



eltic-Plus⁺

Smart Connected World



Proposers Day
21 February 2017, Berlin

Celtic-Plus Keynote Presentation Automotive Telecoms

EATA

European Automotive Telecom Alliance
Connected and Automated Driving

Luc JANSSEUNE EATA
l.jansseune@mail.ertico.com



Agenda

1. EATA : a new alliance
2. EATA objectives
3. EATA roadmap
4. Cross-border challenges & regulatory challenges
5. Conclusions

EATA: a new Alliance

- Founded by six associations:



European
Automobile
Manufacturers
Association



CLEPA
European Association of
Automotive Suppliers



- Operational roll-out through companies: 38 members
- Telco network operators: Deutsche Telekom, Eurofiber, KPN, Orange, Play, Post Luxembourg, Proximus, Vodafone, Telefonica, Telecom Italia
- Telco suppliers: Nokia, Huawei, Ericsson
- Automotive OEMs: BMW, DAF, Daimler, Fiat Chrysler, Ford, Hyundai, Iveco, Jaguar Land Rover, Opel, PSA, Renault, Toyota, Volkswagen Group, Volvo Cars, and Volvo Group
- Automotive suppliers: Autoliv, Bosch, Continental, Denso, Delphi, Hella, Valeo
- Project management: ERTICO



EATA: objectives

- Facilitate and accelerate the EU-wide deployment of connected and automated driving:
 - Remove potential roadblocks and highlight needed technical and regulatory measures
 - Identify the business models underlying connected and automated driving
 - Help make Europe a global leader in this field
 - Provide a platform for knowledge-sharing between the automotive and telecommunications sectors to develop a 'common language'
- Create societal benefits by improving road safety and traffic efficiency
- Promote the European digital economy



EATA roadmap

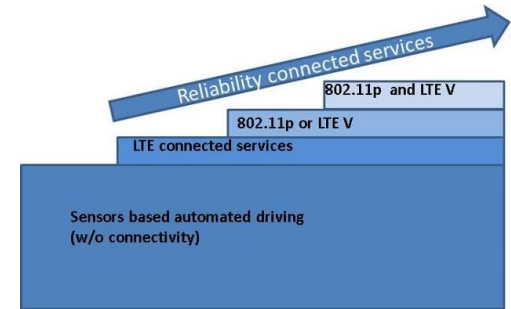
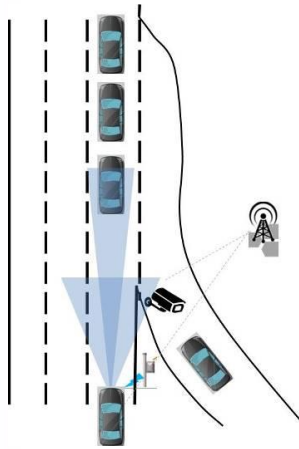


