

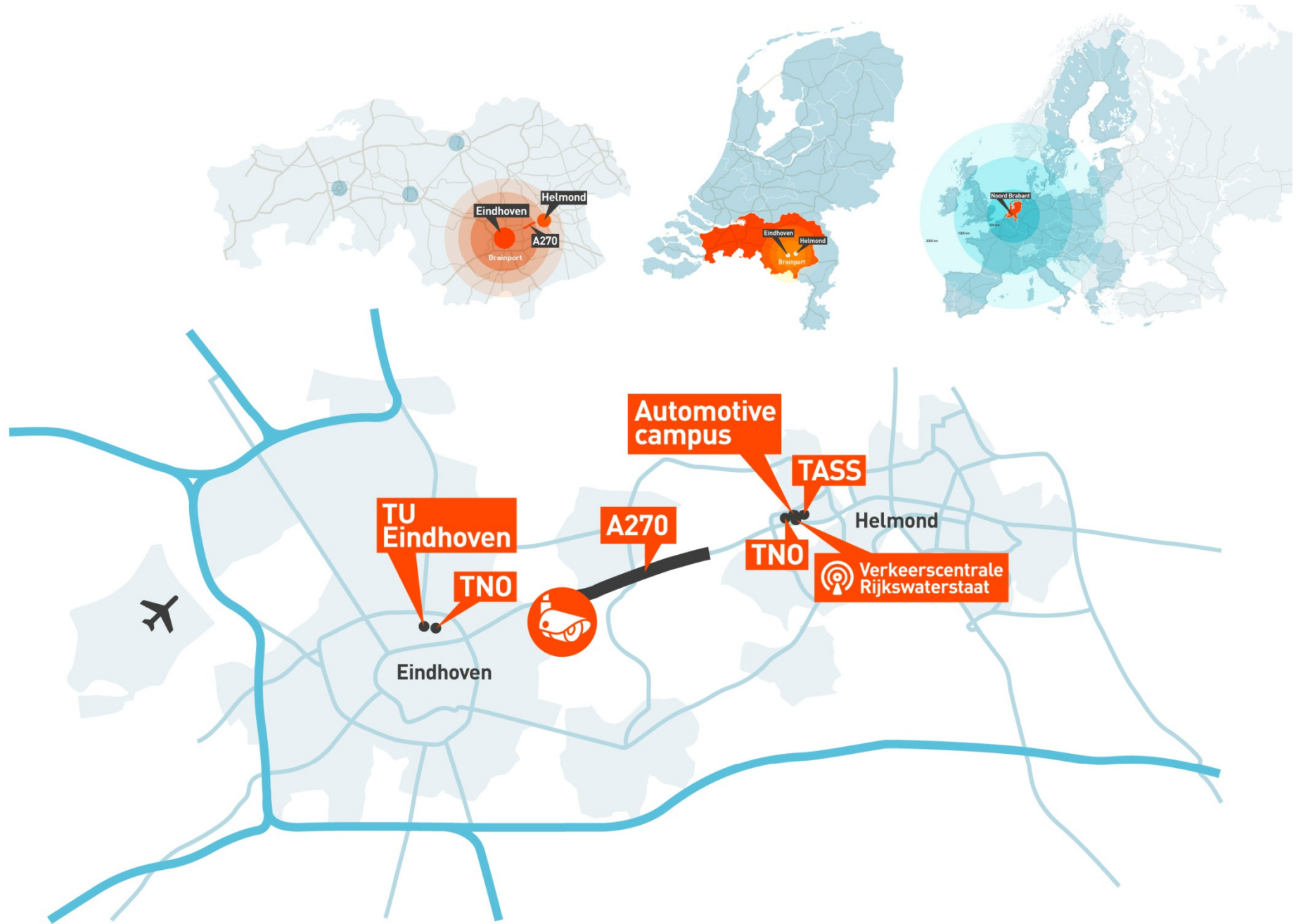
Traffic everywhere, pilots everywhere

From ITS technology to mobility solutions

