



NEW MOBILITY SERVICES CHALLENGES AND DEVELOPMENTS

SIP ADUS 2018

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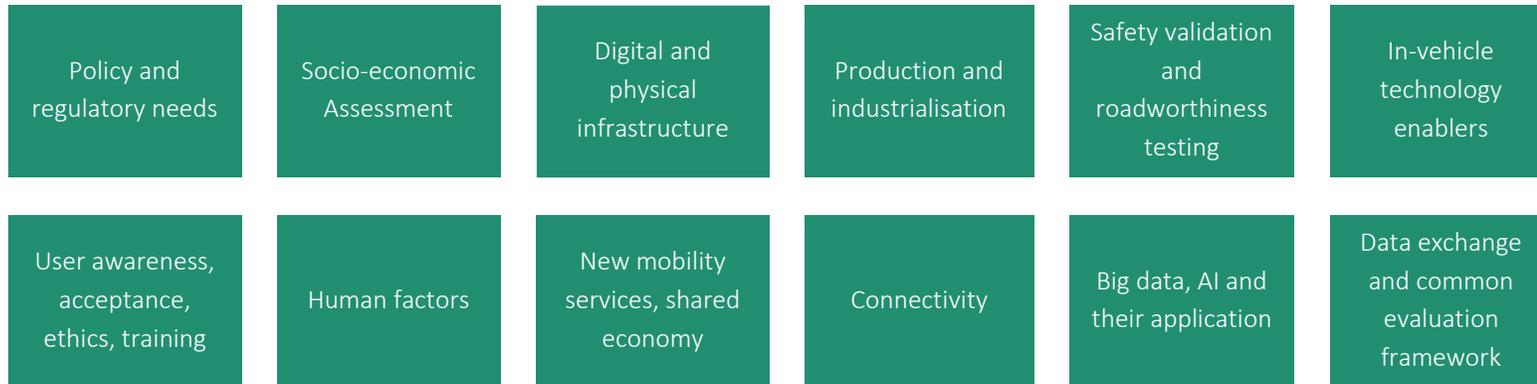


ARCADE is funded by
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Gathering top leaders from policy and industry to sketch the state of the art and major challenges on the path to automated driving in Europe and beyond

Stakeholder network – Thematic interest groups – Data exchange and evaluation – Common position papers



