

Status of Standardisation in Europe



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- ❖ *The European Transport Challenges*
- ❖ *Addressing the Challenges with ICTs*
- ❖ *The need of standards: EC support to standardisation*
- ❖ *Some examples*
- ❖ *International cooperation towards global harmonisation*
- ❖ *Conclusions*



The Challenges Future improvements are urgently needed

Safety

- 35.000 deaths on the roads (EU 2009)
- 1.5 million injured persons (EU27-2009)
- Human error involved in 93% of the accidents

Congestion

- Represents a loss of 1% GDP yearly
- 10% of road network daily congested

Energy Efficiency & Emissions

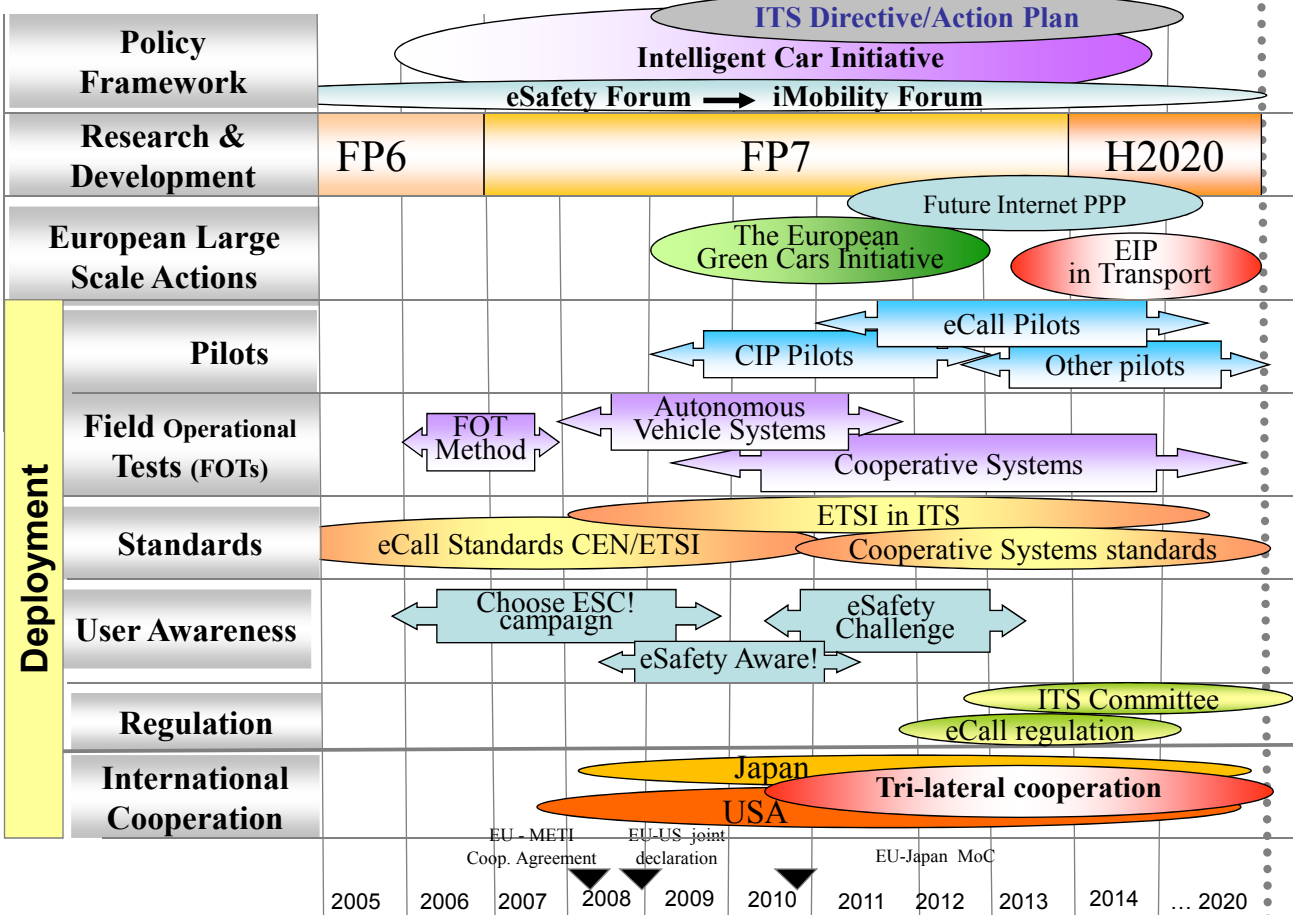
- Green house gases (CO2)
- Depending on fossil fuel
- Slow take-up of renewable fuels

