In the framework of SESEI

In association with CII Confederation of Indian Industry

3rd Indo-European Conference on Standards and Emerging Technology

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ITS STANDARDS IN EUROPE – TOWARDS CAVS

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European Commission

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ITS STANDARDISATION IN EUROPE

TOWARDS CONNECTED AND AUTOMATED MOBILITY

- ITS standards – Support to EU policies
- How to achieve it
- EC support to standardisation
- The case of eCall
- International cooperation

ITS Standards and European Policies

- **Roadmap to a Single European Transport Area**

  Towards a competitive and resource efficient transport system

- **To meet the challenges**, transport has to:
  - Use less energy
  - Use cleaner energy
  - Exploit efficiently a multimodal, integrated and 'intelligent' network
- Curbing mobility is not an option
- **By 2050 reduce emissions by 60%,** and 20% by 2020 (2008 level)
- **By 2050 move close to zero fatalities** in road transport, halving road casualties by 2020

DAE: "Every Car Digital, Every Car Connected"

WHY DO WE NEED ITS STANDARDS?

- **Encourage innovation**, foster enterprise and open up new markets for suppliers
- **Create trust and confidence** in products and services
- **Expand the market**, brings down costs and increases competition
- Helps to **prevent duplication of effort**
- Supports greater **confidence in procurement**
- **Interchangeability** of system component suppliers

- Enable **interoperability** of systems/services

HOW TO ACHIEVE IT: COOPERATION

- ✓ *Active and fair involvement of all the relevant stakeholders*
- ✓ *Support from RTD projects, validation and fine-tuning through field operational tests, pilots*
- ✓ *Cooperation among the different standardisation organisations and groups*
- ✓ *International cooperation*

EC SUPPORT TO STANDARDISATION

Instruments:

- Setting of the priorities **:** *ITS Directive legal Framework (2010/40), Radiospectrum Decision 2008/671/EC; Communications (EU-C-ITS Strategy, 5G AP)*
- Research Framework program/ H2020/ CIP / C-Roads / PPP
- EC Mandates for standardisation

Groups:

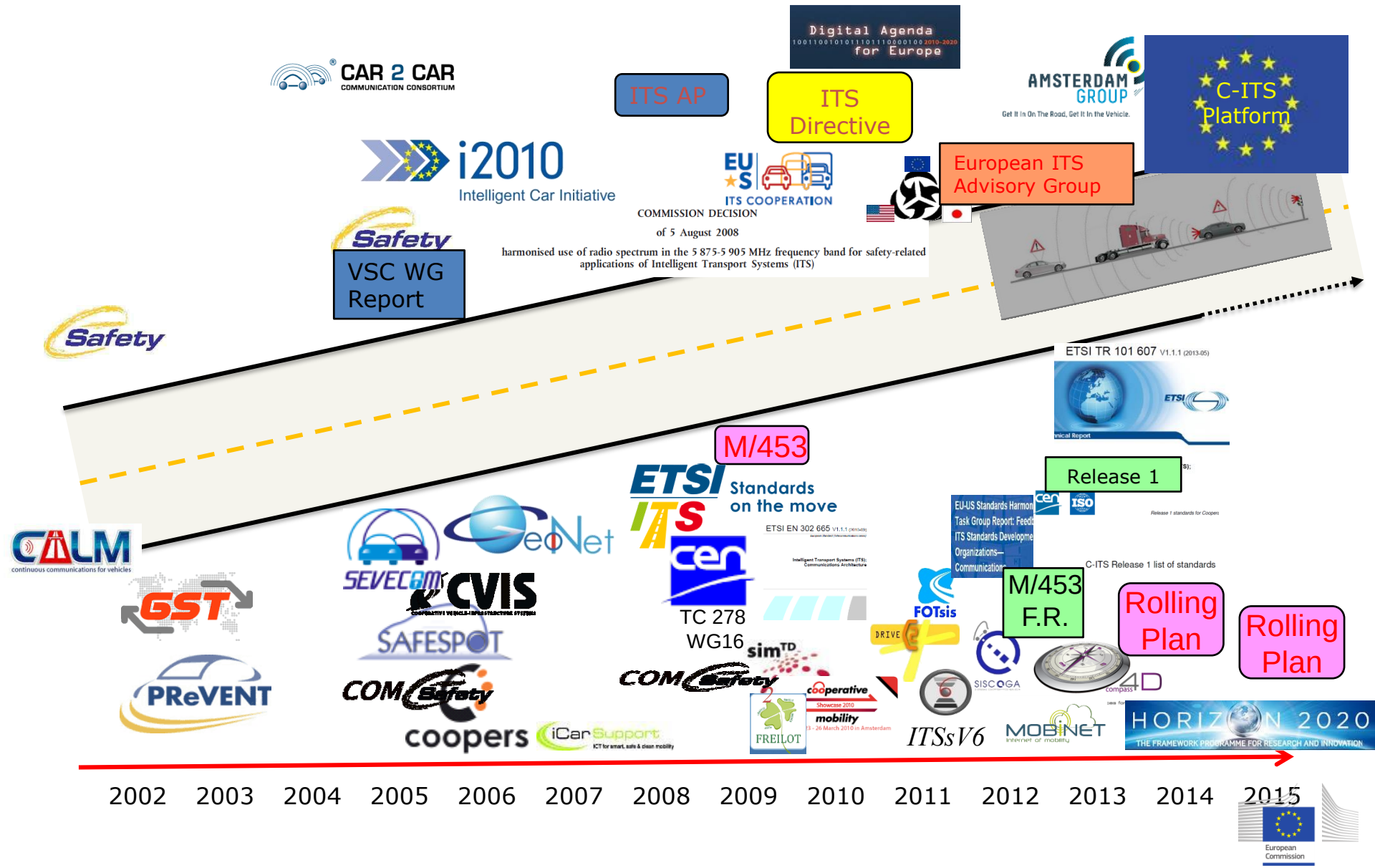
- ITS Committee; ITS Advisory group
- ITS Standardisation Coordination Group
- iMobility Forum
- C-ITS Platform
- EATA, 5GPPP