Start: 01.10.2016

End: 30.09.2018

Budget: 3 Million €

Partners: 36

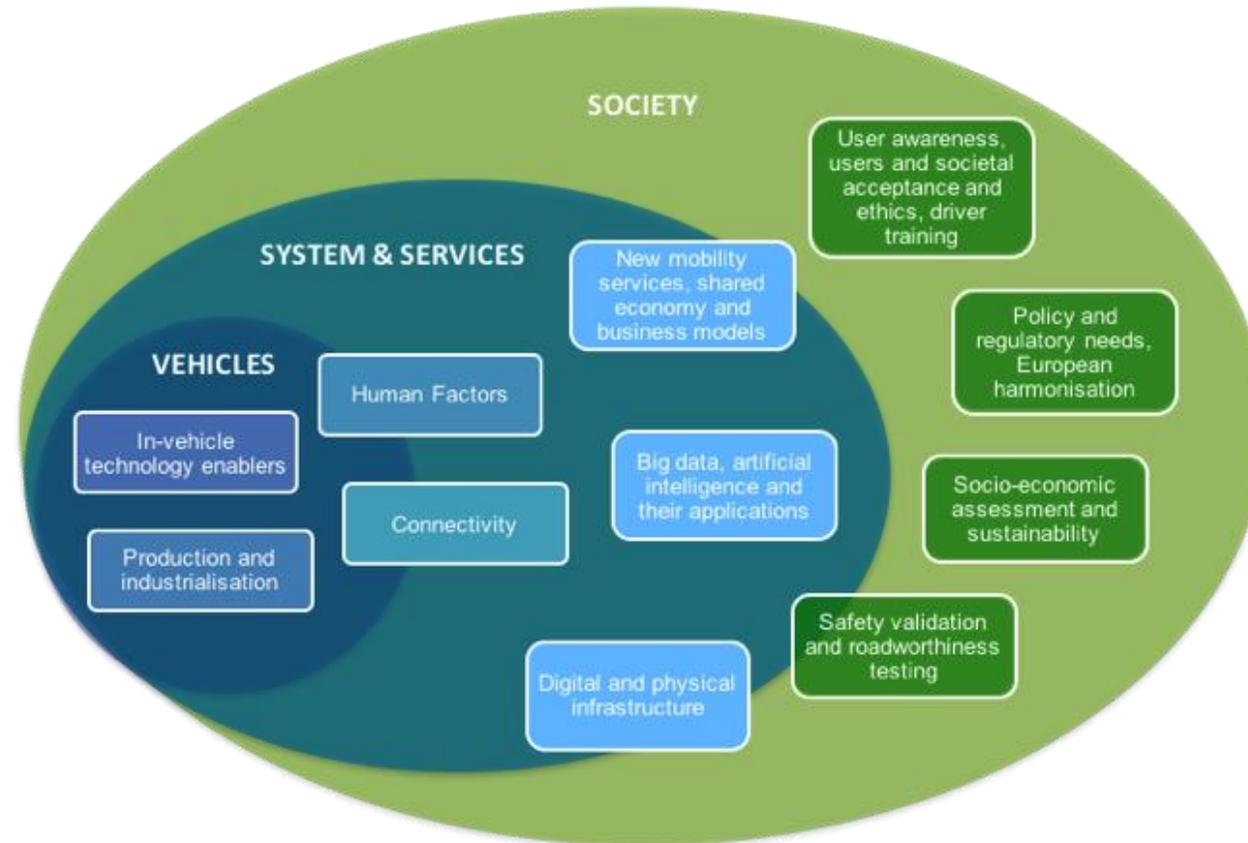
Objectives

- **Establish** European leadership in private-public means
- **Organise** annual international conference in Europe
- **Explore** feasible use cases in line with EU strategy
- **Analyse** gaps and risks for uptake and acceptance
- **Inform** actors through comprehensive knowledgebase
- **Identify** sustainable business models
- **Support** international cooperation with US and Japan

Highlights

- **April 2017:** 1st European Conference on Connected and Automated Driving with 600 stakeholders attending and eight thematic breakout sessions
- **June 2017:** ERTRAC Roadmap on research into CAD formulated with thematic interest group input
- **April 2018 :** CARTRE symposium on connected and automated driving - Vienna

THE ROAD TO AUTOMATION : THEMATIC CHALLENGE AREAS



NEW MOBILITY SERVICES – ASSOCIATED CHALLENGES

Mobility services will have a strong impact on the mobility organization and its management



Safety and security will determine the level of confidence



Mobility services will have a strong impact on the business models



BUSINESS MODELS



Mobility services will require policies and incentives



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2018

NEW MOBILITY SERVICES – ASSOCIATED CHALLENGES



Relevant use case (in urban, peri-urban and rural areas)
Carefully designed service to avoid negative impact on existing public transport
Sufficient level of vehicle sharing to reach societal benefits : questions on the willingness to share
What kind of operators for cost efficient, affordable services acceptable for all users



Real world awareness and functional validation
Accepted common validation methodologies
Validation scenarios
Testing methods and tools : physical tests and simulation environment
System validation
Human interaction validation



BUSINESS MODELS

A profitable business : effects on the size and composition of fleet, and optimization of vehicles
Evolution of sharing services
Need of shared governance (fleet owners, mobility service providers, supervisors...)
New business opportunities for road operators, energy distributors... ?

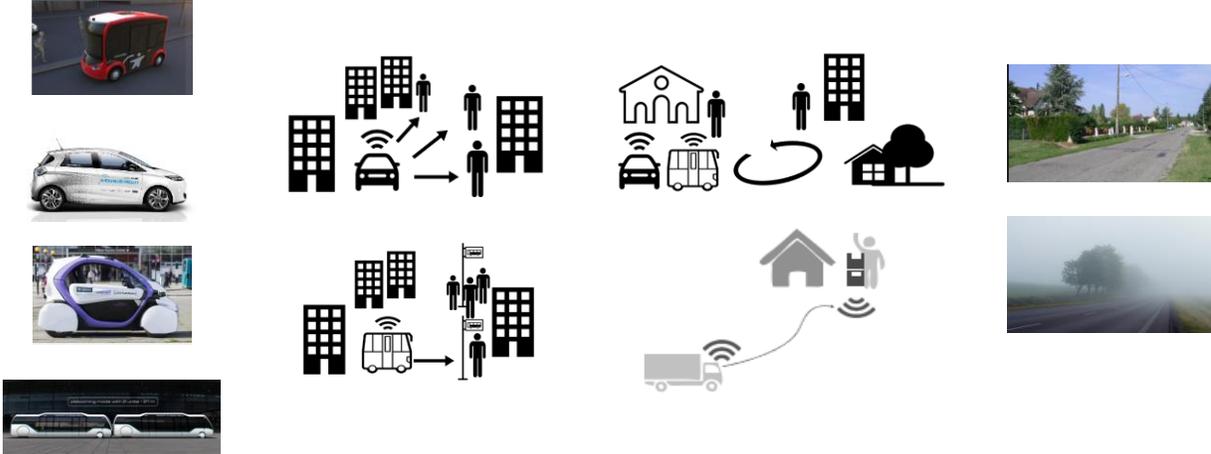


A need for strong incentives to share the vehicles
Access to existing traffic control and cities' equipment to be defined
Need for a strong initiator and public leadership

