



ITS got Solutions

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

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SIP adus International Workshop

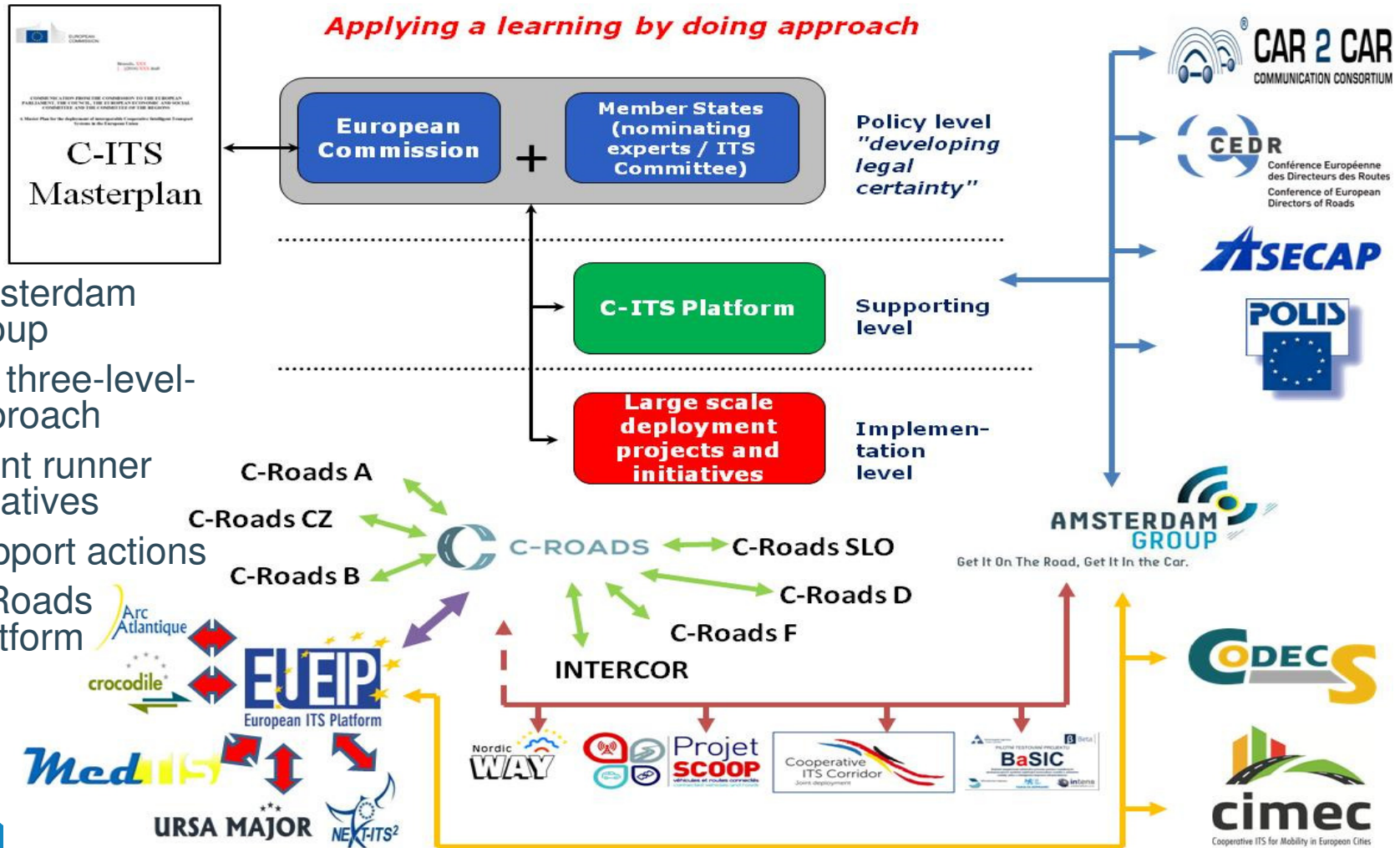
November 15-17, 2016 - Tokyo



Summary

- European C-ITS Deployment Platform
- C-ITS pilot initiatives in Europe
- C-The Difference pilot project
- Conclusions

European C-ITS Deployment Landscape



- Amsterdam Group
- EC three-level-approach
- Front runner initiatives
- Support actions
- C-Roads Platform

European Commission 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«

C-ITS Masterplan

What has to be done by whom and when?