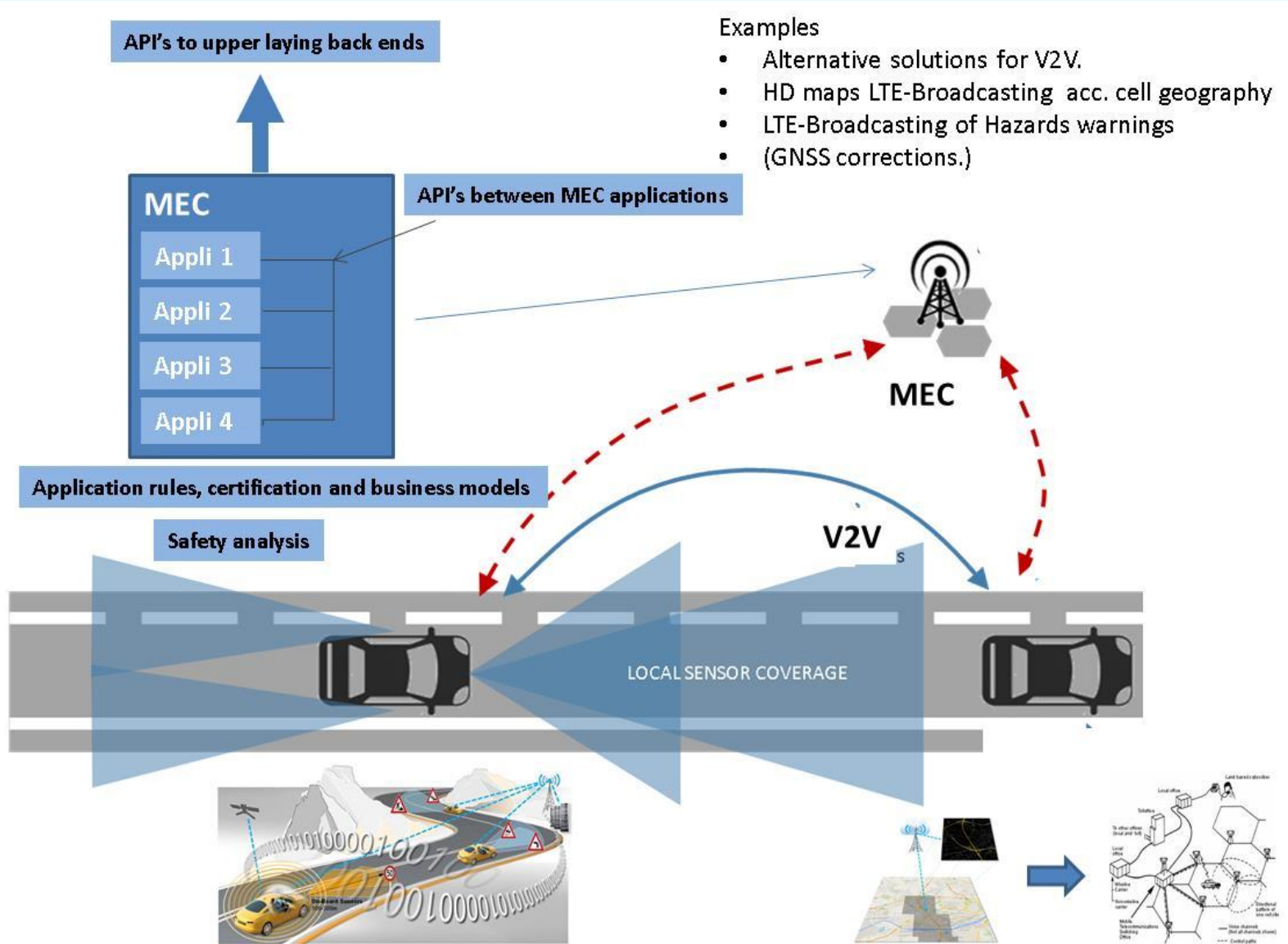
	Use cases	Communication Technologies	Sites
STEP1	Enabling services for - Highway chauffeur (L2/3) - High density truck platooning	<u>Pre Deployment:</u> - hybrid communication : LTE, ITS G5 + LTE V, Mobile Edge Computing applications - Network slicing - LTE Broad casting: GNSS offset, hazards and HD-map updates <u>Studies :</u> business models responsibilities, safety concepts, Quality of service, Security and data protection Regulation and standardization	20..40 km tracks DE, FR,NL, ES, BE 
STEP2	As step 1 + Valet parking	<u>Pre Deployment:</u> integration step 1 technologies / studies into series architectures + 5G radio + NB lot + Evaluation relative localization	Cross border motorways networks 
STEP3	As step 2 Automated driving	Deployment	Commercialisation on AD authorized motorways