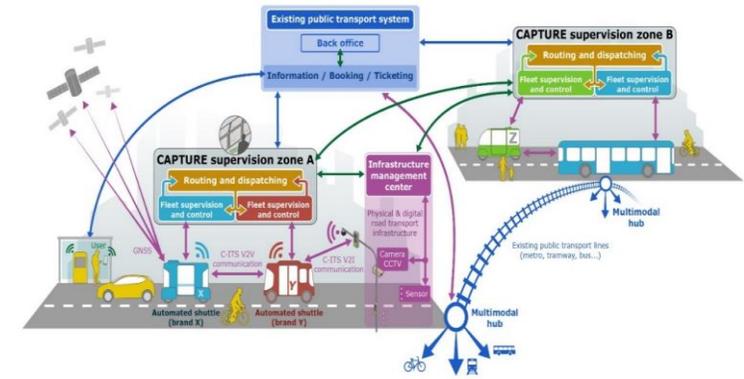


THE CHALLENGES OF AUTOMATION

Relevant use case and services

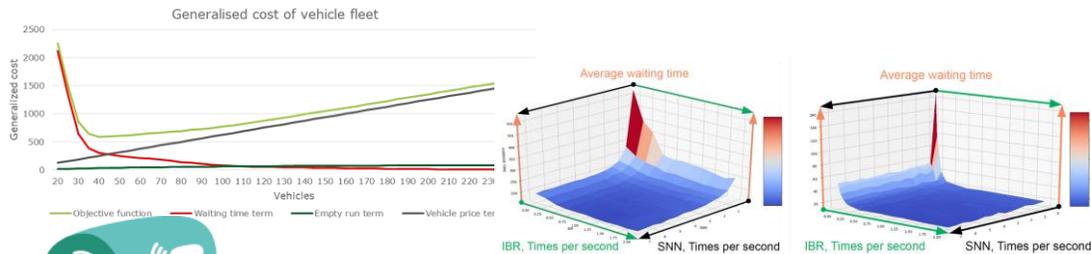


Safety validation, secured operations

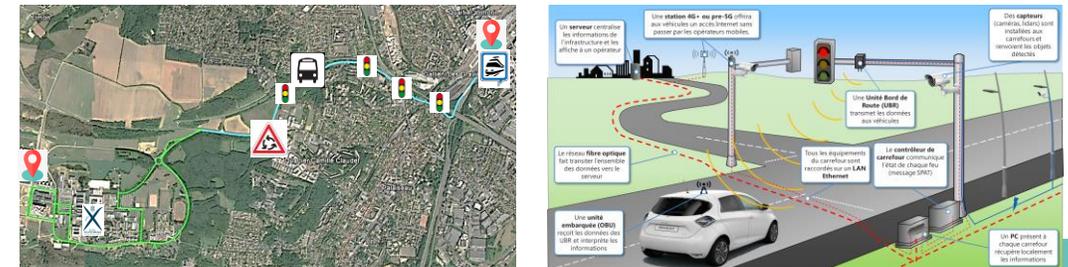


Infrastructure equipment, Vehicle sensors, Communication costs, Processing Costs...

New sources of profitability



Access to existing infrastructures



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NEW MOBILITY SERVICES – RESEARCH TOPICS



1. User behavior and adaptation of new mobility services
2. Development of innovative, user centric, reliable, fair, and ubiquitous mobility & transport services



1. Safety and security assessment of the overall transport system



BUSINESS MODELS

1. New hybrid and integrated transport models
2. Overall cost/benefit analysis of the services and business opportunities
3. Modelling and simulation tools dedicated to new mobility services enabled by automated driving
4. New models and services for sharing of transport assets
5. Explore the potential of combined people and goods vehicles
6. Connected and self-organized services for Long distance freight transport



1. Role of local road operators, e.g. for parking regulation of shared vehicles
2. Impact on cities and society, and new steering instruments



Large-scale demonstrations of integrated bundle of shared and automated services, on open roads

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ONGOING DEVELOPMENTS

EXISTING EUROPEAN PROJECTS



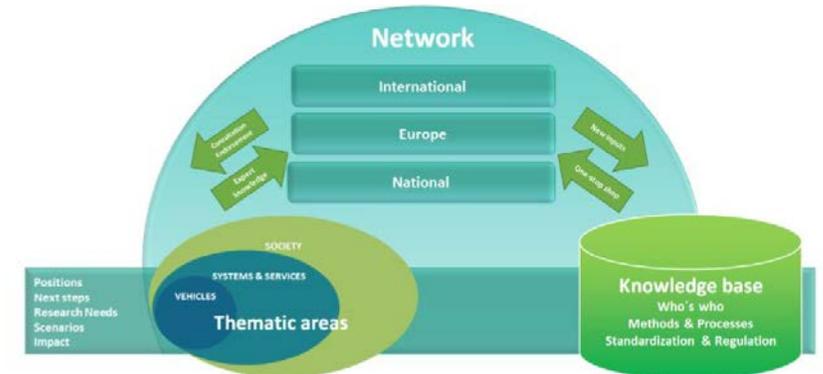
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OTHER INITIATIVES

SPACE
EVRA
MOOVE

+

ARCADE





Thank you!



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