

## eSafety Workshop

# “Updating the Strategic Research Agenda on ICT for Mobility”

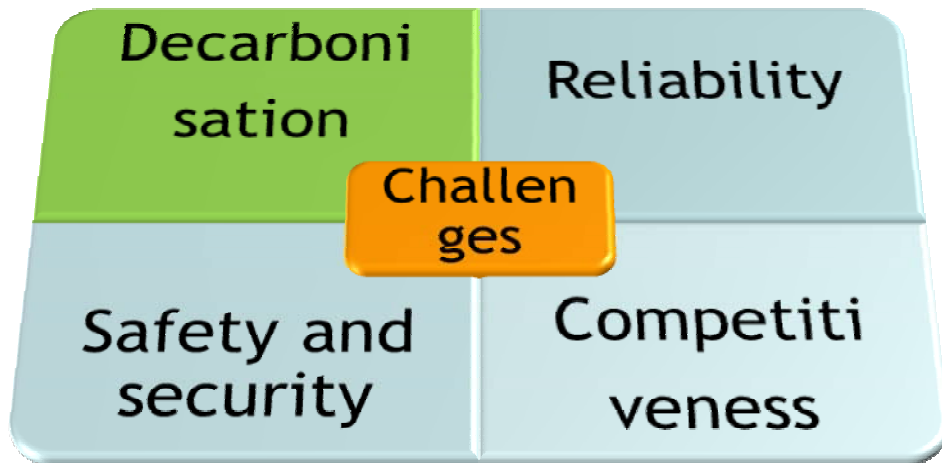


## Service Platforms for Cooperative Systems and urban mobility

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# [ Service Platform for cooperative systems



## Key challenges

- ❑ Communications
- ❑ Infrastructure
- ❑ Maps - Positioning
- ❑ Protocols and Standards
- ❑ Security and Privacy
- ❑ Safety
- ❑ User interaction
- ❑ Business Models
- ❑ Legal Issues
- ❑ Applications

# [ wireless communication technologies

## Do we need further development of communication technologies?

- Extended field tests: in order to evaluate the industrialization of components, reliability of technology, system simplification...).

Ideal test site: islands

- EV: communication between car and energy infrastructure

- .....

- Reliability, liability, security of infos, privacy

- Intelligent communication of wireless communication technologies

- Development of network and transport communication protocols



# [ Infrastructure

## Common platform?

service development, discovery, provision and operations

authorisation / authentication, subscriptions / identification, payment /

billing / charging and customer relationship management



# [ Positioning and maps

1/2

## Accurate position

- Safety applications need sub-meter accuracy in (relative) position
  - Technology required, Road Blocks, Calls, projects needed (Galileo projects?)



# [ Positioning and maps

2/2



## Maps

- Solutions for safe and secure real time updating of maps
  - Detailed digitalisation of all road infrastructures (geometry, characteristics, speed limits, etc.), including solution for real time updating of road/traffic abnormalities to targeted road users
- Technology required, Road Blocks, Calls, projects needed, internet update

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# [ Protocols and Standards



- Starting point: harmonized European communication architecture
- Challenges?
- in-vehicle open platforms with a flexible, integrated human-machine interface, integrated with nomadic solutions

# [ Security and Privacy

How to guarantee the security of the communications?

→ Technology required, Road Blocks, Calls, projects needed

User privacy: for best results (almost) all vehicles have to be tracked and also user destinations have to be known. And privacy?

→ Technology required, Road Blocks, Calls, projects needed



# [ Communication safety

## Functional safety

- As for Galileo “safety-of-life” services, communication that will impact on safety have to guarantee an acceptable level of risk



# [ User Interaction

## User distraction

- New services have to be designed to reduce (or not to increase) the overall distraction of the road user
- ⑩ Driver distraction? (EU-US task force)
- ⑩ Driver lasting behavioural change (for safe, efficient and eco driving)?
- ⑩ Safe use and on board integration of nomadic devices?
- ⑩ From warning to automation: new technologies?

## Digital divide

- New services have to be accessible to all user categories. How?



# [ Business Models

1/2

All stakeholders involved in the next step of deployment should jointly offer a number of functions and services that together can create a sustainable deployment.

The ratio between technological solutions and costs should become affordable for the different actors: a sustainable balance should be reached guaranteeing the accessibility of the services and functions at affordable costs.

Commercial customised services combined with traffic efficiency and safety functions can be perceived as an important added value to improve the individual mobility of people and the mobility of goods.

Well perceived benefits can make:

- ⑩ people asking for a combined set of functions and services
- ⑩ stakeholders ready to invest
- ⑩ Member States ready to introduce specific incentives



# [ Business Models

2/2



1  
2

## Balanced chain value

- Solutions to guarantee revenue in proportion to the investments/costs
- complete business case: variable cost per car, infrastructure investment, reduction social and business cost by improvement of safety, reduction fuel consumption, reduction wasted time
- what is the best way to start with the application? Delivery vehicles, public transport, incentive for private cars?
- deployment and rating of services

## Start-up phase

- Services with low penetration rate are possible or do we need regulations (standard equipment for new vehicles)?

# [ Legal Issues

→ how to protect sensible infos

→ EMC exposure



# [ Applications

Traffic efficiency

Fuel saving

Safety

Logistics

Traffic reliability

Security



# [ Other?

- Training people (old people) on the use of technology
- Long lasting user behaviour

