eCall- Next Steps

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CEN/TC 278
ITS standardization

HOORAY! AT LAST eCall becomes a legal requirement

- Congratulations and thanks to all for their considerable efforts, but….
- Regulated eCall is only for *new model* Category M1 and N1 vehicles.
- But I_HeERO and CEN PTs and CEN WG15 have (potentially) made great strides to take eCall forward

CEN TS 17184, eCall using IMS
CEN TS 17240, eCall using IMS conformance tests

- Standards are agreed standardized means to achieve something, they are not regulations. They do not force you to do anything, just provide a standard way to do something if you choose to do/support it
- TS 17184 is the PS equivalent of “High Level Application Protocols” (EN 16062)
- TS 17240 is the PS equivalent of EN 16454 (Conformance tests)

But what about areas that are not covered by 2G/3G or 4G?

- Of course, at the moment eCall is not possible in these circumstances
- A new TS "eSafety – eCall via satellite telecommunications" (WI 278476) is currently in voting process
- In respect of *112-eCall* (operating requirements defined in EN 16072), this European Standards Deliverable defines specifications for the provision of eCall via satellite communications networks (*Satellite-IMS-112-eCall* and *Satellite-TPS-eCall)*
- Satellite eCall will probably not be provided free of charge, and requires satellite communications equipment in the vehicle, so it is not proposed for general use, but may be adopted by those spending time in uncovered areas, particularly, for example agricultural and forestry vehicles, cross country motocross bikes, those in low population mountainous or desert areas

But what about connected cars and CCAMs?

- The current view for connected vehicles is that they will be hybrid: *e.g. connected via G5 C-ITS communications for safety services and LTE/4G for other services*
- TS 17182 "ESafety — ECall high level application protocols via an ITS-station", in the event of an eCall, provides protocols to take command of any available LTE/4G channel and uses it to send the eCall.
- It stays outside of any other C-ITS communication
- It avoids duplication of telecommunications equipment in the vehicle
- An eCall routed this way would, as with a normal LTE/4G eCall, fall back to making a CS eCall if there is no IMS support available
- As for CCAMs (re: Automated cars)- these of course may crash when there is no-one on board. WG15 is currently assessing the needs for optional additional data for these types of vehicle

eCall for HGVs

- Thanks to some sterling work by our Dutch colleagues we already have TS 16405 that can either show the cargo content of a commercial vehicle. Or provide a URI/URL to where that data can be found
- I_HeERO and PT1507 identified some additional data that could be useful (if available) to a PSAP/emergency responder
- TS 17249-2 specifies the use of TS 16405 and triggering, for both CS and PS eCall. It provides the option that, in an IMS environment, (but not CS) a second data concept could be sent with additional information (A revision of 16405 will define these optional extra data)

eCall for Coaches and Buses

- TS 17249-3 specifies optional additional data in the event of a coach or bus crash. The additional data is

rolloverSignal		
impactZone		
	impactAtFront	
	impactAtRear	
	impactAtLeft	
	impactAtRight	
	impactAtRoof	
fireAlarm		
trailerAttached		
contactPhone		

eCall for Agricultural and Forestry Vehicles

- TS 17249-4 specifies optional additional data in the event of an agricultural or forestry vehicle crash. These vehicles often work in remote places with a single operator, so crash notification is extremely important. The additional data is :

