



Final Event

EC views on AUTOMATION

First Hotel Grand, Boras, Sweden
June 21-22, 2011

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European Commission
Directorate-General Information Society and Media



Meeting the Challenges **Can AUTOMATION contribute?**

The Challenges of Europe's Transport Sector

Safety

Congestion

Energy Efficiency & Emissions

Growth in demand

Balance between modes

Make use of R&D including ICT

Increasing urbanisation

Ageing of Europe's population

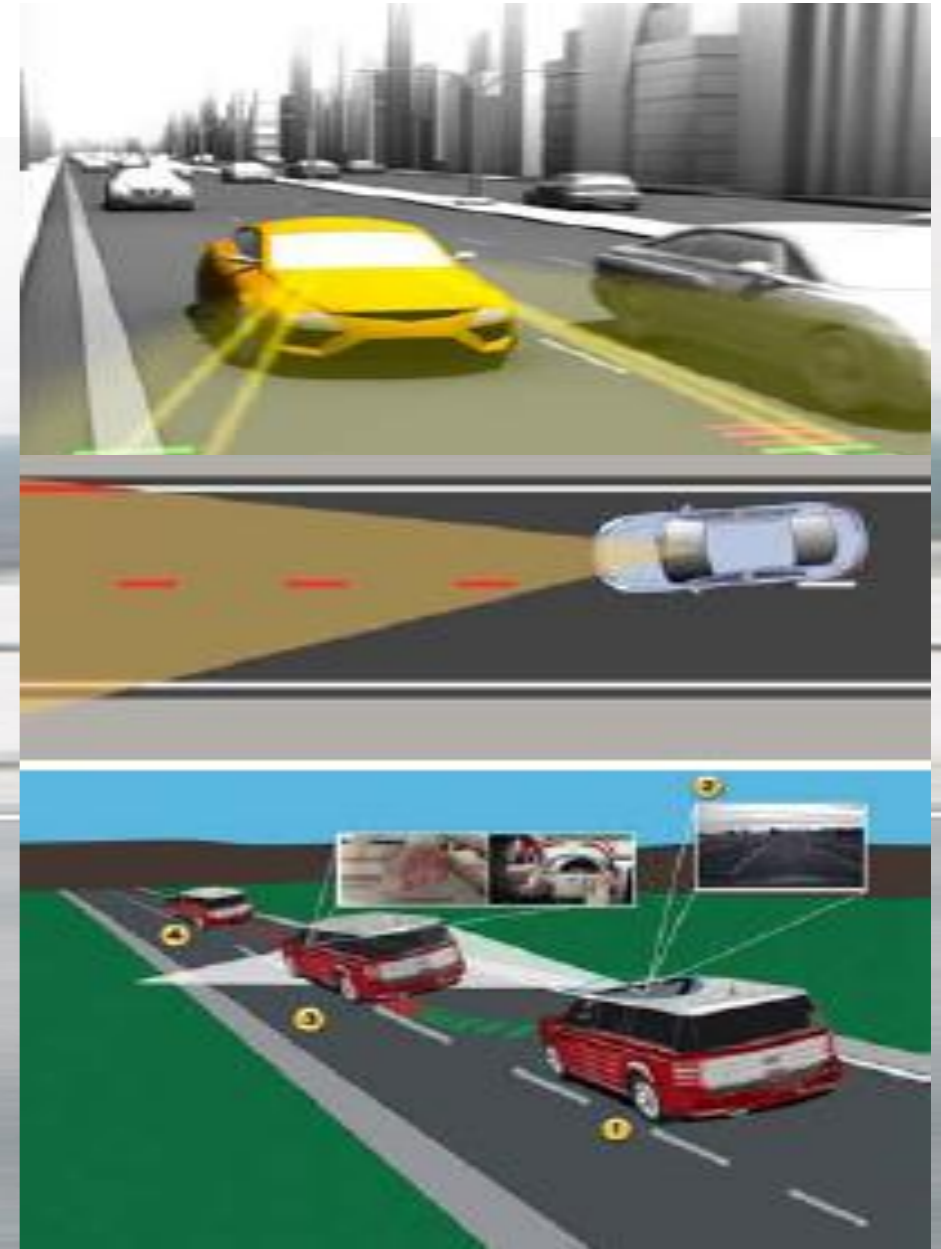


Why automated driving?

