ASF | COFIROUTE | ESCOTA

European project eCoMove

30th of May – 2nd of June 2010

Activities of VINCI Autoroutes in the project

SECAP OSLO 2010

VINCI AUTOROUTES

VINCI AUTOROUTES PROFILE

- 3 French toll motorways companies: ASF, COFIROUTE, ESCOTA
- Subsidiaries of the VINCI group
- +4,500 km of motorway network in operation (52% of the French toll motorway network)
- € 4,095 M in revenue (FY2009)

CONTEXT OF THE PROJECT

Climate change

- A major issue and a rising global consciousness
- Ambitious European and national objectives to reduce greenhouse gas emissions

Transport infrastructure

- A factor of competitiveness
- Network renovation or improvement used by governments as a support for economic growth
- But an image of carbon dependency associated with road transport

CO2 EMISSIONS: ISSUES

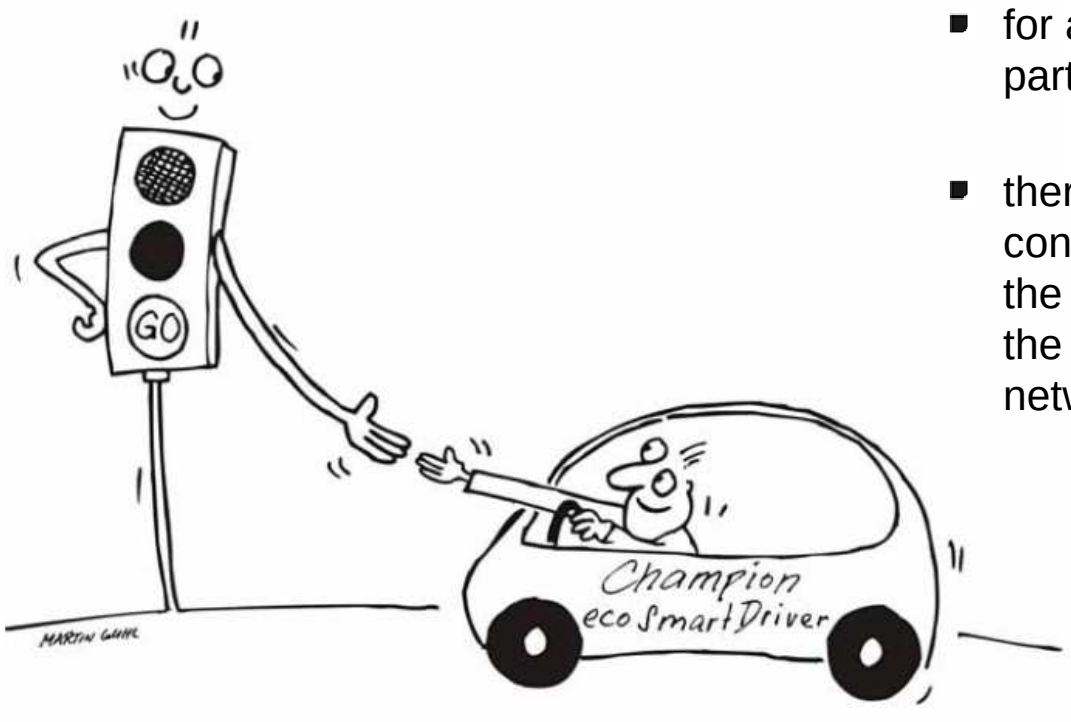
- Changes in the vehicle industry will hopefully help radically reduce traffic emissions in the long term
- We consider, however, that a motorway operator should not wait to develop exemplary practices that address both:
  - The company's "ecological footprint"
  - The impact of infrastructure use
- ITS and Cooperative Systems can help produce a significant impact on emissions by:
  - Providing solutions for controlling traffic
  - Helping influence drivers' behaviour and awareness
  - Developing services adapted to greener vehicles and caring drivers

eCoMove AT A GLANCE

eCoMove - Cooperative Mobility Systems and Services for Energy Efficiency

- Integrated project of the FP7
- 33 partners (MIZAR, NAVTEQ, DAF, LOGICA, PEEK, BOSCH, BMW…) including ASF, COFIROUTE and ESCOTA
- Project coordinated by ERTICO
- Budget: €22.5 M
- EC contribution: €13.7 M
- Launch: April 2010
- Duration: 3 years

eCoMove CONCEPT



Idea behind the eCoMove concept

- for a given trip by a particular driver in a particular vehicle,
- there is some least possible fuel consumption that could be achieved by the “perfect eco-driver” traveling through the “perfectly eco-managed” road network.

