

Managing Smart Mobility systems: opportunities and challenges in the era of Big Data

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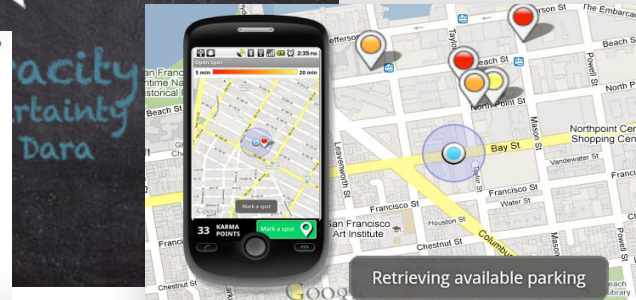
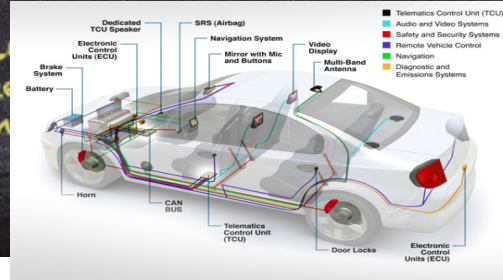
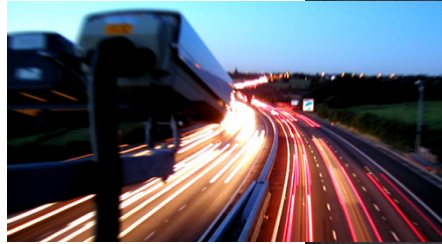
Luca Bruno / AP

