

# Cities and automated vehicles

## Let's go for the quick wins

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Strategic advisor mobility  
city of Helmond (NL)



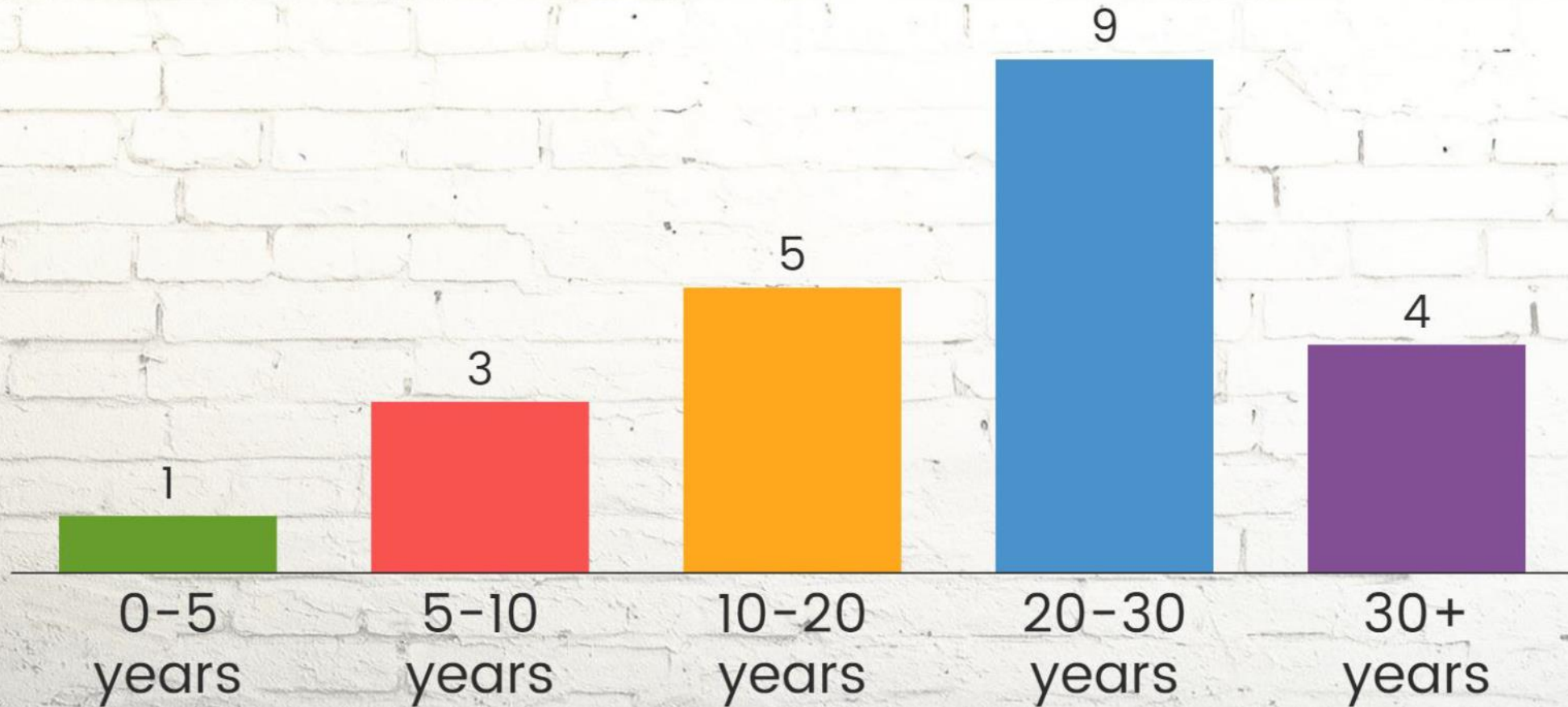
Mobilitaetsarena Bern CH  
Tuesday 17 September 2019



Go to [www.menti.com](https://www.menti.com) and use the code **38 53 46**

Mentimeter

When do you think 10% of the vehicle fleet in your city will be automated vehicles?