Additional challenges and socio-economic trends

- Growth in demand
- Ageing of Europe's population
- Migration and internal mobility
- Increasing urbanisation



Addressing the challenges with ITS – the framework



- **Setting of the priorities**
 - ITS Directive; ITS Committee
 - Regular discussions at the iMobility Forum and its Working Groups
 - ITS Standardisation Coordination Group (ITS-CG)
- **EC Mandates**
- **Funding of standardisation activities:**
 - **ICT Standardisation Work Programme**
 - Specialist Task Forces on EETS
 - Specialist Task Forces on coop. systems
 - Specialist Task Forces on eCall
 - **ICT Calls under Framework Programmes**
- **ITS Action Plan**
- **ITS Directive**

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Framework for the Coordinated and Effective
Deployment and Use of Intelligent Transport Systems

Objectives

- *Establishing a framework for coordinated and effective deployment and use of ITS*
- *Setting common priorities*
- *Development of specifications and standards*

in force since
26 Aug 2010

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- Enables **interoperability** of systems/services
- **Encourages innovation**, fosters enterprise and opens up new markets for suppliers
- **Creates trust and confidence** in products and services
- **Expands the market**, brings down costs and increases competition
- Helps to **prevent duplication of effort**
- Supports greater **confidence in procurement**
- **Interchangeability** of system component suppliers



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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*
- ✓ *Cooperation among the different standardisation organisations and groups*
- ✓ *International cooperation*

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What is eCall?

Emergency

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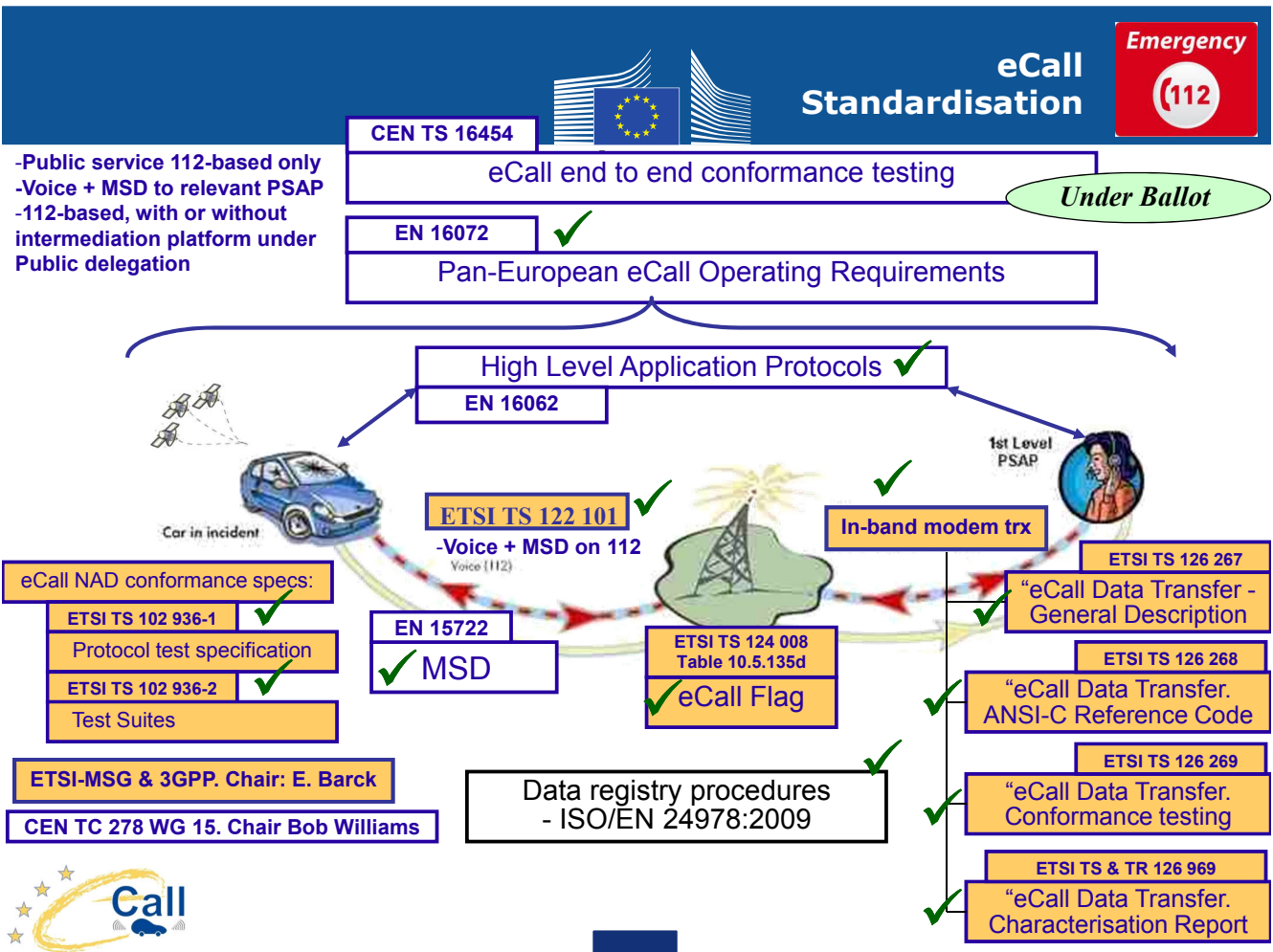
Emergency call Triggered automatically by the in-vehicle device in case of serious accident or manually by vehicle occupants