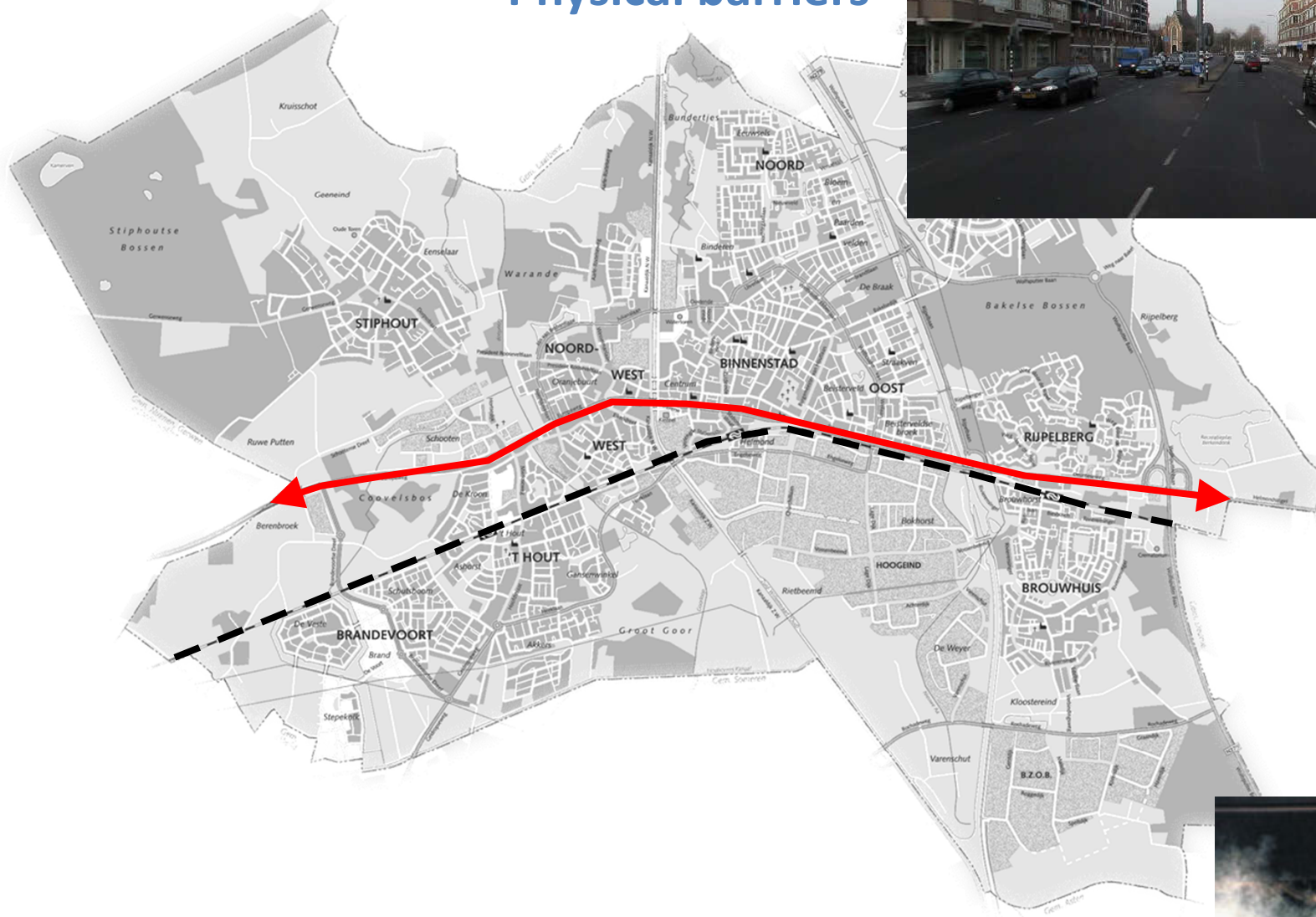


CIVINET / CIVITAS Study Tour, May 30th 2016
Daniel de Klein – Project manager Automotive Cluster Development





