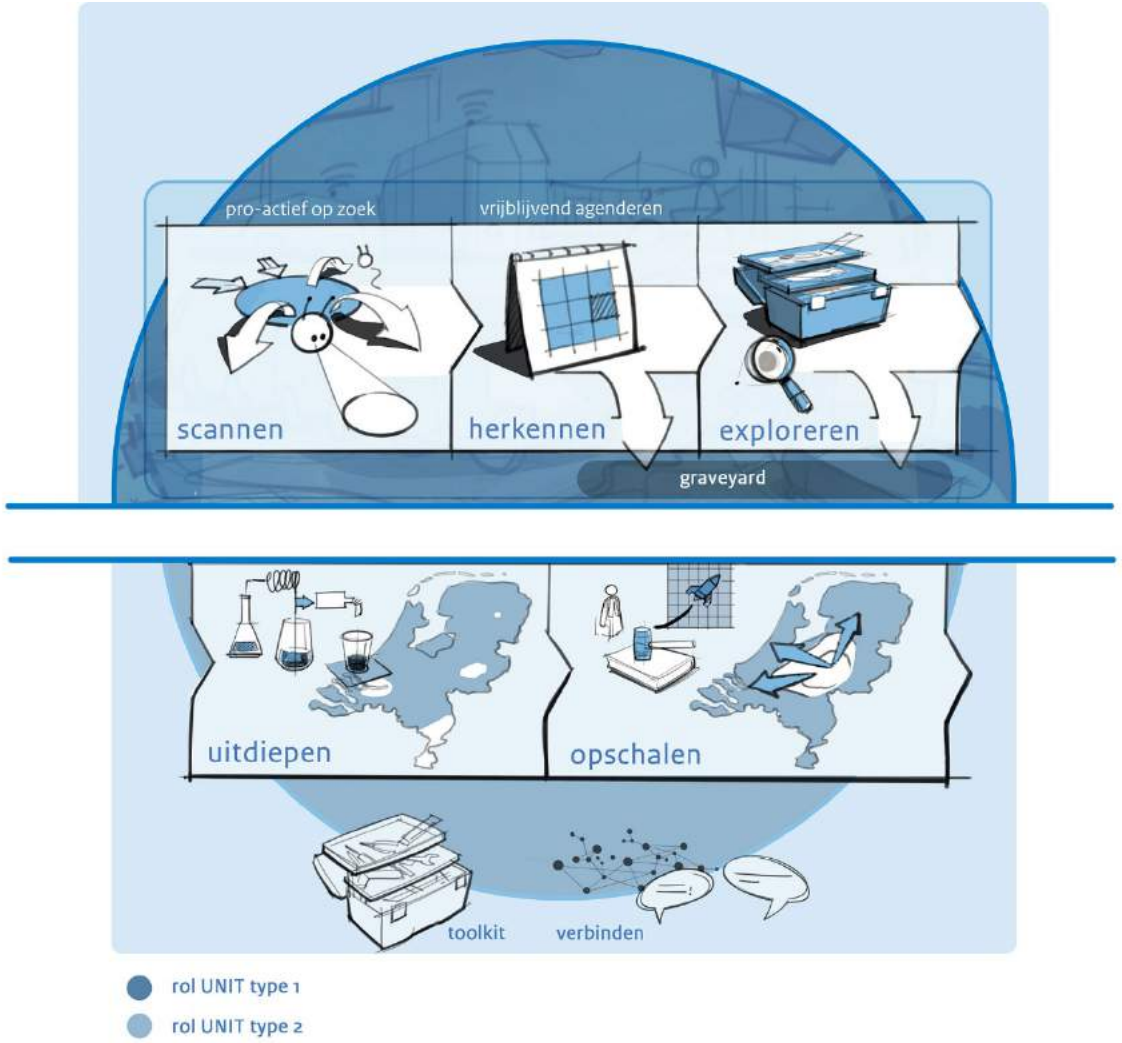
Digital Unterwegs: Auto als Lenker?

