INDUSTRY TALKS

LIVE ON

AUTONOMY DIGITAL 2.0

MOVING THE BUSINESS OF MOBILITY FORWARD

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Policy Officer at Autodelen.net

It's not just the technology, silly! A discussion on the most important elements concerning automated mobility

20 May 2021

4.20pm - 5.00pm CEST

Presented by

A.R.T.Forum
Automated Road Transport

Interreg
North Sea Region
ART-Forum
European Regional Development Fund

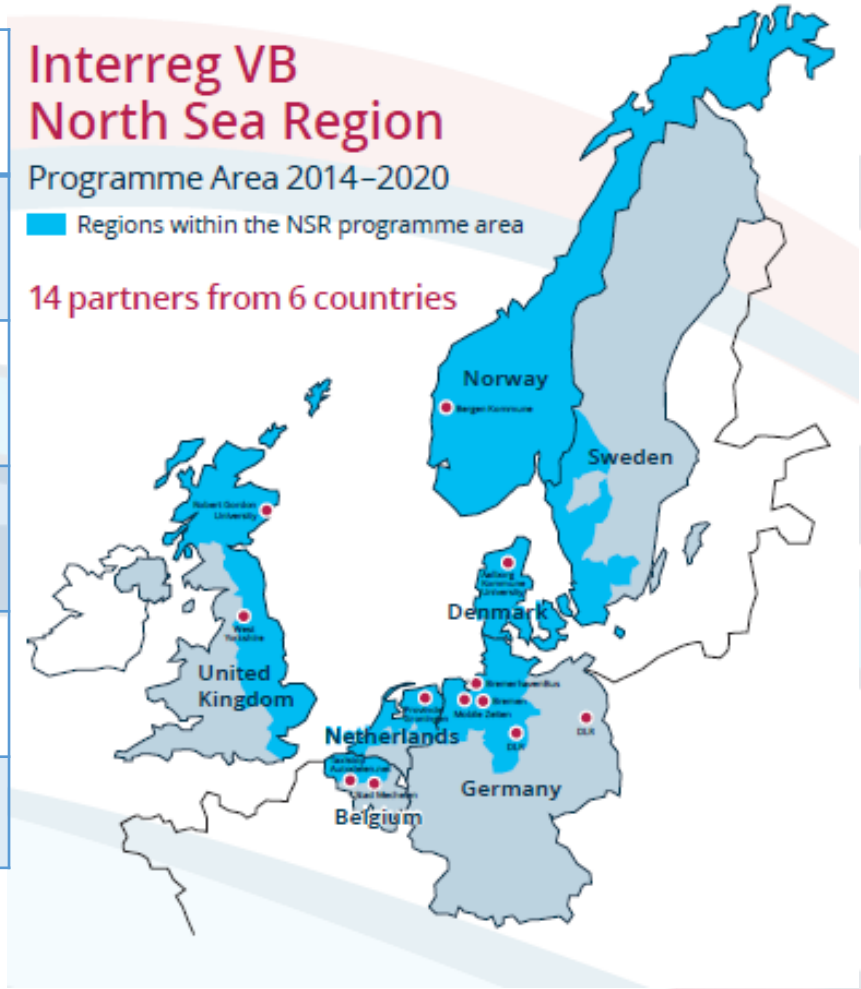
EUROPEAN UNION

Register on www.autonomy.paris

European Regional Development Fund EUROPEAN UNION

Automated Road Transport Forum for the North Sea Region

INTERREG Region	**North Sea Region**
Programm Priority	Green transport and mobility
Lead Partner	Free Hanseatic City of Bremen
Project Partner	14 partners (from 6 nations)
Period	3,5 years (01.03.19 – 31.08.22)
Budget	4,30 Mio. Euro