Support to International Cooperation

Funding of standardisation activities:

- ***Mandates and ICT Standardisation Rolling Plan***
  - Specialist Task Forces on EETS
  - Specialist Task Forces on coop. systems
  - Specialist Task Forces on eCall
  - Specialist Task Forces on Urban ITS
- ***Results from EU funded RTF projects/FOTs/Pilots***

CAVs: Road to Deployment



CAVs: Road to Deployment

5G PPP

Rolling Plan

#5G Action Plan

RSCOM Mandate

Lte-V

Rolling Plan

Rolling Plan

5G

C-ITS Platform

FR Phase I

Final report

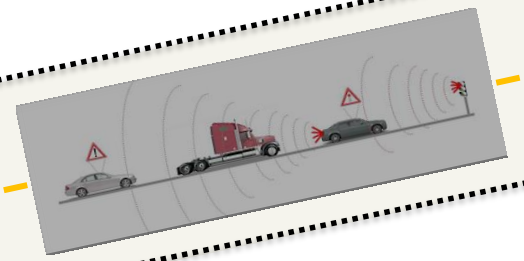
C-ITS Platform

EATA

60 ROAD DAY

Letter of Intent on the testing and large scale demonstrations of Connected and Automated Driving (CAD)

#5G Action Plan



C-ROADS

ITS DIRECTIVE DELEGATED ACT

C-ITS Platform

FR Phase II

Final report

January 2016

C-ITS Platform

CAR

EU C-ITS Strategy

M/ 546

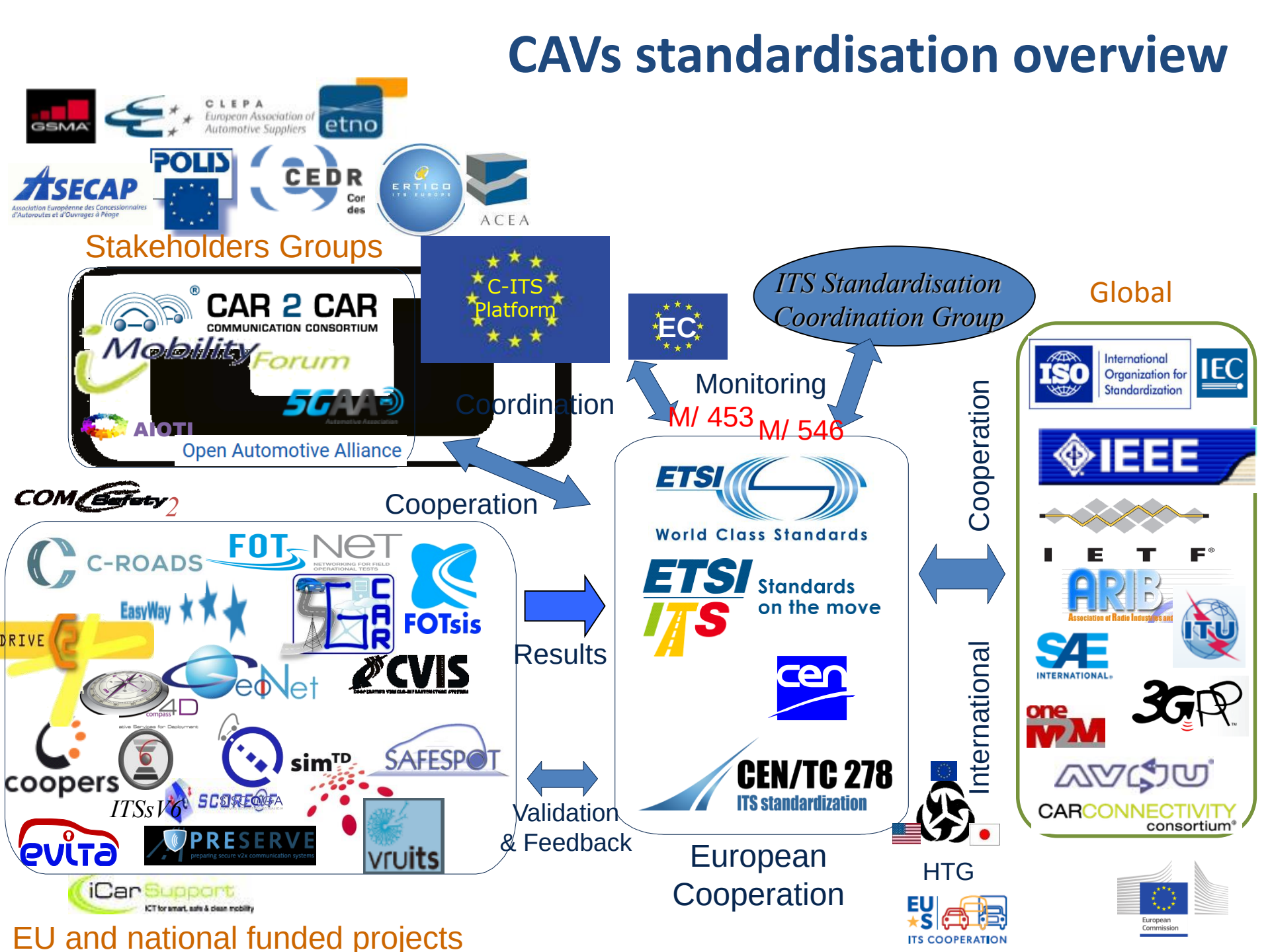
5G EU Corridors

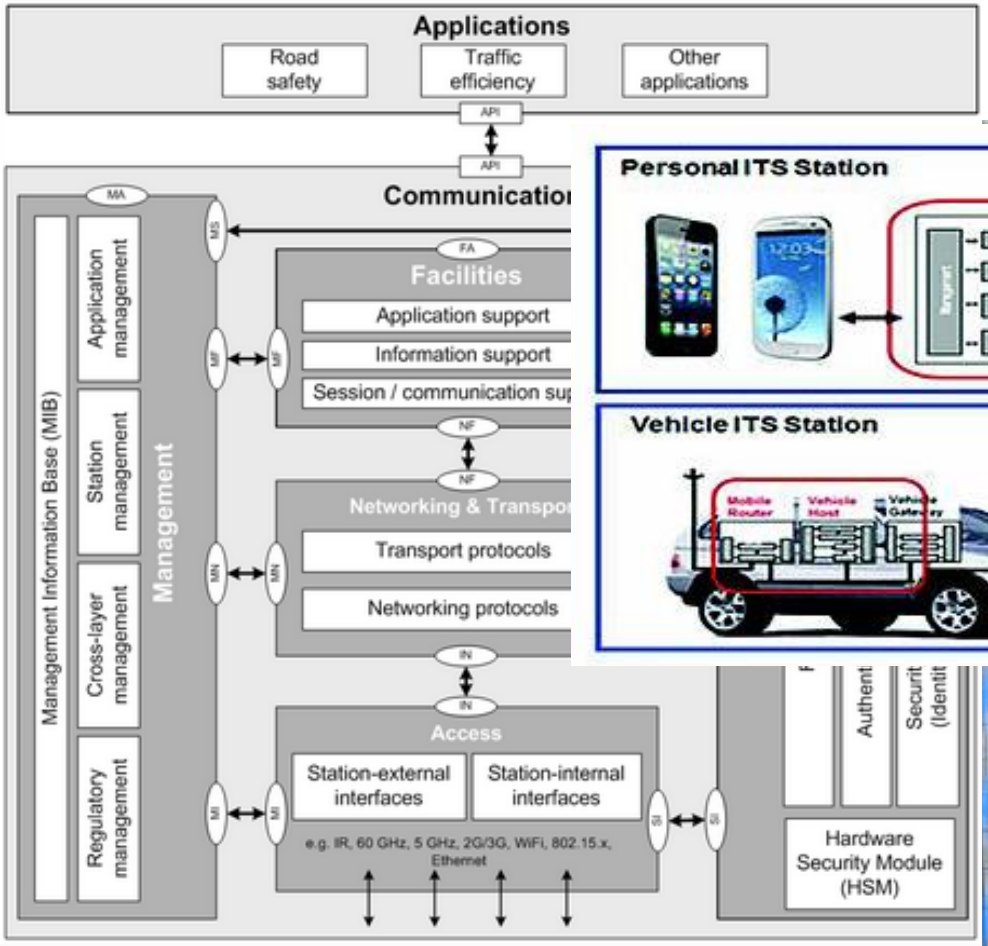
CEFs Projects

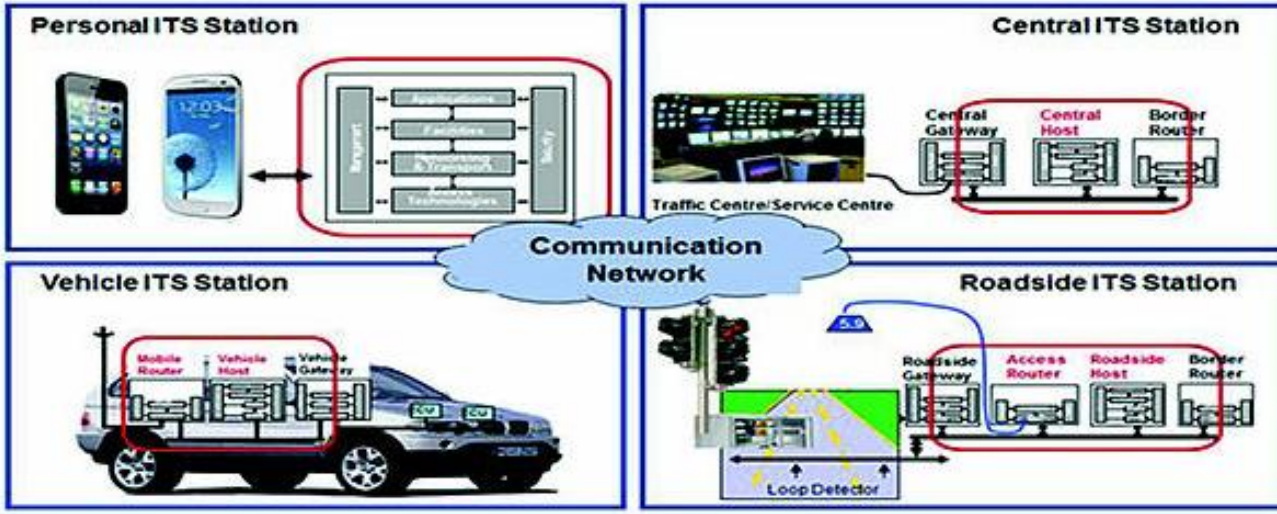
2016 2017 2018 2019 2020

European Commission

CAVs standardisation overview




Applications
Road safety