Importance of dialogue and partnership with member states, C-ROADS and regions

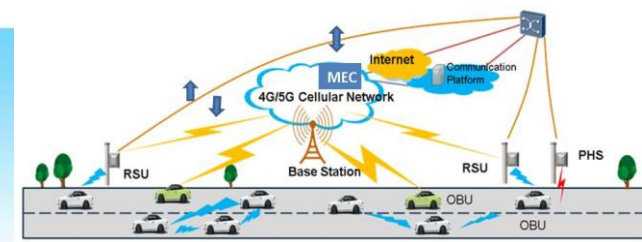


Safety by digital infrastructure

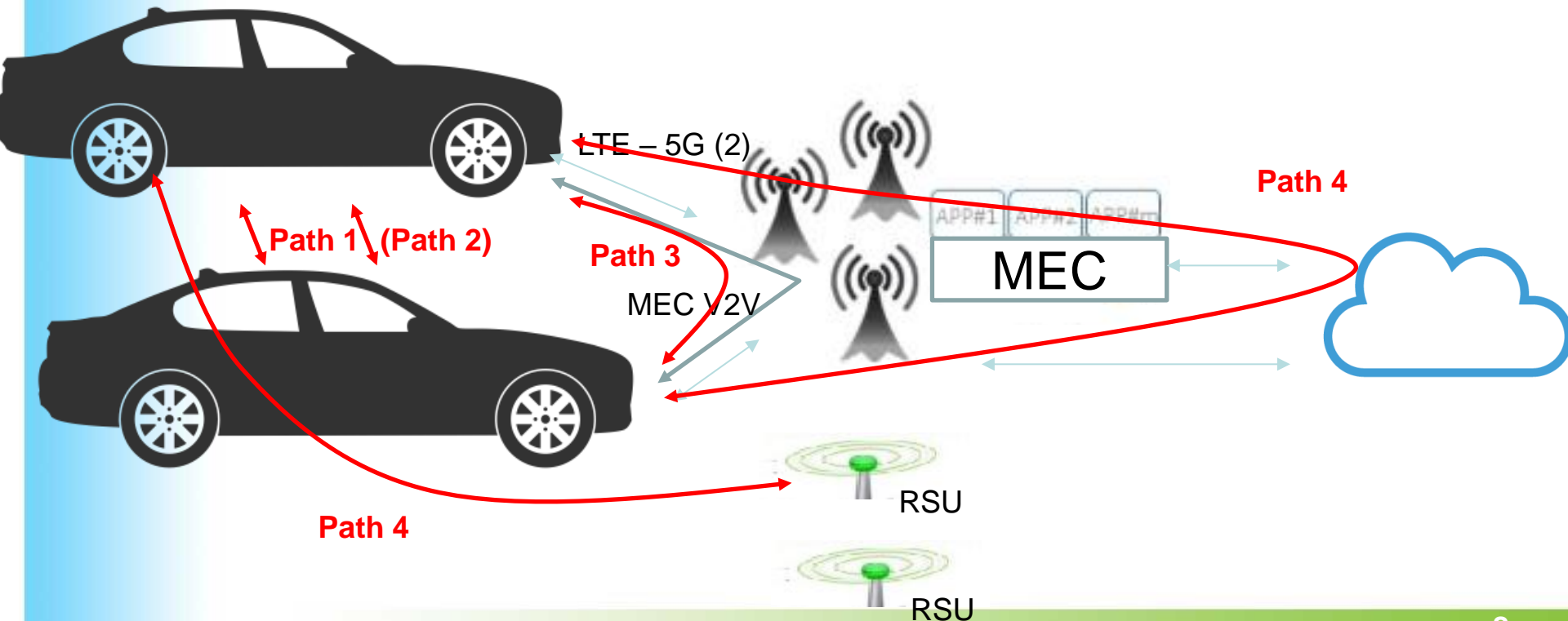




Hybrid communication



- Attribution of the right messages using the right communication channels according to the requested performances
- The combination of different short- and long-range communication systems, mobile edge computing and cloud applications, should increase the reliability and safety.