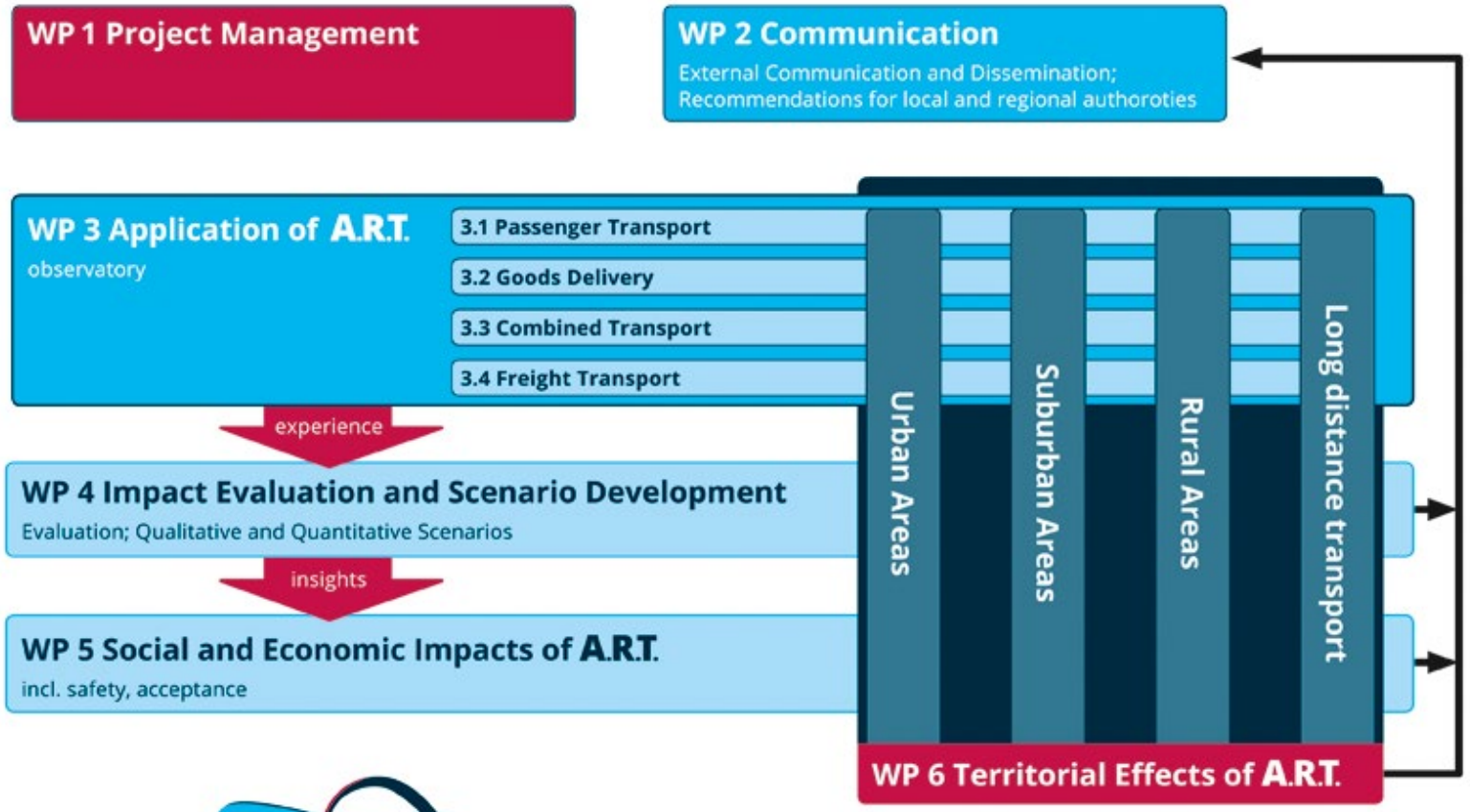
Partners

Aalborg Kommune
Aalborg University
Autodelen.net
Prefecture Hanseatic Bremen
Bremerhaven Bus
City of Bergen
DLR
Mechelen
Mobile Zeiten
provincie groningen
Robert Gordon University Aberdeen
Taxistop
West Yorkshire Combined Authority

Automated Road Transport Forum for the North Sea Region

Overall Objectives

- **Raise awareness** among public stakeholders
- Develop **policy recommendations** that enable local and regional authorities to take advantage of the opportunities of automated road transport
- **Support sustainable transport** and territorial development goals as well as **improve quality of life** in communities