Previous session [Go back to current](#)

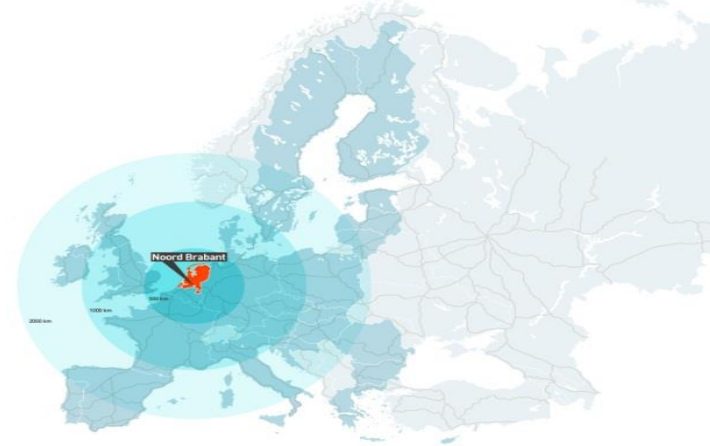
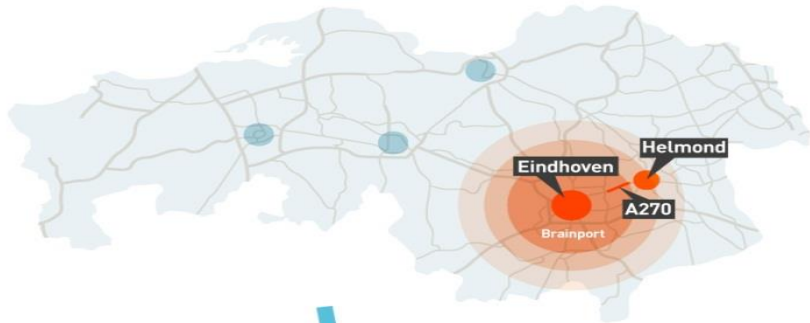
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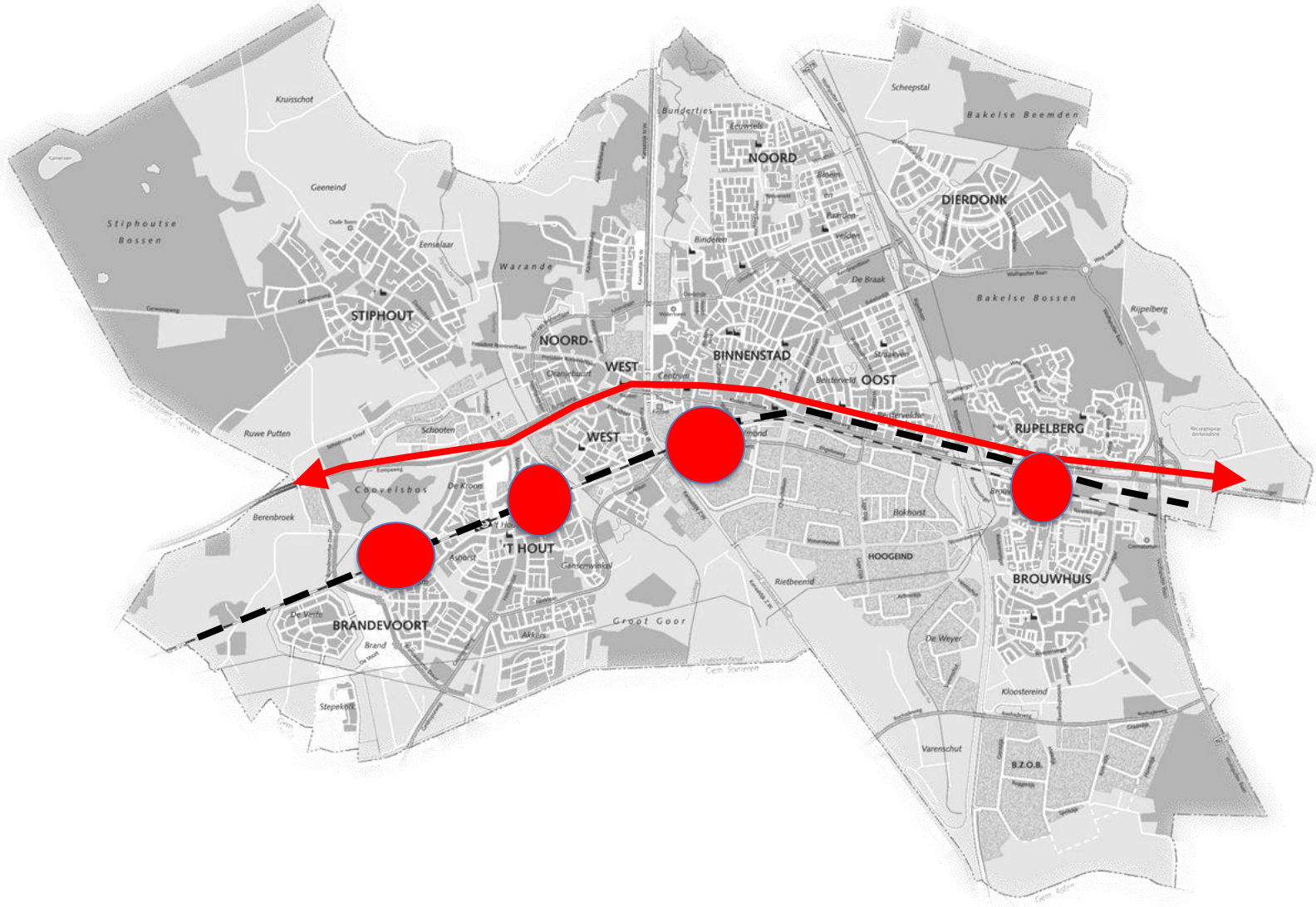
*Thought for the day 1*

