



eSafety Workshop

“Updating the Strategic Research Agenda on ICT for Mobility”



Cooperative Systems for low carbon, multimodal mobility

[Understanding

Target:

Reduce emissions, increase safety and capacity of the system, decrease congestion additionally other policies e.g. of the cities

Many objectives that need to be balanced

Means:

cooperative systems in a multi-modal setting



[Expectations

- ⑩ Security and Reliability
- ⑩ Applications
- ⑩ Combination of cooperative systems with eco-innovations
- ⑩ Potential of smart dust, IoT
- ⑩ Driver / HMI, unintended consequences, usability and acceptance
- ⑩ Multi-modality
- ⑩ Impact assessment, how will daily life change
- ⑩ Priorities
- ⑩ Stakeholders
- ⑩ Raising awareness at stakeholders and general public
- ⑩ Impact of the technical developments on regulations
- ⑩ How strategic agenda is taken into account in the next work programme
- ⑩ what are the new research challenges
- ⑩ automation with cooperative system



[Discussion topics

- ⑩ System-level view / integration vs. pieces of the puzzle - combination of different pieces
- ⑩ Extend mobility network from local to a more centralized level?
- ⑩ What are the key pieces missing?
- ⑩ Organizational issues, not technical issues
- ⑩ Value of information
- ⑩ Public benefits vs. private benefits → joint effort? How to organizationally address that?
- ⑩ Barriers to implementation
- ⑩ Traditional roles are changing
- ⑩ Technology bottlenecks to be removed,
- ⑩ More is needed on the non-technical issues
- ⑩ PPP?
- ⑩ Acceptance in general public
- ⑩ How shall we move forward? Today: Prototype → robust components → interoperability at European level → extend network to eco-related information and to multi-modality → deployment roadmap affordable for all stakeholders

[Key Research Questions

- ⑩ Multi-layer dynamic maps - databases - context
- ⑩ My trip planner
- ⑩ Aggregated strategies
- ⑩ Multi-installation platform
- ⑩ Smart dust
- ⑩ Autonomic systems: resilience, self-managing, self-learning, self-correcting, self-healing
- ⑩ migration process
- ⑩ operation in transition phase, integration of legacy systems
- ⑩ overcoming data islands
- ⑩ cooperative systems for electric vehicle
- ⑩ improvement of traffic modelling, multi-modal traffic and traveler models plus mechanisms of traveler information and up-scaling
- ⑩ HMI for cooperative systems including driver and traveller behavioural models and strategies
- ⑩ Distributed database structures and organization

[Key Research Questions

- ⑩ Integration of nomadic devices in overall ITS system
- ⑩ How do we make information available and how do we share it? Who owns it? Rulemaking on exchange of information?
- ⑩ Distributed intelligence, distributed decisions
- ⑩ Simplicity for user though system is complex
- ⑩ Cooperation schemes: What makes a system cooperative - what are the stable schemes to build up a truly cooperative system?
- ⑩ Multi-criteria optimization
- ⑩ New control mechanisms and automation - distributed decisions
- ⑩ Traveler behavior - how will it change based on information provided
- ⑩ Ethical issues
- ⑩ Liability issues