Majority of accidents (> 90%) is caused by human error. The human is not always making optimal driving choices for (energy) efficiency either.

ICT can significantly contribute to solving road transport related problems, making it safer and more efficient.

The driver needs assistance in increasingly complex traffic situations, and the highly automated vehicle could take care of some driving tasks to make his/her task easier.





Digital Agenda for Europe

“Every Car Digital”; “Every Citizen Digital”



Support partnerships between ICT and major emitting sectors like transport and logistics to **improve energy efficiency**

Increase the **speed of ITS take-up**, in particular for road and urban transport

Digital Agenda Assembly

15-16 of June 2011, Brussels.

On 19 May 2010 the Commission launched the **Digital Agenda for Europe (DAE)**
One of the seven EU2020 Flagships



Automated driving: previous projects

Chauffeur (FP 4) – increasing the capacity (density) of freight traffic while maintaining safety by electronic coupling of trucks (platooning)

CyberCars (FP 5) – developing fully automated urban vehicles for dedicated infrastructures



Photos: Cybercars project



CyberCars-2



Based on V2V and V2I communications and vehicle coordination
Cooperation between vehicles running at close range (platooning) and at intersections (merging, crossing)
Using already available vehicles:

- CyberCars upgraded to use the new communication technologies and new control algorithms
- ADAS vehicles transformed into dual-mode vehicles

Close link with projects on drivers assistance systems based on close range communication

Coordinator: INRIA
Total costs: 4 M€
EC contribution: 2M€
Start date: 01/01/2006
Duration: 36 months
www-c.inria.fr/cybercars2



Photos: CyberCars-2 project

Studies 2010



SMART 2010/63

Defining the required **Infrastructure** supporting Co-operative systems

SMART 2010/64

Definition of necessary vehicle and infrastructure systems for **Automated Driving**

SMART 2010/65

New services enabled by the **Connected Car**

Definition of necessary vehicle and infrastructure systems for Automated Driving

SMART 2010/64



CONSORTIUM:

TNO (lead)

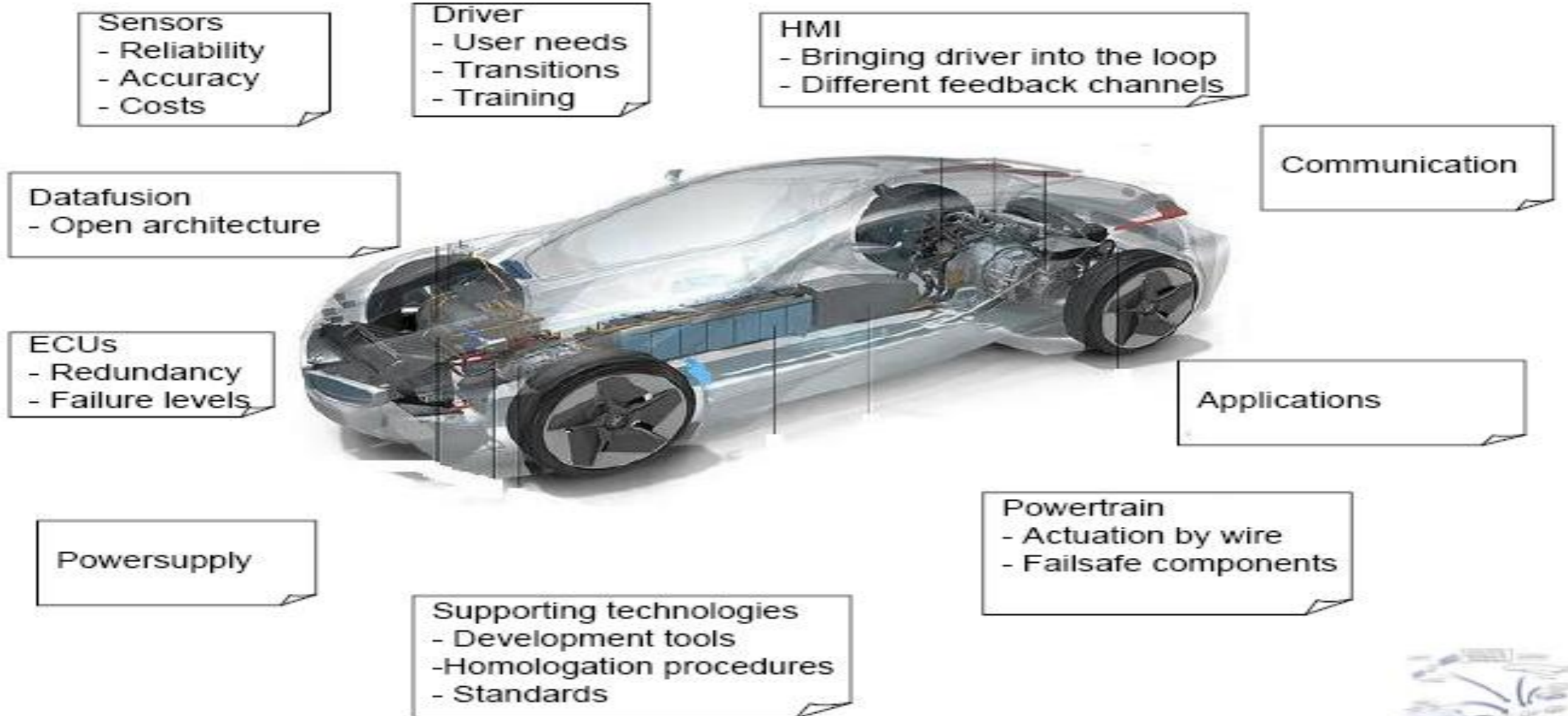
Panel of 8 individual external experts from University of Southampton, Frost & Sullivan, Tecnalía Automotive and DLR