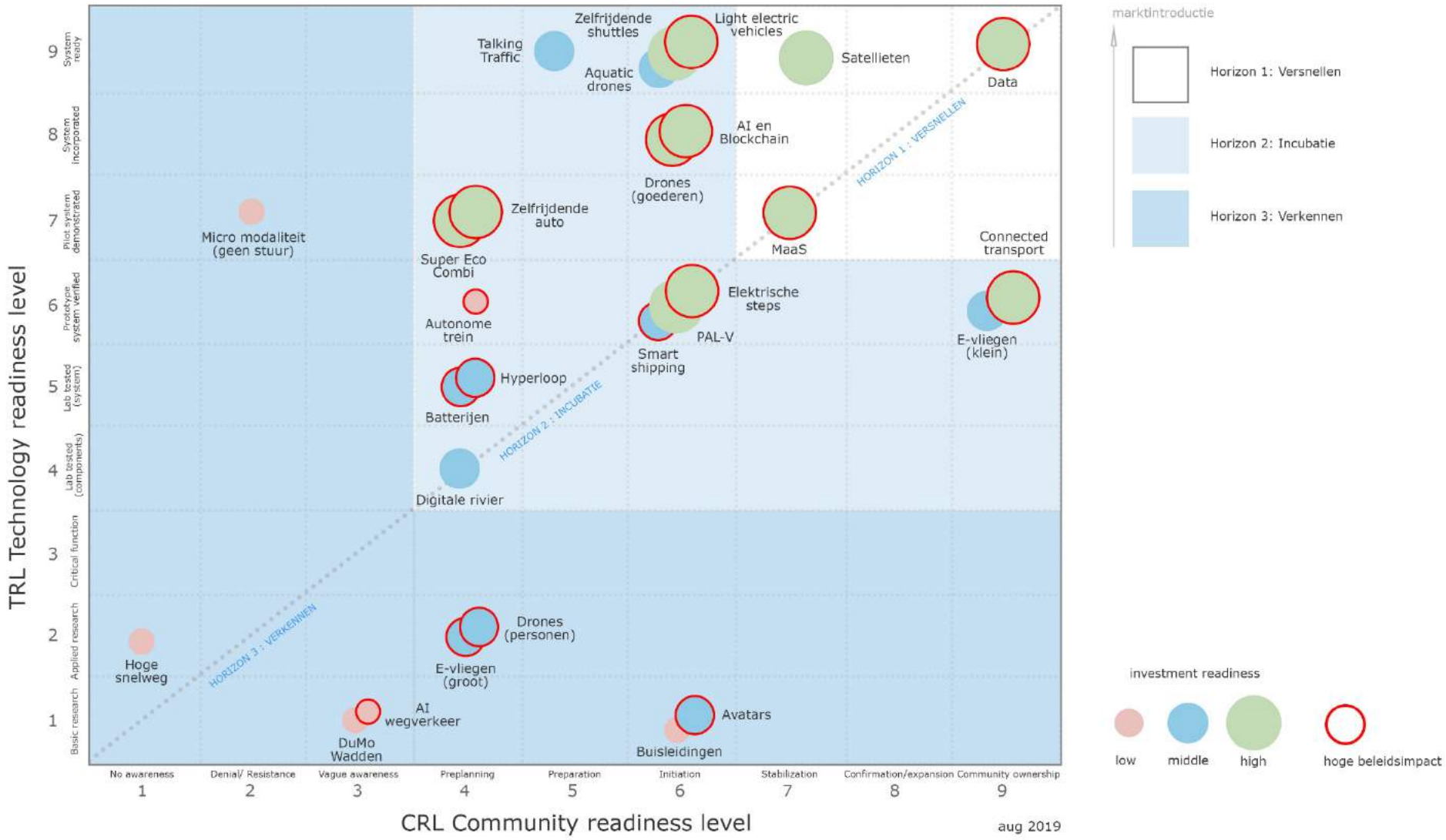
Diplm. Ing Arjan van Vliet
Generaldirektion für Mobilität
Manager Innovation
arjan.van.vliet@minienw.nl