**“If you are not at the  
table, you are on the  
menu”**

Kris Carter - Boston



# Helmond physical structure



## Some mobility challenges city of Helmond

1. High traffic volume on main road city centre Helmond
2. Last-mile connections
3. Road Safety



# Mobility policy Helmond

Helmond Mobiel 2015



Integrale mobiliteitsvisie 2015



HELMOND VERBONDEN  
Mobiliteitsvisie 2016-2025

**Optimizing the use  
of existing infrastructure**

**Urban traffic solutions  
technology driven: ITS**

**Active support of smart  
mobility pilots and  
showcases**



# Helmond A270 Living Lab ITS



Grand Cooperative Driving Challenge





**13<sup>th</sup> ITS EUROPEAN CONGRESS**  
**FULFILLING ITS PROMISES**

Brainport Eindhoven, the Netherlands | 3-6 June 2019

# FREILOT Energy Efficient Intersection Service Helmond

Priority at intersections – speed & time-to-green advice



# FREILOT: Energy Efficient Intersection Service

## The example of Helmond (NL)

Source: FREILOT project



14 equipped intersections in urban zone

Period	Number of crossings	Number of stops	% of stops
Baseline	408	52	13%
Pilot	343	20	6%

Number of crossings and stops in both periods

	Baseline	Pilot	Rate of change
CO <sub>2</sub> emissions (g/km)	644	562	-13%
NO <sub>x</sub> emissions (g/km)	3.87	3.33	-14%
Fuel consumption (l/100km)	24	21	-13%
Speed (km/h)	35	36	+2.6%

