Decarbonization of transport – Initiatives in the European Commission

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Decarbonization of transport – The big picture

- GHG emissions from transport +32% during 1990-2005
- Transport largely dependent on oil
- Strong need for increased mobility
  - Prediction for 2000-2020: freight transport +50 %, passenger transport +35 %
- EU targets by 2020
  - 20 % reduction of GHG gases (/30%)
  - 20 % increase in energy efficiency
  - 10 % renewable transport fuels
- ICT plays an important role!

Greening of transport

- Existing measures
  - Economic instruments
  - Passenger vehicle CO2 emission standards
  - Proposal of CO2 standards for vans
  - Greening of Transport Package
  - The Climate Action and Renewable Energy Package
  - The European Green Cars Initiative
  - Etc.

Action Plan for the Deployment of Intelligent Transport Systems in Europe 2008

- Part of Greening Transport Initiatives
- Actions and measures
- Transport efficiency:
  - Logistics chains management
  - RTTI services
  - Cooperative systems (V2V, VTI, ITI)
- Greening of transport:
  - Electronic Toll Collection
  - Navigation and eco-driving
  - Green transport corridors

ICT for clean and efficient mobility Working Group

- Established by the eSafety Forum in 2006 – led by industry
- Task: To identify and promote benefits of ICT and ITS on clean and energy efficient mobility
- Announced potential of **25 % reduction** in fuel consumption
- "Green ITS" measures:
  - Eco-driving support
  - eco-traffic management
  - eco-information and guidance
  - eco-demand & access management
  - eco-mobility services
  - eco-freight and logistics management
  - eco-monitoring and modelling

The European Green Cars Initiative

- Part of the European Economic Recovery Plan 2008
- Public-Private Partnership
- Loans by the European Investment Bank (4 B€), research component 1 B€ (DGs RTD, INFSO, TREN)
- Research topics:
  - Transport electrification, lower emission trucks, greener internal combustion engines, logistics and transport system optimization, biofuels and hydrogen fuel cells
- DG INFSO contribution 110 M€, ICT for Fully Electric Vehicles (FP7 Calls 4,5,6)

European Large Scale Action - ELSA

- The EC is considering to support a set of focused projects of significant scale and duration that cut across the innovation cycle to develop modern pan-European service infrastructures
- Mobilization of resources:
  - grants for R&D, pre-commercial procurement and support for innovation and
- Deployment, using a variety of instruments
- ELSA in Transport focuses on energy efficiency and safety
- FP8 Timeframe, 2014 onwards (ramp-up actions under FP7?)

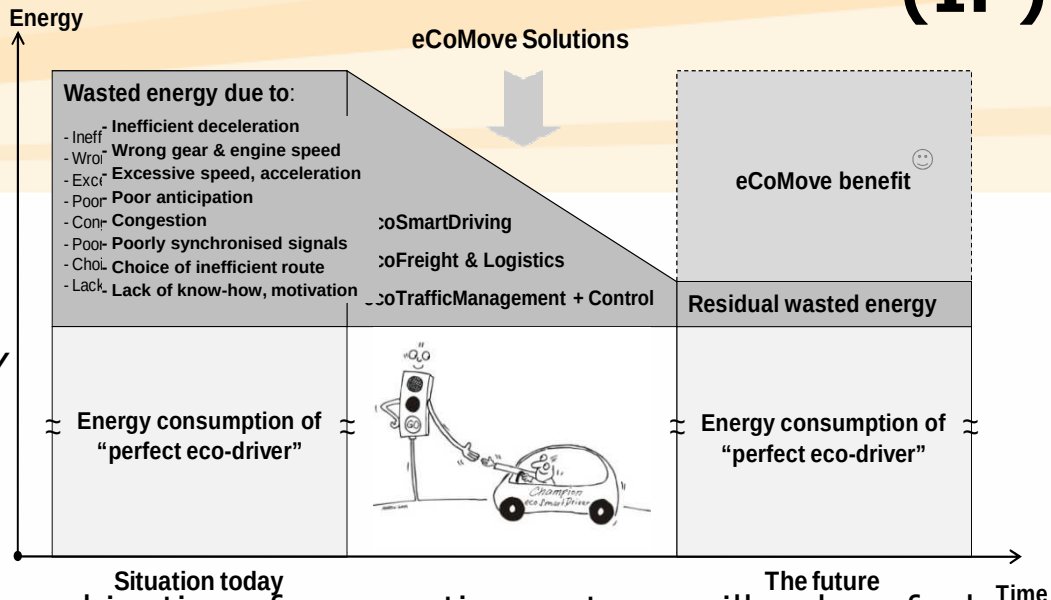
Examples of FP7 research projects

- eCoMove
- ELVIRE

eCoMove (IP)