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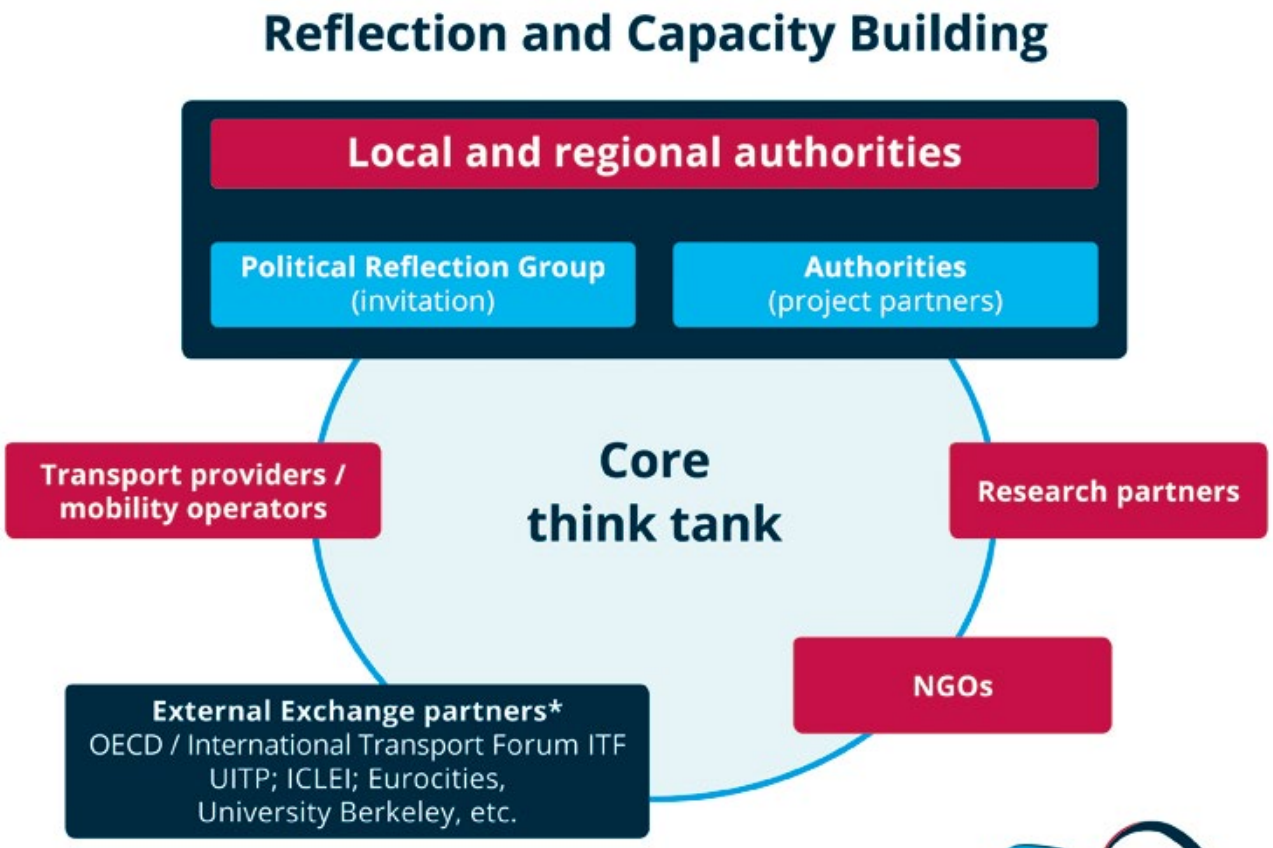
1. **Local Stakeholders understand the potential and risks of impact of the technologies**

2. **Developers can understand the needs of the communities in which their technologies will be deployed**



Capacity Building and Awareness

Why?

- *Ida Hougaard*
  Aalborg University

How?

- *Maria Vestergaard*
  City of Aalborg
- *Johannes Rodenbach*
  Autodelen.net

Who?

- *Esen Köse*
  Mpact
- *Julia Schuppan*
  DLR, Berlin

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WHY?
If Autonomous Vehicles are the solution, what is the problem?