Emissions, consumption and speed variations

## From C-ITS- technology to mobility solutions the deployment challenge

 Technology

 Policy

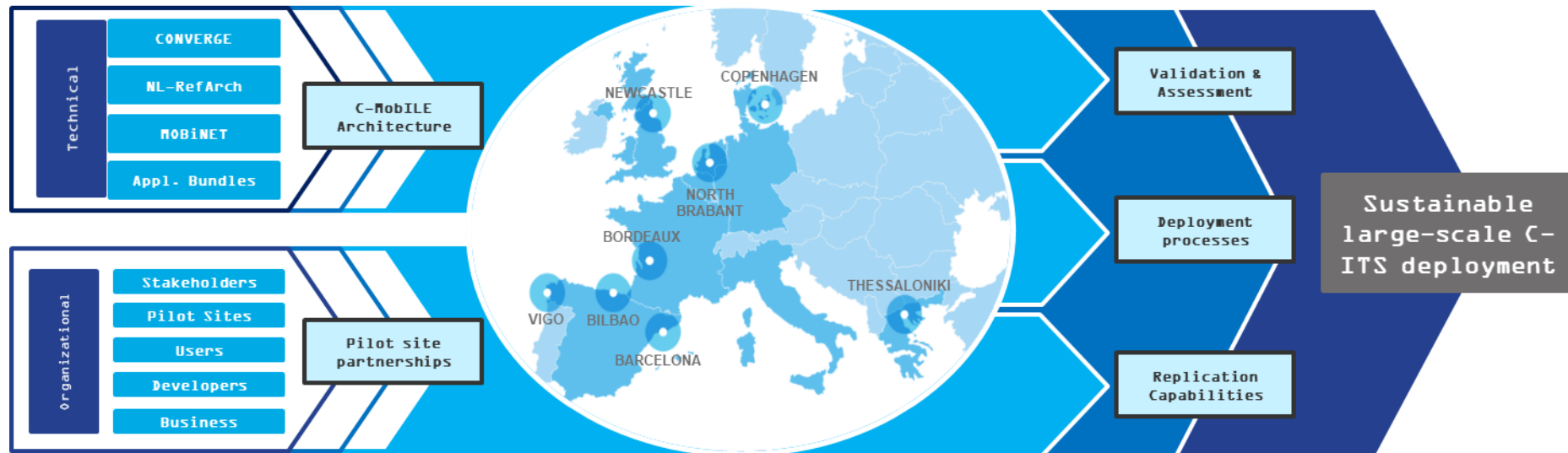
 **Business-models: economies of scale**

