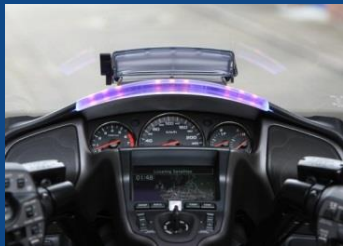


The Development of ITS Technology, Current Challenges and Future Prospects

Antonio Perlot
Secretary General



*VI International Conference on
European Traffic Policies
Session: "Research and Technology
Applied to Road Safety"
16 May 2014, Barcelona*



The Motorcycle Industry in Europe

- Established in 1994, representing L-category vehicle industry
- 14 manufacturers producing 30 brands
- 18 national associations, also representing smaller manufacturers & suppliers (SMEs)



37 million users in EU28

Diversity of vehicles,
owners and purposes

Commuting, Leisure,
Sport

More and more EU
citizens using Powered
Two-Wheelers (PTWs)
for commuting



L-category* vehicles – More than motorcycles

2-Ws**
Mopeds & motorcycles



3-Ws**
Tricycles



4-Ws*
Quadricycle



* Two- or three-wheel vehicles and quadricycles

** 2/3/4-Wheelers



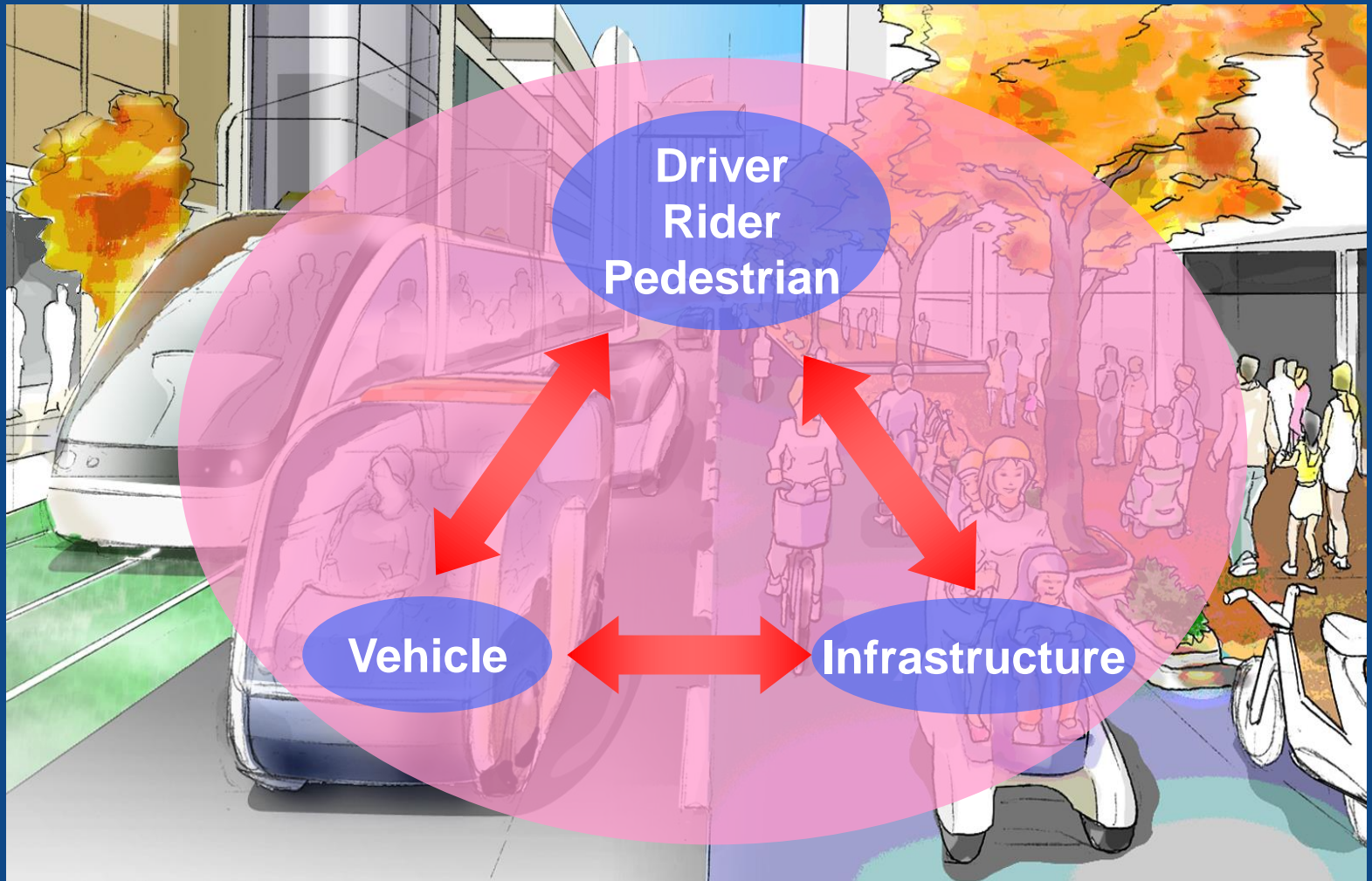
ITS – Definition

Extract from 2010/40/EU (EU ITS Directive):

‘Intelligent Transport Systems’ or ‘ITS’ means systems in which information and communication technologies are applied in the field of road transport, including infrastructure, vehicles and users, and in traffic management and mobility management, as well as for interfaces with other modes of transport