Ida Bruun Hougaard
Aalborg University

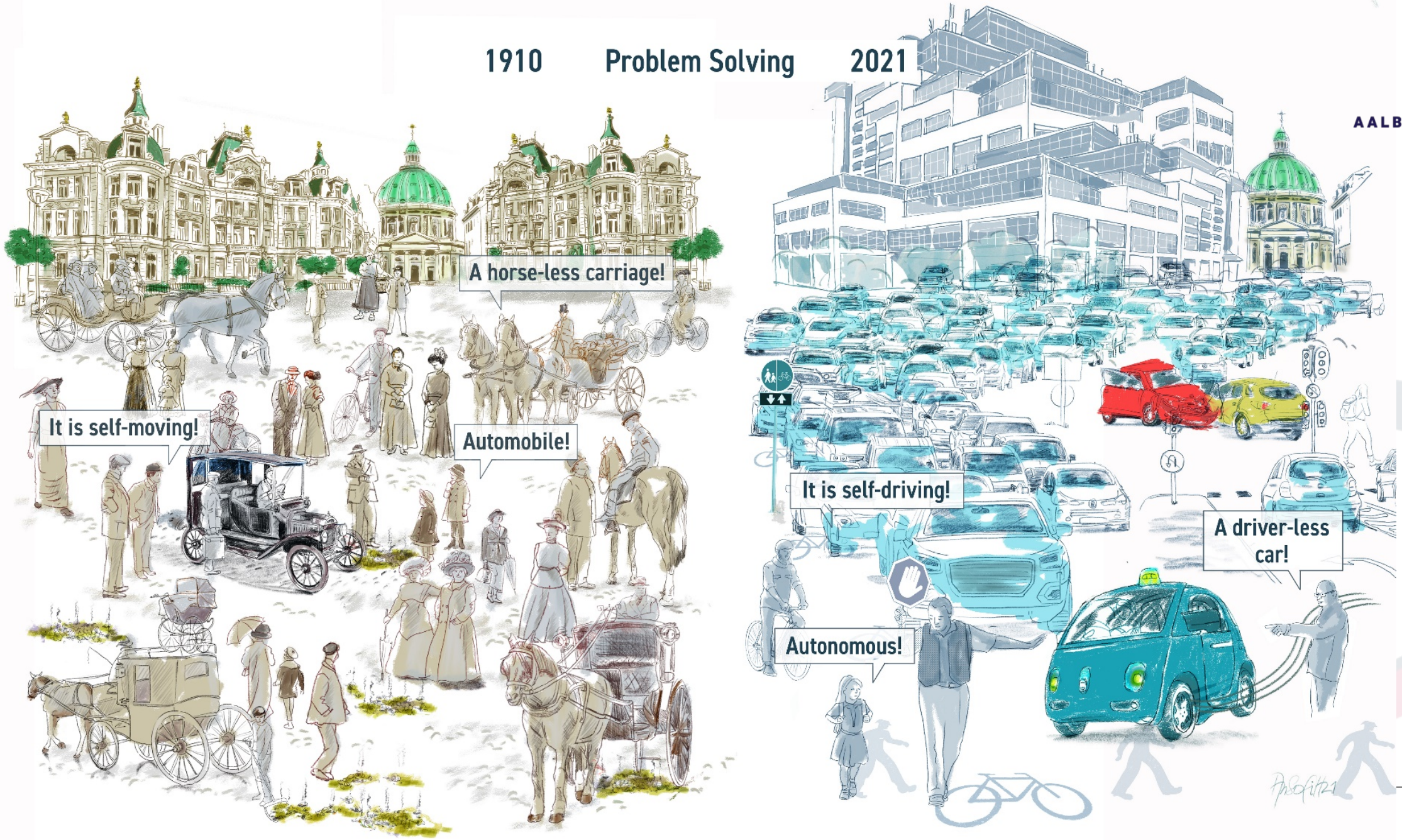

Illustration: Anne-Sophie Helger.

If Autonomous Vehicles are the solution, what is the problem?

AVs should not be considered a "technofix" and that it will likely come with new (perhaps bigger) challenges that we cannot predict

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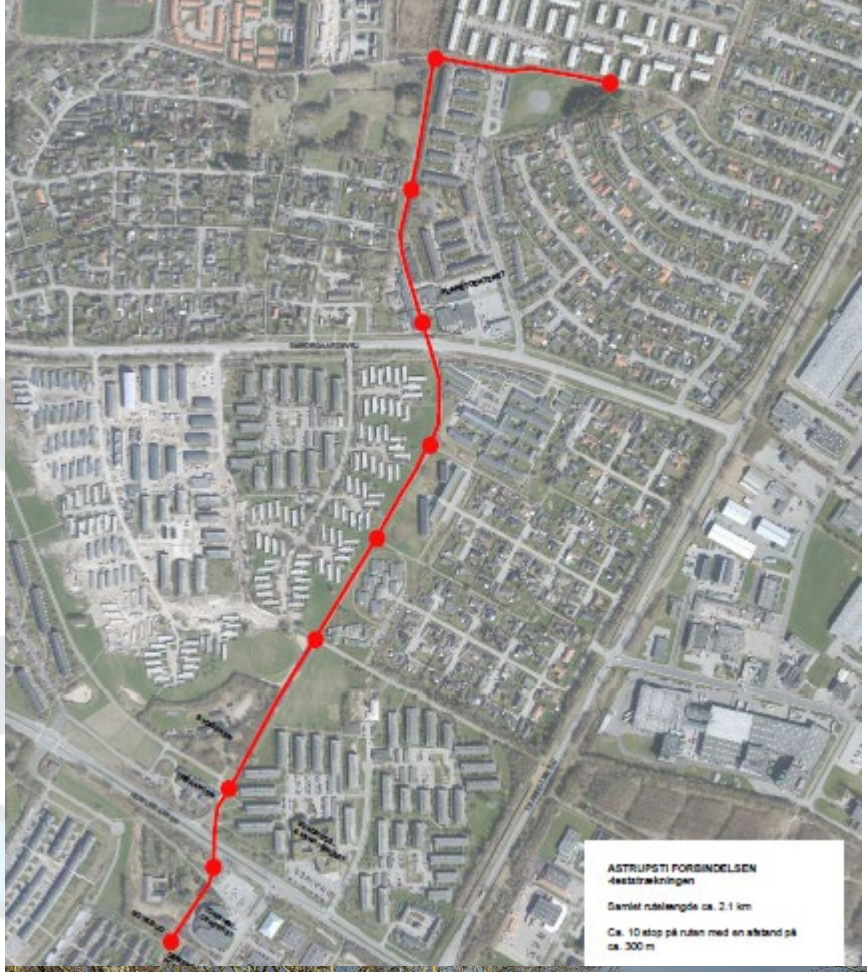
HOW?
Mobilizing