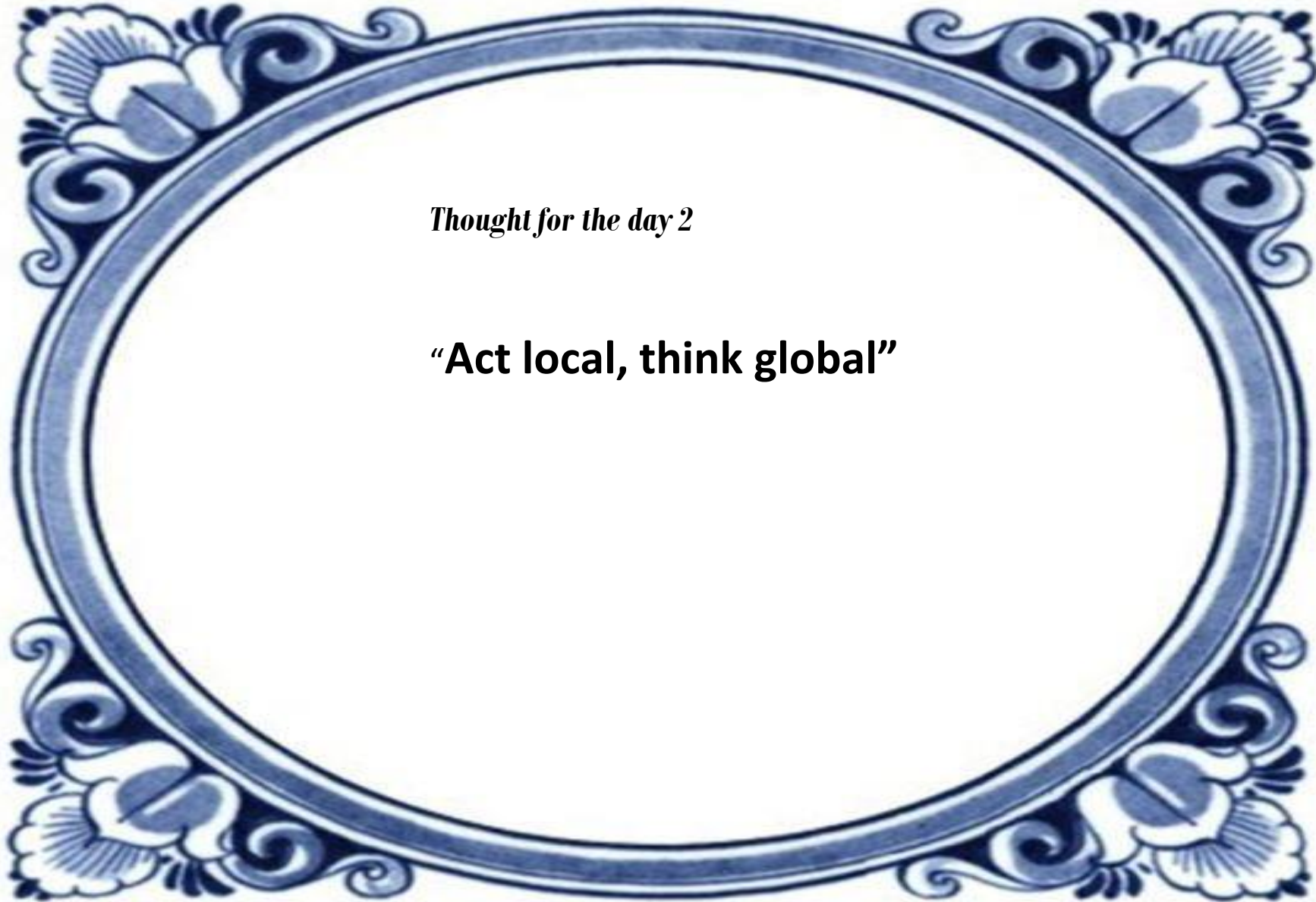
 General Acceptance

 Proof of Evidence

 Cyber Security

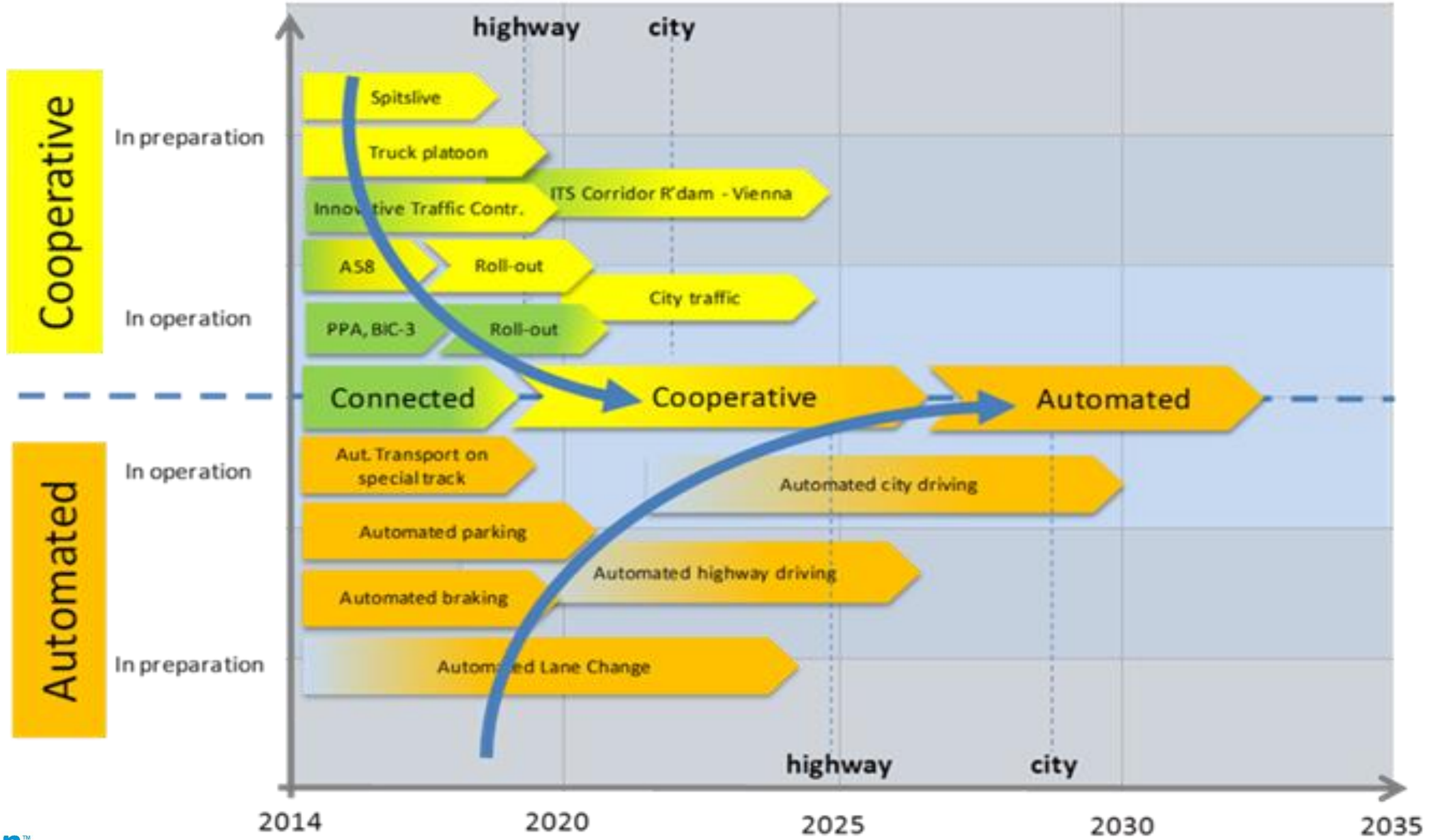
# C-Mobile: Accelerating C-ITS Mobility Innovation and deployment in Europe





*Thought for the day 2*

**“Act local, think global”**





# CoEXist : the mission

Aim of the project: to assist cities to prepare for the transition phase :  
Shared network of conventional vehicles & increasing number of automated vehicles

- AV-ready framework (policy): transition roadmap
- Traffic simulation tools

## Project Partners



### More Information

RUPPRECHT CONSULT - Forschung & Beratung GmbH

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Funded by the Horizon 2020 programme of the European Union

## CoEXist



"AV-ready" transport models and road infrastructure for the coexistence of automated and conventional vehicles

# MAKING AUTOMATION WORK FOR SMCs

Public Transport in small and medium sized cities

- Low PT demand throughout the day.
- Demand strongly concentrated at peak hours.

Result:

- Sometimes ridiculous C/B ratio for PT (drivers salaries – empty busses)
- Strongly limited PT available outside peak hours.
- Hardly any PT to outlying rural areas.