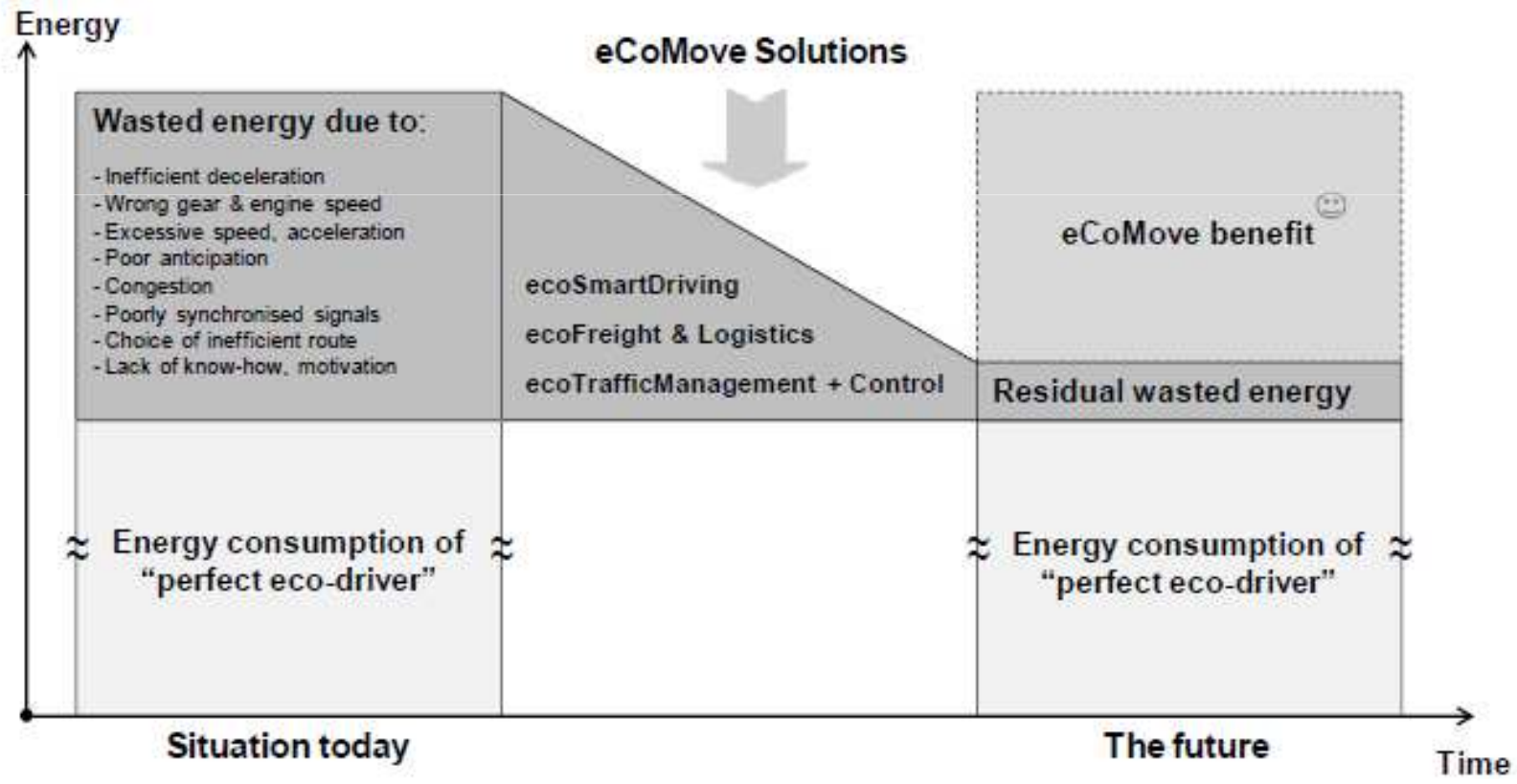
eCoMove OBJECTIVES

- To create an integrated solution for road transport energy efficiency by developing systems and tools in order to:
  - help drivers sustainably eliminate unnecessary fuel consumption
  - help road operators manage traffic in the most energy-efficient way

- To reduce fuel consumption by combining cooperative systems using V2I and I2V communications to:
  - Save unnecessary kilometers driven (optimising routes)
  - Help driver to save fuel (optimising driver behaviour)
  - Manage traffic more efficiently (optimising network management)