ITS – ICT* application and interaction



ITS – “The Bigger Picture”



ITS – General Industry View and Action

- **ACEM is ready to embrace ITS as an integral part of future mobility aimed at:**
 - **improved safety (SAFE)**
 - **more efficient and comfortable transportation (SMART)**
 - **reduced energy consumption (CLEAN)**
- **A growing number of individual ACEM members is actively involved in research and demonstration projects around the world dedicated to cooperative ITS as most promising area for the following reasons:**
 - **highest benefit potential (notably PTW conspicuity)**
 - **well-established standardisation community**
 - **proactive authority support and (co-)funding**
 - **reasonable component/system cost**





Cooperative ITS – The Way Ahead

- **V2X*** can address the most common PTW accident configurations and enhance conspicuity
 - **54% of PTW accident occur at an intersection (MAIDS)**
- **V2X will progressively appear in cars in the mid term**
- **PTW safety will benefit from being included in this connected world**

** Vehicle to Vehicle (V2V)
Vehicle to Infrastructure (V2I)*



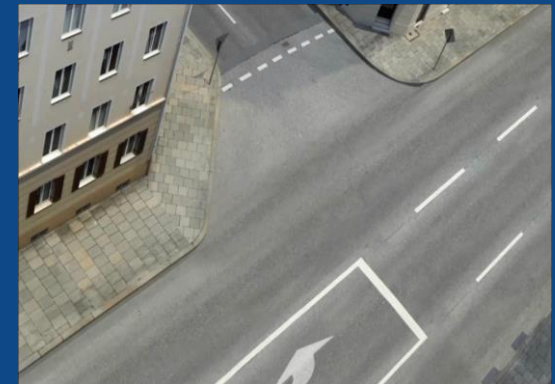
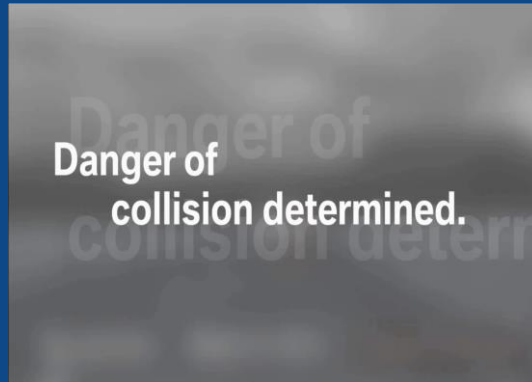
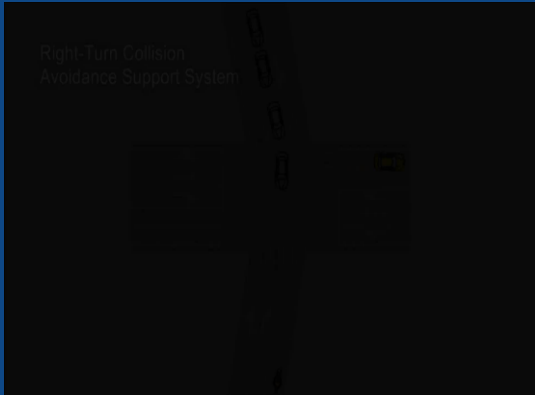


