

The impact of emerging technologies on the transport system

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Structure of the Presentation

- 1. Background**
- 2. Overview of emerging technologies & Smart Mobility applications**
- 3. Impact on the transport system and society**
- 4. Main challenges**
- 5. Actions and policies needed**
- 6. General policy recommendations**

1. Background

Mobility is in transition

- Emerging technologies boost developments in Smart Mobility
- Increasing pressure on achieving societal goals

Deployment of emerging technologies may have large impacts

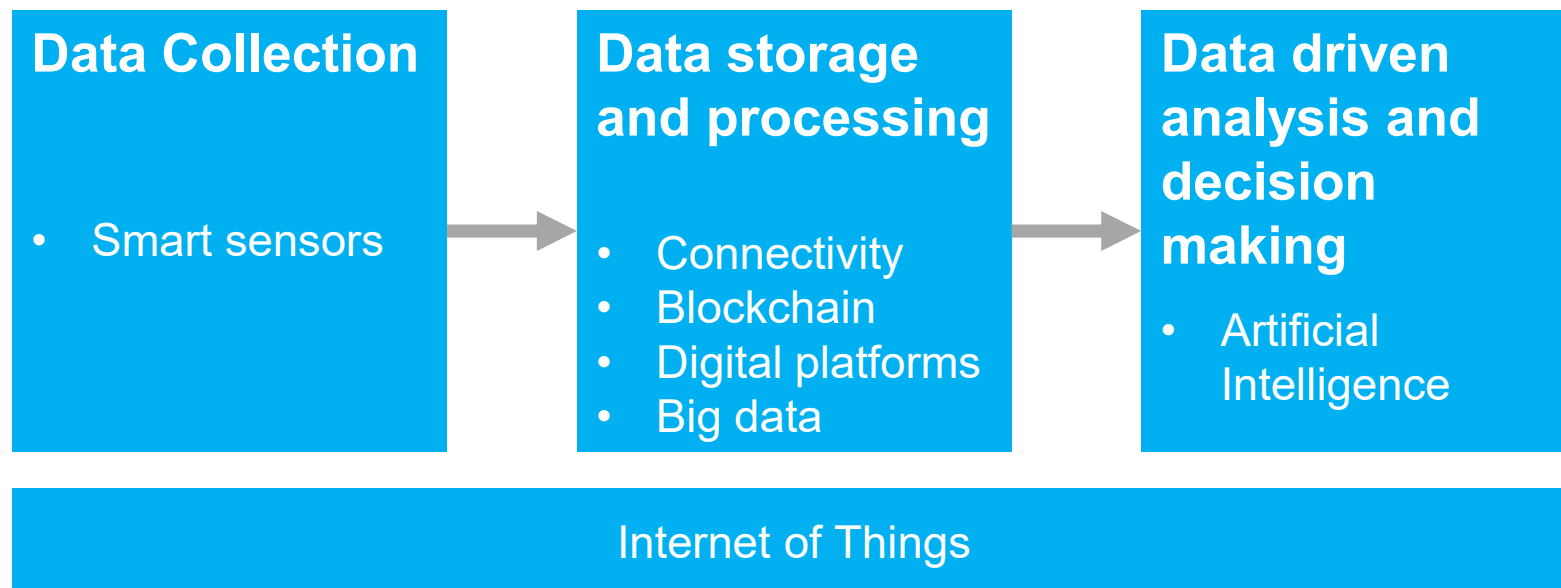
- On the transport sector and on transport infrastructure
- But also on society (e.g. safety, GHG emissions, congestion)

But still many deployment challenges

- Actions by public and private agents is needed

2. Overview emerging technologies

- Technologies facilitating data driven processes are key for Smart Mobility



- Level of maturity differs widely between technologies

2. Smart Mobility applications

Main applications

- C-ITS: Cooperative Intelligent Transport Systems
- CCAM: Connected Cooperative Automotive Transport
- MaaS: Mobility as a Service
- SoL: Self-organising Logistics

Further integration of applications in the future

Source: <https://www.rcrwireless.com/>

3. Impacts on the transport sector and society

Significant benefits for transport users

- C-ITS/CCAM: safer, higher transport efficiency and higher levels of comfort
- MaaS/SoL: higher transport efficiency and lower user costs

Potentially large, but uncertain social impacts

- Reduction of GHG emissions, improved traffic safety, lower congestion levels
- Depends heavily on design, implementation and management by public authorities
- Full potential only achieved on the long term

Evidence on impacts is still limited

3. Impacts on transport infrastructure

Infrastructure for Smart Mobility

- Well-developed digital infrastructure is key

Some main infrastructural challenges

- Lifetime discrepancy physical and digital infrastructure
- Mixed responsibilities

Specific (but integrated) investment strategies

for all infrastructure levels

- Involvement of all relevant stakeholders

4. Main challenges

Range of challenges

- Specific challenges for each Smart Mobility application
- Technical, economic and social are all equally important

Some general challenges

- Improving user and public acceptance
- Developing viable business cases
- Ensuring data privacy
- Providing secure data sharing infrastructure
- Ensuring interoperability

5. Actions and policies

- Actions to accommodate Smart Mobility is required at all levels
 - European, national and regional/local level
 - Public and private parties
- Targeted actions and policies required for each type of emergent technological application
- But an overarching strategy is required as well
 - Applications share same technological base
 - Further integration of applications expected in the future

6. General policy recommendations

- Develop an overarching strategy for Smart Mobility
- Create base conditions for Smart Mobility
- Define targeted policy actions for each emergent technological applications
- Ensure that policies are proactive, flexible and adaptive
- Improve knowlegde base on emergent technological applications
- Organise cooperation between all relevant stakeholders

Thank you for your attention

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