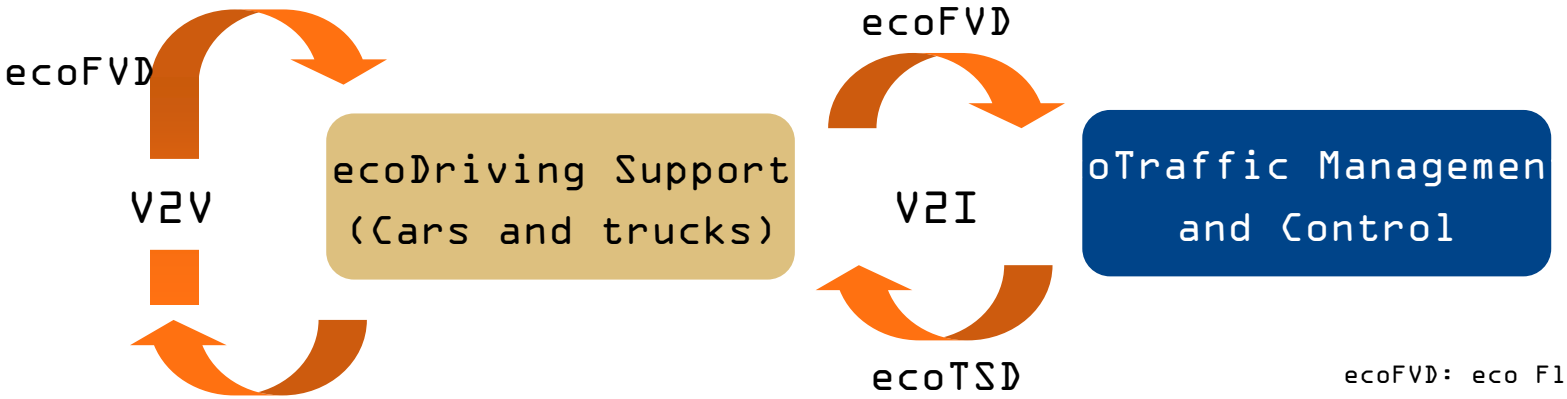
eCoMove VISION

Minimising avoidable energy use in the transport of people and goods by road through the application of advanced ICT



APPLICATIONS TO BE DEVELOPPED AND VALIDATED

- **ecoSmartDriving** to improve driver eco-performances, including: ecoTripPlanning, on trip dynamic green routing, ecoDriving support, ecoPostTrip and ecoMonitoring
- **ecoDriver Coaching System** and in-vehicle Truck **eCoNavigation** for good vehicle drivers
- cooperative **ecoFleet Planning and Routing** for environmental sound ecoFreight & Logistics
- **ecoAdaptive Balancing & Control system** as well as cooperative Fuel-efficient Motorway system as means for **ecoTrafficManagement & Control**.



ecoFVD: eco Floating Vehicle
ecoTSD: eco Traffic Situation

ASF, COFIROUTE, ESCOTA ACTIVITIES IN THE PROJECT

Involved in 3 sub-projects

- Core technologies
- Application Infrastructure – ecoTraffic Management
- Validation and tests

The situation today

- motorway management systems may have notable benefits for energy efficiency
- however these are implemented for safety or traffic efficiency purposes

eco Motorway Management tomorrow

- to provide maneuvering-level support for entering and leaving the motorway and for smooth lane management,
- to provide the traffic manager with both detailed and aggregated energy use information in real time

POSSIBLE USE CASES TO BE INVESTIGATED

Based on current and planned initiatives of ASF, COFIROUTE and ESCOTA in the field of ITS and cooperative systems

Smoothing traffic flow with innovative solutions

- Dynamic speed limits adapted to real-time CO2 and pollutants emissions levels measurements

Changing driving habits with traveller information services

- Eco comparisons web services and their impact on driver behaviour

Alerting drivers individually

- Individual speed alerts through personalized messages on VMS (“licence plate N XXXX too fast”)

Suppressing stop-and-goes at toll plazas

- Deployment of free flow and non-stop tolling corridors (30km/h corridors)

CONCLUSION

- The reduction of transport impacts is a collective issue for public policies
- Motorway operators have to face this challenge
- Applying eco-management to motorway operation can produce significant results
- ITS and Cooperative Systems are a support for greener services, responding to customers' and citizens' demands
- Changes in vehicle technologies and in drivers' relation to transport will be key elements for designing tomorrow's motorways operation

Thank you for your attention !

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