Cooperative ITS – PTW Industry involvement

- **Advanced Safety Vehicles (ASV) promotion project (Japan; 1996 –)**
- **Car2Car Communication Consortium (V2X standardization)**
- **ITS World Congress 2012 (presentation of Motorcycle Approach Warning System)**
- **V2X field operational test project SIM^{TD} in Frankfurt am Main (120 vehicles; 5 motorcycles)**
- **ITS World Congress 2013 (presentation of Motorcycle Approach Warning System (with autonomous driving car))**
- **DRIVE C2X project**
- **...**



Cooperative ITS – R&D, FOTs* and beyond



* Field Operational Tests





ACEM supports

- Further development of ITS applications which can improve safety for PTWs
- ITS solutions designed with consideration of the specific requirements of PTWs and their riders
- Integration of PTWs in transport management planning, infrastructure projects and consideration by car OEMs to realise the full potential of ITS in improving the visibility of PTW riders as vulnerable road users





ITS = the mobility of the future & the future of mobility

- The PTW Industry is ready to assume its responsibility and play its role in the connected society
- PTW manufacturers already work actively on ITS individually and in collaboration and will continue to investigate ITS technological and market potential





Telematics

Responsibility

Awareness

Forward looking

Functionality

Intelligence

Cooperation





ACEM New Road Safety Strategy

COMING SOON!

**New initiatives and commitments of the industry in the
ITS domain**

**Official launch – International Motorcycle Conference, Cologne,
29-30 September 2014**





For further information...



- Presentation
- Media Corner
- Policy Areas
- M

Subscribe to our newsletter

Policy Areas

- Safety**
Safety is one of the top priorities for the Powered Two-Wheeler (PTW) industry, and we dedicate much of our energy and resources to acquiring and analysing data regarding road safety and Powered Two Wheelers in order to identify and prioritize areas for improvements.
[Read More...](#)
- Mobility**
Getting to and from work, or even taking a quick trip into town is becoming ever more problematical. Rising traffic levels mean that road users have to spend anything up to several hours a day stuck in long traffic queues.
[Read More...](#)
- Environment**
Over the last decade PTWs have achieved remarkable progress in reducing their environmental impact. In October 2010 the European Commission adopted a

What's New

ACEM appoints new Secretary General
The European Association of Powered Two Wheelers (EAPTW) announce the appointment of Mr. ... with effect from 1 May 2014. Mr. ... who after 10 years at the helm of the EAPTW, will leave the end of July 2014. Mr. ... will be the new ACEM Secretary General and will be responsible for the day-to-day running of the ACEM.
[The full press release in PDF](#)

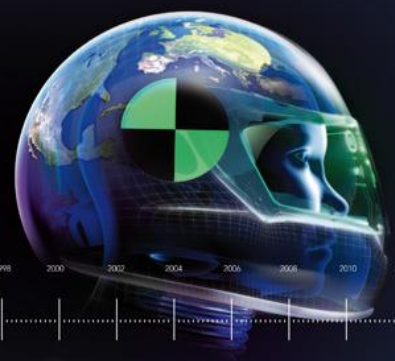
Sales of PTWs increase
A total of 252,260 powered two wheelers were sold in Europe in February and March 2014. This is an increase of 1.2% compared to the same period for 2013. In Europe, the European markets for PTWs increased on Spain (+21.2%), Germany (+2.6%).
[The full press release in PDF](#)

7 out of 10 Belgians consider PTWs as a safe mode of transport
A recent study by Multiscope shows that more than two thirds of Belgians consider PTWs as a safe mode of transport.