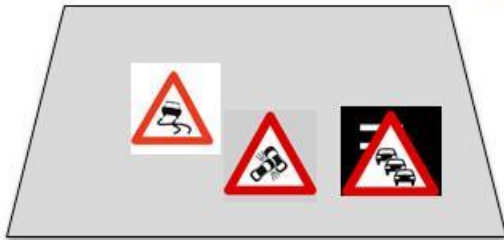


HD map update broad casting



Time criticality ↑

Hazard warnings



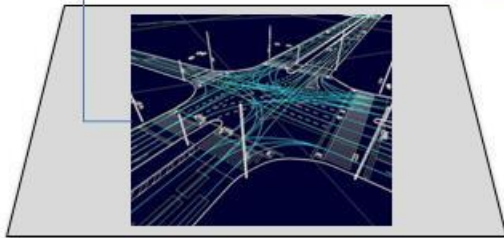
Dynamic Data



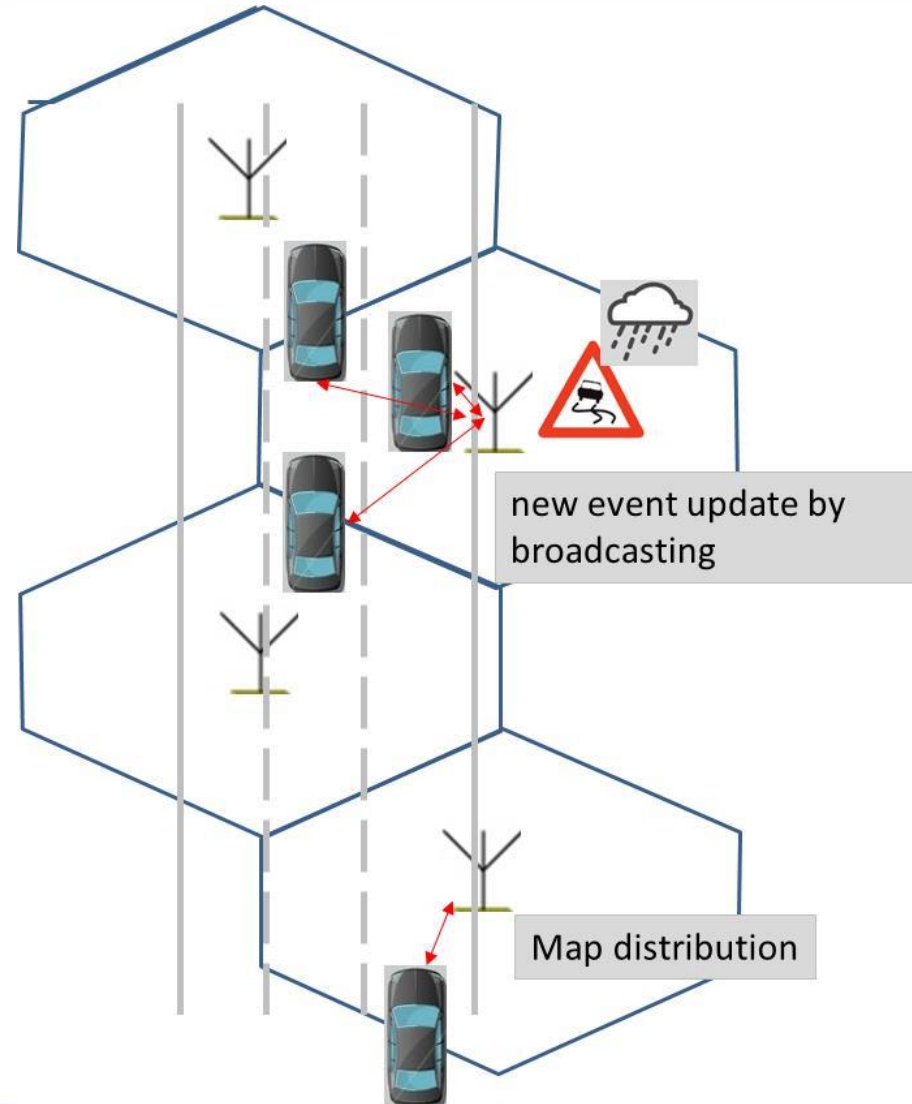
HD Map correction



HD Map

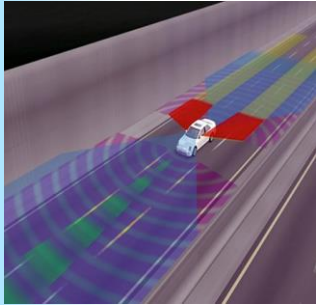


HD map extensions
dynamic events



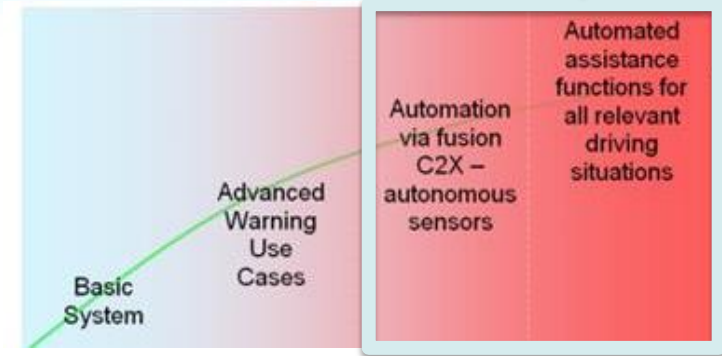
New challenges for automated driving

Car sensors



Connected data

(road sensors and cooperative car data)



SENSE



PLAN



ACT

The connected data as additional car sensor:

- New messages and attributes to messages (e.g. trust , confidence levels)
- Safety relevant applications need redundancy via the hybrid communication channels.
- Network slicing, priority for AD vital messages
- Application of safety rules on digital infrastructure
- More accurate and safety relevant localization : GNSS correction and relative fall back solutions.



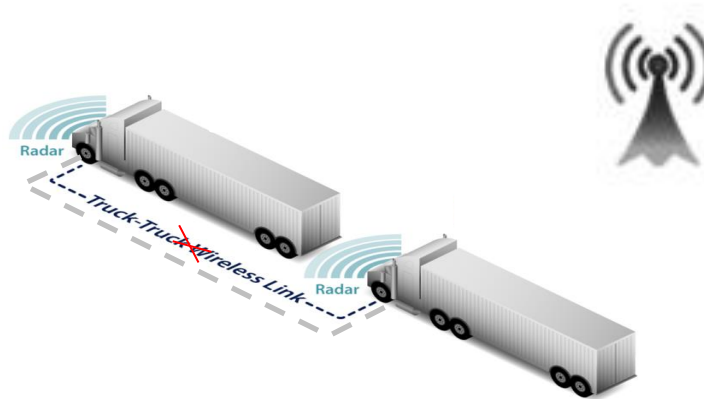
Cross-border challenges (1)



Celtic-Plus For automated driving (AD)

- Need to identify the right cross border test sites :
 - For C-ITS , we have the TEN-T corridors
 - For AD, some MS have identified test beds on certain highways but not cross border.
- AD cross border test beds need:
 - Adapted physical infrastructure (Land & road marks, physical road infrastructure, etc) and digital infrastructure
 - Harmonized architecture for hybrid communications.
 - Harmonized messaging and associated attributes (e.g. trust-confidence levels)
 - Definition of common safety requirements + specifications for the digital infrastructure and EU certifications.


- In addition for Truck platooning:
 - EU wide multi brand EU match making
 - Possible extra spectrum for redundant V2V communication






Envisaged Project



	Use cases	Communication Technologies	Sites
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Scope of the Celtic plus proposal

What is the main benefit of the idea/proposal?
 -> cross border pre-deployment of hybrid communication
What makes the added value?
 Test under real traffic circumstances
Envisaged consortium
 EATA + other interested partners

STEP2	As step 1 + Valet parking	<u>Application above technologies and studies</u> + 5G radio + NB IoT + Evaluation relative localization	Cross border motorways networks 
STEP3	As step 2 Automated driving	Deployment	Commercialisation on AD authorized motorways

Importance of dialogue and partnership with member states, C-ROADS and regions



Contact Info



Luc JANSSEUNE Ertico for EATA
l.jansseune@mail.ertico.com
+32 2 400 07 42
Avenue Louise 326 B1050 Brussels
www.ertico.com