optionalAdditionalData				
oid	RELATIVE OID		M	Fixed value: 4.1
data				*encoded as OCTET STRING*
rolloverSignal	ENUM		M	Indicates if rollover has been detected by *IVS (3.9)*. Rollover is when the vehicle orientation has changed by more than 90º The supported values are: - noRolloverDetected - rolloverDetectedt - rolloverDetectionUnclear NOTE: Considering agricultural accident data this is considered the most important information (both indicating the accident type and severity to the *PSAP (3.15)* operator) and may have impact on emergency response action.
operatorInVehicle	ENUM		O	Indicates if vehicle's operator was present in the vehicle at the moment of eCall triggering. The supported values are: - notInVehicle - inVehicleNoSeatbeltInfo - inVehicleSeatbeltFastened - inVehicleSeatbeltNotFastened - automatedVehicleWithoutOperator NOTE: this information can be used by the PSAP to assert the condition of the operator.
implementList			O	List of at maximum 3 connected *implements (3.8)* NOTE: the contents of this data element gives context about the type of work performed to the PSAP, that might be useful in the assessment of the severity of the incident.
implementType[1]	ENUM		M	NOTE: the enumeration is derived from the *ISOBUS (3.10)* dictionary which follows ISO 11783-11.and can be found in the ASN.1 definition in the Annex
implementType[2] ... implementType[3]				

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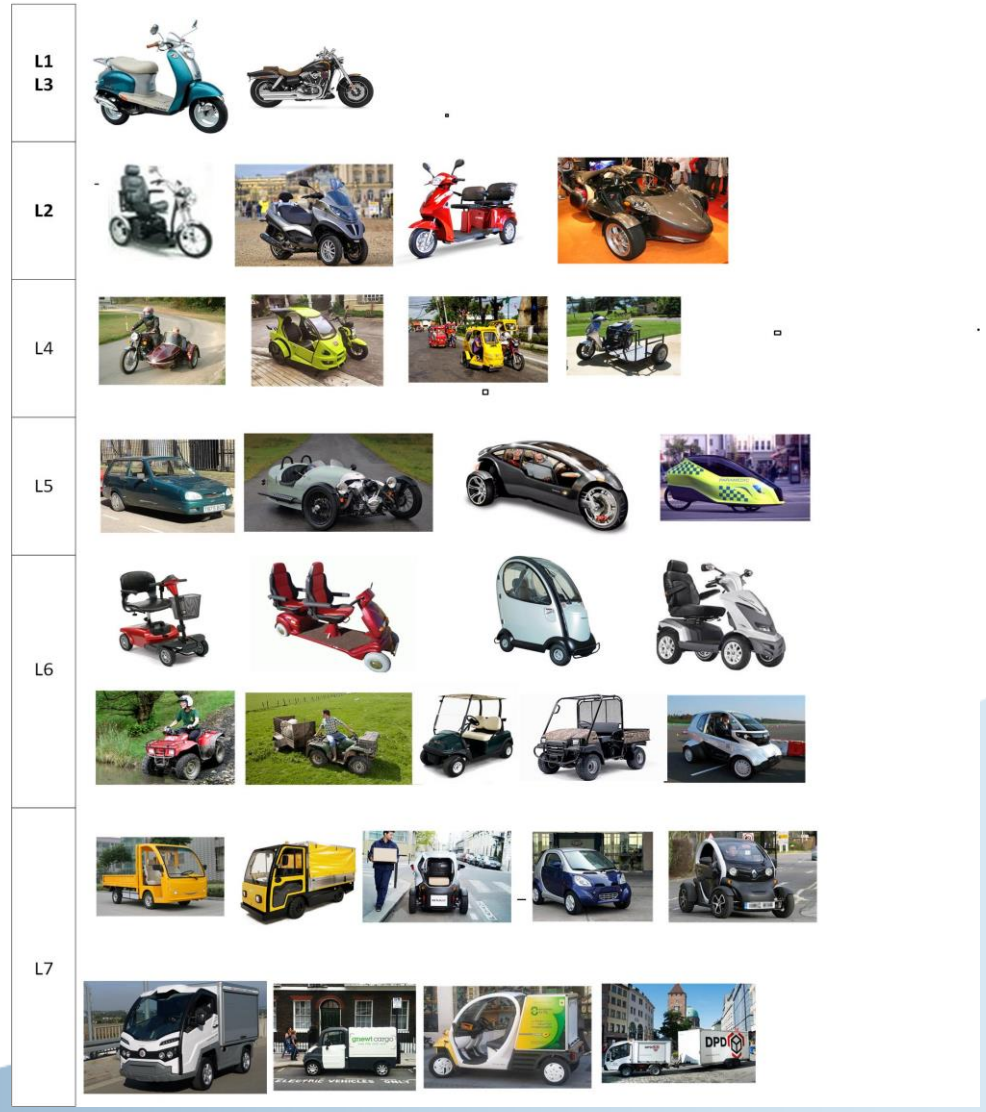
eCall for Powered 2 wheel vehicles.