Maria Vestergaard
City of Aalborg

FACTS ABOUT A PILOT IN AALBORG (DENMARK)

- 2.1 km public pathway
- 10 stops
- Busses and cyclists share the pathway, pedestrians are separated
- Operation every day from 7.00-21.00 every 15 minutes from march 2020- December 2021
- Operating on SAE-level 3 (our intention was SAE-level 4)
- Free of charge
- Maximum speed 18 km/h
- 2 busses operating while the 3rd one is charging
- 11 passengers (due to covid-19 only 5 passengers now)



MORE THAN JUST A PILOT

- Mobilize a group of not-that-mobile citizens
- Connecting housing areas with activities (health care, grocery shopping, cultural activities, etc.) → improvements of internal mobility
- Connect housing areas with public transport → external mobility
- Better use of existing infrastructure
- Enhance both environmental and social sustainability
- ”First mover” → contribute to an image boost
- Social inclusion and safety

- And to learn: How can we embrace technology in city and traffic planning and make informed decisions when we plan our future cities?

“Mobilizing is more than running a pilot…and ART should always be a solution to a problem”

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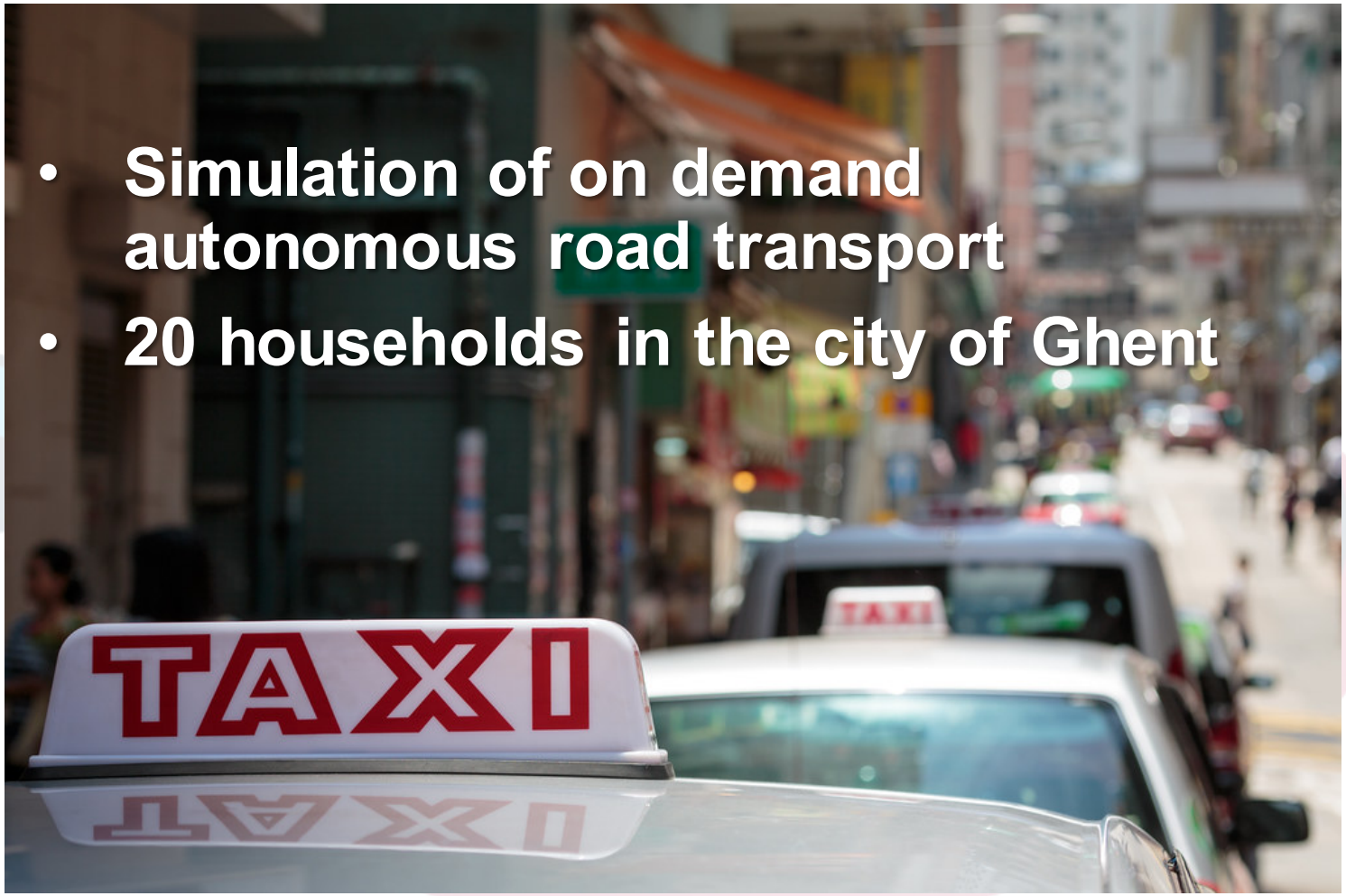
HOW?
Living Lab: Ready to A.R.T?