2013

The era of Big Open (mobility) Data

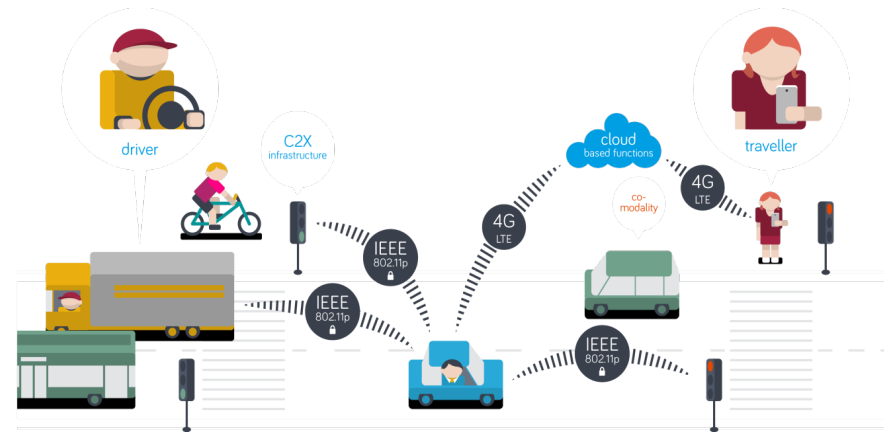


Big Data



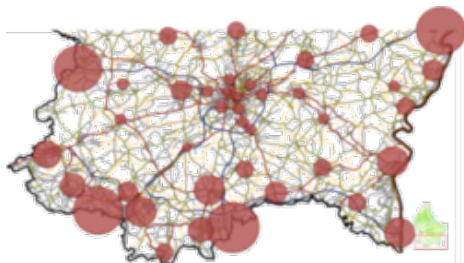
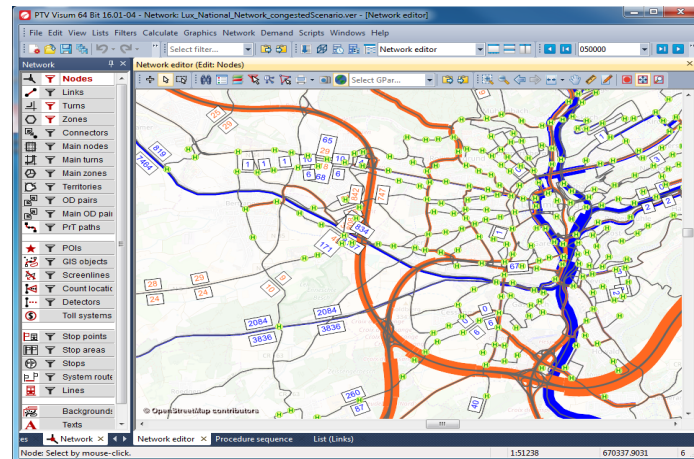
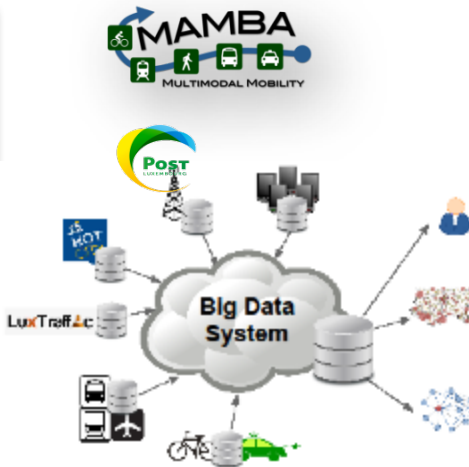
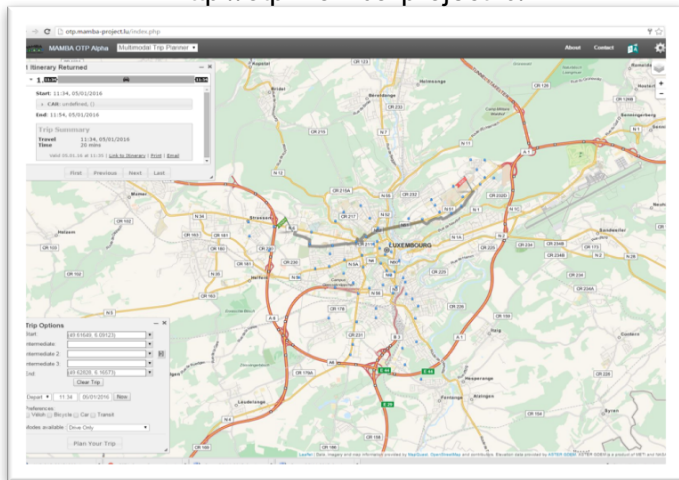
Towards a Smart Mobility vision: connecting everyone & everything

- Exploiting data sharing and connectivity of travellers, vehicles and infrastructure through ICT/IoT enables unprecedented performances
 - Better seamless information
 - Through **Big and Open Data**
 - Through advanced **DSS for the travellers**
 - Better integrated management: C-ITS
 - Through **Cooperative ITS technology**
 - Through advanced **DSS for the managers**
 - Better availability and use of services
 - By exploiting **multimodal mobility** solutions
 - Through incentivizing **collaborative mobility**
 - Giving opportunity for **new mobility start-ups**

