



eSafety WG RTD and European Green Car Initiative



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Background 1



The eSafety RTD WG is working on the RTD needs for ICT for Mobility eSafety and Intelligent Car Initiatives

1. Strategic Research Agenda - ICT for Mobility (December 2006)
2. Updated SRA - ICT for Mobility (April 2008) taking into account results of 1st FP7 call and of greener car ICT related issues

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Background 2

3. eSafety European Economic Recovery Plan Task Force (ERTF) (December 2008 /January 2009) asks for safety RTD WG to make an inventory and recommendations:

How ICT/ITS research can be used to support the ECGI and especially electric vehicles

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Background 3

4. Focus of eSafety RTD WG 5 March 2009 meeting:

Development of ICT technologies, components and systems for a fully electric car, including the necessary infrastructure

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Background 4



5. The suggestions of eSafety WG RTD are made in four ICT related clusters:

- a. On-board Vehicle System
- b. Safety aspect of new vehicle concepts
- c. Vehicle-Infrastructure aspects
- d. The Electric Vehicle in the Transport System

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On-board Vehicle System 1



In-vehicle Energy Management Systems

- Drivetrain
- Auxiliary systems / components
- Energy recuperation systems (e.g. suspension, braking systems)

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On-board Vehicle System 2

Vehicle to/from driver information, support and command systems

- Vehicle status monitoring systems (e.g. energy status)
- Driver support and command systems for optimised energy use and recuperation
- ADAS efficient driving:
 - Short horizon: dynamic traffic
 - Medium horizon: planning of route

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On-board Vehicle System 3

Vehicle system architectures

- New requirements
- Fail-safe aspects
- Distributed x-by-wire systems

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Safety aspect of new vehicle concepts 1



General issues:

- Electrified vehicles
- New body design and enhanced materials
- Distributed drivetrain architectures

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Safety aspect of new vehicle concepts 2



Electric vehicles ADAS for vulnerable road-users

- EV is silent and has to be detected by all road-users

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Safety aspect of new vehicle concepts 3



Collision avoidance and crash mitigation of EV and low-weight vehicles

- Systems sensing and adapting to the object being crashed into

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Safety aspect of new vehicle concepts 4



High voltage systems / components

- Regular use (instructions)
- Maintenance and repair
- Information / database systems for rescue / emergency services and intervention
- Post-crash automatic intervention:
 - Safe batteries
 - High-voltage systems risks

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Vehicle-Infrastructure aspects 1

Energy charging systems

- On-line information systems on:
 - Geographical location of charging systems
 - Availability of connectors for energy charging
 - Price of energy
 - Battery swapping (if not plug-in)
- Automatic energy measuring and debiting systems
- Interoperability vehicle - charging systems
 - Standardisation
 - Data / energy automatically exchanged (e.g. contact-less systems)

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Vehicle-Infrastructure aspects 2

Inter-modal efficiency of People and Goods Transport

Energy supply and security systems

- Information related to energy needs

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The Electric Vehicle in the Transport System 1



Information, systems for interfacing / exchange between modes or types of clean(er) vehicles

Demand management information and control

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The Electric Vehicle in the Transport System 2



Interfaces among various levels of "environment zones"

- Traffic and network information
- Management systems

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Outlook of Future eRTD WG activities

1. Input for WP 2011-2012-2013 - ICT for Mobility based on ERTRAC scenarios (19 May 2009)
2. Eventual input for beginning of FP8 (Fall 2009)

These two issues are the basis of the two next steps

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SRA updating for FP7 WP 2011-2012-2013

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The basis should be ERTRAC scenarios under current development

ERTRAC WGs workshops (end of April 2009)

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SRA updating for FP7 WP 2011-2012-2013

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Taking into account:

- Review of the eSafety RTD WG documents
- ECGI ICT related research
- COM(2009)116 dated 13 March 2009
A strategy for ICT R&D and Innovation in Europe

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SRA updating for FP7 WP 2011-2012-2013

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Meeting planned on 19 May 2009
Outcome report planned July 2009

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Activities for next eventual FP8 and CIP2

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Basis:

- ERTRAC scenarios
- COM(2009)116 dated 13 March 2009
A strategy for ICT R&D and Innovation in Europe
- ERA Vision 2020 implementation next steps

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Activities for next eventual FP8 and CIP2

2



Meeting planned in Fall 2009
First document end of Fall 2009

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Thank you for your attention