Day 1 C-ITS Services



Hazardous location notifications

- Emergency brake light
- Emergency vehicle approaching
- Slow or stationary vehicle(s)
- Traffic Jam ahead warning
- Road works warning
- Weather conditions

Signage applications

- In-vehicle signage
- In-vehicle speed limits
- Probe vehicle data
- Shockwave Damping (ETSI "local hazard warning")
- Signal violation / Intersection Safety
- Traffic signal priority for designated vehicles
- Green Light Optimal Speed Advisory (GLOSA)

Day 1.5 C-ITS Services



- Information on fuelling & charging stations for alternative fuel vehicles
- Vulnerable Road user protection
- On street parking management & information
- Off street parking information
- Park & Ride information
- Connected & Cooperative navigation into and out of the city (1st and last mile, parking, route advice, coordinated traffic lights)
- Traffic information & Smart routing

C-ITS Deployment Platform Status and next steps



- Phase 1 closed (November 2014 - January 2016)
Publication of report consolidating recommendations from 11 Working Groups
<https://ec.europa.eu/transport/sites/transport/files/themes/its/doc/c-its-platform-final-report-january-2016.pdf>
- Phase 2 launched in April 2016
 - New Working Groups addressing C-ITS and automation:
 - Physical and Digital Road Infrastructure
 - Enhanced Traffic Management
 - C-ITS, Automation and Road Safety
 - C-ITS, Public Transport and automation in urban areas
 - Phase 2 report to be published in September 2017.
- 2016 CEF Call (Studies including piloting activities on C-ITS & Automation)
- C-ITS Master Plan (by end of 2016)

C-ITS pilot initiatives in Europe



CITRUS

InterCor



C-ITS pilot initiatives in Europe



Austria
Germany
The Netherlands



Get It In On The Road, Get It In the Vehicle.

CEDR
ASECAP
C2C Consortium
POLIS



C-ITS pilot initiatives in Europe



Finland
Sweden
Norway
Denmark



- Use of Cellular network
- Focus on low latency traffic safety information (hazard warning, weather, probe data)
- Up to 2000 users



C-ITS pilot initiatives in Europe



France
+ Austria,
Portugal
and Spain in Phase 2



- 3000 equipped vehicles
- 2000km road network coverage (motorway, rural and urban areas)
- ITS G5 and cellular network (Phase 2)
- Cross border tests



C-ITS pilot initiatives in Europe



Austria
Czech Republic
France
Germany
Slovenia



- Focus on Day 1 C-ITS services

C-ROADS Platform
Coordination of C-ITS deployment projects

- Harmonisation of specifications
- Alignment of standards
- Cross testing



C-ITS pilot initiatives in Europe

CITRUS

Belgium



- Focus on truck relevant Day 1 and Day 1.5 C-ITS services
- Implementation of companion app for truck drivers



C-ITS pilot initiatives in Europe

InterCor

Belgium
France
The Netherlands
UK



- Interoperability across member states
- Use of hybrid communications (ITS G5 and cellular network)
- Operation and evaluation of Day 1 C-ITS services



C-ITS pilot initiatives in Europe



City of Helmond
(The Netherlands)
City of Bordeaux
(France)



- Focus on urban use cases
- Use of ITS G5 and cellular network
- Large scale pilot
- City Twinning Program



The Difference C-The Difference

Beyond Traffic Jam - C-ITS urban pilots

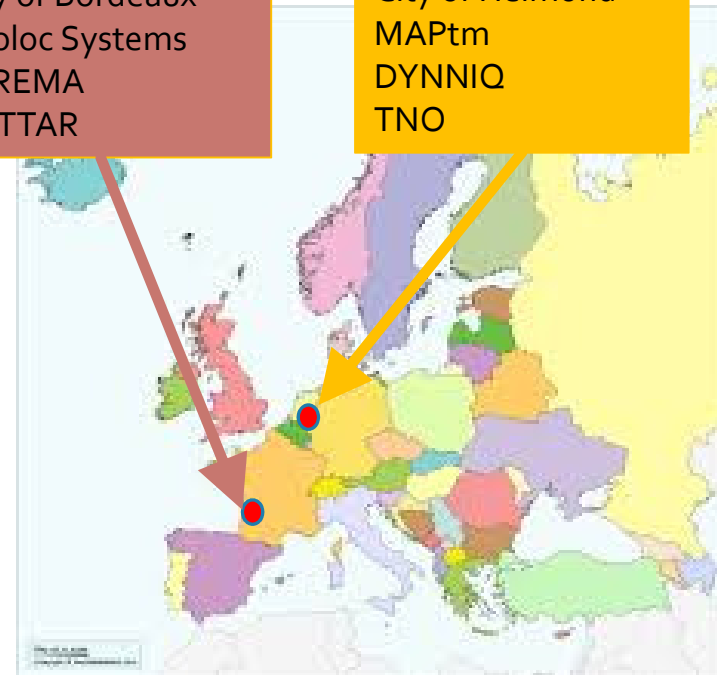
- Funding: EC DG MOVE 
- Period of activity: October 2016 – September 2018
- Consortium:
 - Cities
 -  Gemeente Helmond
 -  BORDEAUX MÉTROPOLE
 - Industry
 -  dynniq energising mobility
 -  MAP TRAFFIC MANAGEMENT
 -  Geoloc Systems Intelligent Transport
 - Research
 -  TNO innovation for life
 -  Cerema
 -  IFSTAR
 - Consultancy: BLERVAQUE Sprl
- Consortium Leader: MAP Traffic Management
- Project Manager: Vincent BLERVAQUE