Mission:

"To develop a combination of cooperative systems and tools using vehicle-infrastructure communication to help drivers sustainably eliminate unnecessary fuel consumption, and road operators manage traffic in the most energy-efficient way."



Goals:

- Show that a combination of cooperative systems will reduce fuel consumption by 20%
- Develop eCoMove use cases, system concept and architecture
- Develop a common V2V & V2I platform based on CVIS project results
- Develop a strategic model of macroscopic energy consumption for an entire road network
- Develop, test and validate the applications: ecoSmartDriving, eco Freight & Logistics, and ecoTrafficManagement & Control
- Assess applications in 4 field trials (3 cities & 1 interurban motorway)
- Assess implementation issues, carry out a cost-benefit analysis, and propose an implementation roadmap

Coordinator:
ERTICO ITS Europe
Project in negotiation phase
Total costs: ±22.5 M€
EC contribution: ±13.7 M€
Start date: Q1/2010
Duration: 36 months

ELVIRE (STREP)

Mission

"Provide Electric Vehicle users with relevant on-board and off-board services through usable and tangible ICT system prototypes, which are supporting E-Mobility to become a viable mass market alternative."

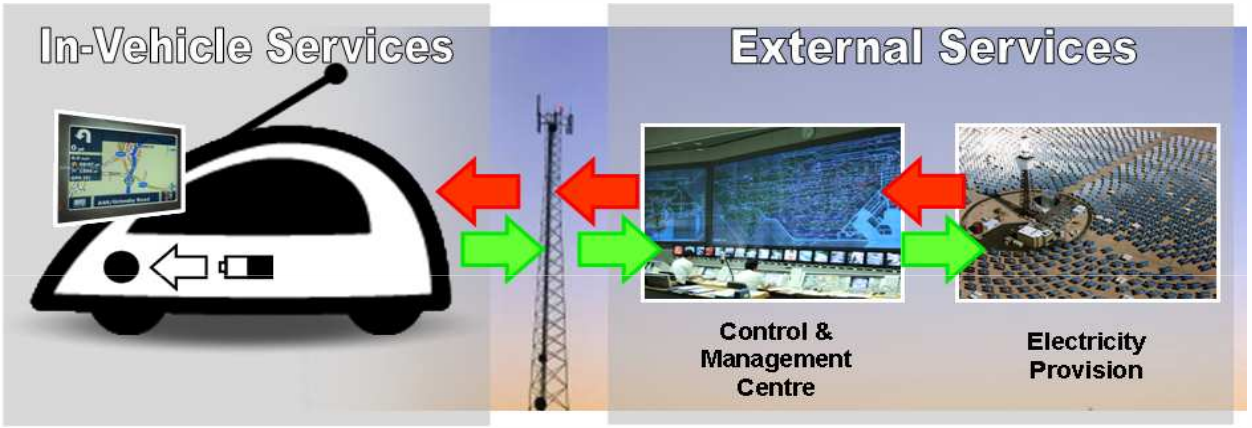
Coordinator: Continental Automotive GmbH

Total costs: ±9.900 M€

EC contribution: ±5.200 M€

Start date: Jan 4, 2010

Duration: 36 months



Goals

- Research and develop relevant E-Energy related information services for EV users.
- Build EVs which are equipped with ICT hard- and software prototypes.
- Create exemplary ICT service back-end system to host services.
- Develop usable on-board and off-board EV ICT Services.
- Develop fundamental algorithms for tangible on-board and off-board services.
- Develop Use cases and E-Energy HMI examples for On-Board systems.
- Define open system interfaces to support roaming EVs.
- Find collaborative solutions to avoid "Range Anxiety".
- Conduct system and usability test and analyse results.

Thank you for your attention!