- So WG15, after long discussion, propose that for P2WV a microphone is required so the PSAP can hear background noises at the scene of the incident
- The MSD will tell the PSAP that it is a P2WV
- It is an option for the OEM to provide a speaker (it may well be practicable on some types of larger P2WV)
- An OAD in the MSD will advise the PSAP if a 2 way conversation is possible or not
- TS 17249-5 (Draft) has been prepared on this basis,

UNECE Categories L2, L4, L5, L6,L7



- Category L is a lot more than P2WV
- TS 17249-6 specifies that each of these, if equipped for eCall, should provide the data appropriate for their "use case"
- *If it behaves like a car it sends a car MSD*, if it behaves like a P2WV it sends a P2WV MSD, **if it behaves like an HGV it sends an HGV MSD**
- NOTE: It would be beneficial to develop a specific equivalent to EN 16454 for conformance tests for ALL Category L vehicles

Conformance and Performance measurement for PSAPs

- EN 16454 (and TS 17240) provide the basic conformance tests, for, amongst others, PSAPs
- But they don't provide any measure of 'performance'
- TS 17234 provides tool for PSAPs to be able to measure their conformance and performance

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Aftermarket eCall – the challenge

- Regulated eCall currently applies only to new model vehicles. 5% vehicle park changes each year, and models generally run 7 years before new model type approval, so it will be well into 2030's before most of the vehicle park is equipped for eCall
- But there are approaching 300 million vehicles today and a forecast 400 million vehicles by the 2030's, so there is a huge aftermarket opportunity
- But choosing "approval" of the IVS by "type approval" means it does not apply to aftermarket
- So long as the telecoms equipment complies to 2G/3G/4G anyone's aftermarket eCall system can send a 112 eCall if set up to do so
- MS concern over the lack of specifications and standards for aftermarket eCall and the high risk of false calls, Was it a bump in the road or a real crash? Without minimum parameters either could apply.

So we have all these shiny new standards… but only M1 and N1 are implemented

- Do we wait for EC/EU to regulate ??
- If we do so how do we ensure a better job than the current regulation for M1/N1 ???
- How do we avoid the TPS mess in the regulations happening with the new categories and technologies??
- EU Regulations are decided in a negotiation between EC, EU Parliament, and EU Lawyers……none of whom are experts in the technical detail and implementation of eCall

It took 15+years to implement 112 eCall for M1/N1 vehicles

- Will we be sat here in 2028 still waiting to get eCall implemented for more than just new model M1/N1s because we are waiting for EU to regulate ???

Industrial and Commercial Responsibility

- Did bar coding happen by regulation ……NO
- Did RFID happen by regulation……NO
- Is Internet of things developing by regulation……NO
- Did mobile telephony implementation happen by regulation…..NO

- In all of these, and many other cases, implementation is primarily driven by industry and commerce.
- Sure, Regulation plays a role…… But that role is as the equaliser, sometimes the enabler, ……not the driver

Industrial and Commercial Responsibility

- We now have the tools to widen eCall to other classes and use packet switched networks and even satellite communications
- QUESTION: Do we have to wait for the EC to regulate to enforce these extra capabilities? Does the Commission really want to do this?-For sure if lives are being unnecessarily lost it will be their responsibility to do something…..but
- Wouldn't is be better if the Industry organised itself through voluntary means.?
- It would be quicker, less onerous, more flexible, and save lives more quickly
- It would provide a coordinated means to interface with The Commission
- It would be far more cost efficient for The Commission
- Industries such as Automatic Identification, IoT etc largely regulate themselves, organise projects, interface to The Commission and work together with the Commission

Questions

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