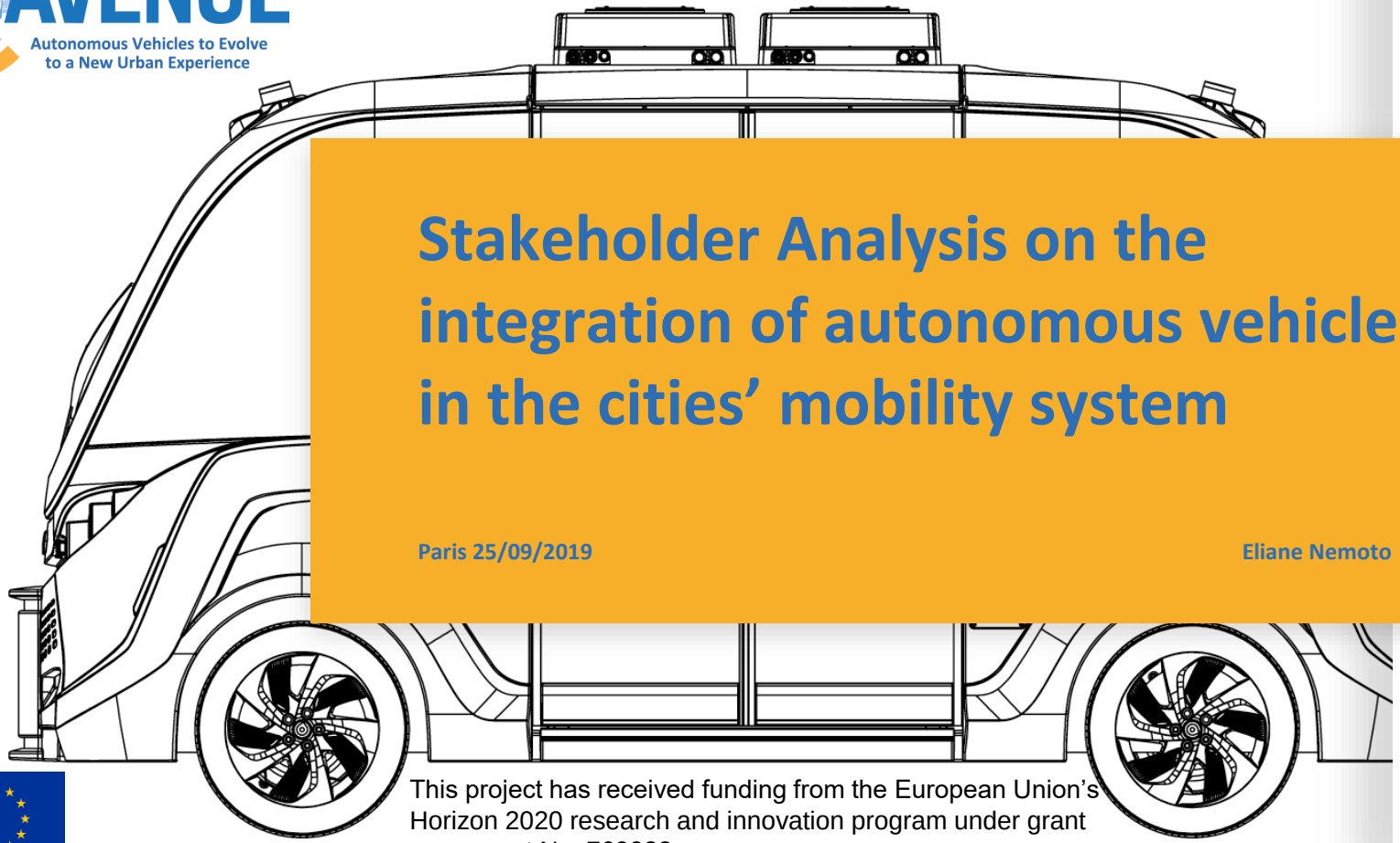
AVENUE
Autonomous Vehicles to Evolve to a New Urban Experience



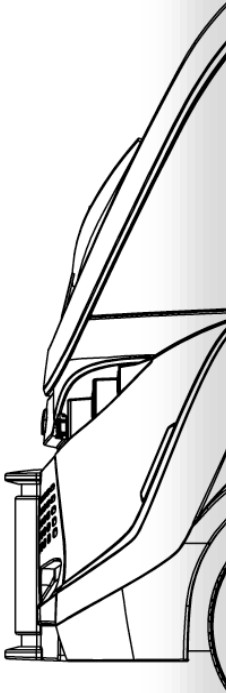
Stakeholder Analysis on the integration of autonomous vehicles in the cities' mobility system

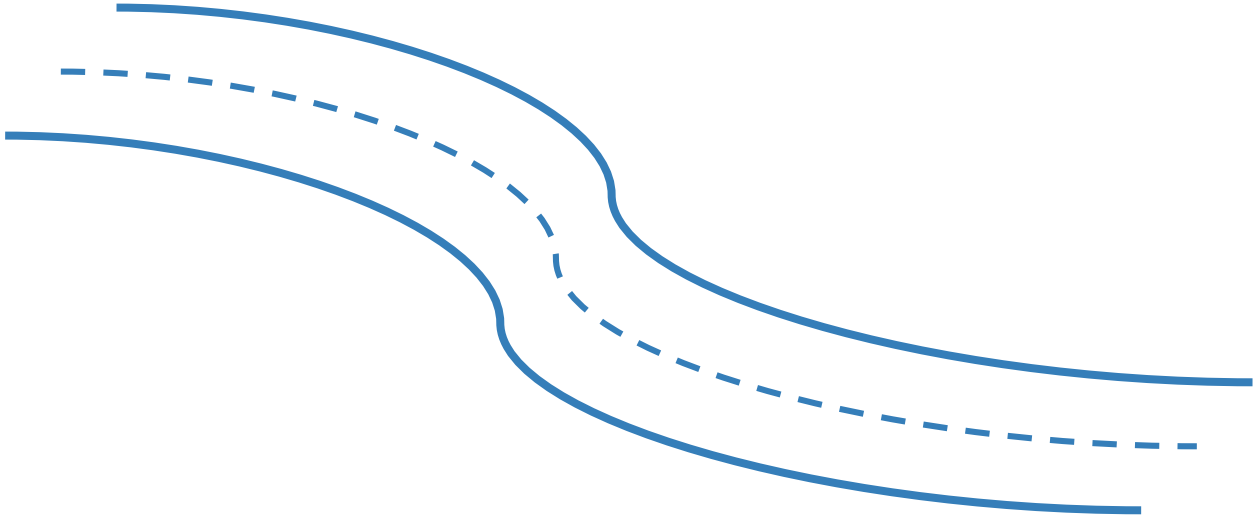
Paris 25/09/2019

Eliane Nemoto

This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No. 769033.

