



How do we get eCoMove on the road? *Findings and lessons learned*

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Content of the presentation

- Before we start de round table discussion...
Some information on the last steps in eCoMove project:
 - Impact assessment / CBA
 - Barriers to implementation
 - Lessons learned
 - Possible solutions
 - Roadmap

CBA results

- Benefit-Cost Ratios and Net Present Values calculated for several (combinations of) applications
- BCRs and NPVs are promising → no reason not to implement eCoMove applications!
- However, there is more to implementation than positive BCRs...

Selection of implementation issues

- Legal and institutional
 - e.g. privacy, liability, vendor-locking, “too innovative”
- Financial
 - e.g. too high costs, no sustainable business plan
- Political and cultural
 - e.g. uncertainty about costs and benefits, added value of cooperation, user acceptance, penetration rates, conservative stakeholders
- Practical and technical
 - e.g. access to data, complexity, interoperability

Lessons learnt, and some recommendations

- The eCoMove architecture is very complicated
→ *Reduce complexity, if necessary, after completion of high level architecture*
- eCoMove core technologies and applications use a lot of data → *The effort involved in obtaining and processing (live) traffic data should not be underestimated*
- Many parties are involved in each element of the eCoMove system → *Roles and responsibilities need to be defined for successful exploitation*



Lesson learnt, and some recommendations (2)

- Legacy systems and map data are not always up to date → *Take this into account when starting up a project, or focus on locations where this is not an issue*
- Interoperability is not guaranteed → *Issues with e.g. time synchronisation, differences in map data, interpretation of (I2V) messages need to be resolved*

Other solutions

- Memoranda of Understanding
 - For commitment from multiple stakeholders
 - E.g. as drawn up by the Amsterdam Group and the Car2Car Communication Consortium
 - eCoMove has developed applications that are regarded as day one applications (traffic light applications)
- Standardisation & common APIs
 - Of messages, time stamps, map agnostic location references

Other solutions (2)

- Further testing, with the aim to provide information on user acceptance, costs and benefits
 - For seeing what drivers choose to do with advices (in the real world)
 - For business modelling
- Marketing campaigns and driver training
 - Show drivers and other stakeholders the potential and ease of use of eCoMove functionalities

Roadmap

- Roadmap: when are all the elements of the eCoMove systems expected to be implemented?
- Unfortunately, the complexity of the eCoMove system makes it hard to draw a roadmap that can be easily understood
- Alternative approach: look at deployment needs, and what paths to implementation can be envisaged

Deployment needs

- FVD / probe data from vehicles
 - is available, but not necessarily accessible and used by traffic management applications
- Static eco-attributes in digital maps (e.g. slope, curve radius)
- Dynamic eco-attributes in digital maps (traffic light states, dynamic speed limit)
- Standardised eco-messages
- Penetration rate needs to increase (RSUs & OBUs)

Penetration rate (RSUs)

- Cooperative road side ITS needs routers for communication
- Use cases need to be defined; e.g.:
 - Detection (especially for urban areas not yet using road side detection or looking to replace it)
 - Back office solutions, for non-time critical use cases
- Expectation: Each road operator will find its own (interoperable and/or compatible) platform and development path

Penetration rate (vehicles)

- Cooperative ITS in the vehicles can run on different platforms
 - Smartphone, navigation system, embedded, hybrid forms
- Expectation: Each OEM will find its own (interoperable and/or compatible) platform and development path
- Robustness of applications needs to be improved

Round table discussion

- Theme: **“Towards eCoMove Deployment”**
- To be discussed:
 - User compliance
 - Business models
 - Remaining barriers to deployment
 - Energy footprint
- Let's get started!

Thank you for your attention

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