Institut für Zweiradsicherheit e.V. 
Institute for Motorcycle Safety e.V.

www.ifz.de




Become part of the conference's anniversary in Cologne, where the Institute for Motorcycle Safety is going to offer an unparalleled platform for motorcycle safety matters to participants from all over the world.

[Information about the conference](#)

[Information for speakers](#)



An aerial view of a city intersection with a large blue arrow pointing towards the center. The arrow is thick and 3D, with a white outline. The intersection has several cars, a motorcycle, and a truck. The text 'Thank you for your attention!' is overlaid in white on the arrow.

Thank you for your attention!





eCall for Powered Two Wheelers Opportunities and Challenges

Antonio Perlot
Secretary General

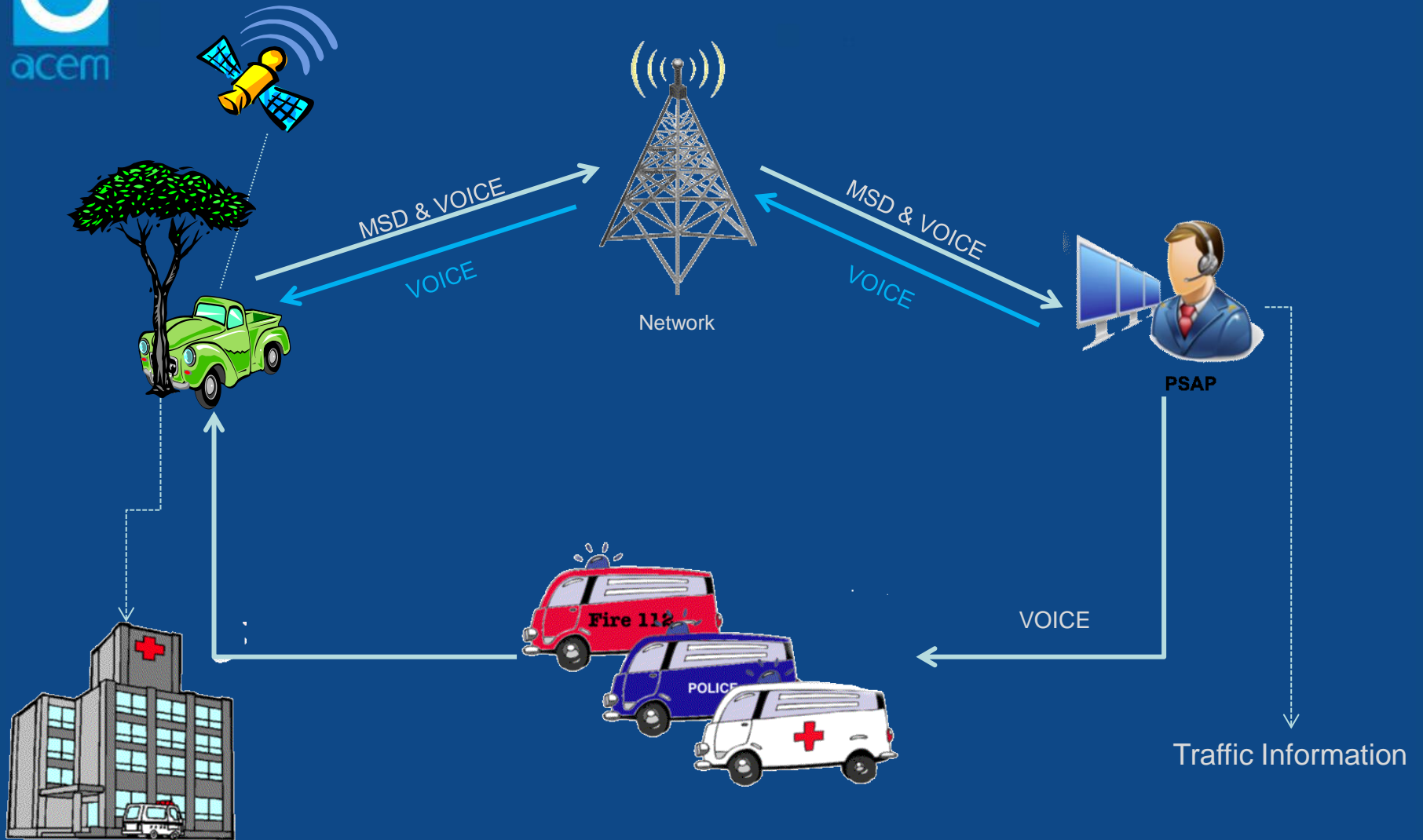


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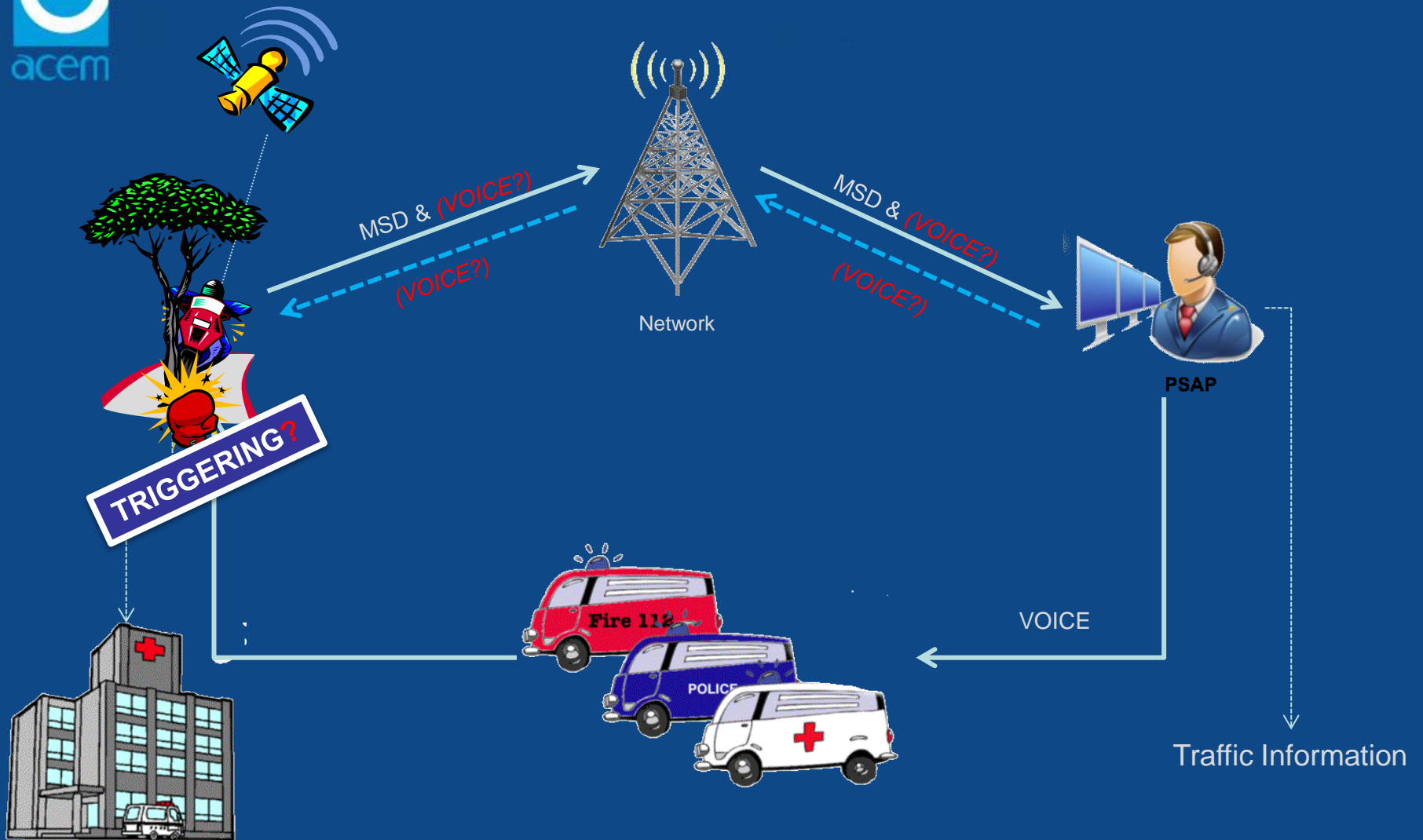