Builds on the single European Emergency number (112 -TS12-)

Creates a voice link to the closest emergency call response centre (PSAP) and sends data message (Minimum Set of Data -MSD-) using common European standards



- Time stamp
- Accurate location (GNSS) and direction of driving
- Vehicle Identification Number, propulsion type
- Information about the accident



European Electronic Toll Service (EETS)

to achieve the interoperability of all the electronic road toll systems in the EU:

- **Directive 2004/52/EC + Commission Decision 2009/750/EC setting up of a EETS covering all the road networks and tolled (infra)structures in the EU**



- » *road-usage declared electronically via a single on-board equipment*
- » *5.8 GHz microwave and satellite positioning coupled with mobile communications*
- » *any road user will pay all over the EU via a single EETS Provider and a single item of on-board equipment*
- » ...

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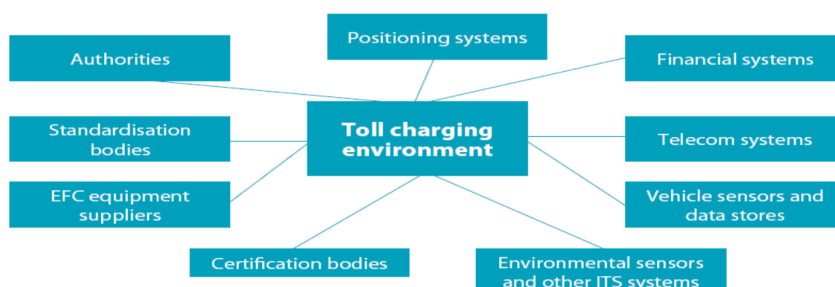
Electronic Toll Service: The standards Next steps

Harmonised standards:

*mandated by the Commission (M/338)
developed by the European standards organisations (CEN, Cenelec, ETSI)*

Next Steps:

- Issue a second decision with additional technical specifications and EETS requirements
- set up clear and easy standards applicable across EU, define performance standards (e.g. by project team) / validate the standards (e.g. VASCO)
- Secure funding for accelerating standardisation work / sponsor further work (major areas: CESARE III and IV)
- Maximise harmonisation on technical issues not functions
- Mandate all new or modified DSRC systems to comply with the standards



