Implementation of Cooperative ITS in Europe: the case of Compass4D

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www.compass4D.eu

11th AASHTO International Day

21st ITS World Congress Detroit, Michigan
7th of September 2014
ERTICO towards full deployment of C-ITS

- C-ITS Showcase
  - Amsterdam 2010
- C-ITS Plugtest
  - Helmond
- C-ITS Showcase
  - ITS World Congress Vienna 2012
- TMAVI
  - Traffic Management
  - Aware Vehicle Interaction
- eMF
- CVIS
  - Cooperative vehicle-infrastructure systems
- DRIVE C
  - Harmonized Europe-wide testing environment for C2X technologies
- eCoMove
  - Cooperative mobility systems and services for energy efficient
- SAFESPOT
  - Cooperative vehicles and infrastructure for road safety
- FOT-NET
  - Field Operational Tests Networking and Implementation
- FREILOT
  - Energy efficient urban freight to reduce fuel consumption
- D4D
  - Cooperative Mobility Pilot on Safety and Sustainability Services for Deployment
- COMPASS
- P4ITS
  - Public Procurement of Innovation for C-ITS
- MOBINET
  - Europe-Wide Platform for Connected Mobility Services
- CO-LOGISTICS
  - COoperative Logistics for Sustainable Mobility of Goods
- Architecture, Interoperability, Core Technologies
- Real-life Application, Validation, Assessment, Refinement
- Implementation, Data Sharing, Procurement, User benefits, Legal Framework

INTERNATIONAL COOPERATION
Compass4D: deployment of 3 C-ITS services in 7 European cities

Goal: Deploying C-ITS services for road users to increase road safety and energy efficiency

Applications

- Road Hazard Warning (RHW)
- Red Light Violation Warning (RLVW)
- Energy Efficient Intersection Service (EEIS)

7th of September 2014
### Vehicles and infrastructure

<table>
<thead>
<tr>
<th>Vehicles / pilot site</th>
<th>Bordeaux</th>
<th>Copenhagen</th>
<th>Helmond</th>
<th>Newcastle</th>
<th>Thessaloniki</th>
<th>Verona</th>
<th>Vigo</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trucks</td>
<td>40</td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>52</td>
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<td></td>
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</tr>
<tr>
<td>Cars</td>
<td>34</td>
<td>25</td>
<td>5</td>
<td>5 electric</td>
<td>91</td>
<td></td>
<td></td>
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<tr>
<td>Buses</td>
<td>90</td>
<td>5</td>
<td>10</td>
<td>20</td>
<td>135</td>
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<tr>
<td>Emergency vehicles</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>13</td>
<td></td>
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<tr>
<td>Taxis</td>
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<tr>
<td>Total vehicles</td>
<td>80</td>
<td>100</td>
<td>42</td>
<td>10</td>
<td>42</td>
<td>20</td>
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<tr>
<td>Total RSU</td>
<td>22</td>
<td>21</td>
<td>32</td>
<td>20</td>
<td>14</td>
<td>25</td>
<td>17</td>
<td>131</td>
</tr>
</tbody>
</table>

**Estimated number of drivers: 574**

Commercial vehicles (busses, trucks, emergency vehicles, taxis)
- 2 users / drivers per vehicle
Electric vehicles and passenger cars
- 1 user / driver per vehicle

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Already available road services in Helmond (NL)

13 equipped intersections in urban zone

- **Energy Efficient Intersection Service:**
  - GLOSA, Idling Stop Support, Start Delay Prevention – SPaT & MAP

- **Road Hazard Warning – DENM**
  1. Road works warning
  2. Emergency vehicle warning (F = fire brigade station)

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Compass4D: Urban/Interurban Deployment in Bordeaux

- 15+7 Road Side Units (urban + interurban)
- TMC link operational
- Reception of data for GLOSA
- DatexII-DENM link interoperable
- Mirror POMS operational
- C-ITS stations interoperable

34 light vehicles
40 trucks
6 emergency vehicles

- TMC Road Hazard Warning
- Emergency Vehicle alert & Priority
- Green Light Optimal Speed Advice
- Start/stop idling
Compass4D: Emergency vehicle alert & priority in Bordeaux

- 6 emergency vehicles (ambulances, fire trucks)
- Broadcasted warning to all C-ITS equipped cars
- Traffic light emergency vehicle strategy

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Compass4D: GLOSA (Green Light Optimal Speed Advice)

Start/stop idling

- 15 urban RSU
- 5 km
- 34 Light Vehicles
- 40 Trucks
- Green > 7 s => stop engine

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Compass4D : Road Hazard Warning

- Provided by an operational TMC on the Bordeaux ring-road (CEREMA TIPI)
- All Datex2-Denm compatible messages including:
  - Accidents, incidents
  - Road works, restrictions
  - Winter conditions
  - Traffic jams
  - ...
Compass4D: vision and main goals

- Demonstrate the **positive cost-benefit** of Cooperative ITS
- Make sure the **services remain alive** after the end of the project
- Become a **reference model** for other cities
- Raise **public awareness** and user acceptance
- Support **international cooperation** and standardisation

Harmonisation of certification frameworks and standards
- Working links established with NISSAN (Japan)
- Working links established with Berkeley PATH (US)
- Vice Chair of ETSI TC ITS is Compass4D Strategic Standardisation Leader

Contribute to the success of the EU - US Task Force
- Key members/partners: ERTICO, PEEK, VOLVO
- Targeting economy of scales and cost reductions

Exchange of best practices
- Ann Arbor, Michigan
- Sangubashi curve, Japan
- European cities
EU-US Showcase
Cooperative vehicle communications

Static showcase
Dynamic showcase
Compass4D final demo

LARGE DEMO AREA OPEN TO ALL

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Compass4D

towards full scale C-ITS deployment

Please visit the Compass4D website:
www.compass4D.eu

or contact the Compass4D coordinator:
g.somma@mail.ertico.com
Demonstration timeline

• Two stage demo reception end of June/end of September 2014
• Demo proposal validation and contract signature in January 2015
• Demonstration schedule according to demo capacities & demo targets in March 2015
• Final technical demo validation in September
• Questions: [bordeaux2015demos@mail.ertico.com](mailto:bordeaux2015demos@mail.ertico.com)
Thank you for your attention