



ITS got Solutions

Session 2: Connected Vehicles Status of C-ITS Deployment in Europe

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Workshop on Connected and Automated Driving Systems

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Summary

- European C-ITS Deployment Platform
- Cooperative ITS Corridor by Amsterdam Group
- SCOOP pilot in France
- From connected to automated driving

European Commission C-ITS Deployment Platform

Cooperative Systems understood as "connected mobility":

- More than V2V and V2I
- Connecting all the elements of the transport chain (including public transport and vulnerable road users: pedestrians, cyclists, motorcyclists)
- Contribution to a plurality of policy objectives:
 - improving road safety
 - enhancing mobility & reducing congestion
 - optimising performance & capacity of transport infrastructure
 - increasing real time reliability
 - improving efficiency of logistic operations
 - and hence: reducing energy use & environmental impacts

Instruments to go ahead towards Deployment

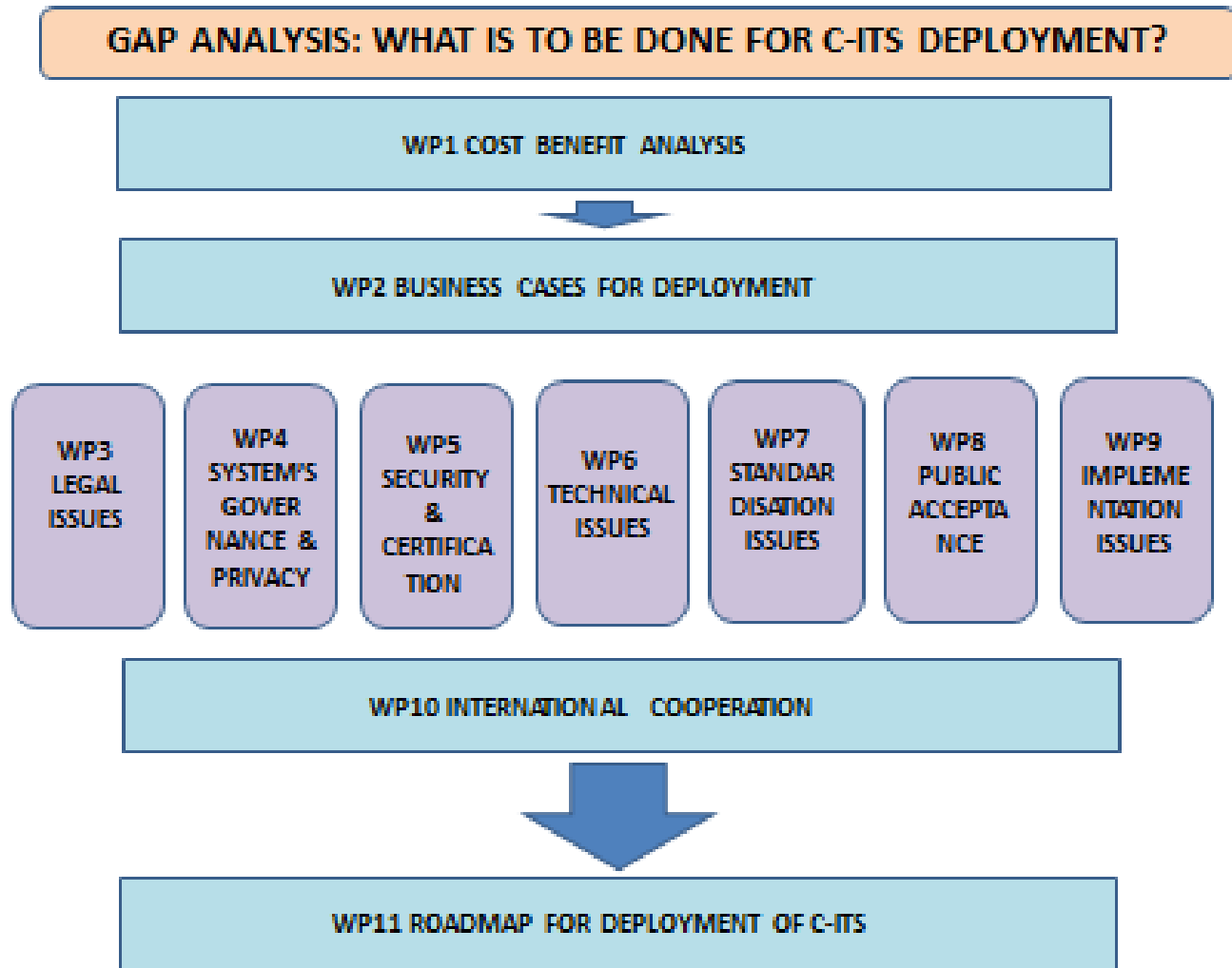
- **Public-Private Engagement: The Platform for the Deployment of C-ITS in the European Union**
- **Funding schemes:**
 - Research, Development & Innovation – Horizon 2020
 - Infrastructure funds - "Connecting Europe Facility": Grant scheme and Innovative Financial Instruments. Starting with Pilot testing and building up towards large scale deployment.
- **Legislation**
- **International Cooperation**