Traffic efficiency
Other applications
API
API
Communicatio
MA
MS
FA
Facilities
Application support
Information support
Session / communication su
MF
MF
NF
NF
Networking & Transpo
Transport protocols
Networking protocols
MN
MN
IN
IN
Access
Station-external interfaces
Station-internal interfaces
MI
MI
SI
SI
e.g. IR, 60 GHz, 5 GHz, 2G/3G, WiFi, 802.15.x, Ethernet
Management Information Base (MIB)
Management
Application management
Station management
Cross-layer management
Regulatory management
Authent
Securit (Identit
Hardware Security Module (HSM)


Personal ITS Station
Central ITS Station
Traffic Centre/Service Centre
Central Gateway
Central Host
Border Router
Communication Network
Vehicle ITS Station
Roadside ITS Station
Roadside Gateway
Access Router
Roadside Host
Border Router
Loop Detector

-Public service 112-based only
-Voice + MSD to relevant PSAP
-112-based, with or without intermediation platform under Public delegation

CEN TS/prEN 16454

eCall end to end conformance testing ✓

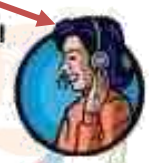
EN 16072 ✓

Pan-European eCall Operating Requirements

ETSI-MSG & 3GPP. Chair: N. Sampson

High Level Application Protocols ✓