OVERVIEW





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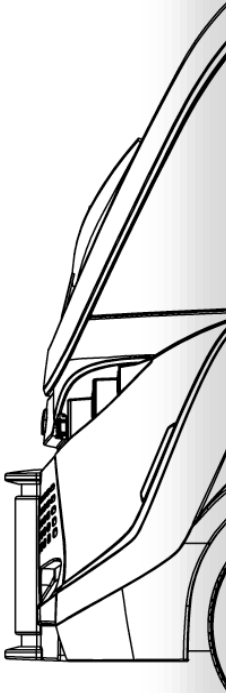
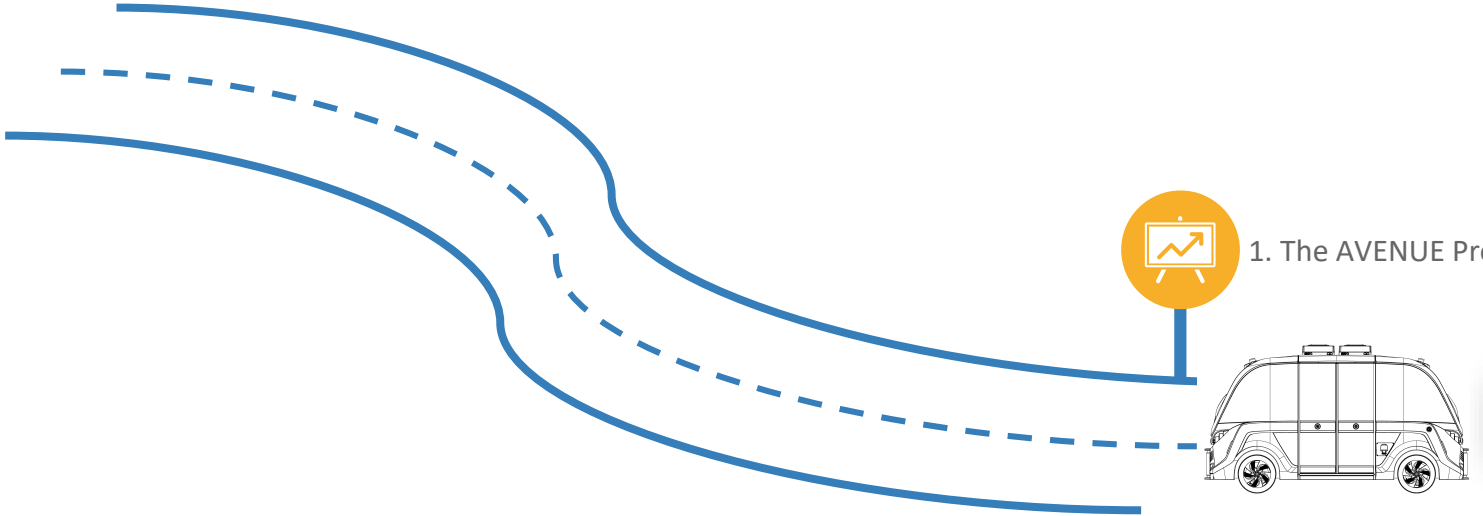
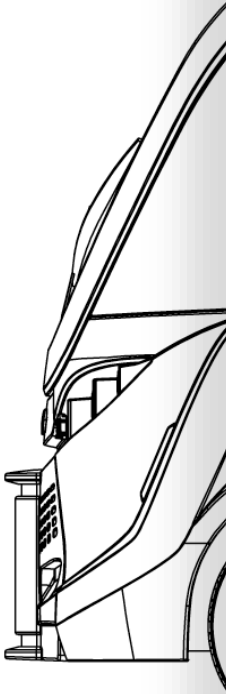
OVERVIEW