**Therefore strong focus on private cars as the main means of transport.**

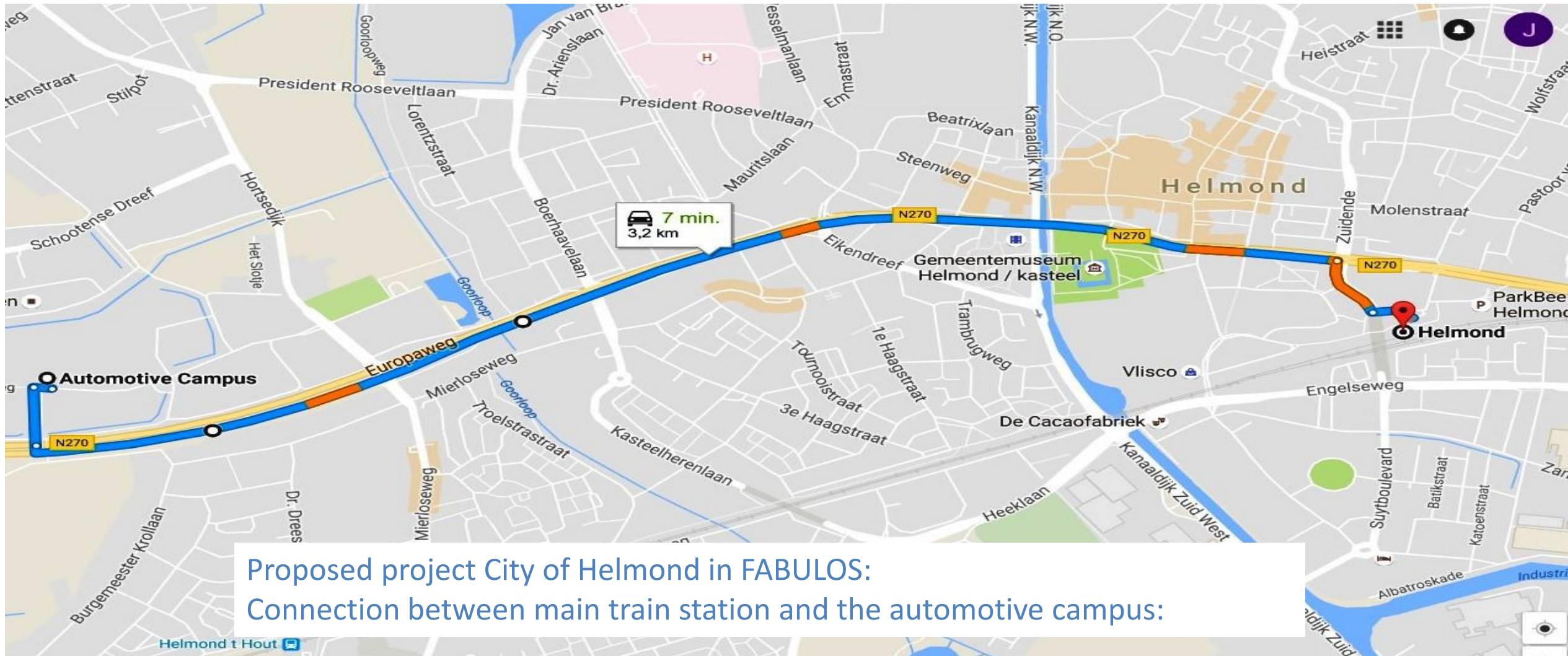
# FABULOS

Aim: Proof-of-concept for the operations of fleets of automated minibuses for last-mile public transport



# Making Automation work for SMC Helmond

## EU Fabulos project – last-mile solutions



Proposed project City of Helmond in FABULOS:  
Connection between main train station and the automotive campus:

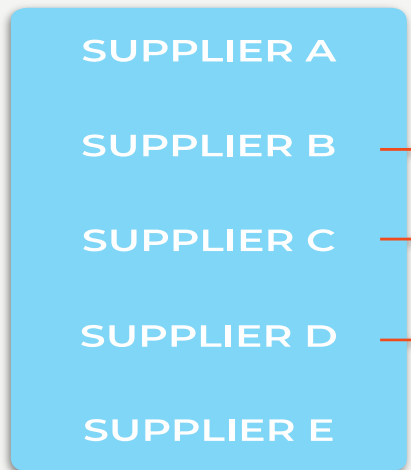
**Pre-Commercial Procurement** **Commercial Procurement**