Johannes Rodenbach
Autodelen.net

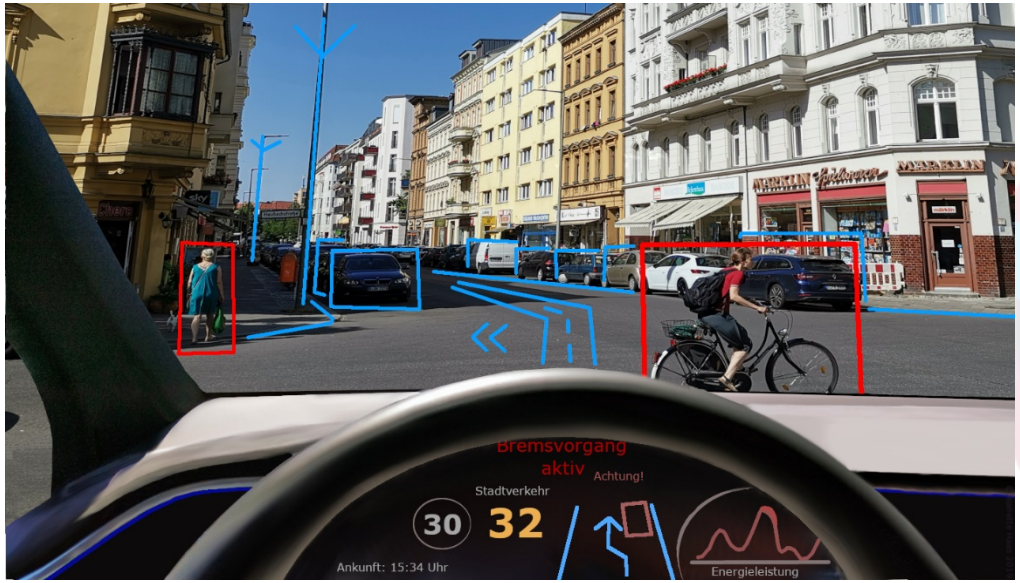
Living Lab: Ready to A.R.T. ?



- Simulation of on demand autonomous road transport
- 20 households in the city of Ghent

AUTO DELEN .NET
CARSHARE BELGIUM

Living Lab: Ready to A.R.T. ?



- How do participants **experience** 'autonomous' driving?
- To what extent does the living lab change their **acceptance** of autonomous and automated mobility?
- To what extent does the **mobility behaviour** of participants change during and after the living lab?

Living Lab: Ready to A.R.T. ?

While we wait for driverless cars, we should learn how to share them.