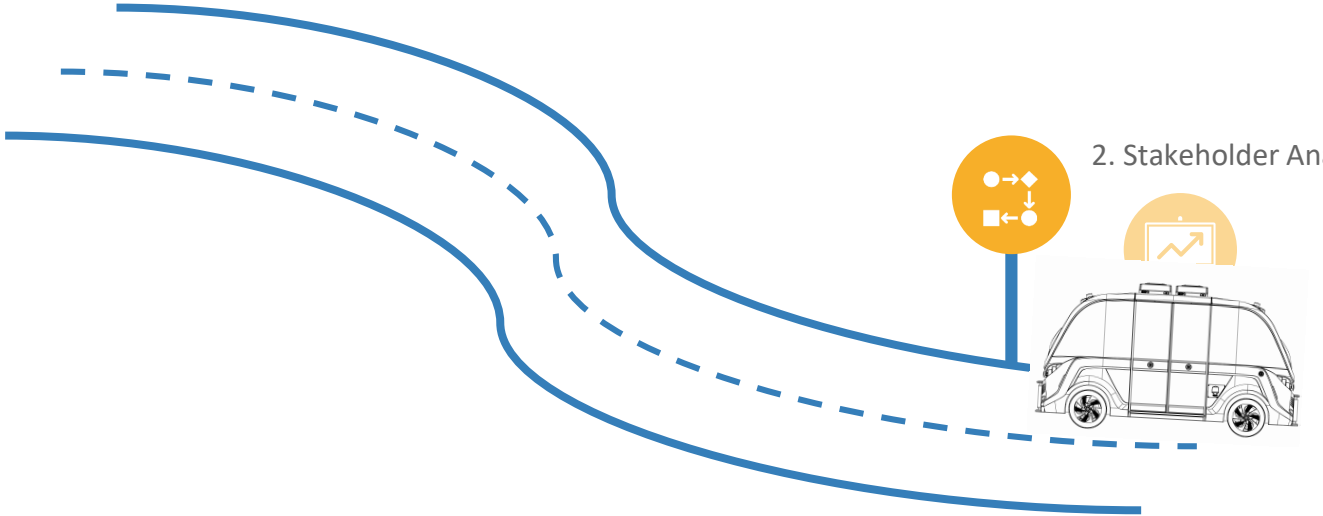




1. The AVENUE Project

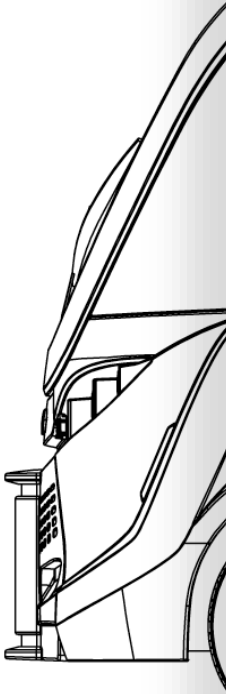
OVERVIEW

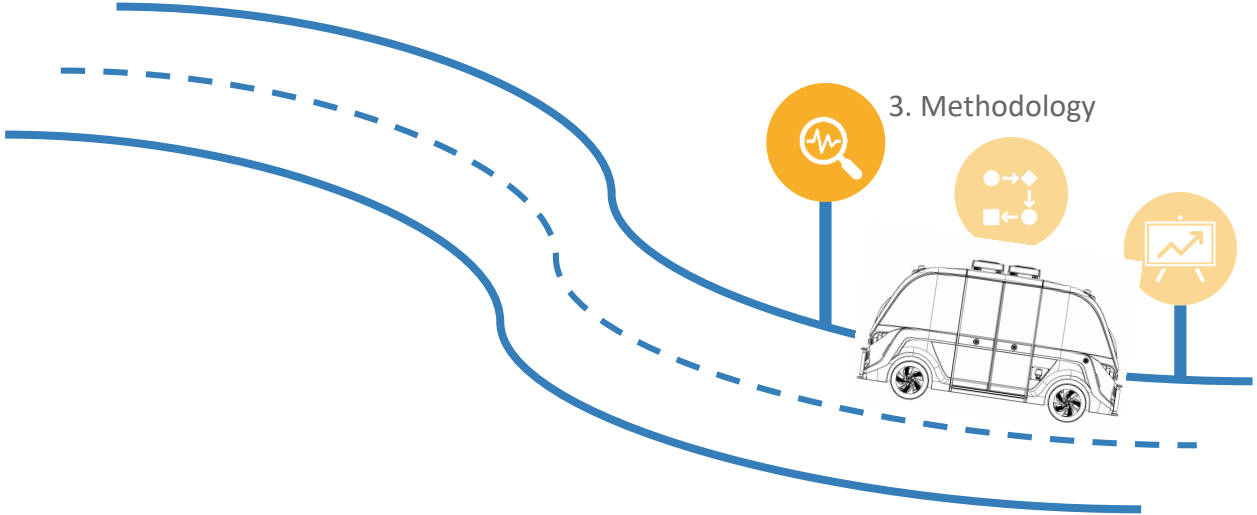




2. Stakeholder Analysis RQ & aims

OVERVIEW





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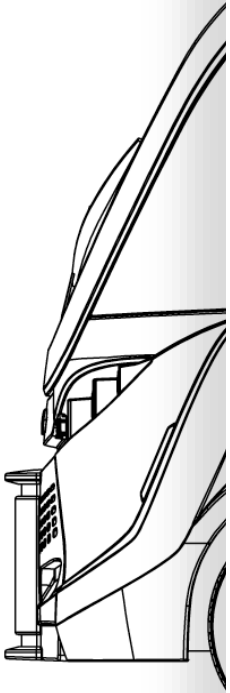

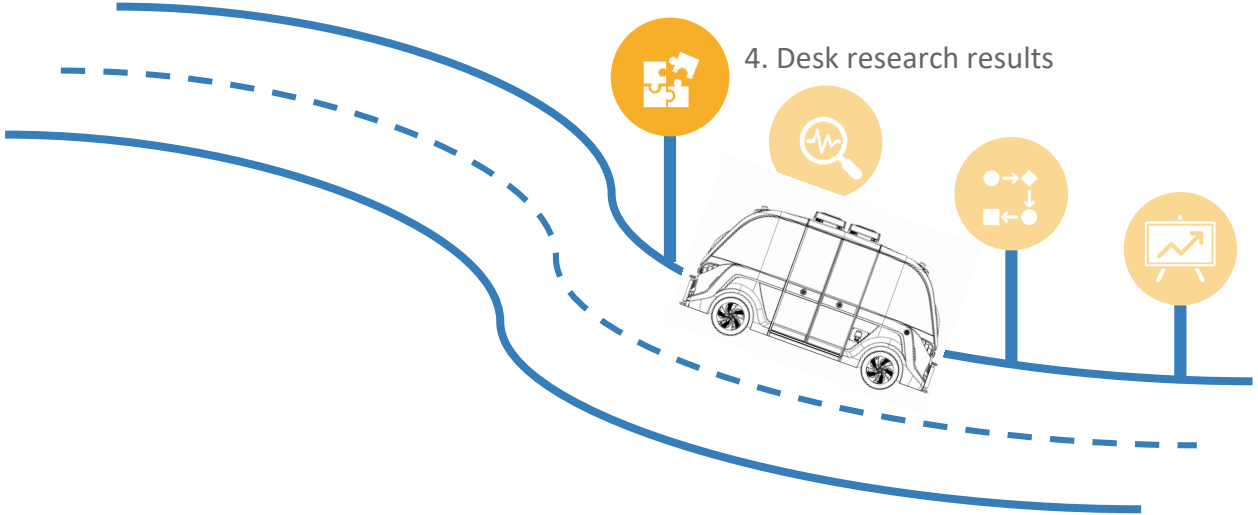

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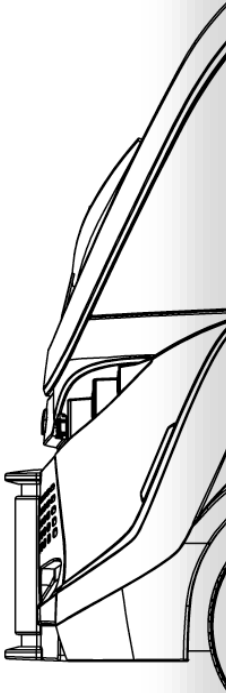