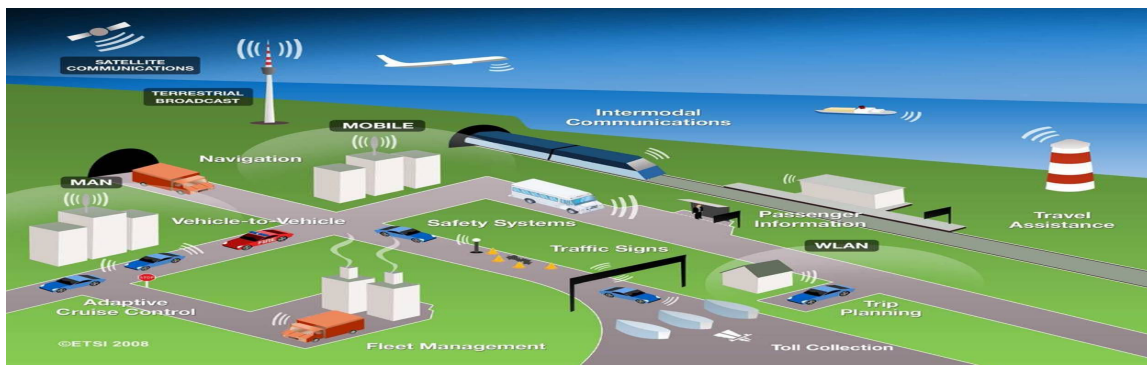
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ITS Cooperative systems: Mandate /453 Objective

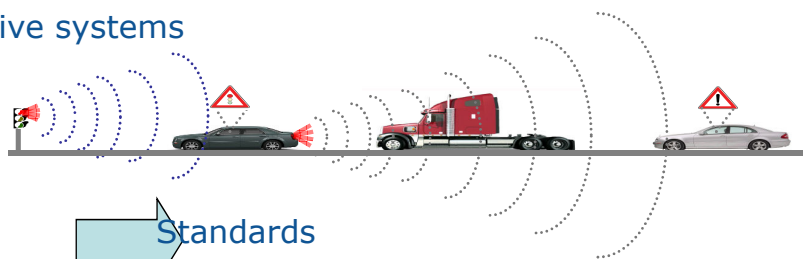
- To support EU-wide implementation and deployment of Co-operative ITS systems
- To take full advantage of the benefits that ICT based systems and applications can bring to the transport sector ensuring interoperability among the different systems throughout Europe (and beyond)
- To reach the required critical mass and produce a snowball effect