Physical barriers



Mobility policy Helmond

Helmond Mobiel 2015



**Optimizing the use
of existing infrastructure**

**Urban traffic solutions
technology driven: ITS**

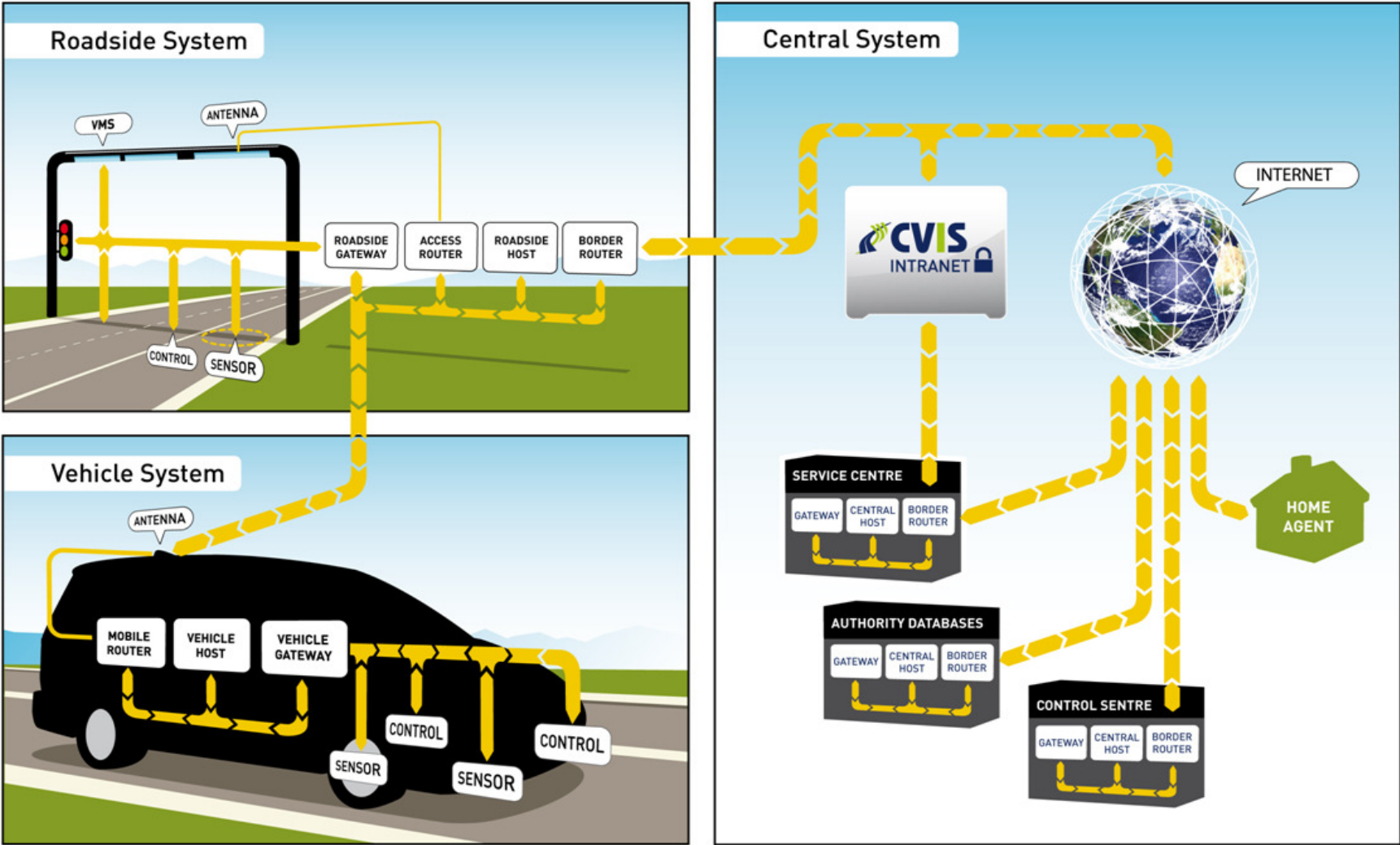
**Active support of ITS
pilots and showcases**

ITS and mobility ...



Focus on Cooperative systems (C-ITS)