Innovationen in Mobilität beschleunigen

- Forschen
- Experimentieren
- Implementieren
- Skalieren

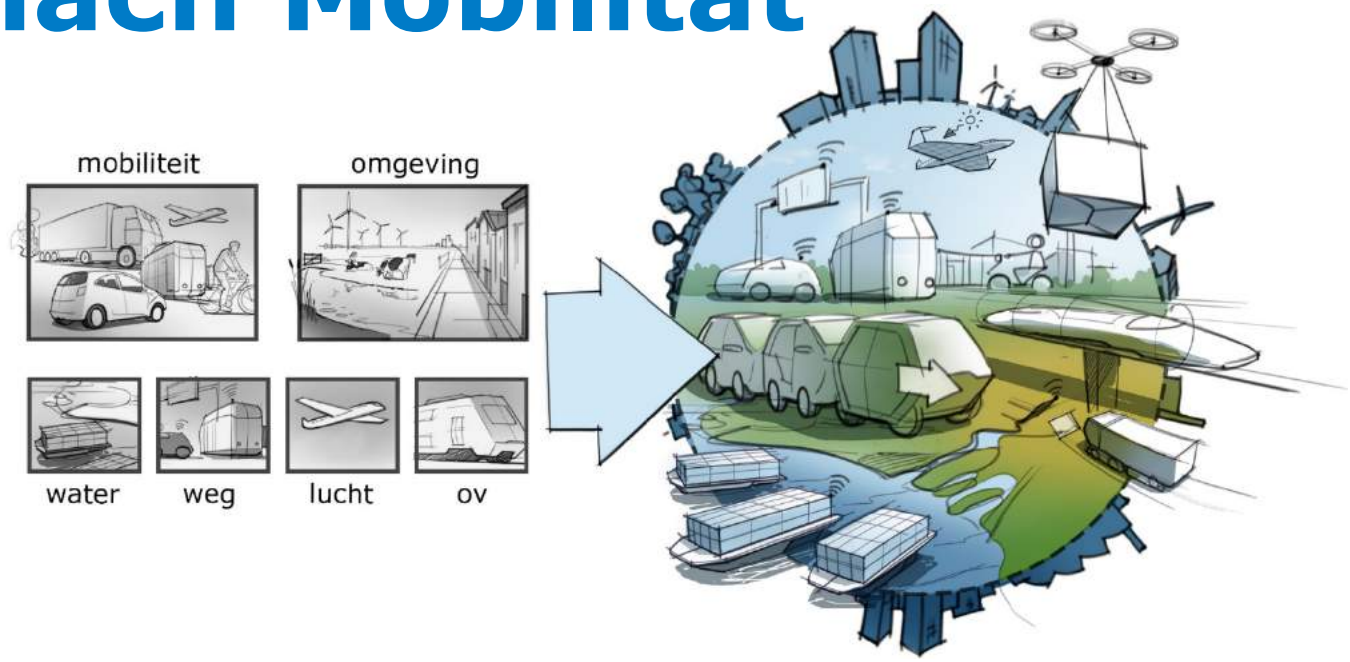


Eine Lösung gibt es nicht



Von Modalität nach Mobilität

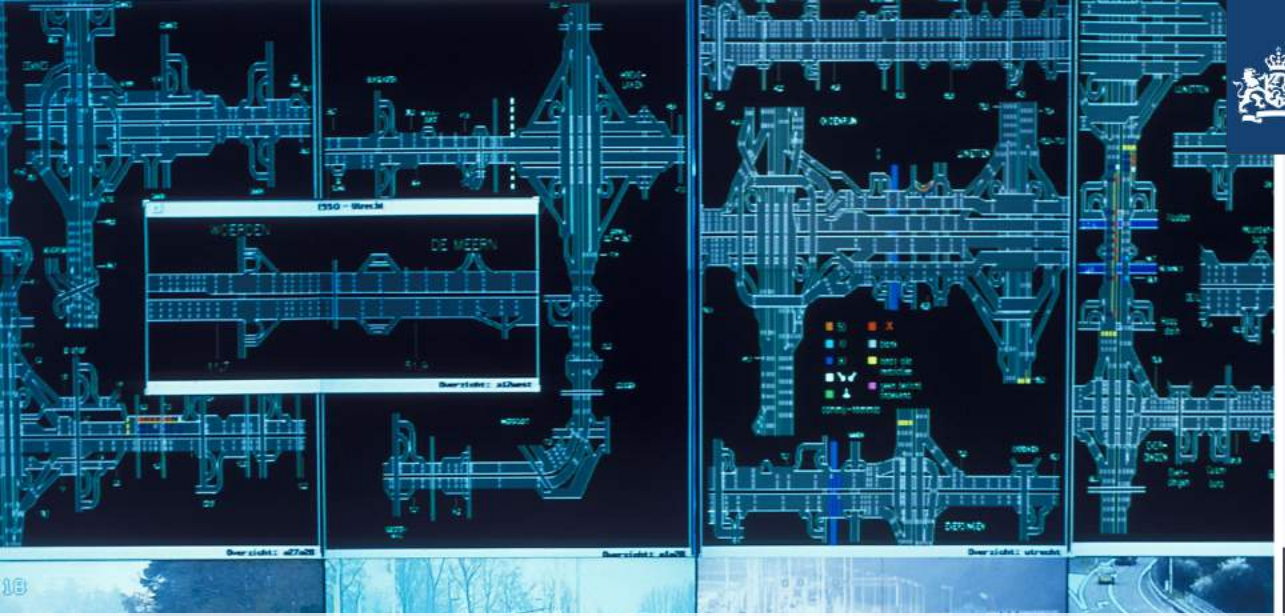
Fokus auf Reisende
und Güter



Clean Sky 2
JOINT UNDERTAKING
Innovation takes off

Towards Clean Sky 3: A new Partnership for Clean Aviation under Horizon Europe

www.cleansky.eu



Digitale Identitäten

Intelligente Infrastruktur

MaaS

Connected Intelligent Transport

Auto als Lenker?

- The decalaration of Amsterdam: einen Rückblick auf 2016
- Die Gegenwart
- Zukunftsszenarien

On our way towards connected and automated driving in Europe

Outcome of the first High Level Meeting

Amsterdam, 15 February 2017

At the High Level Meeting held in Amsterdam on 15 February 2017 the participating Member States, the European Commission and the automotive and telecom industry:

1. agreed to continue the High Level Meeting on connected and automated driving;
2. expressed support for a joint European approach;
3. considered willingness to share vehicle data contributing to traffic safety and congestion reduction and the set-up a public private data task force;
4. the European industry is actively striving towards rapid development of V2V and V2I;
5. considered the need for cross border testing;
6. emphasized the need for close cooperation in UN-ECE;
7. agreed to work together on coherent national, international and European regulation;
8. agreed to elaborate this working agenda of connected and automated driving.