Mandate /453 Rationale

Benefits of ITS cooperative systems

- Safety
- Efficiency
- Cleaner mobility



Critical mass needed



Political environment



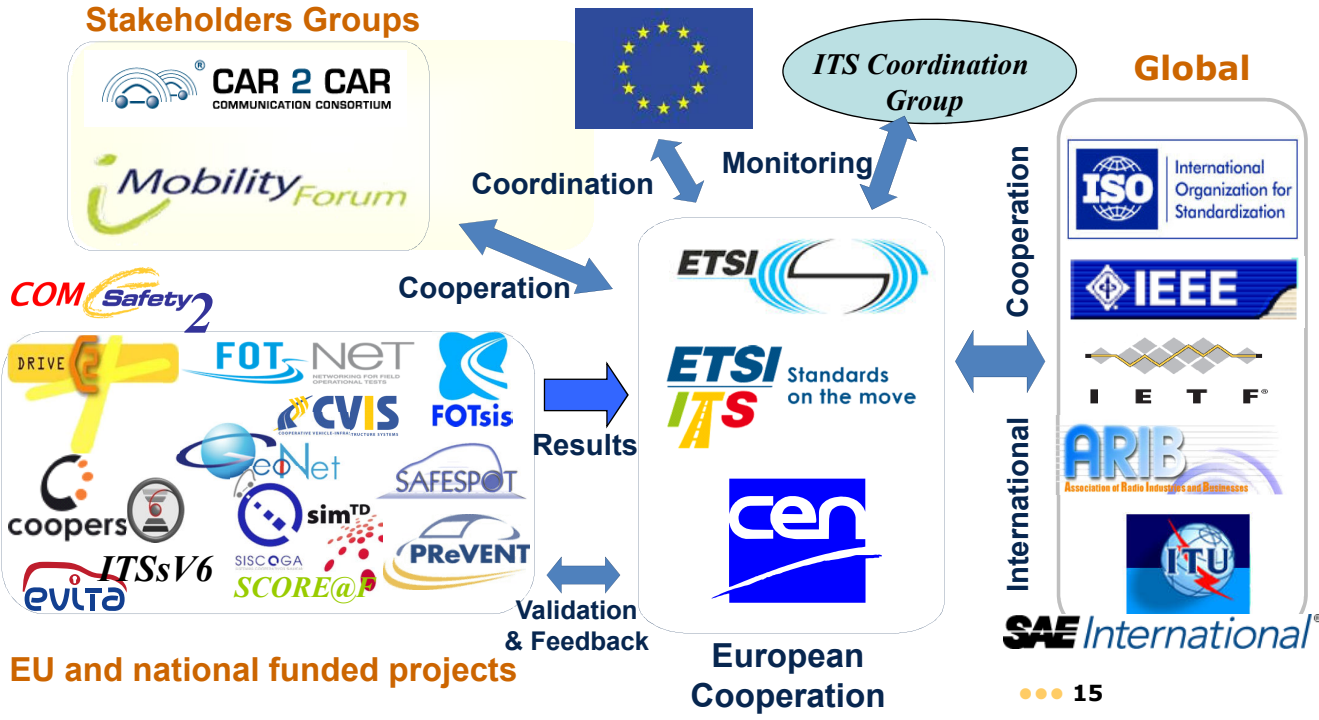
Frequency allocation



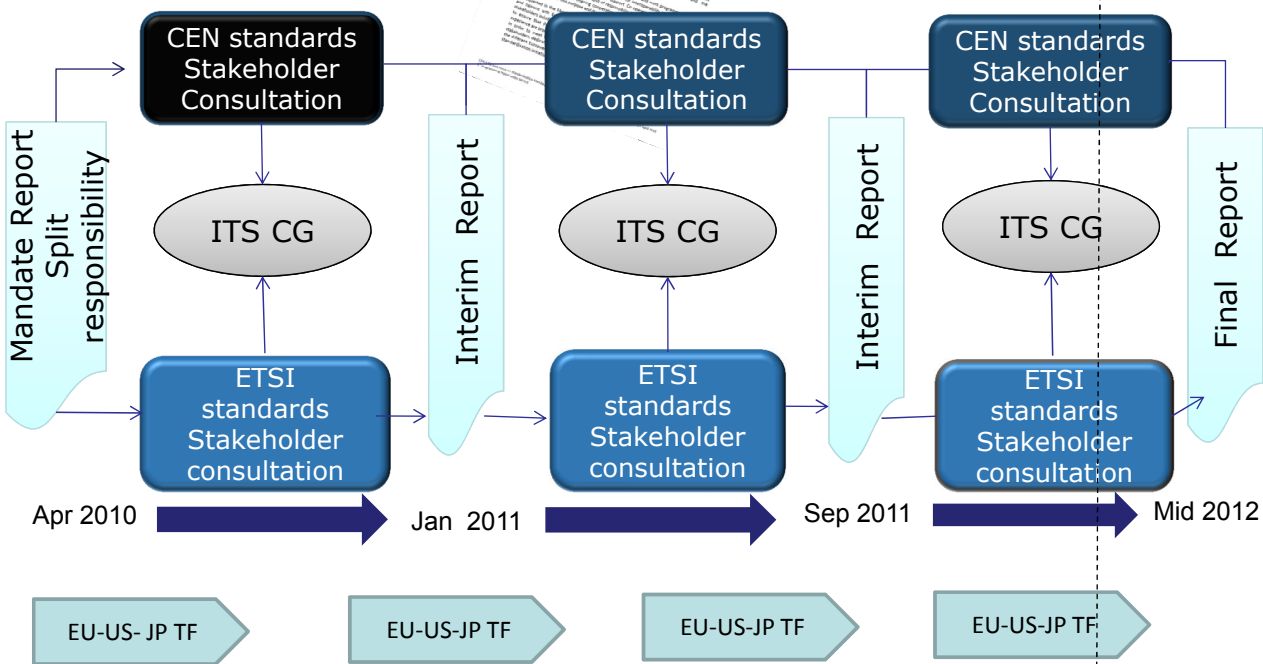
Results of EU RTD projects



Mandate /453 How to achieve it: Cooperation



EC Mandate 453



Status Standards developments ETSI – July '11

General	SDO	ETSI	WI	Approval	P
Communication Architecture	ETSI	EN 302665		Published	C
Common data dictionary (communication)	ETSI	TS 102 894-2	0010022	Nov 2012	