Bordeaux Pilot Site

City of Bordeaux
Geoloc Systems
CEREMA
IFSTAR

Helmond Pilot Site

City of Helmond
MAPtm
DYNNIQ
TNO



General approach

Five golden rules for success in implementation and long run provision of C-ITS services:

1. Interoperability
2. Sustainability
3. Scalability
4. Replicability
5. Reliability



C-ITS Pilot Concept

- **Deliver best value for money** by starting from C-ITS state of the art pilot sites and by focusing efforts on how to upgrade, upscale and replicate to ensure significant progress towards full scale deployment of C-ITS services in urban environment
- **Deliver comprehensive and integrated impact assessment** by means of enhanced evaluation methodology and up to 18 months operation of C-ITS services package
- **Bridge the gap between most advanced C-ITS implementation in urban environment and large scale deployment and operations** by targeting professionals responsible for urban transport planning and operations, policy makers and decision makers
- **Convince European cities to invest in mature and proven C-ITS solutions** by fostering transfer and replication through city twinning program

List of Proposed C-ITS Services

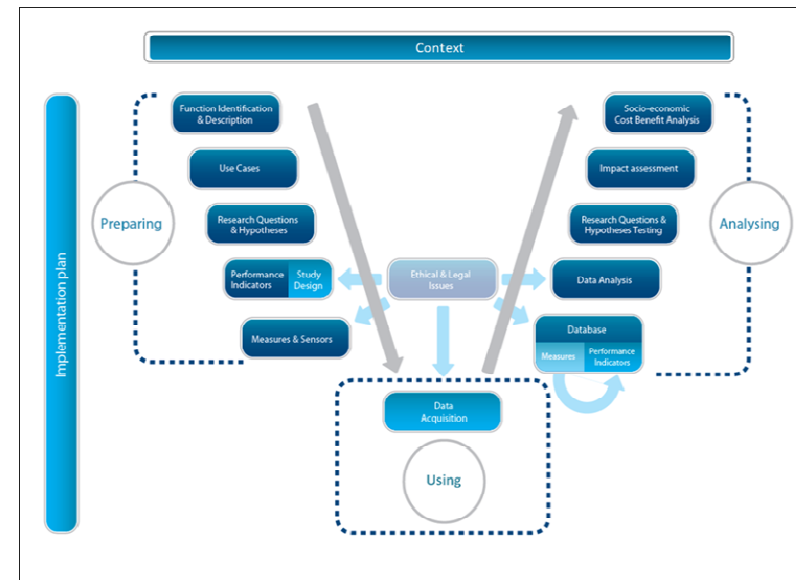
Pilot Site C-ITS services	List of proposed C-ITS services to be piloted and evaluated in C-The Difference pilot project	
	Bordeaux	Helmond
Emergency vehicle approaching	X	X
Road works warning	X	X
Weather conditions	X	
In-vehicle speed limits	X	
Probe vehicle data	X	
Signal violation / Intersection Safety		X
Traffic signal priority for designated vehicles		X
Green Light Optimal Speed Advisory (GLOSA)	X	X

Final list of C-ITS services to be piloted and evaluated in the two pilot sites will be defined during the identification activities

Expected Impact

Four impact categories will be assessed (quantitative and/or qualitative):

- Safety (mainly qualitative)
- Traffic efficiency
- Fuel / emission
- Business (Logistics)





City Twinning Program

- Objective: Foster knowledge sharing and C-ITS pilot best practices exchange to accelerate the replicability of C-ITS services with group of follower cities
- Targeted audience: Representatives of cities and regions in charge of transport & mobility innovation, transport planning and traffic management
- Proposed activities:
 - Workshops in Helmond and Bordeaux including live demonstrations
 - Exchange of information with C-The Difference pilot city representatives
- Interested to join? Please sign up!



Conclusions

C-ITS deployment in Europe:

- Is driven by European Transport Policy (ITS Directive, C-ITS Master Plan)
- Is moving forward with already 14 Member States engaged in national and cross-border pilots in close cooperation with industry
- Address not only European road corridors but also urban nodes with increasing number of cities involved as pilot sites
- Implement Hybrid communication (ITS G5 and cellular)

Convergence of C-ITS and automated driving is on the development and deployment roadmap



ITS got Solutions

Thank you for your attention!

You are welcome to visit us in Europe to
strengthen international cooperation

More information?

Contact me at
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