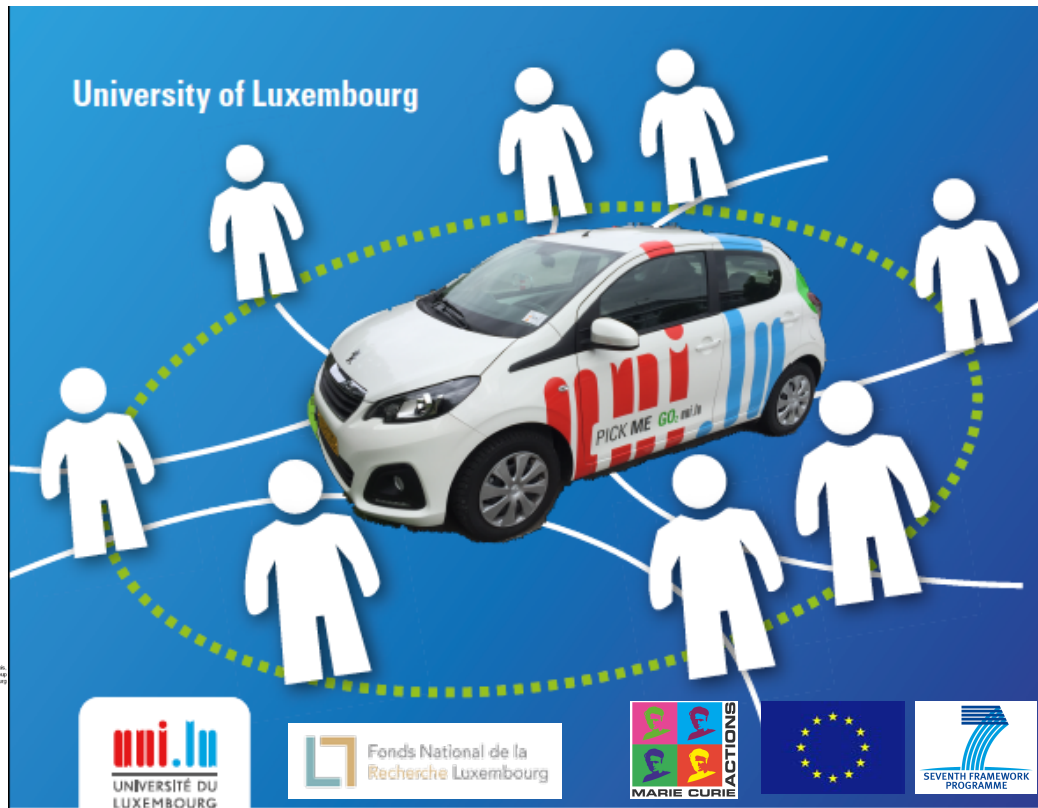
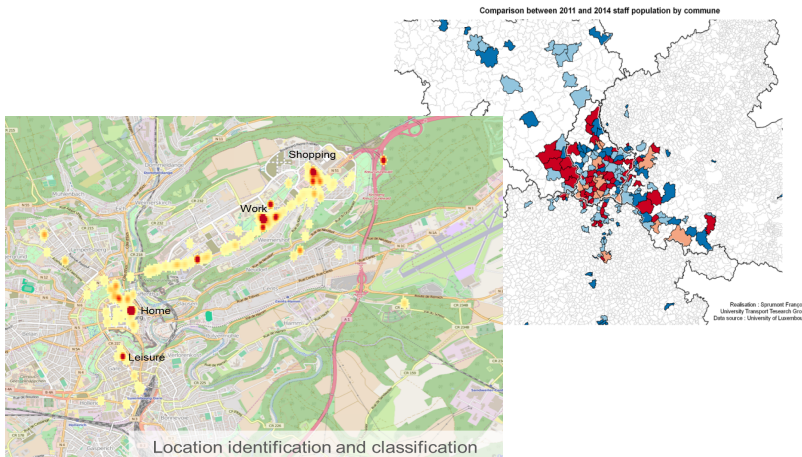


Using data for Better Decision Support Services for travellers and decision makers