Conclusions from the 4th High-Level Meeting on Connected and Automated Driving

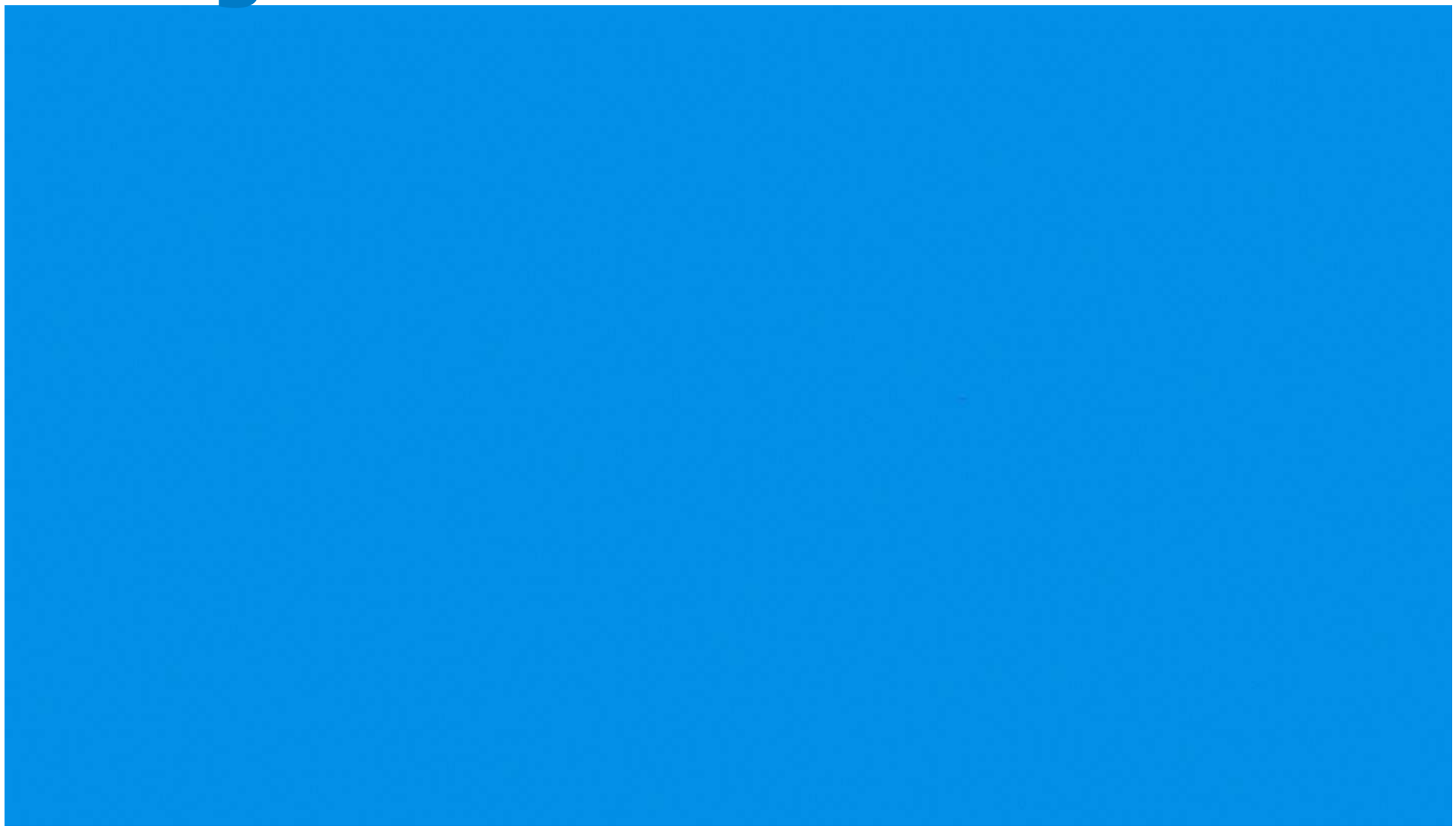
Helsinki, 7 October 2020

MINISTRY OF TRANSPORT AND COMMUNICATIONS

The three core themes for the 4th High-Level Ministerial Meeting on Connected and Automated Driving (later HLM CAD)

1) the need to develop and deploy transport automation in a human-centric manner,
2) the need to enhance data sharing between the various stakeholders in the cosystems of transport automation and
3) the need to reform the regulatory landscape concerning transport automation.

Meaningful human control



Source: https://www.tudelft.nl/en/technology-transfer/development-innovation/research-exhibition-projects/meaningful-human-control/

EU zugewiesene Expertengruppe
gibt 20 Empfehlungen:

1.Verkehrssicherheit, Risiko, Dilemmas;
2. Daten- und Algorithmusethik;
3. Verantwortung / Rechenschaftspflicht.

Source: https://www.tudelft.nl/en/technology-transfer/
`development-innovation/research-exhibition-projects/meaningful-human-control/

Platooning evolution

EUROPEAN TRUCK PLATOONING

Cross-border platooning

ENSEMBLE

Multibrand PLATOONING

DAIMLER MAN VOLVO DAF IVECO SCANIA CLEPA VUB VRIJE UNIVERSITEIT BRUSSEL WABCO TNO 20 M€ Applus IDIADA

This project is co-funded by the EU under the Horizon2020 (H2020 Research and Innovation Programme (Grant Agreement No 769115)

ENSEMBLE

Connected Transport Corridors

- 12.000 km driven in convoys
- Priority convoys improves throughput with 10-17% *
- Intersecting traffic is delayed with 1-3% *
- Fuel savings 6-14% (two truck convoy, 2100 km)
  (175k km/year → 6k liters)
- Less stress for drivers

* *SmartWayz analysis*

Super EcoCombi

Smart mobility.
Dutch reality.