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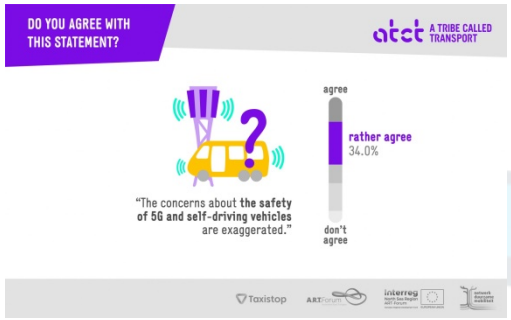
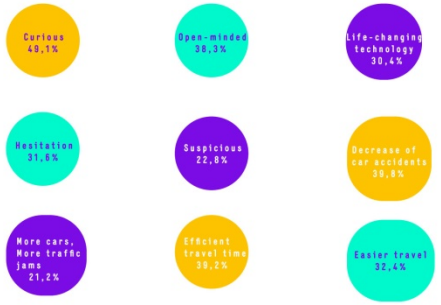
Who?
The ART of students' involvement in the future of mobility

Esen Köse
Mpact

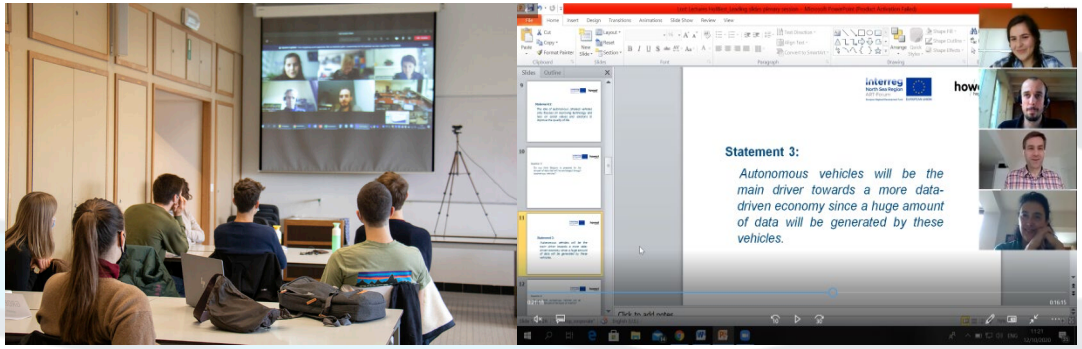
How to engage students with automated vehicles?

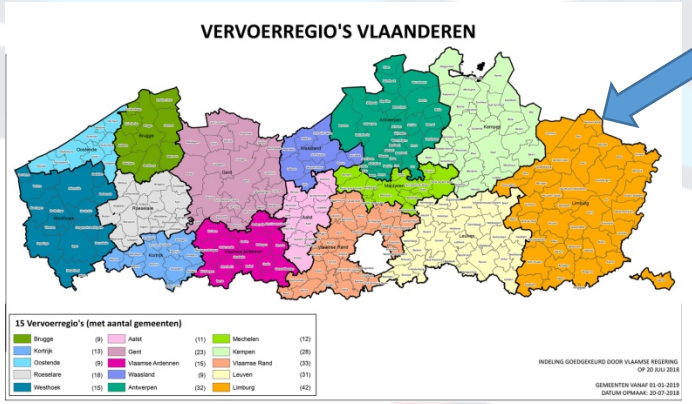
Research





Lost Lectures & Thesis





International Student Challenge

Insights → Awareness & Talk Value → Engagement

Lessons learned

Get out of the box

Get out of your bubble

Collaboration

System thinking

Future generations

The ART of students' involvement in the future of mobility

The best way to predict the future is to create it

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Who?
Stakeholder perspectives on future AV scenarios regarding SUMP

Dr. Julia Schuppan
DLR/German Aerospace Center

Many visions of autonomous driving in the city of the future

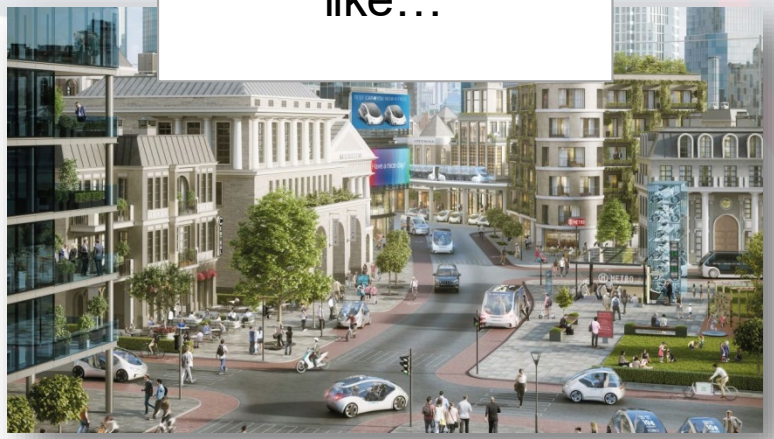
Campaign 2018

What it may look like…

Bvg.de

What it currently looks like…

What will it look like and what needs to be done?