EN 16062



ETSI TS 122 101 ✓

-Voice + MSD on 112

Voice (112)

In-band modem trx ✓

eCall NAD conformance specs:

ETSI TS 102 936-1 ✓

Protocol test specification

ETSI TS 102 936-2 ✓

Test Suites

ETSI TR 102 937 ✓

eCall Comm. equipment: Conformance to EU regulations

EN 15722

✓ MSD

ETSI TS 124 008 Table 10.5.135d

✓ eCall Flag

ETSI TS 126 267

“eCall Data Transfer - General Description ✓

ETSI TS 126 268

“eCall Data Transfer. ANSI-C Reference Code ✓

ETSI TS 126 269

“eCall Data Transfer. Conformance testing ✓

ETSI TR 126 969

“eCall Data Transfer. Characterisation Report ✓

Data registry procedures - ISO/EN 24978:2009 ✓

CEN TC 278 WG 15. Chair Bob Williams

EN 16102

TPS-eCall Operating Requirements ✓

International Cooperation

Global harmonisation of standards for Cooperative Systems

- **Memorandum of Cooperation** agreed between ETSI and U.S. DoT RITA
- **Harmonization Action Plan** process for finalising internationally harmonized standards
- **Harmonization Principles** suggest policies to be followed in the harmonization
- **Harmonization Task Groups (HTGs):**
  - **HTG1: Management and security (complete)**
  - **HTG2: Vehicle Safety Message (complete)**
  - **HTG3: 5.9GHz protocol harmonization (complete)**
  - **HTG4: Roadside messages (under way)**
  - **HTG5: Intersection messages (under way)**
  - **HTG6: Security Policy (started Jan 2014)**
- HTG reports issued and being applied by SDOs. Available on EU/US official sites:
  - http://www.its.dot.gov/connected_vehicle/international_research.htm
  - http://ec.europa.eu/digital-agenda/en/news/progress-and-findings-harmonisation-eu-us-security-and-communications-standards-field
- MoC with Japan (MLIT)

Benefits:

- ✓reducing development costs
- ✓getting to global markets
- ✓avoiding duplication of efforts
- ✓generating economies of scale

Source: COMeSafety2 project

tsdsi

CONCLUSIONS

- ✓ *CAVs have the potential to contribute tackling the mobility challenges in Europe and worldwide*
- ✓ *Standards are needed for wide take-up of ITS*
- ✓ *Stakeholders and SDOs cooperation is paramount*
- ✓ *Importance of international cooperation/ global harmonisation*
- ✓ *Release 1 important milestone. In the right track towards deployment. Pilots and pre-deployment.*

धन्यवाद