Potentiale Gewinnen Super Eco Combi

ZWEDEN: TRANSPORT VAN 600 M3 VOLUME GOEDEREN MET DEZELFDE DICHTHEID (150KG/M3)

Voertuigen (en chauffeurs)	**6**	**4**	**3**
Voertuiglengte	16,5 m	25,5 m	32 m
Lading per voertuig	100 m3	150 m3	200 m3
Brandstofverbruik	3,5 ml/m3km	3 ml/m3km	2,5 ml/m3km
CO2-uitstoot	100%	85% **= - 15%**	73% **= - 27%**
Weggebruik	499 m	368 m	296 m

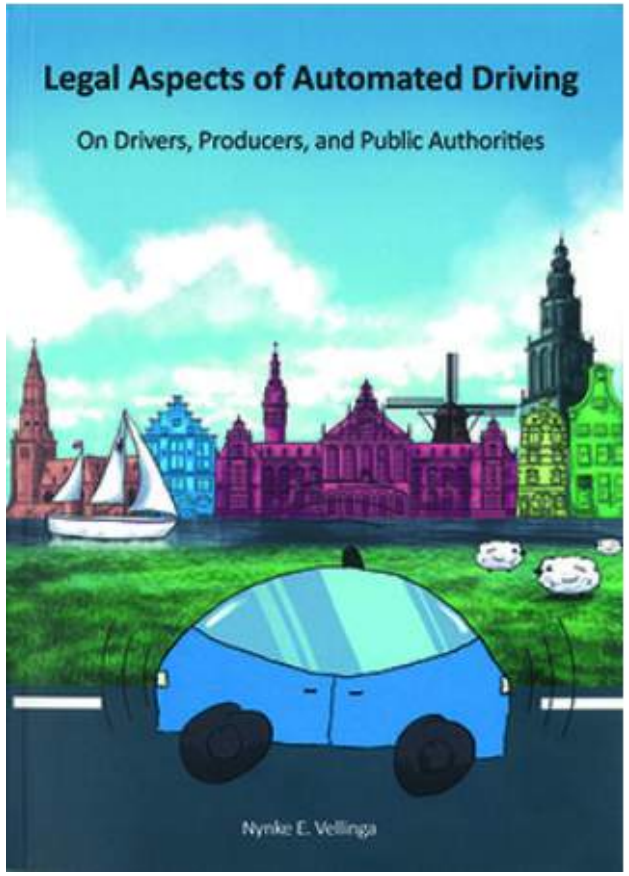
Bron: Cider L, Larsson L, HCT DIO2-project Gothenburg-Malmö in Sweden, 2019

Exemplary for a standard semi trailer vs. a double semi trailer

	€/m³km	€/tkm	Cost/tour	CO_2e TTW	Co_2e WTW
Average savings potential (%)	**-32,4**	**-32,4**	**-31,7**	**-18,4**	**-23,0**