Main objectives:

- To clearly describe the scope of required vehicles and infrastructure systems including a **clear definition of ICT requirements** imposed by automated driving.
- To recommend a realistic **step-by-step approach** to cope with such new requirements.
- To also identify and state existing gaps in knowledge and **future research needs**.

Automated driving needs further developments on... HAVEit

The future of driving.



ITS Lyon session



June 7th, 16:00-17:30

Dedicated session for SMART 63, 64 and 65

Title: **Challenges and future trends in ICT and ITS for mobility**

Session chaired by Eva Boethius (EC)

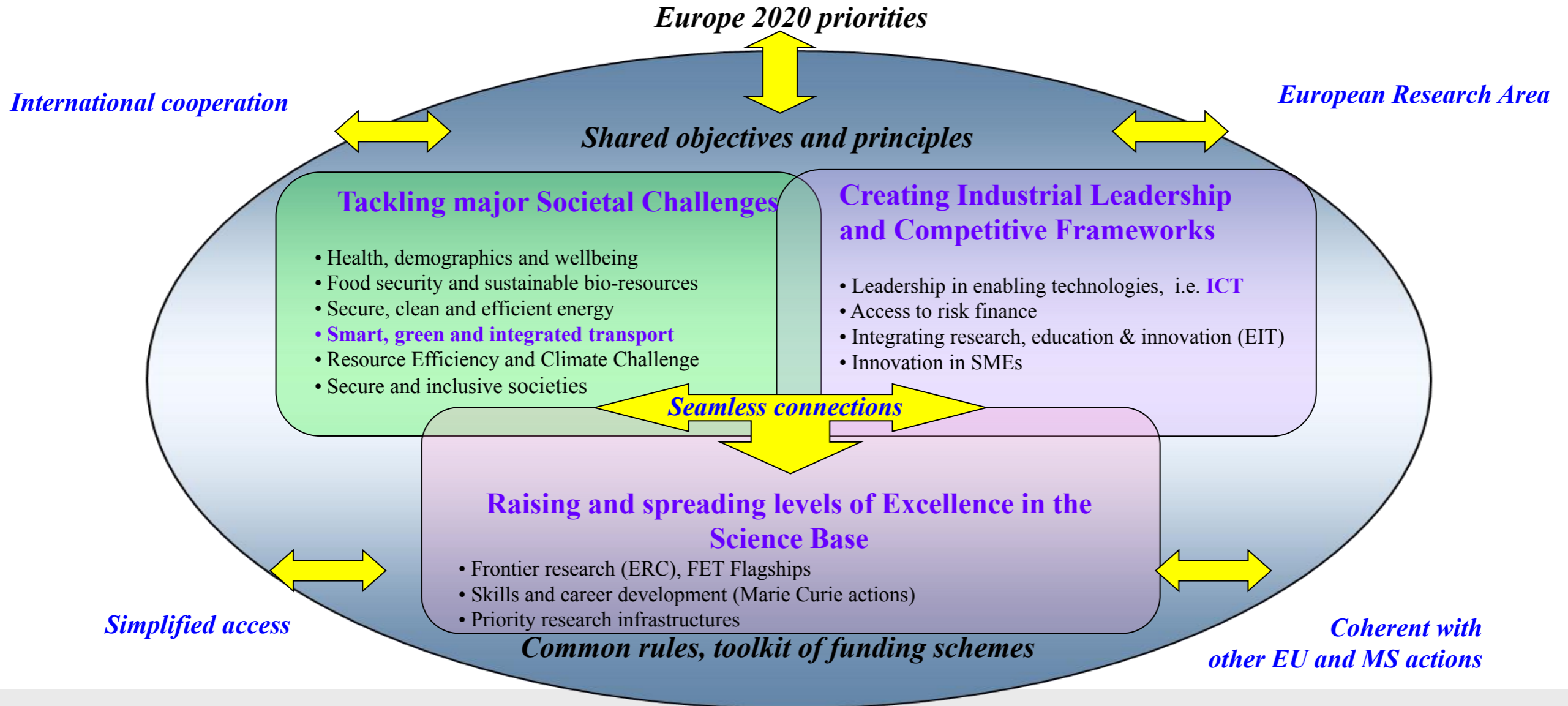
Overview of the main results of the projects by Anne Tip (TNO)

Panel discussion with representatives from:

- Government/EC
- OEM
- 1st Tier
- Service provider
- Road owner



The Common Strategic Framework (CSF): Three distinct but overlapping strategic objectives



The Common Strategic Framework (CSF): Tackling major Societal Challenges

Smart, green and integrated transport challenge:

■ Resource efficient transport respecting the environment

- energy efficient vehicles and infrastructure
- efficient, integrated and user-friendly transport system
- minimising energy consumption by optimising mobility needs
- **developing intelligent transport systems and services to achieve efficient operations (e.g. platooning and automation)**

■ Less congestion despite increase in mobility

- Intelligent management of passenger travel and freight transport
- Quick reaction to crisis events
- Door-to-door intermodal travel and freight delivery systems and services
- **Automated** air traffic management technologies and systems