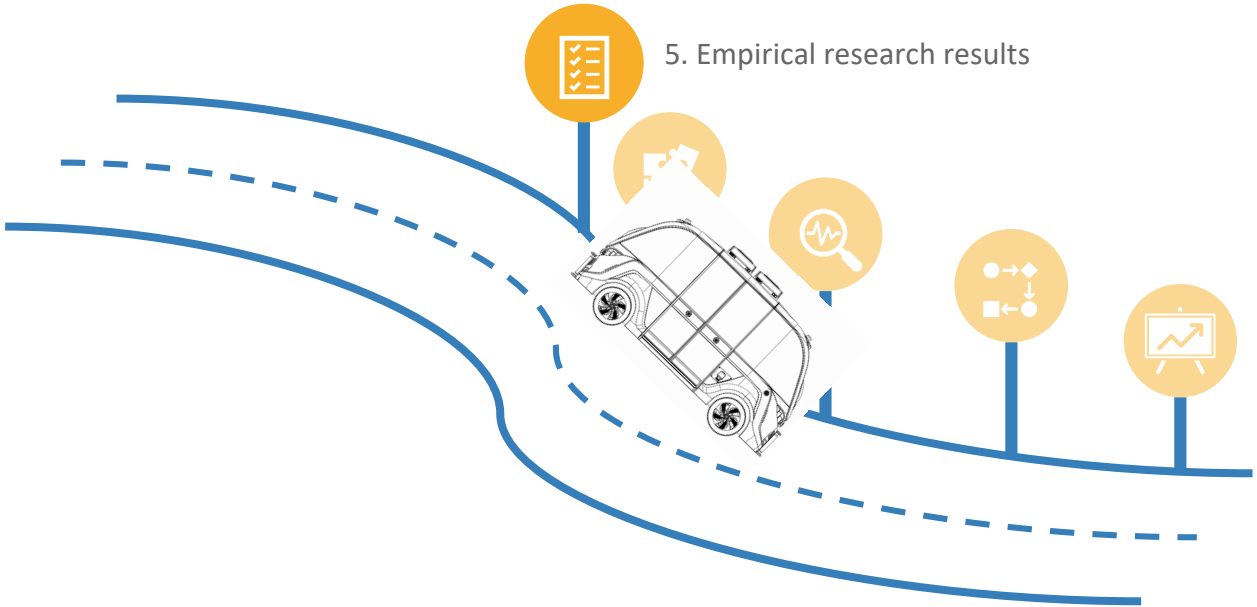

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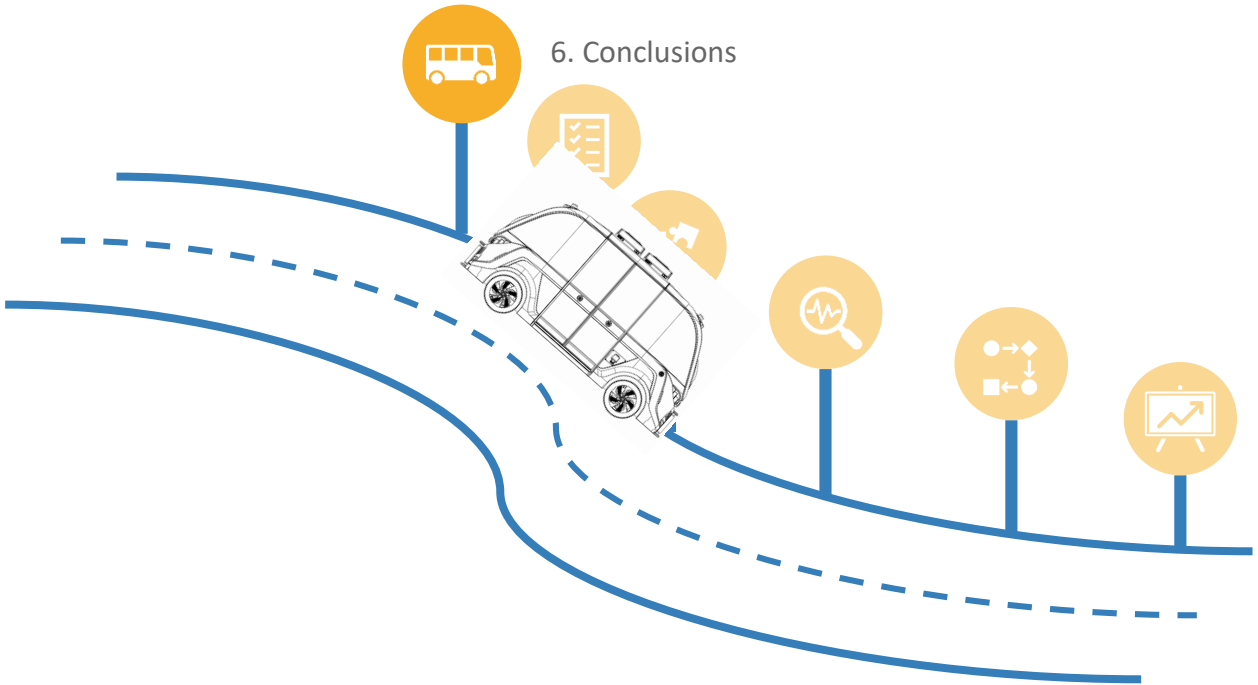

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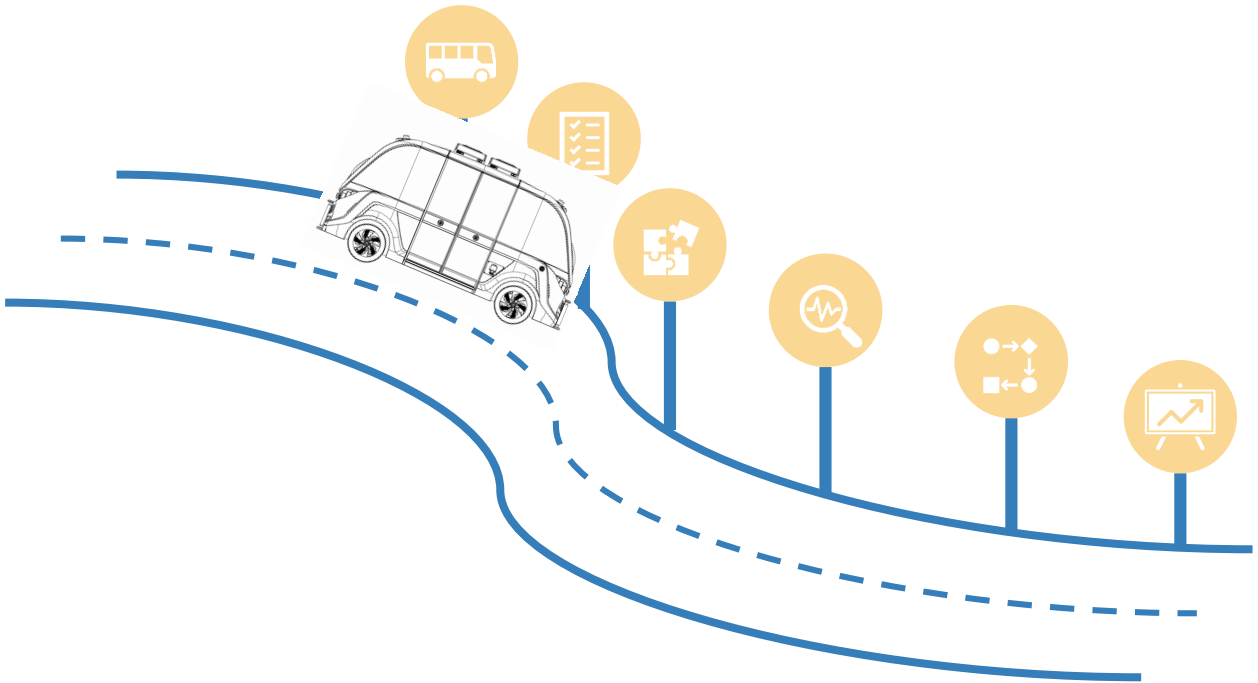