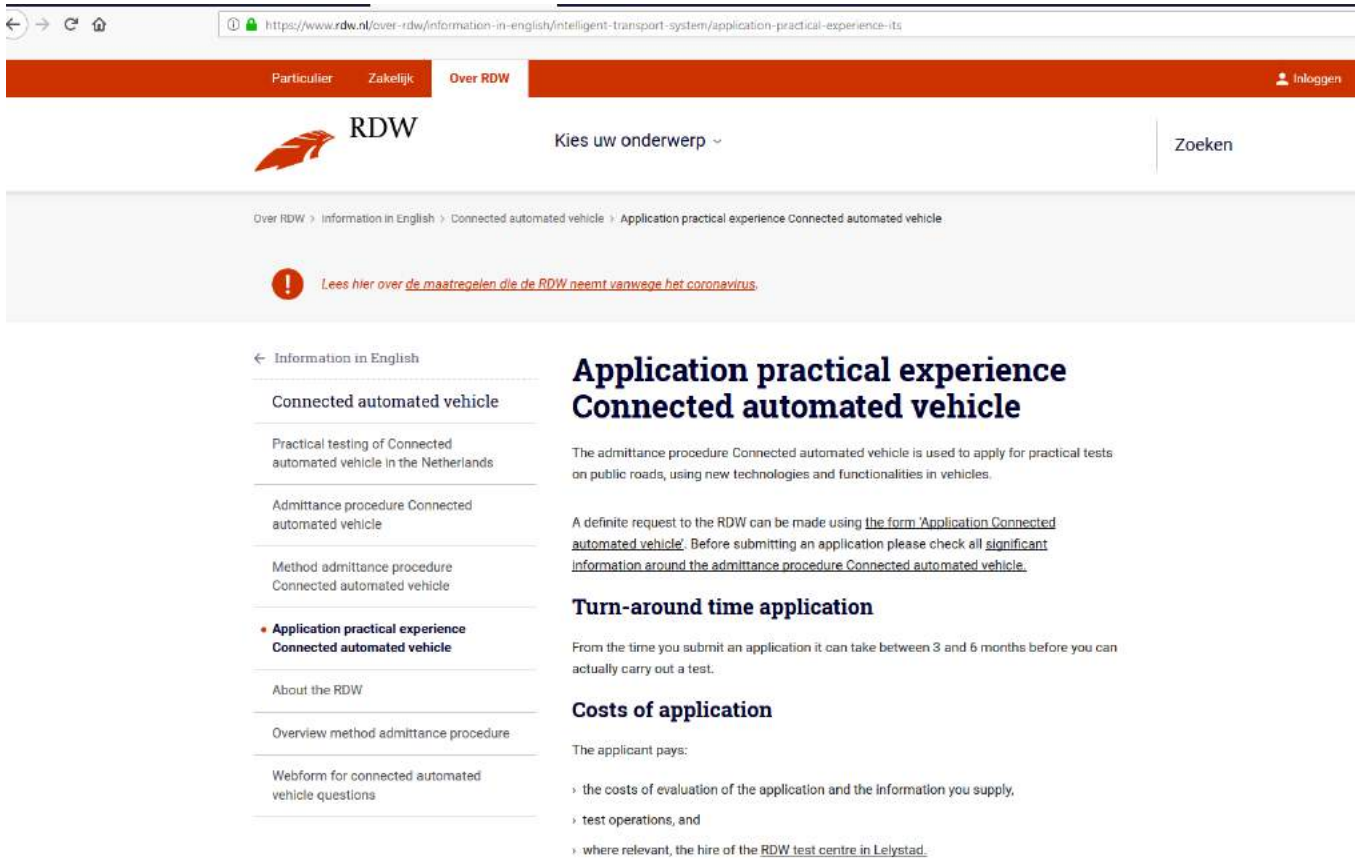
Bron: HIGH CAPACITY ROAD TRANSPORT FOCUSSING INNOVATION ON SMARTER MOBILITY SOLUTIONS FOR SMARTER POLICIES Brussels, 7 MAY 2019

Fortschritte im Rechtsbereich



N.E. Vellinga, Legal Aspects of Automated Driving. On Drivers, Producers, and Public Authorities Diss. RuG, 241 p., geen handelseditie beschikbaar, online beschikbaar via https://doi.org/10.33612/diss.112916838a

The regulatory landscape: Crossings borders?



Sustainable mobility

The European Green Deal

December 2019
#EUGreenDeal

Europe must reduce emissions from transport further and faster.