Bosch Mobility Experience 2017 Press Release

Bvg.de

Many visions of autonomous driving in the city of the future

What could **sustainable autonomous mobility scenarios of the future** look like and what regulatory measures need to be introduced to achieve this?

t will it look like
what needs to
be done?

Bosch Mobility Experience 2017 Press Release

Bvg.de

Key steps to create a study

1. Include sustainability principles into the assessment

European Platform on Sustainable Urban Mobility Plans

2. Involve a broad range of stakeholders

- Administrations, NGOs, politicians, mobility providers, business, logistics, local iniatiatives, research

3. Choose an appropriate scenario technique & framework

Method: Literature-based participatory Scenario Technique

02/2020 — 08/2020 – 04/2021

Literature review

impact areas & factors of AV regarding urban areas & transport system

Stakeholder Workshop „Futures Wheel"

implementation of regulatory measures is evaluated in terms of

- their likeliness of implementation
- desirability of implementation with regard to sustainability principles

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2-round Delphi-Survey

Expected Scenario

Desired Scenario

(see Elvik, R. et al. (2019); Innamaa & Kuisma (2018); Milakis, van Arem and van Wee (2017); Herrmann, Brenner and Stadler (2018))

Method: Literature-based participatory Scenario Technique

6 impact areas & 19 regulatory measures

User behaviour	Mobility & travel behaviour	Network efficiency
Public health & safety	Land use & parking	Regulation & costs

implementation of regulatory measures is evaluated in terms of

- their likeliness of implementation
- desirability of implementation with regard to sustainability principles

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2-round Delphi-Survey

Expected Scenario

Desired Scenario

Results of the Delphi Survey

- 69 (Delphi1), 61 (Delphi2) participants from ART-Forum Partner Cities: Consulting/Business, Research, Administration, Associations, others

19 regulatory measures

Desired Scenario

10 regulatory measures + 20

- Professional backround did <u>not affect</u> the participants' **desire to** implement regulatory measures in favour to sustainability principles

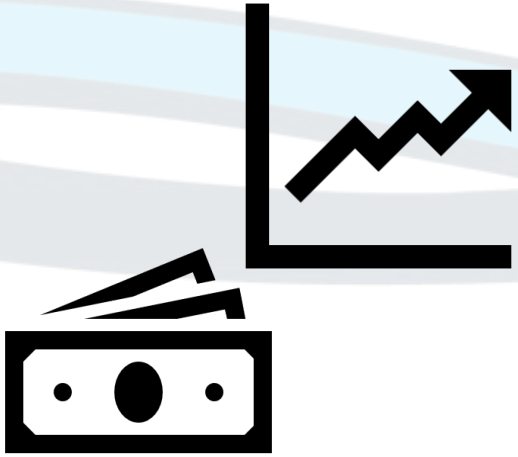
Expected Scenario

3 regulatory measures + 5

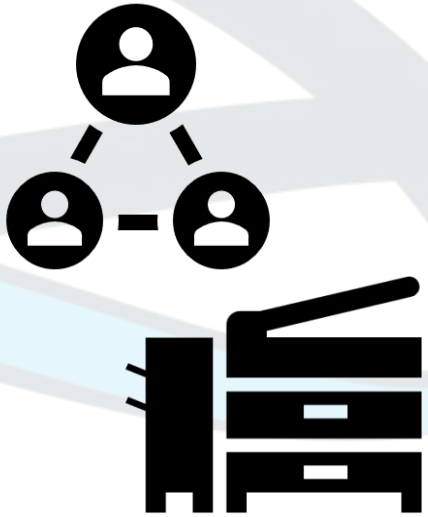
- Professional backround <u>did affect</u> the participants' **expectations of regulatory measures** to be implemented
  - Consulting/Business (6) > Administration (2)

Summing up

What could **sustainable autonomous mobility scenarios of the future** look like and what regulatory measures need to be introduced to achieve this?



Well, it depends on what and who you ask....



European Platform on Sustainable Urban Mobility Plans

Why is ART more than a technology?

Desired and expected regulatory measures to create sustainable autonomous mobility scenarios of the future differ. Additionally depending on who you ask. So, let's (not) just talk about technology!

Why?	How?	Who?
If Autonomous Vehicles are the solution, what is the problem?	**Mobilizing is more than running a pilot…and ART should always be a solution to a problem!**	**The best way to predict the future is to create it!**
	While we wait for driverless cars, we should learn how to share them!	**Desired and expected regulatory measures to create sustainable autonomous mobility scenarios of the future differ!**