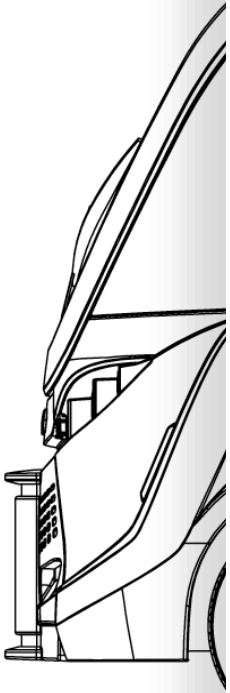

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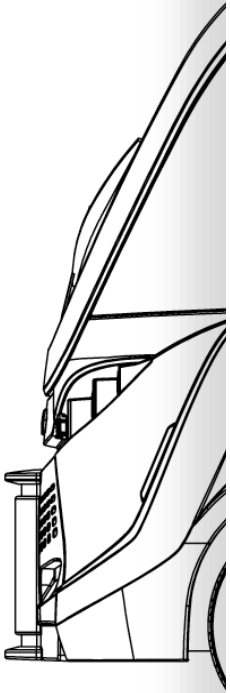
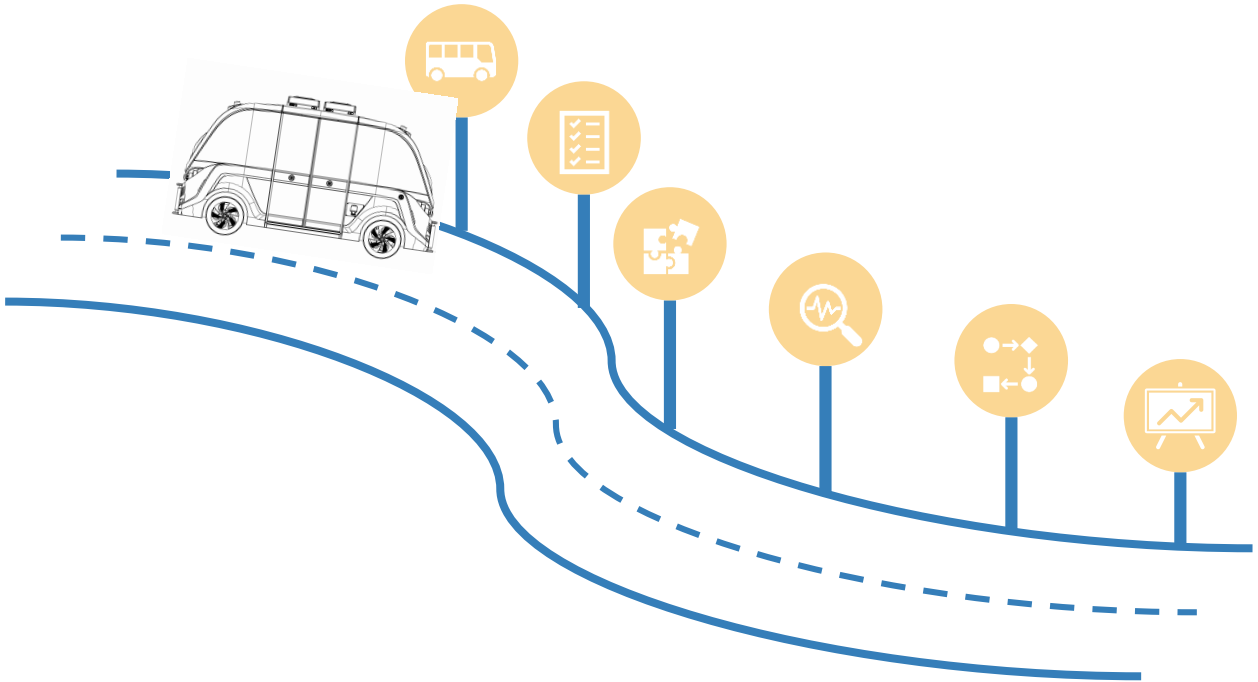
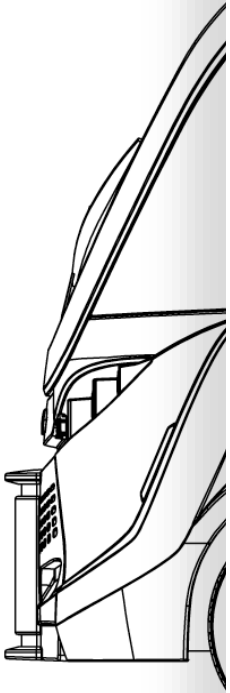




The AVENUE Project

- AVENUE aims to design and carry out full-scale demonstrations of urban transport automation by deploying fleets of autonomous minibuses
- EU-funded project under Horizon 2020



Geneva – Extension of public transport

REPUBLIQUE ET CANTON DE GENEVE

Lyon - Door2Door Services

VILLE DE LYON

Copenhagen – Autonomous Mobility Cloud

CITY OF COPENHAGEN

Luxembourg – Personalised Services

LUXEMBOURG LET'S MAKE IT HAPPEN

VILLE DE LUXEMBOURG

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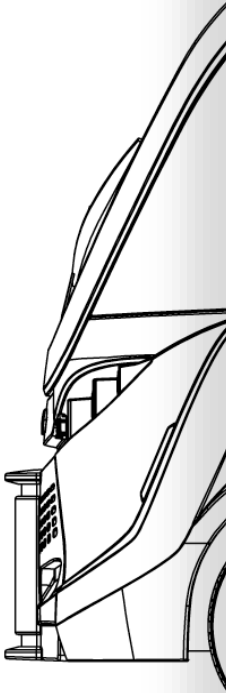
AVENUE worck packages



- WP2 – Stakeholder Analysis and strategies

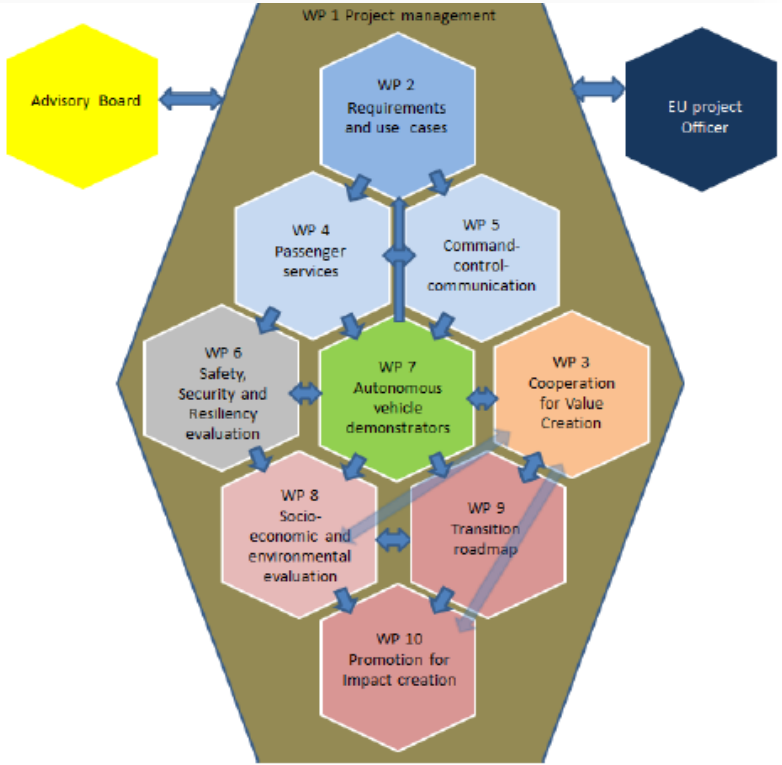
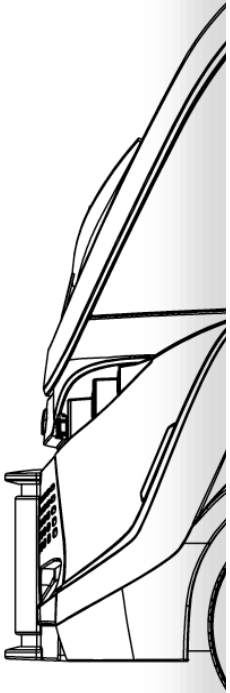


Figure 10 Workpackage overview

Stakeholder Analysis



- A stakeholder can be defined as “any group or individual who can affect or is affected by the achievement of the organization’s objectives” (Freeman,1984).