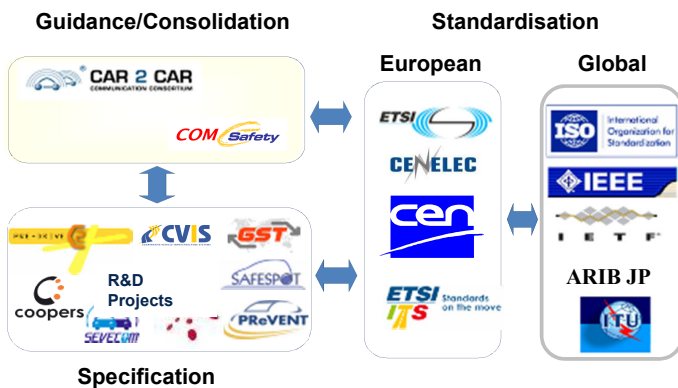
Standards - Testing	SDO	ETSI	WI	Approval	P
<i>ITS testing framework</i>	ETSI	EG 202798		Published	
ITS Conformance Testing					
- Basic Transport Protocol (ATS, TSS&TP, PICS)	ETSI	TS 102870		Published	C
- GeoNetworking ITS G5 (ATS, TSS&TP, PICS)	ETSI	TS 102871		Published	C
- IP packets Geonetworking (ATS, TSS&TP, PICS)	ETSI	TS 102859		Published	C
- CAM (ATS, TSS&TP, PICS)	ETSI	TS 102868		Published	C
- DNM (ATS, TSS&TP, PICS)	ETSI	TS 102869		Published	C
- Channel congestion 5.9 (ATS, TSS&TP, PICS)	ETSI	TS 102917	40025-27	Nov 2011	STF 421
- Coexistence methods DSRC/ITS G5 (ATS, TSS&TP, PICS)	ETSI	TS 102916	40022-24	Nov 2011	STF 421
- CALM – Medium service access points	ETSI	TS 102760		Published	

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Status Standards developments ETSI – July '11

Standards - Testing	SDO	ETSI	WI	Approval	P
- CALM - Architecture	ETSI	TS 102 984	20027	Nov 2011	STF 422
- CALM - Management	ETSI	TS 102797	20010-11	Nov 2011	STF 422
- CALM – Non-IP networking	ETSI	TS 102985	20028	Nov 2011	STF 422
- CALM – M5	ETSI	TS 102983	20026	Nov 2011	STF 422
- CALM – Infra-red systems	ETSI	TS 102982	20025	Nov 2011	STF 422
- CALM – Ipv6 Networking	ETSI	TS 102981	20024	Nov 2011	STF 422
Interoperability testing					
Validation of CAM	ETSI	TS 103061-1	0010011	OCT 2012	STF 424
Validation of DENM	ETSI	TS 103061-2	0010012	OCT 2012	STF 424
GeoNetworking Validation	ETSI	TR 103061-3	0030020	Nov 2012	STF 424
Basic Transport Protocol validation	ETSI	TR 103061-4	0030019	Nov 2012	STF 424
Ipv6 over GeoNetworking validation	ETSI	TR 103061-5	0030018	Nov 2012	STF 424

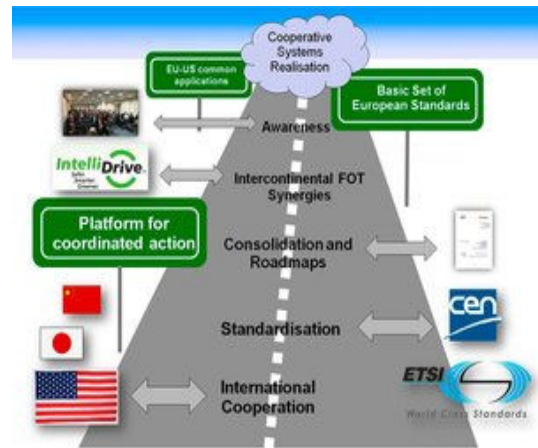
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Europe supports a global approach to Cooperative Mobility which aims at a common communications architecture, interoperability and global, open standards.