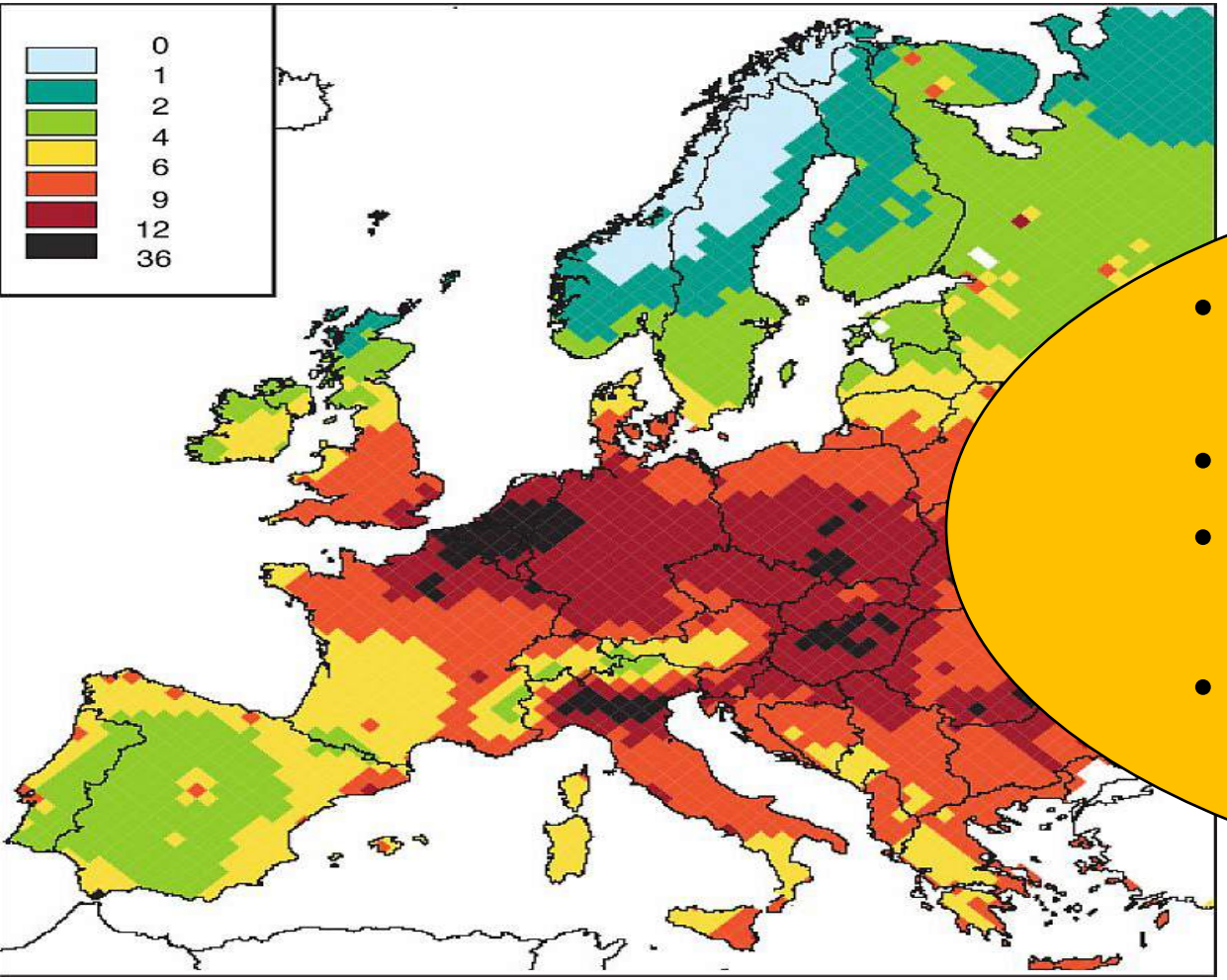
Transport accounts for a quarter of the Union's greenhouse gas emissions and these continue to grow. The Green Deal seeks a **90%** reduction in these emissions by **2050**.

Share of Greenhouse Gas Emissions by Mode of Transport (2017)

90%
reduction
greenhouse gas emissions in transport by 2050

Auto als Lenker? Air Quality and its effect on human health

Royal Netherlands Meteorological Institute
Ministry of Infrastructure and the Environment



- Europe is one of the most affected regions

- 4.2 million death a year due to PM2.5 outdoor pollution (WHO 2017)
- 4000 death a year in The Netherlands
- Children are more vulnerable to air pollution
- NO2 is more toxic than previously thought

Loss in statistical life expectancy in months
EU Programme CAFE, (CAFE Scenario Analysis Report Nr. 2., Amann et al., 2004)

Schlussfolgerungen: „Auto als Lenker“

- Langsamer als erwartet;
- Gute Fortschritte gemacht;
- Prioritäten haben gewechselt:
  - Schneller unterwegs, gleichviel Reisezeit*
  - Hälfte der Stadt für Automobililät?
  - Folgen Corona?
  - Smart Restart?!

* Das Gesetz zur Erhaltung von Reisezeit und Fahrten oder das Brever-Gesetz ist ein verkehrstechnische
Prinzip. Das Gesetz wurde 1977 von Geurt Hupkes beschrieben und durch Daten gestützt. Das Gesetz
impliziert, dass eine Person immer eine nahezu konstante Zeit auf Reisen verbringt

Danke für Ihre Aufmerksamkeit!