- Research Question & Aims

to identify main stakeholders involved and affected in the field of autonomous driving development and implementation

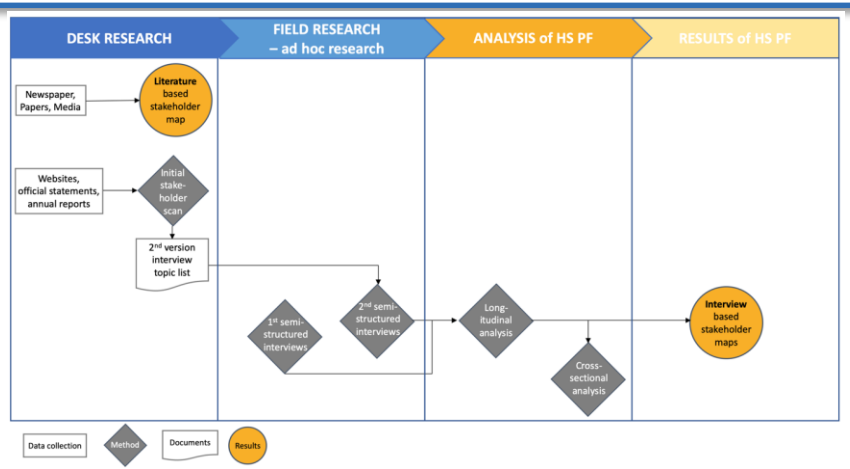
to explore the stakeholders’ perceptions, interests, strategies, attitudes, obstacles and interactions regarding autonomous e-minibus and the future mobility in order

to develop recommendations for cities and the EU (WP9)

Stakeholder Analysis

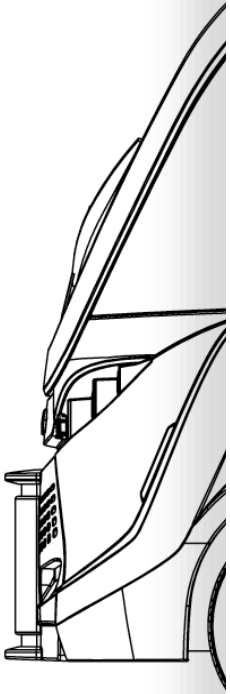
Methodology

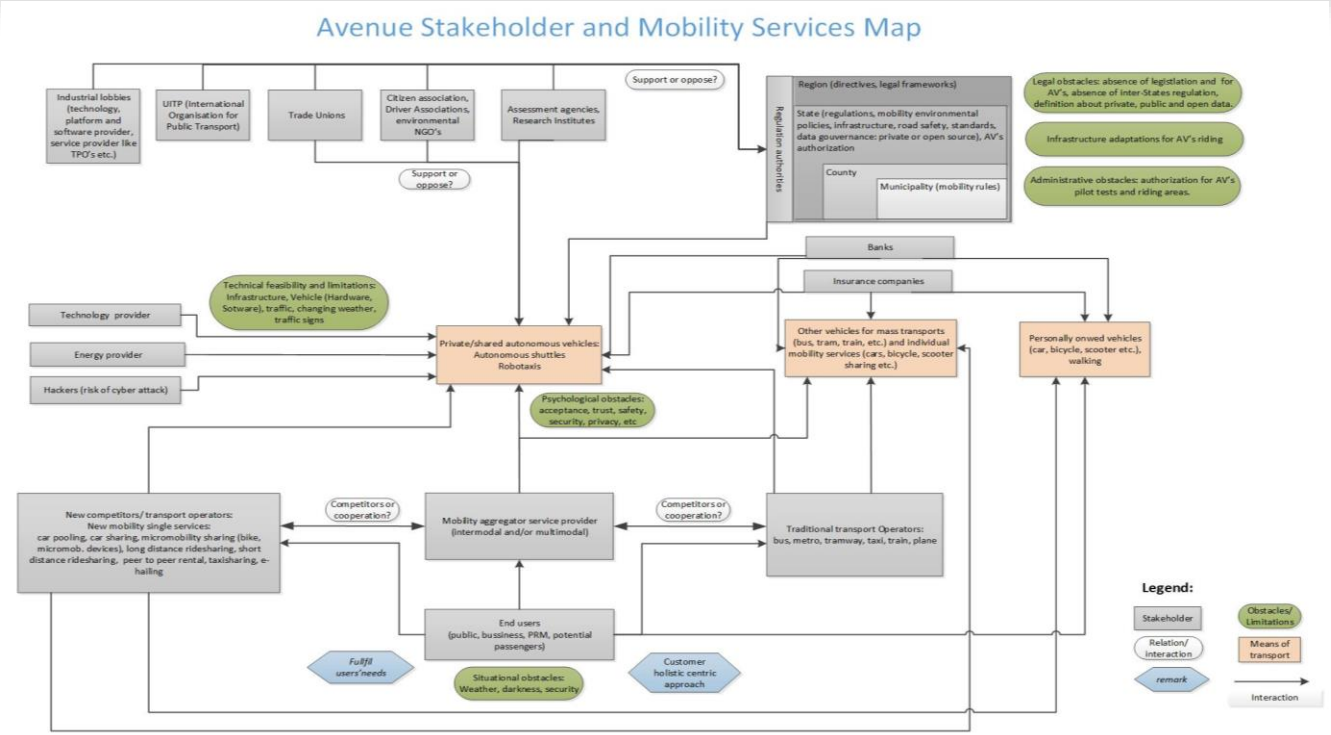
- Stakeholder Analysis comprehended: identification, selection and in depth analysis
- Desk research: Initial Stakeholder Scan
- Desk research: Stakeholder map based on literature review
- Empirical Research: Semi-structured interviews with selected stakeholders



Stakeholder Analysis

Desk research

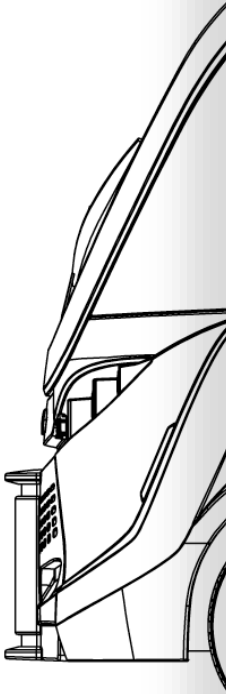




Stakeholder Map based on literature review

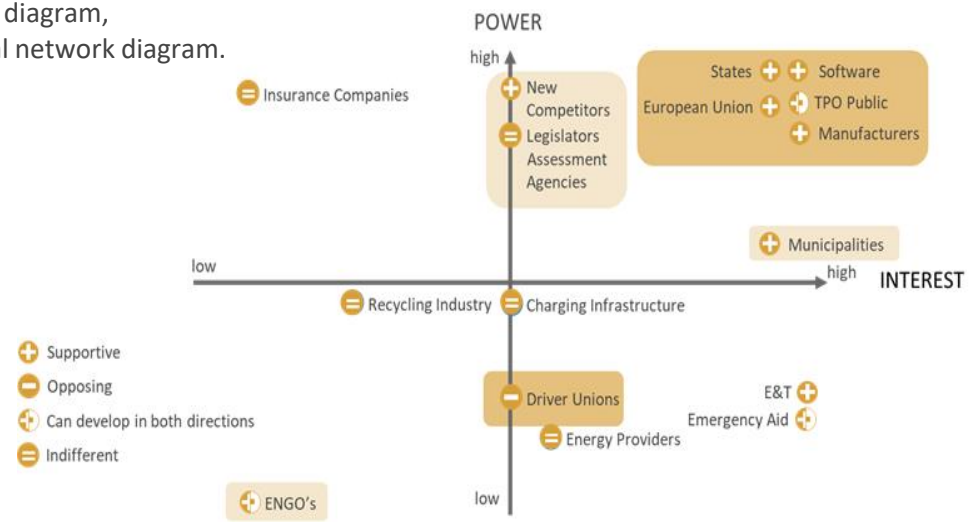
Stakeholder Analysis

Desk research



Initial Stakeholder Scan

- Brainstorming matrix with all potential stakeholders,
- Power grid interest,
- Impact Attribute grid,
- Onion diagram,
- Formal network diagram.