**PHASE 0**

4-5/2018  
Open market consultation

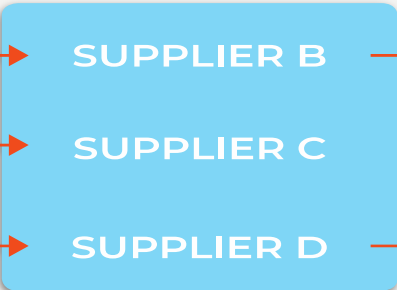
**PHASE 1**

1-3/2019  
Solution design



**PHASE 2**

7-12/2019  
Prototype development & lab test



**PHASE 3**

4-9/2020  
Field test



**PHASE X**

From 1//2021  
Potential procurement / Commercial roll-out



**Pre-commercial tender**  
WTO GPA & Procurement directives not applicable

**Intermediate evaluation & selection**

**Intermediate evaluation & selection**

**Tender for commercial deployment**  
WTO GPA & Procurement directives applicable

12 suppliers

6 suppliers

4 suppliers



This project has received funding from the European Union's Horizon. 2020 research and innovation programme under grant agreement No. 780371.



# MAKING AUTOMATION WORK FOR SMCs

## Automated shuttles: challenges and opportunities

### Challenges:

- Normal city speeds (up to 50 km/h) in mixed city traffic
- Legal aspects: driverless vehicles not permitted using public roads (but exceptions are possible)
- Fully automated vehicles not integrated in existing public transport networks
- Possible modal shift from cycling & walking to using the shuttle
- Spatial impact : new suburbanisation wave ?



# MAKING AUTOMATION WORK FOR SMCs

## Automated shuttles: challenges and opportunities

### Opportunities:

- Improvement of the service level at lower costs
- On demand service instead of (infrequent) scheduled service
- Use of the existing road network, with minimum infrastructural adaptations
- Replace the private car as the preferred transport option





## Road Safety...why ISA is important





# Manifesto Intelligent Speed Assistance

The Manifesto is supported\* by:

**Auto Drive Solutions (ES) Belgian Cyclist's Union (B) CBR (NL) City of Helmond (NL)  
City of Tilburg (NL) City of The Hague (NL) CROW (NL) Dutch Cyclist's Union (NL) ETSC (B)  
MAPtm (NL) Polis (B) Province of Overijssel (NL) Province of Noord-Brabant (NL) SWOV (NL)  
Tractebel (B) Transport for London TfL (UK) University of Zilina (SK) Vialis (NL) V-Tron (NL)**



Launched at the Polis Annual Conference in Manchester, 22 November 2018



*Initiated by Working Group Intelligent Speed Assistance of New Mobility Services Initiative within Action Cluster Sustainable Urban Mobility of the European Innovation Partnership on Smart Cities and Communities.*

- \* The Reporting Parties agree on the goals of the Working Group which are:
  - > Support the proposal to revise EC REVOSSO and related activities.
  - > Give support during the transition period, with a focus on three activities:
    - o Increase the use of existing systems by creating awareness with users.
    - o Organise a campaign to persuade authorities and fleet owners to require ISA systems when procuring new vehicles.
    - o Increase the penetration of vehicles with ISA by stimulating the introduction of other market ISA systems in existing vehicles.
  - > Organise and support concrete projects, aimed at these three support activities.

# SMC Helmond – our view on automated vehicles

- Expect a long transition period and prepare for it
- Challenges, but also opportunities: Go for the quick wins !
- Autonomous vehicles: NO ! Connected Automated Driving: YES !
- Active involvement in EU-projects is also for SMCs added value (network, training, knowledge, money, image)
- SMCs are well equipped to take an integrated approach : environmental – mobility – economy - ...
- SMCs are perfect test beds for testing & development as first step towards deployment & upscaling
- Learning-by-doing is in our DNA



*Thought for the day 3*

**“There is a crack in  
everything, that’s how  
the light gets in”**

(L. Cohen 1934-2016)

**For more information  
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