The C-ITS Deployment Platform

Objective: "Developing a shared vision and a roadmap for the Deployment of Cooperative Systems in the EU"

- Public-Private partnership: On content, process development and ownership of final outcomes
- Analysis of cross-cutting blocking factors and enablers: technical, legal, organisational, policy and administrative
- Outcome: Building blocks for a "Communication by the European Commission on the Deployment of C-ITS" What has to be done by whom and when?

The C-ITS Deployment Platform



Cooperative ITS Corridor Initiative

The Objective

Provide a basis for standardized, international, future-oriented C-ITS services:

- A joint road map for the introduction of the initial C-ITS services
- Common functional descriptions of the initial C-ITS services and technical specifications
- Start of the actual implementation of the initial C-ITS services



The official start



(Quelle: BMVBS)

On 10 June 2013 ministers representing Germany, Austria and the Netherlands signed the Memorandum of Understanding

The phases

1. Pre-development and proof-of-concept

- with road works safety trailers in Hesse around Frankfurt/M.,
- within the Austrian project ECO-AT, and
- by extension of Dutch Testside DITCM

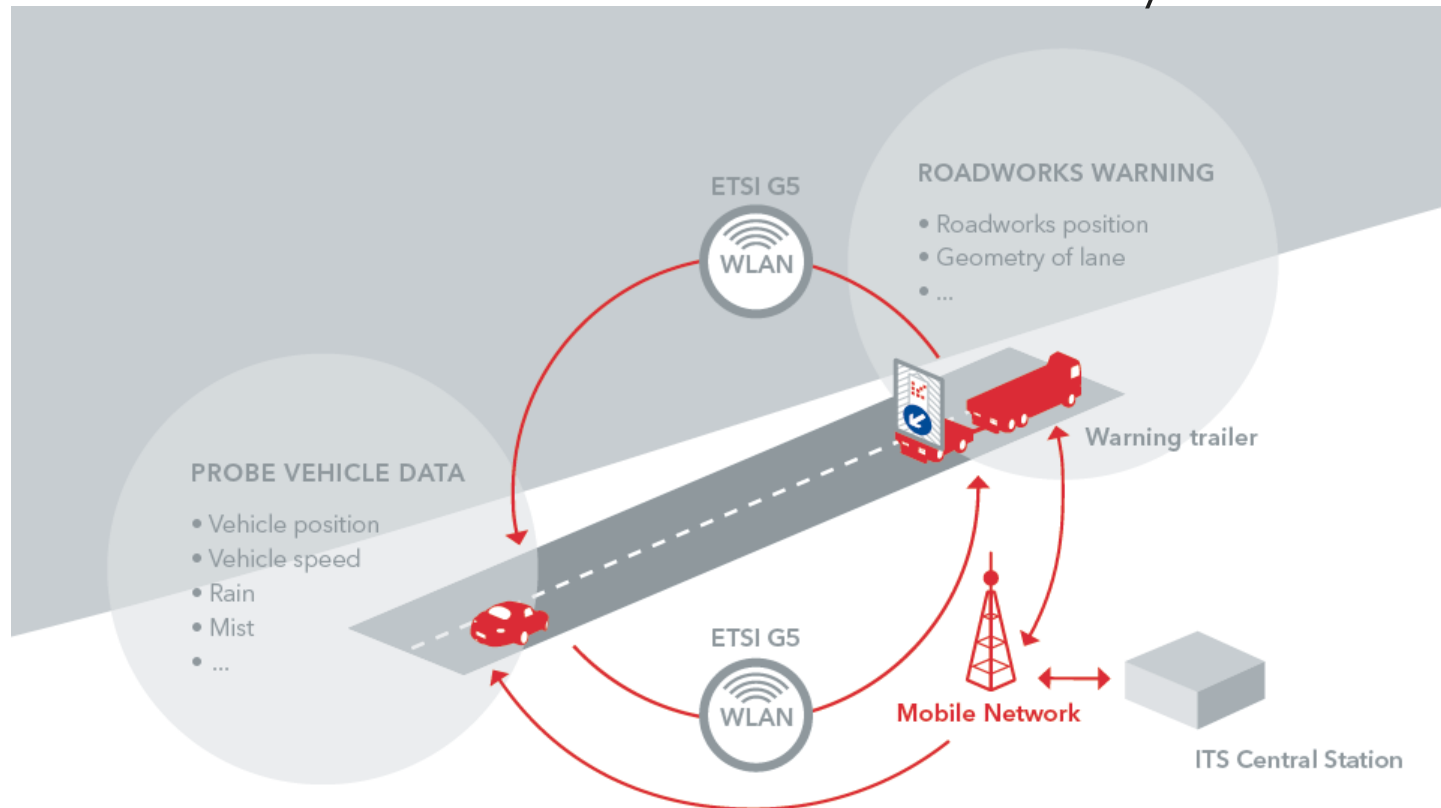
2. Deployment of Road Works Warning and Probe Vehicle Data in the Cooperative ITS Corridor (NL – DE – AT)