Vehicle-2-Vehicle **Vehicle-2-Infrastructure**



Living Lab A270



TNO shockwave mitigation test



Grand Cooperative Driving Challenge

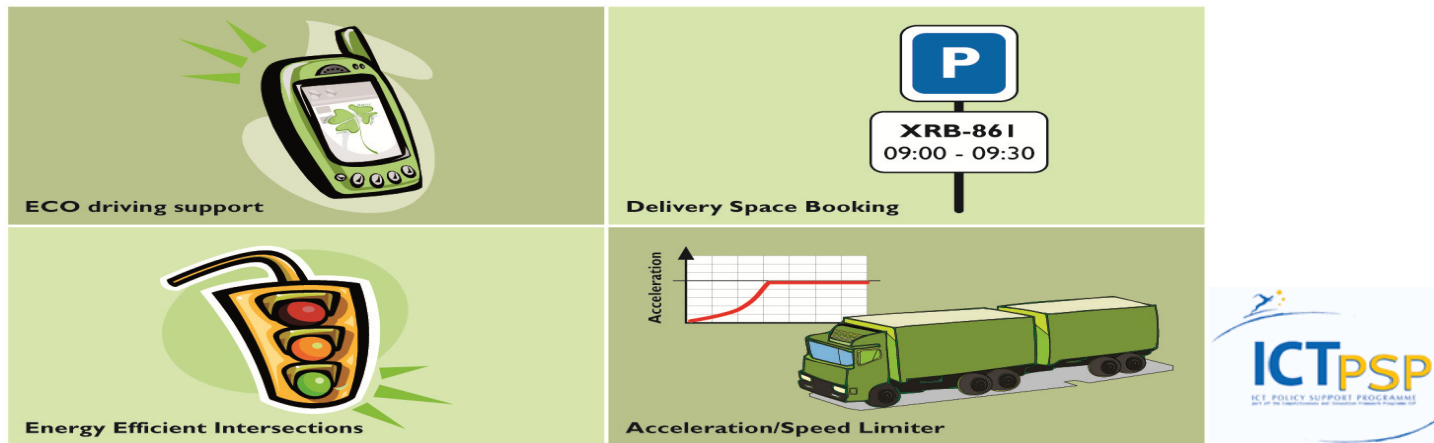


European FREILOT project

Duration: 2009 – 2013

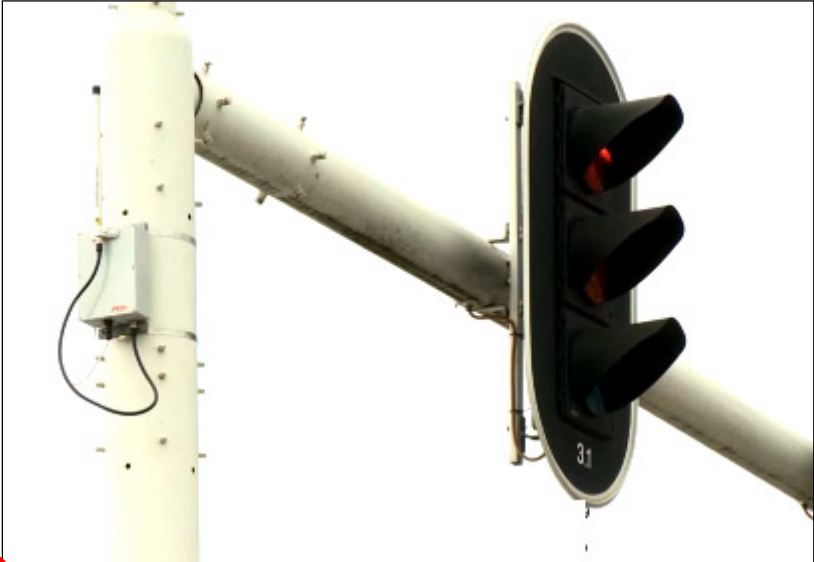
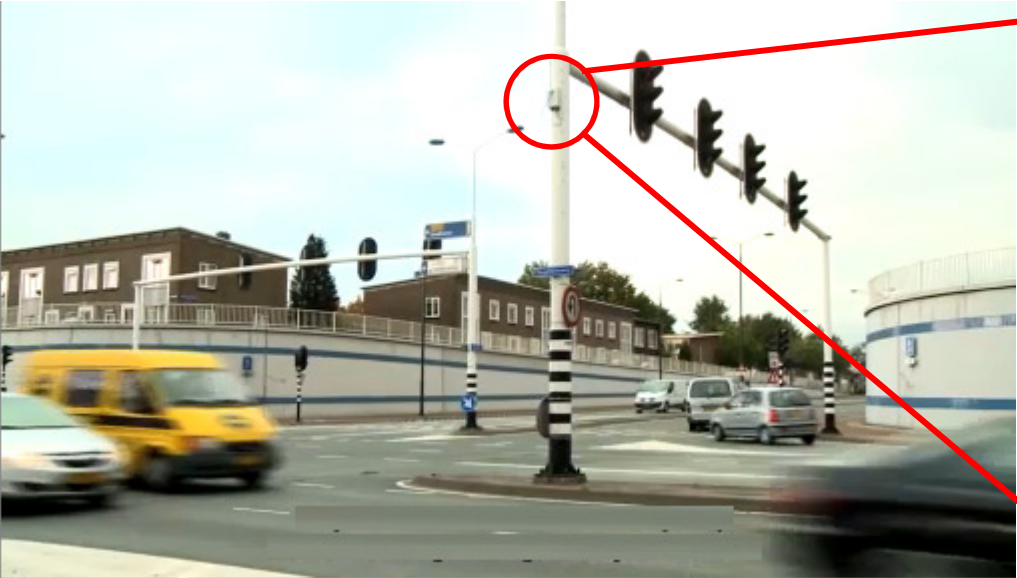
4 European cities (Lyon, Krakow, Bilbao, Helmond)