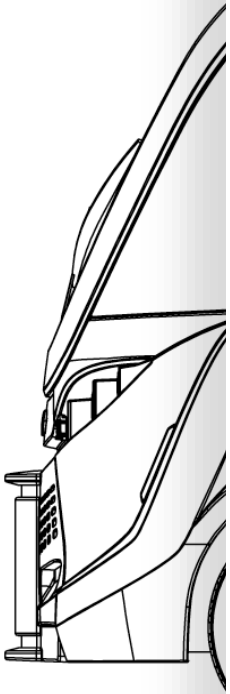
e.g. Power-Interest grid towards the implementation of autonomous vehicles in the public transport system

Selection of stakeholders for in-depth analysis:

-Public transport operators,
-Manufacturers,
-New competitors,
-Software developers,
-States/countries, local governments/cities,
- Driver unions,
- Environmental non-governmental organizations,
- End-users (customer)

Stakeholder Analysis

Empirical research



Sample structure

Number of stakeholder groups interviewed	5 target groups
Planned number of interviews conducted	2 to 4 per group
Number of stakeholder interviews conducted per group	
TPO´s/ new competitors	n = 4
Manufacturers	n = 2
Software Developers	n = 3
Driver Unions	n = 3
Environmental NGOs	n = 3

Data collection

semi structured interviews (45-60min)
7 EU countries and USA

Qualitative analysis

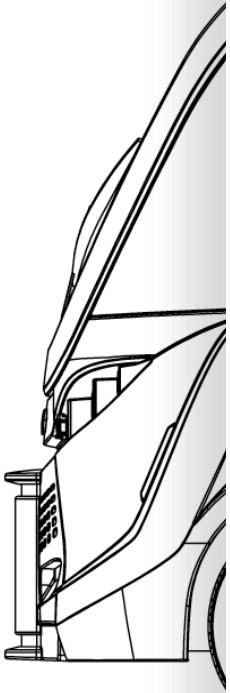
longitudinal analysis: report of each interview, analysis, presentation of the main findings and stakeholder map

Further steps:

Stakeholder crossectional analysis

Stakeholder Analysis

Empirical research – first results



Public transport operators

- **Role:** offer public transport services
  link between AV's and end user

- **Interest:** strong need to be competitive in the future

- **Barriers/Obstacles**
  - Technological challenges
  - Social acceptance
  - Regulatory framework
  - Business model

- **Offered solutions**
  - focus on end users and additional services

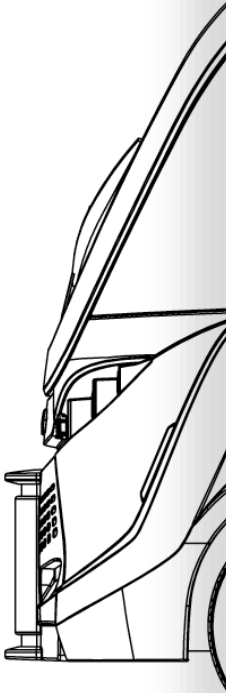
"…we're gonna have a better world once the autonomous vehicles are fully implemented in a lot of different perspectives."

„Key topic for the future"

"We will not reach level 5 within the time-frame of the AVENUE project"

Stakeholder Analysis

Empirical research – first results



Manufacturers

> *"One of our aim is really **redefining the traffic flow in your city** through giving new mobility offer which complete transfers network system. (…) And for that, we have developed several kind of mobility solutions, all **autonomous, electric, and shared**."*

Role

- Offer new solutions on mobility
- Contribute to a shift from individual mobility → public transport

Interest

- to establish themselves alongside providers of classic mobility solutions and expand into new markets in the future.
- social and environemntal benefits

Barriers/Obstacles

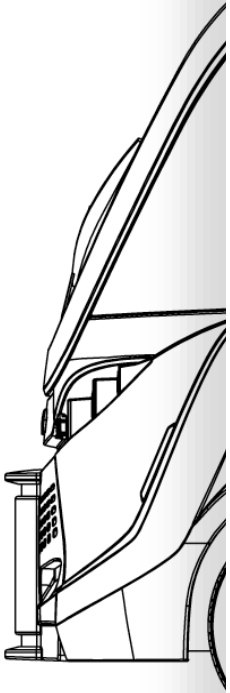
- legal framework is a constraint
- social acceptance
- research and development is very cost-intensive

Offered solutions:

- to close a gap in the mobility / first and last mile operations.

Stakeholder Analysis

Empirical research – first results



Software developers

- **Role**

  - assure safety, efficiency and customized mobility system for the end users

- **Interest**

  - to change the mindset people have regarding mobility systems…. Changing transportation time to a more productive use of time

- **Barriers/Obstacles**

  - responsibility of the cities to set the regulatory framework use of AV's
  - technology and regulatory framework limit the full demostration of mobility services (e.g. on demand)

- **Offered solution**

  - partnership and mobility data for a better traffic flow

"We take the vehicles from the others and we equip that with our software and the sensors and make highly automated project together with a company"

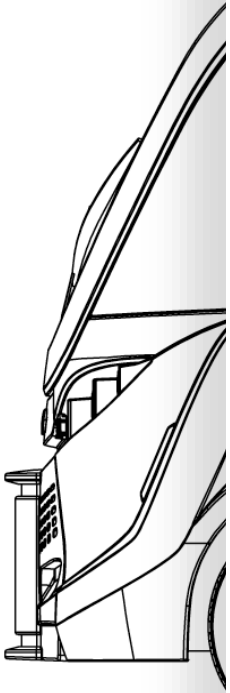
"The goal is (…) to equip as many different vehicle types in different environments and scenarios with our technology and to learn basically from the environment (…)."

„unregulated market for AV's, gap on standard regulations for AV's"

"We really focus on shared and pooling (…) and how to serve more people with less vehicles."

Stakeholder Analysis

Empirical research – first results



Driver unions

Role

- improving the drivers' working conditions
- advices/information
- education/formation

"We have a lot of willingness to negotiate, bargain, make agreements and compromises and bring the work organizations together"

"for us is more about re-educating people … there will be a big need for skilled workers"

Interest

- AV's can contribute to better job positions, the need for more skilled drivers and consequently, better salaries

Barriers/Obstacles

"drivers will be always needed"

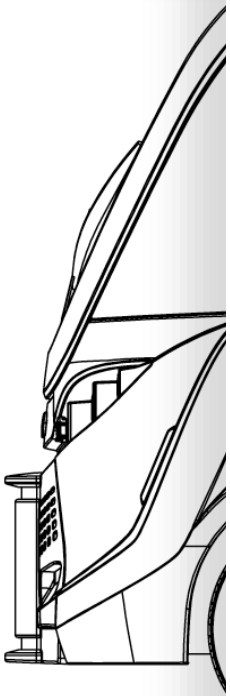
"We are more scared, when a company like Uber uses digital platforms to disrupt the taxi industry and the workplaces by offering passengers/costumers very cheap transportation without paying taxes, without paying decent wages for the drivers."