3. Nationwide deployment



The initial services

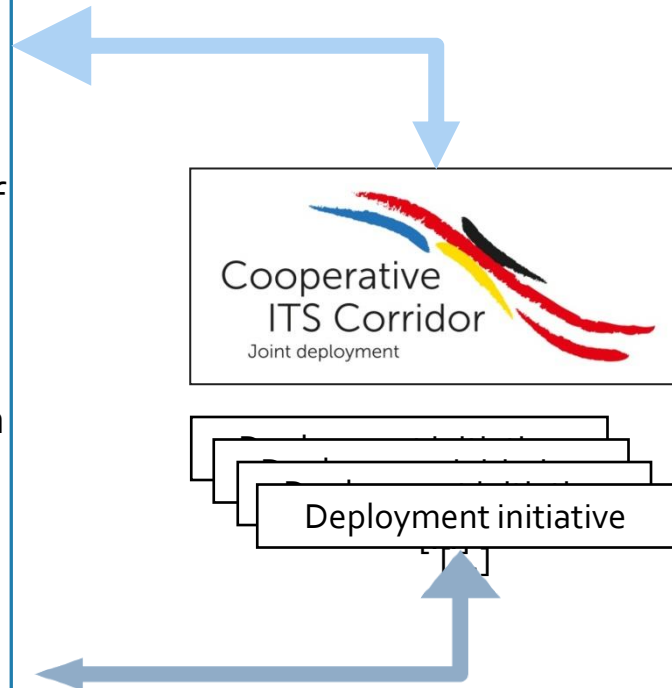
Deployment of two services as common denominator on motorways in the three Member States Netherlands – Germany – Austria