Objective: reducing up to 25% of fuel on equipped trucks in urban areas



Energy Efficient Intersection Service Helmond

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



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 ₂ emissions (g/km)	644	562	-13%
NO _x 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

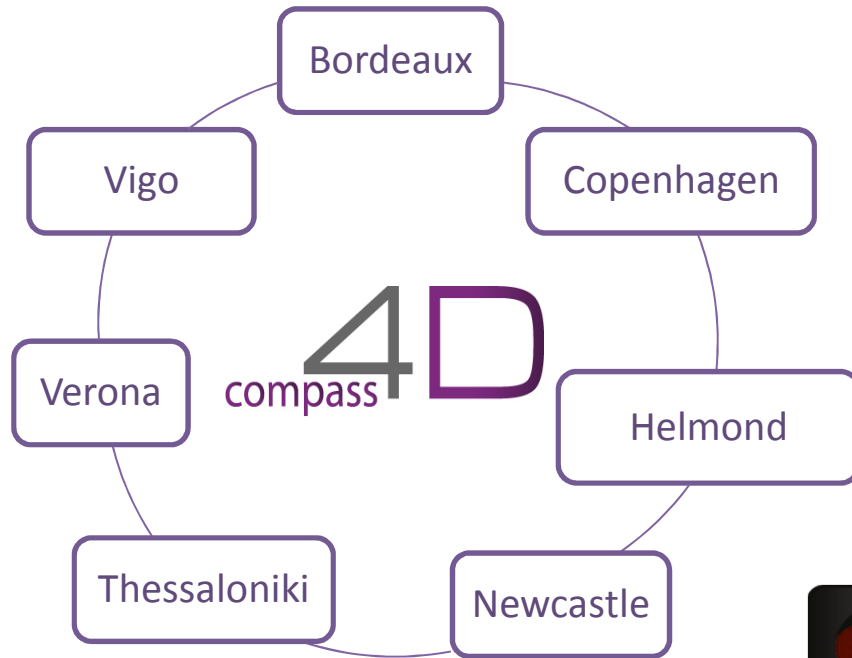
After the project ...

- Continuation of the services



- Upgrading of RSU's from pre-production to production version
- Extension of installed road network (city ringroad)
- Next step: more users – more cities !

Compass4D -overview



Compass4D pilot sites

> 600 vehicles, > 1200 drivers

Vehicles / pilot site	Bordeaux	Copenhagen	Helmond	Newcastle	Thessaloniki	Verona	Vigo	Total
Trucks	40		7	5				52
				vans				
Cars	34		25	5	7	10	10	91
			electric	electric				
Buses		100	5			10	20	135
Emergency vehicles	6		5					13
Taxis					35		8	43
Total vehicles	80	100	42	10	42	20	40	334

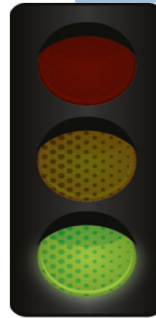
Services:



Energy Efficient Intersection

Road Hazard Warning

Red Light Violation Warning



Compass4D early results

- First proof of benefits for different stakeholder types
 - Heavy Vehicles (Buses, HGV): less stops, better keep time schedules, lower emissions
 - Emergency Services: less stops, quicker interventions, improved work conditions, increased safety
 - Light Vehicles (Taxis, private cars): traffic more fluid, quicker & less stressful journeys, increased safety



The story goes on ! Continuation in 2016 after the project phase !



Towards deployment of C-ITS

Some lessons learnt from FREILOT & Compass4D

- **What if the pilot is successful...?**
- **Start with the business model discussion early enough ...**
- **C-ITS is not for free ...**
 - Investment in systems, maintenance & people instead of asphalt
- **For professional users there seems to be a business case**
 - High ROI: fuel costs average truck € 40.000,- per year vs 13% savings
 - But large deployment base of cities required
- **Business case for cities/road authorities more difficult**
 - Smart procurement could help (50% of costs is installation-work)
 - Combination of users and services and societal goals
 - CBA: Compare to new infrastructure

The next C-ITS challenge ...

- C-ITS large scale deployment
- C-ITS and transition towards road automation
- Combine smart technology with smart behaviour
- C-ITS for road safety



For more information
please contact

www.drivenbyhelmond.nl

www.compass4d.eu

d.de.klein@helmond.nl

Mobile: + 31 6 53 21 48 51

