, the most suitable one according to vehicle dynamics and architecture.

- The possible widening of the scope of the eCall Regulation to categories other than M1/N1 should be assessed in line with article 12 of EU Regulation 2015/758. – i.e. to take account of the lessons learned for car eCall, as well as the dedicated assessments made for the appropriateness of PTW eCall. These recommendations should be presented by the European Commission before 31 March 2021.

About ACEM

The European Association of Motorcycle Manufacturers (ACEM) represents manufacturers of mopeds, motorcycles, three-wheelers and quadricycles (L-category vehicles) in Europe.

ACEM members include 17 manufacturing companies: BMW Motorrad, Bombardier Recreational Products (BRP), Ducati Motor holding, Harley-Davidson, Honda, Kawasaki, KTM, KYMCO, MV Agusta, Peugeot Scooters, Piaggio, Polaris Industries, Renault, Royal Enfield, Suzuki, Triumph Motorcycles and Yamaha.

ACEM also represents 17 motorcycle industry associations in 14 different European countries. About 156,000 jobs depend on the L-category industry in Europe. There are about 35.3 million motorcycles and scooters on Europe's roads (2015 figures).

To find out more about ACEM please visit **www.acem.eu**