C-ITS, from pilots to deployment
A small city’s perspective on C-ITS deployment

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Mobility policy Helmond

Optimizing the use of existing infrastructure

Urban traffic solutions technology driven: ITS

Active support of smart mobility pilots and showcases
FREILOT Energy Efficient Intersection Service Helmond
Priority at intersections – speed & time-to-green advice
Energy Efficient Intersection Service
The example of Helmond (NL)

Source: FREILOT project

14 equipped intersections in urban zone

<table>
<thead>
<tr>
<th>Period</th>
<th>Number of crossings</th>
<th>Number of stops</th>
<th>% of stops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>408</td>
<td>52</td>
<td>13%</td>
</tr>
<tr>
<td>Pilot</td>
<td>343</td>
<td>20</td>
<td>6%</td>
</tr>
</tbody>
</table>

Number of crossings and stops in both periods

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Pilot</th>
<th>Rate of change</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ emissions (g/km)</td>
<td>644</td>
<td>562</td>
<td>-13%</td>
</tr>
<tr>
<td>NOₓ emissions (g/km)</td>
<td>3.87</td>
<td>3.33</td>
<td>-14%</td>
</tr>
<tr>
<td>Fuel consumption (l/100km)</td>
<td>24</td>
<td>21</td>
<td>-13%</td>
</tr>
<tr>
<td>Speed (km/h)</td>
<td>35</td>
<td>36</td>
<td>+2.6%</td>
</tr>
</tbody>
</table>

Emissions, consumption and speed variations
Compass4D - overview

Bordeaux
Vigo
Copenhagen
Verona
Helmond
Thessaloniki
Newcastle

Services:
Energy Efficient Intersection
Road Hazard Warning
Red Light Violation Warning

> 600 vehicles, > 1200 drivers

<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></td>
<td></td>
<td></td>
<td>52</td>
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<tr>
<td>Cars</td>
<td>34</td>
<td>25</td>
<td>5</td>
<td>7</td>
<td>10</td>
<td>10</td>
<td>91</td>
<td></td>
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<tr>
<td>Buses</td>
<td>100</td>
<td>5</td>
<td>electric</td>
<td>5 electric</td>
<td>10</td>
<td>20</td>
<td>185</td>
<td></td>
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<tr>
<td>Emergency vehicles</td>
<td>6</td>
<td>5</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>13</td>
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<tr>
<td>Taxis</td>
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<td></td>
<td></td>
<td></td>
<td>35</td>
<td>8</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Total vehicles</td>
<td>80</td>
<td>100</td>
<td>42</td>
<td>10</td>
<td>42</td>
<td>20</td>
<td>40</td>
<td>334</td>
</tr>
</tbody>
</table>
From C-ITS- technology to mobility solutions
the deployment challenge

- Technology
- Policy
- Business-models: economies of scale
- General Acceptance
- Proof of Evidence
- Cyber Security
From C-ITS- technology to mobility solutions
Some of our contributions to upscaling

- Increase number of users: example C-TheDifference
- Extend installed base of C-ITS Infrastructure: Talking Traffic
- Hybrid Communication Testbed

But: is the market ready ???
The next mobility challenges for Helmond ...

- Contribute to large scale deployment of C-ITS
  - EU-Projects **C-Mobile, C-TheDifference, CAPITAL**
- Combine smart technology with smart behaviour – MaaS
- Prepare for introduction and transition towards automated vehicles
  - EU-Projects **MAVEN, CoEXist, AUTOPilot**
The real challenge for C-ITS ...
ITS just a tool ...
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