■ Global leadership for the European transport manufacturing industry

- Innovative eco-friendly and safe vehicles for all modes of transport with low or zero emission propulsion units and intelligent control systems
- Autonomous and efficient maintenance services
- Innovative transport systems and vehicles
- Fast design technologies relaying on simulation for standardization and certification
- Safe and securely manageable control systems for exchange of information among vehicles and with the control and navigation services
- Proof-of-concept demonstrators for new technology at component, vehicle and system level

Innovation activities across these challenges:

- Bringing R&I close to market: demonstration projects, market take-up actions, standardisation, etc
- Initiatives such as Clean Sky, SESAR it is and Green Cars PPP, including fully electric vehicles
- International cooperation large-scale initiatives e.g. with US, Japan on transport electrification



About the future research

Where do we go from here?

- Smart Cities
- Intelligent Co-operative Systems
- Smart Connected Electro-Mobility
- **Automation**
- Future Internet Technologies
- New virtual mobility concepts



A Workshop in AUTOMATION?

Tentative date: 25 October 2011

Objective is to discuss how automation relates with:

- Cooperative systems;
- Infrastructure;
- IoF;
- FEV;
- Public transport;
- CSF (R&I);

and deployment, standardization, privacy, liability issues, etc.

Final document: working paper with roadmap 2020

iMobility Forum Working Group on automation?



Thank you
for your kind
attention !

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