Offered solution

"Our work and most important role is to create or being part of the discussion before all changes have been completely disruptive for the sector"

Stakeholder Analysis

Empirical research – first results



Environmental NGO‘s

Role

- to promote means of transport that are more efficient and environmentally friendly than nowadays

> *“industry alone will not necessarily advance towards this new future mobility systems by itself”*

Interest/attitude

- uncertain positioning: supporting or opposing
- need for more scientific data and studies specifid for EU context/cities

Barriers/Obstacles

> *“People are really overly optimistic in technology…”*
>
> *“I see mainly two big uncertainties: The first one is whether autonomous vehicles will be electric (…), the second risk is also that these vehicles are not shared but privately owned (…) If you don´t share these autonomous vehicles, you run a huge risk of making your congestion problem even worse.”*

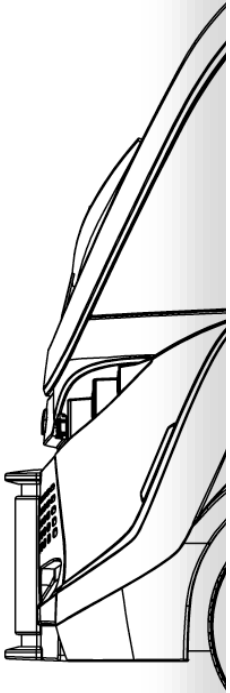
Offered solution

authorities are vital to pave the way towards these target systems by coming up with adequate regulations → NGOs role providing studies, recommendations and awareness for policy building

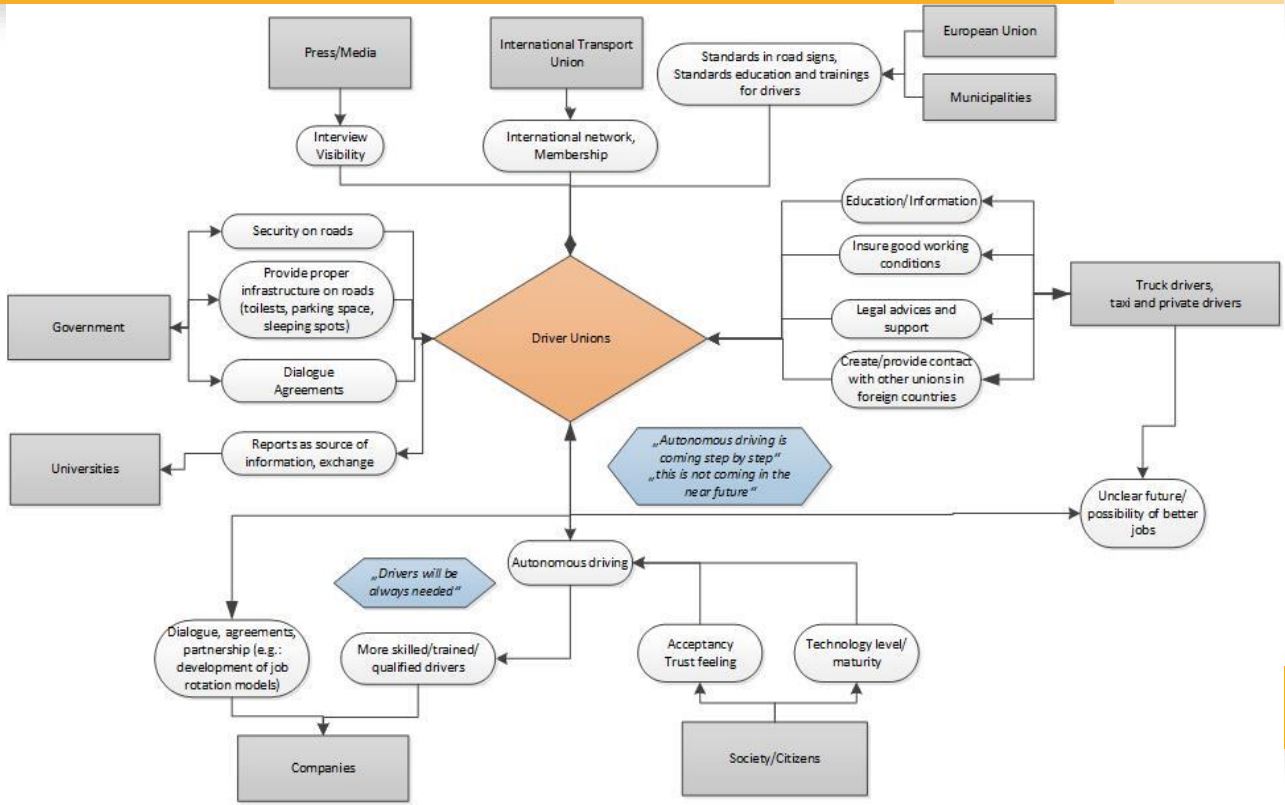
Policies may point the future that we aim, and technology is adapted to it

Stakeholder Analysis

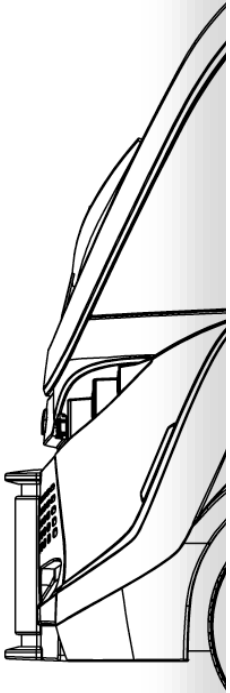
Empirical research – first results



e.g. Stakeholder map from driver unions' perspective



CONCLUSIONS AND NEXT STEPS

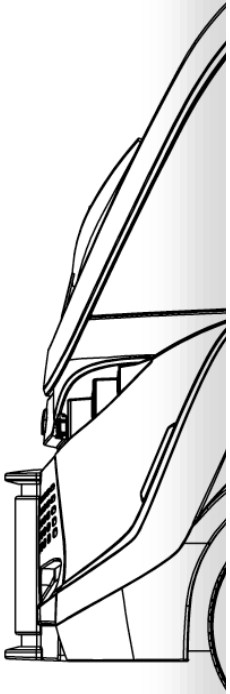


- Interviewed stakeholder groups picture the future outlook for autonomous vehicles in very different ways
  - Ambitious/optimistic approach – autonomous, electric, shared vehicles
  - Uncertainties and unstable position (e.g. NGO's, Driver Unions)
- Common points: gaps on Regulation and Policy, lack of studies/data on EU

NEXT STEPS:

- Semi structured interviews with
  - policy makers/urban planner
  - customer associations/organizations
- Crossectional analysis
- Common stakeholder map

LITERATURE



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