<http://otp.mamba-project.lu/>

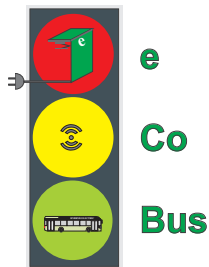


Using data for collaborative mobility optimisation

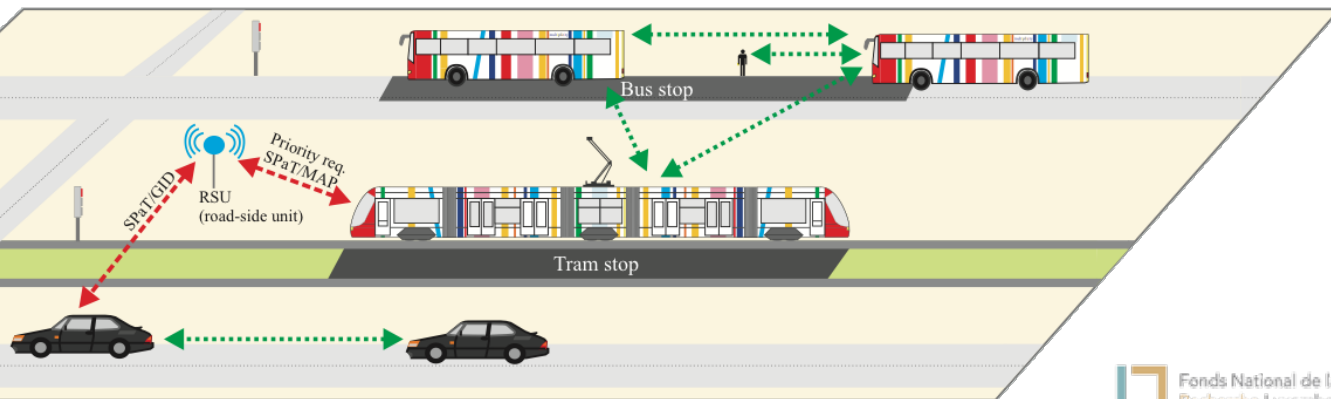


Using data for improving bus schedules & charging operations

Electrified Cooperative Bus System

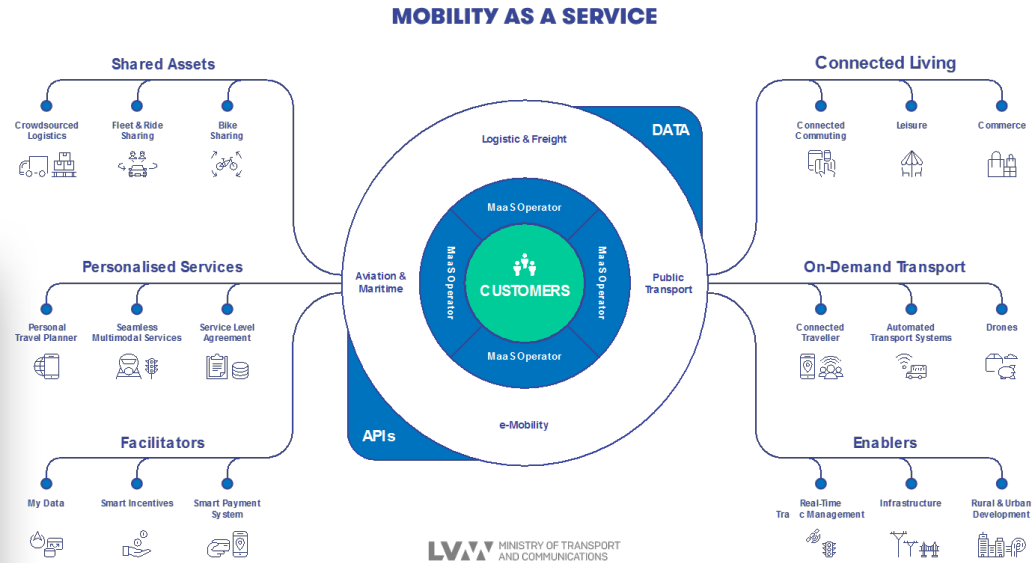


Cooperative Public Transport



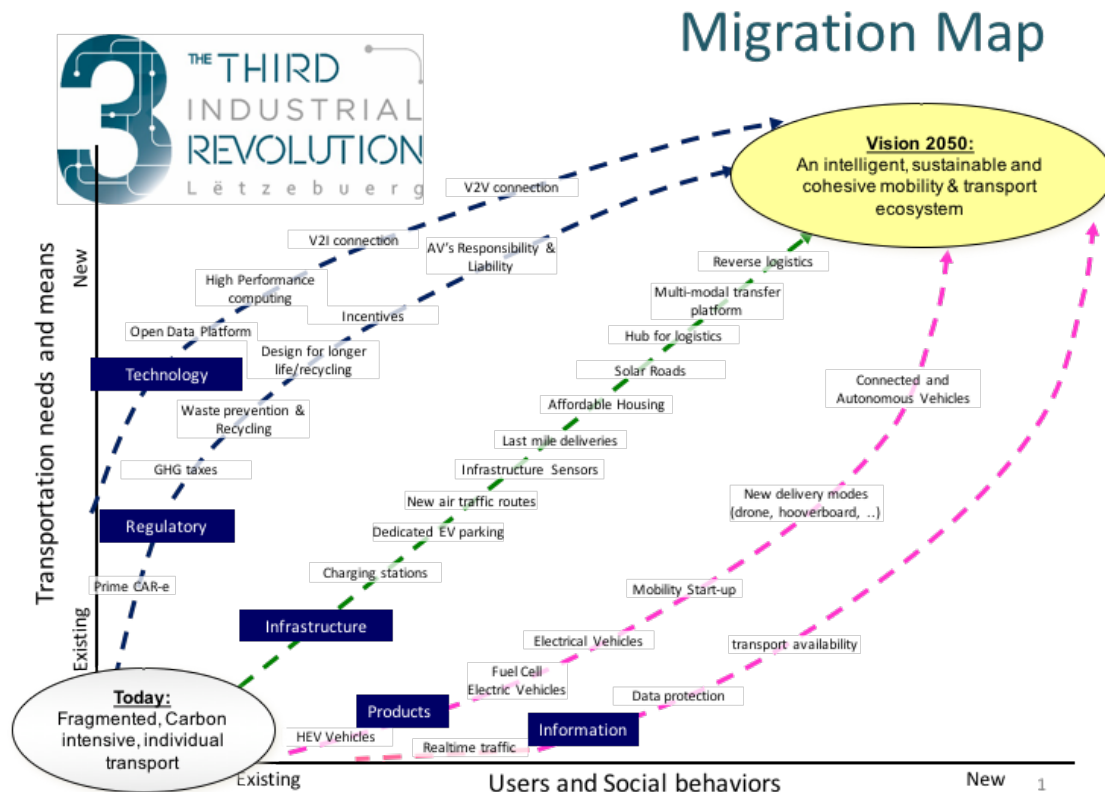
A (likely) future scenario: Mobility-as-a-Service

- Shifting from vehicle ownership to vehicle *usership*
 - Integrated connected system of services (beyond mobility)
 - Mobility credit schemes & trading
 - Connected & autonomous vehicles
 - Sharing Economy
 - Sustainable development (?)



Smart Mobility Roadmap for Luxembourg

- 3rd Industrial Revolution
 - Rifkin's Guidelines and Executive Working Groups in action
 - Smart Mobility pillar for economical development of the country
 - Data Platform to be developed at early stages



Challenges for the transport & mobility community

- How to organise Smart Mobility systems in an efficient way?
 - Integration of services, need for new network design approaches
 - Mobility budget schemes, need to quantify willingness to pay and to change
 - New emerging technologies and solutions conceived with unprecedented frequency
- How to predict demand and supply systems in future Smart Mobility systems?
 - Missing historical data, early MaaS systems currently tested
 - Complex interoperability of services, value added effects, transition towards CAVs
 - Changing mobility habits, attitudes, values of times,...
- Will our future mobility be the same?
 - Will we use the same (old) infrastructure?
 - Will we use the same conventional services?
 - Will we reveal the same mobility patterns?



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THANK YOU FOR YOUR ATTENTION !