The European context – Amsterdam Group as facilitator



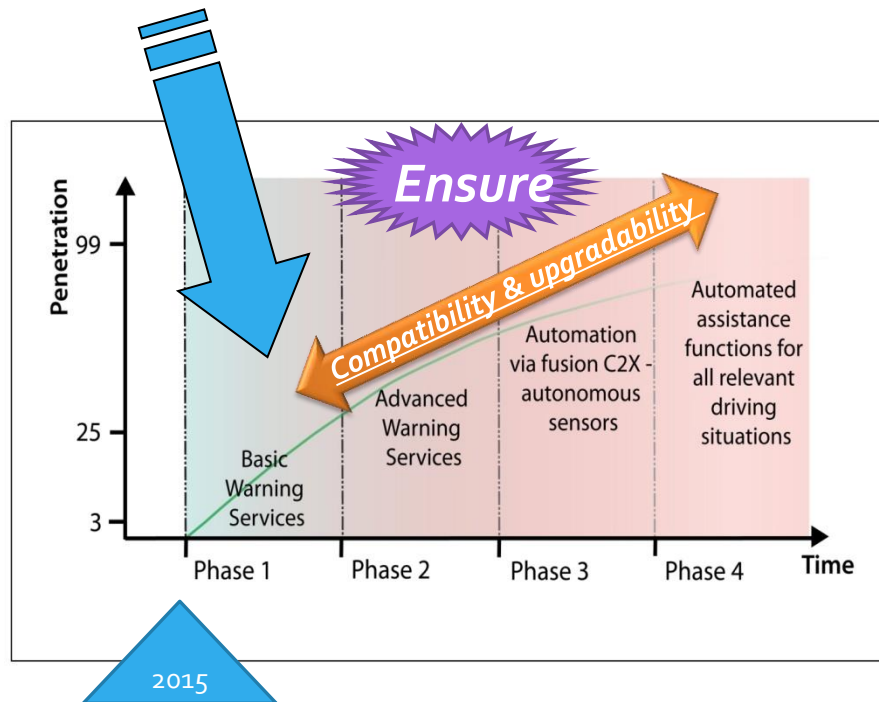
- Roadmap between automotive industry and infrastructure organisations,
- Roadmap on initial deployment of Cooperative ITS (C-ITS) in Europe from 2015 onwards,
- Roadmap aims at practical recommendations for Amsterdam Group members,
- Roadmap on Amsterdam Group level as a guiding star for C-ITS deployment of members in corridors.



Partners



Phased deployment approach Focus on Day One C-ITS Services



- Initial deployment with simple and non complex services,
- Achieving clear user benefits, supported by a solid business model,
- Even with limited penetration and limited hot spot implementation.

Day one C-ITS services for deployment

Typical V2V

- Hazardous location warning
- Slow vehicle warning
- Stationary vehicle warning
- Emergency Brake Light
- Emergency vehicle warning
- Motorcycle approaching indication



I2V provided by infrastructure

- Road works warning
- In-vehicle signage/information
- Signal phase and timing of traffic lights
- Probe vehicle data (Floating Car Data)



SCOOP@F (France)