Benefits:

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



Source: COMeSafety2 project

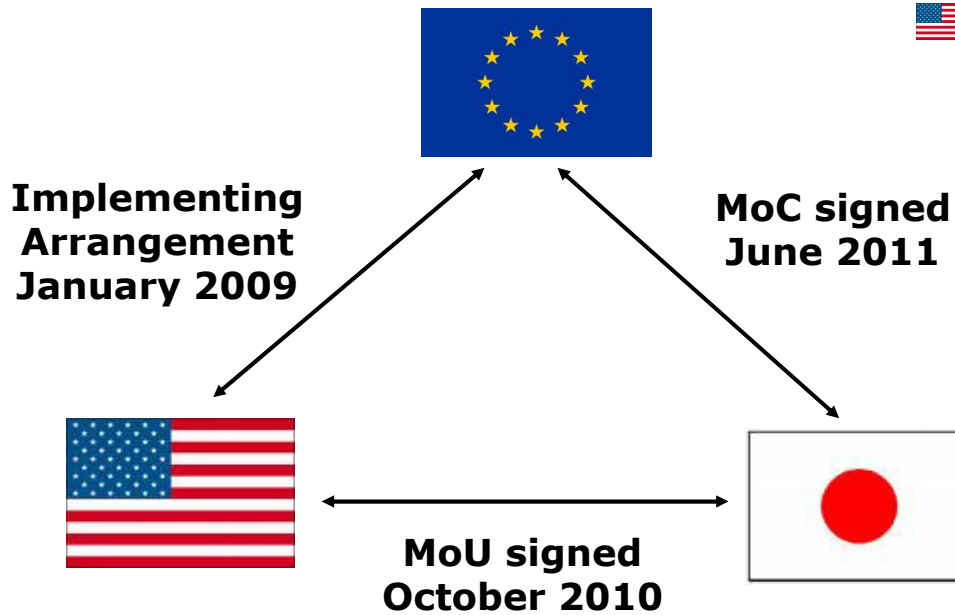


Why?

- For the benefit of consumers, industries and the public sector
- Reducing development costs
- Getting to global markets
- Avoiding duplication of efforts
- Generating economies of scale)

How?

- Global harmonisation of standards for Cooperative Systems
- Global harmonisation of core applications (V2V and V2I safety, V2I sustainability)
- Showcasing at the ITS World Congress 2012
- Working on HMI/Driver distraction, test tools and access to FOT/pilot data, terminology



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Global harmonisation of standards for Cooperative Systems

Harmonisation Opportunities Assessment Plan (HOAP) developed:

- Memorandum of Cooperation (MoC) agreed between ETSI and U.S. DoT RITA
- High level assessment report published in Jan-2011

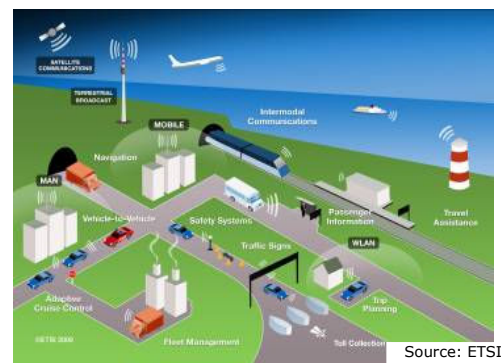
Harmonization Action Plan (HAP) agreed and approved

- Describing the process that the parties plan to use towards finalising internationally harmonized standards

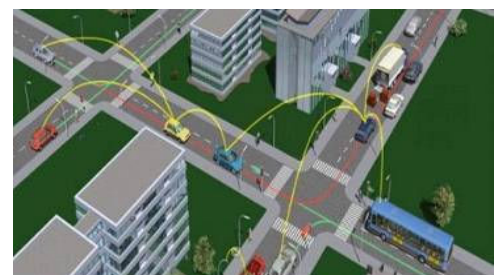
3 Harmonization Task Groups (HTG) to begin work on:

- a. Management and security
- b. Messages and application interface
- c. 5.9 GHz interface and protocol stack

List of potential standards discussed



Source: ETSI



source: gdc.net

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Source: GDC.net



Conclusions

- ❖ ITS have the potential to contribute tackling the mobility challenges in Europe and worldwide
- ❖ Standards are needed for wide take-up of ITS
- ❖ Stakeholders cooperation is paramount
- ❖ Importance of global harmonisation

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attention**



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