



Ministry of Infrastructure and the  
Environment



# Connected & Automated Driving in The Netherlands



*Workshop on automation pilots  
on public roads  
Brussels, 16 December 2016*



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# Connected & Automated Driving in the Netherlands

1. What have we done so far?
2. Our philosophy for pilots
3. Next steps





# Actions – what have we done so far?

1. Adapt national legislation
2. Learning by doing (facilitate tests):  
WePod, Appelscha Pod, EU Truck  
Platooning Challenge, Daimler bus
3. Knowledge Agenda  
Automated Driving
4. EU presidency







# Declaration of Amsterdam



<http://english.eu2016.nl/documents/publications/2016/04/14/declaration-of-amsterdam>



**Declaration of  
Amsterdam**

**Cooperation in the  
field of connected  
and automated  
driving**

14-15 April 2016





## Experience

- EU Transport Ministers in automated vehicles through Amsterdam (16 Km)
- 10 participants: Renault, BMW, Daimler, Jaguar/Land Rover, Vedecom, Tesla, Volvo Cars, Audi, PSA, DAVI/TNO









# EU Truck Platooning challenge – Lessons Learnt



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# Knowledge Agenda

KNOWLEDGEAGENDA

KNOWLEDGE AREAS ▾

**LIBRARY**

EVENTS

TESTS

VIDEOS

FAQ

## Knowledge automated driving

### NERDERLANDS

[Klik hier](#) voor de Nederlandstalige versie van de kennis agenda

### CONTACT

If you would like to contribute (reports, presentations, conferences, etc.) you can do so via email to: [tom.alkim@rws.nl](mailto:tom.alkim@rws.nl). For

Welcome to Knowledgeagenda Automated Driving, an initiative of the Dutch project group on self driving vehicles (ZRA) of the Ministerie van Infrastructuur en Milieu, Rijkswaterstaat en the RDW, to provide an online overview of available and required knowledge in the field of automated driving or self driving vehicles. The overview is divided into a number of knowledge areas. In the [documents-library](#) you will find our collection of reports, papers and presentations including summaries and background information. On April 14, 2015 we presented the research agenda of the working group ZRA, and the knowledge still needed for each domain was identified in a number of workshops, the results can be found [here](#). You can also find a list of relevant [conferences](#) and [events](#) on the site and a collection of [videos](#) and [webinars](#). News and current developments through the library and twitter feed (#KARNL) maintained by us.

<http://knowledgeagenda.connekt.nl/enaels/>





## Our philosophy on pilots and testing

- Provide NL as testing environment for innovations
- Open to initiatives from industry (close to deployment)
- Address societal benefits
- Suggest locations/routes suitable for testing
- Facilitate pilots and tests by
  - bringing parties together
  - identifying learning objectives and monitoring needs
  - helping setting necessary infrastructure conditions
  - disseminating lessons learnt
- Use lessons learnt to help identify next steps, integrate different solutions (to maximise benefits)



## Next steps

### 1. International efforts

- follow up Declaration of Amsterdam, high level group
- GEAR 2030, C-ITS Platform, UN-ECE
- cross border testing

### 2. National next step in legislation

- Experimental law for testing without a driver in the vehicle
- Under construction: held internet consultation

### 3. Learning by doing – next level

- facilitating pilots, providing test sites
- assessing impact on infrastructure, traffic & traffic management, human factors, organising data exchange etc.



## Planned pilots on public roads

- Real life cases Truck Platooning
- Last mile solutions, Metropolitan area Rotterdam – The Hague
- IJburg pilot







# Truck Platooning - Real life cases

Intended, to be elaborated in 2016 - 2018

(First inventarisation, 31 mei 2016)

## CLUSTER: NIGHT DISTRIBUTION

Corridor	Shipper	Carrier	OEM
Eindhoven - Zwolle Aso Zwolle - Utrecht AaB	Vareis/ Groepage	Sanders Pntom Degema	DAF / Scania Mercedes-Benz / Volvo / OMF Mercedes-Benz / MAN
Rotterdam - Den Haag/Rotterdam AL AaB, Aa, Aa-	inkoppartners DHL	DHL Parcel	

## CLUSTER: RETAIL

Corridor	Shipper	Carrier	OEM
Geldernskan - Zaandam Aa	Ahold	Peter Appel, Semon Loos	DAF, Mercedes-Benz
Tilburg - Gent AaB, Ety, Ety	Ahold	Peter Appel, Semon Loos	DAF, Mercedes-Benz
Tilburg - Heerlen AaB, Aa	Ahold	Peter Appel, Semon Loos	X
Veghel - Heerlen Aso, Aa	Jumbo	transport	Scania
Heteren - Assen - Groningen Aso, AaB	Kruifvat	Tielbeke	Scania
Heteren - Gent Aso, AaB, Ety, Ety	Kruifvat	Tielbeke	Scania



## CLUSTER: LVC (Long Vehicle Combination)

Corridor	Shipper	Carrier	OEM
Roermond - Breda AaB, Aa	Rockwool	Kuppersberg	DAF



## CLUSTER: FOOD

Corridor	Shipper	Carrier	OEM
Rotterdam - Dubburg AaB, AaB, AaB	Unilever	TBC	Isuzu
Rotterdam - Veghel AaB, AaB		Kuehne + Nagel	