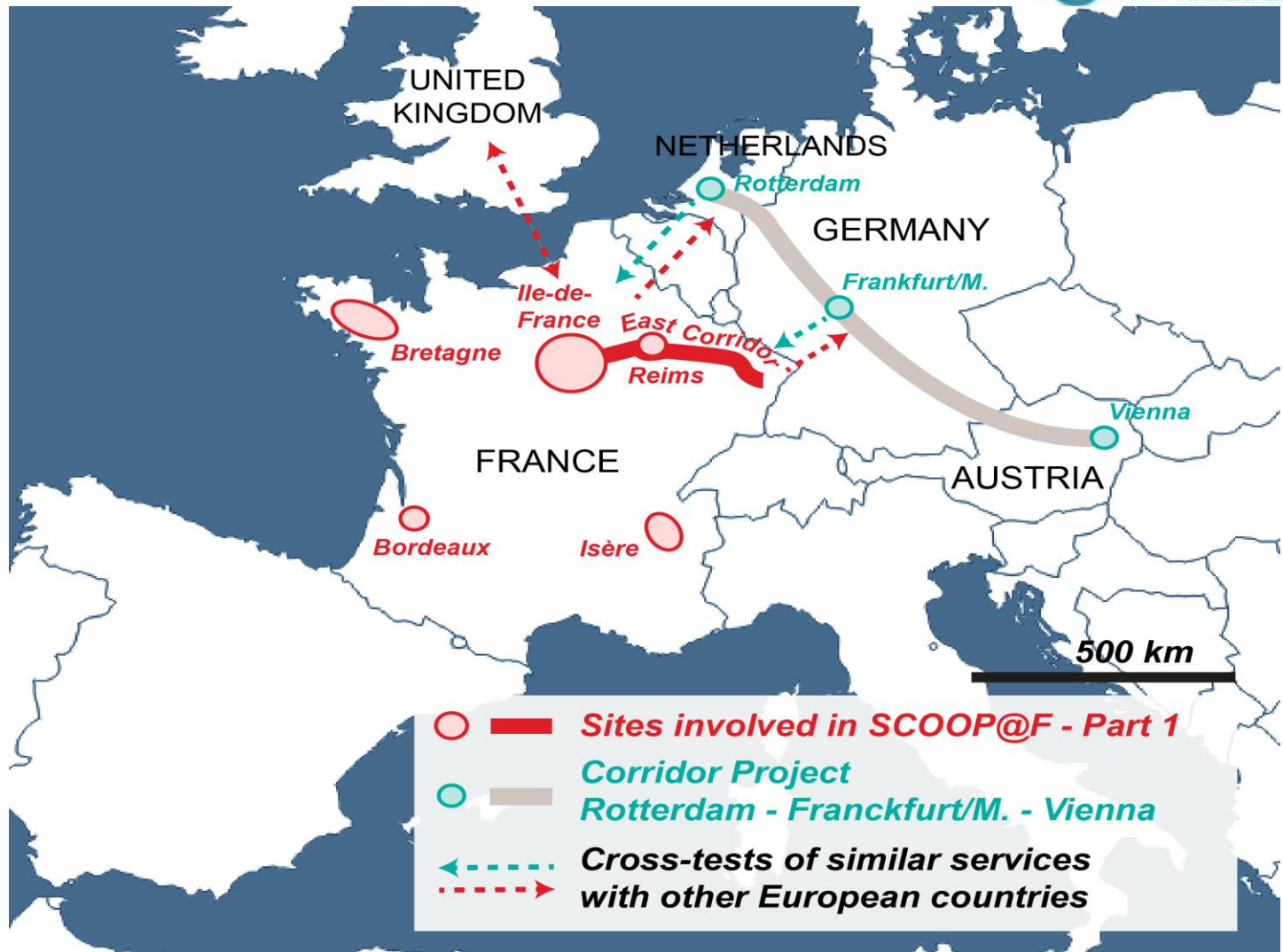
- Scope of Pilot:

Nation-wide project that will equip 3000 vehicles and 2000 km streets / intercity roads / highways in 2016. It will address a wide variety of communications-related applications between vehicles, road infrastructures and communication infrastructures, intended to increase travel and operation safety, while improving travel quality.

- Consortium:

- Coordinator: Ministry of Ecology, Sustainable Development and Energy
- Partners: National and local road authorities, automotive industry (OEMs and Suppliers), research centers

SCOOP@F (France)



SCOOP@F (France)



- Objective to deploy C-ITS at a national level by 2017
- [SCOOP@F](#) - Part 1 : 2014 – 2015. The Part 1 is the proposed action financially supported by the EC.
 - Specifications, developments of on-board units and services
 - Implementation of the 5 pilot sites: deployment in vehicles and roads
 - Implementation of the validation and security structure
- [SCOOP@F](#) - Part 2 : 2016 – 2018
 - Experimentation of the services in pilot sites
 - Evaluation of the results of the pilot
 - Introduction of new services and possible extension of the pilot sites (more vehicles and roads)
 - Definition of a national road map for deployment of the first cooperative ITS services

From connected to automated driving

- Evolution towards automated driving will benefit from V2I connectivity
 - Ubiquitous access to up-to-date enhanced digital maps (electronic horizon)
 - Real-time provision of dynamic traffic information that can influence level of automation (e.g. road works, traffic jams, weather conditions, accidents...)
 - From level 3, vehicles need to know destination and could share this information in addition to position & speed to enable truly cooperative and predictive traffic management
- Use of driving and traffic simulation technologies to study, evaluate and assess:
 - Interactions between drivers and automated driving functions
 - Interactions between automated vehicles. Compliance of individual automated driving strategies according to traffic laws
 - Interactions between automated vehicles and drivers using conventional vehicle. How drivers will understand and anticipate driving behaviour of automated vehicles in mixed traffic conditions?
 - Interactions with traffic management. Use of macroscopic traffic simulation to assess benefits of (highly) automated driving to increase traffic safety, optimize traffic flows and reduce emissions



22nd ITS World Congress

Bordeaux, France

5 to 9 October

2015

Looking forward to meeting you on 5 - 9 October 2015



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More information?

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