How eCall for Cars works



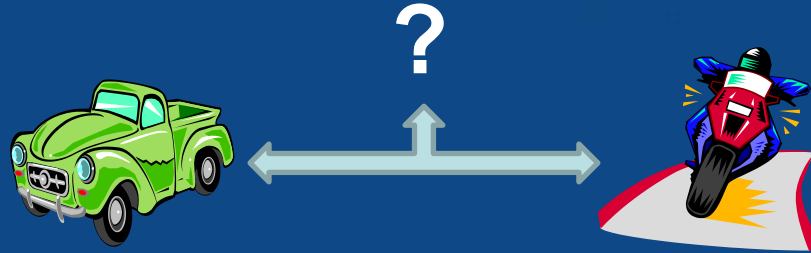


How PTW eCall works





Motorcycle eCall a new & different challenge



Common

- Rescue chain
- Communication Standards
- Requirement power supply
- Infrastructure / business case

Difference

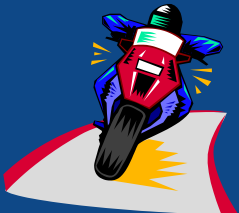
- Motorcycle and rider separate
 - Forces vary to vehicle & rider post crash
 - Location vehicle & rider vary post crash
- Accident recognition is complex
 - Stability criteria
 - Sensor types
 - Omni directional sensing
- Voice connection likely unreliable
 - Ambient noise
 - Distance rider-vehicle



Triggering- main challenge



- eCall triggering usually with airbag/acceleration sensors
- Decades of experience with triggering
- Well defined accident scenarios with corresponding parameters



- eCall triggering not defined (no best practise)
- Accident scenarios are not well defined and quite complex
- Rider and motorcycle will be separated after crash

Substantial Unsolved Issues
FOCUS: define minimum requirements





PTW eCall is most complex

OEM / maker is liable for its product:

- OEM produces (PTW) vehicles
- eCall system needs to be in the vehicle (liability & quality & supply chain)
- Systems not linked to vehicle are out of OEM control and responsibility

A diagram consisting of three curved arrows forming a circle. The top arrow is red, the left arrow is green, and the bottom arrow is blue.

Research: Limitations and Minimum requirements



- Definition of a PTW eCall system and its requirements
- ACEM project proposal to EC to define Standards for PTW eCall
- Participation of OEM's in Horizon 2020 project call for PTW safety



Minimum requirement – General

To make sure that:

- **Users understand what system can do and what not**
- **Manufacturers are to supply a simple but robust functionality**
(PTW eCall standards)
- **Base for test and conformity requirements are necessary**
- **The OEM - responsible only for the components and functionality of his own system on the vehicle, not for the overall function**
- **The borderlines for false calls - to be discussed with relevant stakeholders**





Minimum requirement - System components

- **Automatic & manual triggering system**
- **eCall box or components with the necessary software (depending on the structure of the specific system/concept) and wiring**
- **eCall button for termination**

- **Indicators for the actual status and the current process step of an activated eCall**
- **Geo location system (GPS)**
- **Network Access Device**
- **The MSD + eCall flag (standard for MSD for the transmission via 112)**





Indicative Motorcycle eCall Roadmap

DONE

1. Define minimum requirements
2. Define open issues
3. Evaluate potential solutions

ONGOING

4. Discussion with stakeholders

NEXT STEP

5. RESEARCH

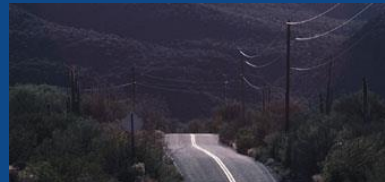
FOLLOWING

6. Standardisation
7. Technical concept development
8. Market information
9. Series development
10. Market introduction





Robust & Reliable PTW eCall



Thank you for your attention!



Still a stretch of road ahead of us