## CLUSTER: BULK/PIECE GOODS

Corridor	Shipper	Carrier	OEM
Rotterdam - Luxemburg AaB, AaB	Yacon	De Rive Group	
Amsterdam - Drachten, Aa, Aa, A7	BVB Logistics	BVB Logistics	
Schiedam - Grubbenvorst, Aa, Aa, A15, Aa, A25	BVB Logistics	BVB Logistics	
Amsterdam - Harderberg Aa, AaB, AaB, AaB, AaB	Goof	BVB Logistics	
Rotterdam - Bergen op Zoom AaB, AaB, AaB	Goof	Van der Wal Transport	
Rotterdam - Utrecht, AaB, AaB, AaB, AaB	Goof	Van der Wal Transport	
Roermond - Utrecht, AaB, AaB	Rockwool	Van der Wal Transport	
Roermond - Steenwijk, AaB, AaB, AaB	Rockwool	Van der Wal Transport	
Hoogerwaard - Heerlen AaB, AaB, AaB	SCA	Rening	MAN/Mercedes
Hoogenven - Steenwijk (tagg P)	Ardagh	Rening	MAN/Mercedes
't Hartenberg - Gem AaB, AaB, AaB, AaB	Vareis	Rabat	Mercedes-Benz / MAN
Oss - Gent Aso, AaB			
Essen (Düsseldorf) - Den Bosch/Zoeterwoude Btt, Aa	Henkes	Rening	MAN / DAF
Wijges (Düsseldorf) - Zosterwoude/Dei Bosch	Henkes	Rening	
Stembert (B) - Zwolle, Aa, AaB, AaB, AaB	SCA	Rening	MAN / DAF / Mercedes-Benz
Stembert (B) - Tilburg, Aa, AaB	SCA	Rening	



## CLUSTER: GREENPORT (flowers)

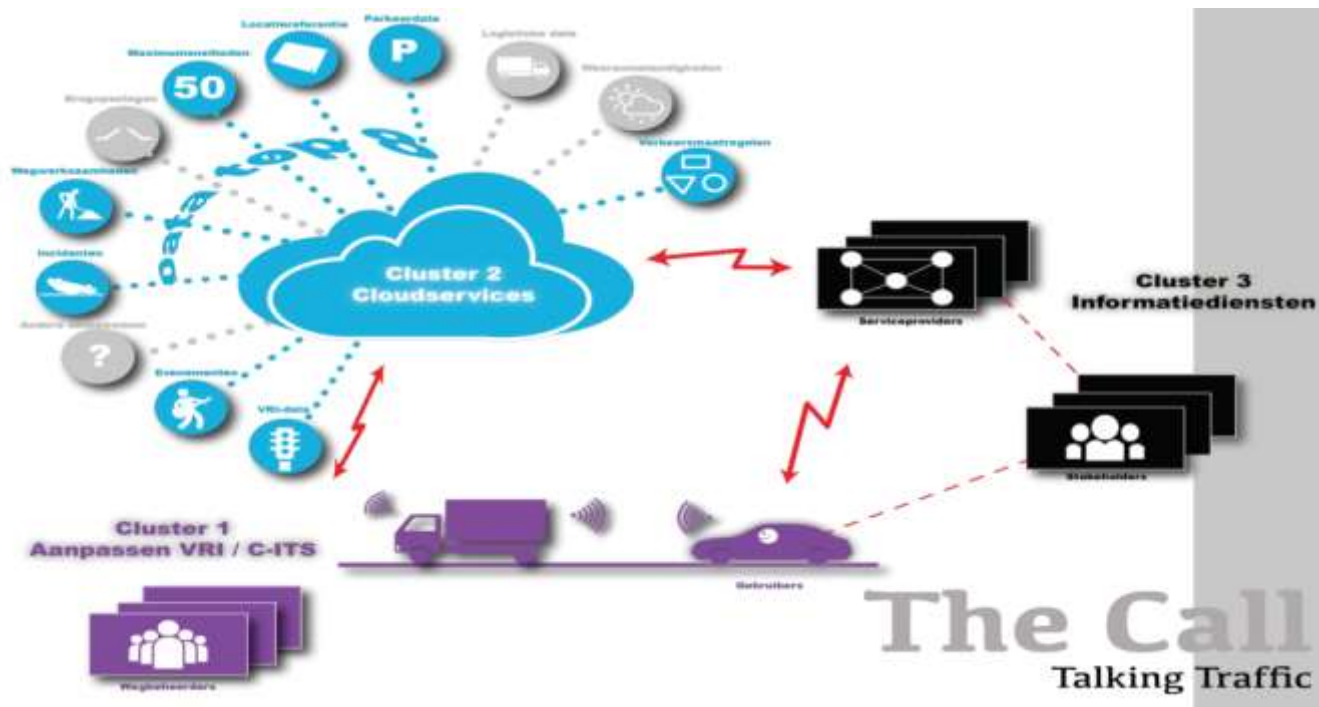
Corridor	Shipper	Carrier	OEM
Bleiswijk, Aalstreef, Naaldwijk - Rijnburg, Balde - Venlo Aa, Aa, Aa, Aa	Royal Flora Holland	Van Duyvenbroede Van Zaai Wierstraem Gerans GETU	Volvo DAF/Scania
Bleiswijk - Madrid AaB, Aa, AaB, AaB -> richting Madrid		Van Zaai	





## Test sites

1. The entire national road network in the Netherlands
2. Hybrid test site Brabant (part of Talking Traffic)





Thank you for your attention

