



De uitdagingen van coöperatieve mobiliteit

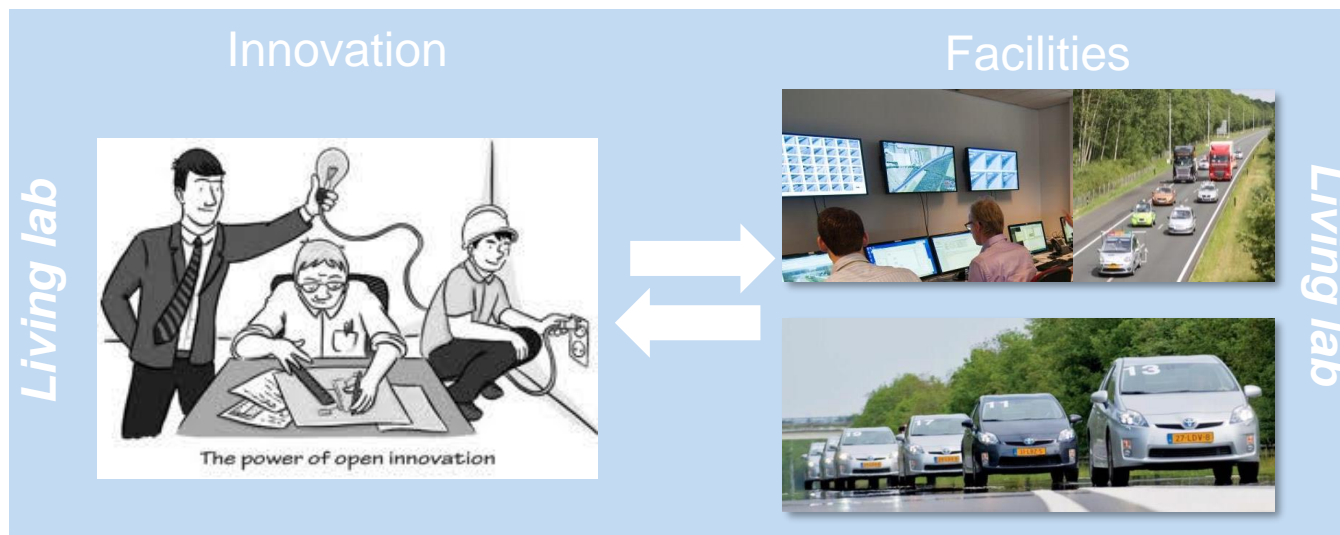
Joëlle van den Broek

InnoTep, 29-09-2017



Smart Mobility Solutions

→ The DITCM Program: government, industry and knowledge institutes working together on Smart Mobility Solutions



- Cooperation of parties (industry, knowledge institutes, governments), from the networks of AutomotiveNL and Connekt
- Open pre-competitive R&D
- Shared roadmap



- Several Private and public companies
- Facilitating R&D for cooperative & automated driving:
 - Complete development tool chain
 - Shared Facilities
 - Standardizing test & certification protocols



Joëlle van den Broek
Program manager

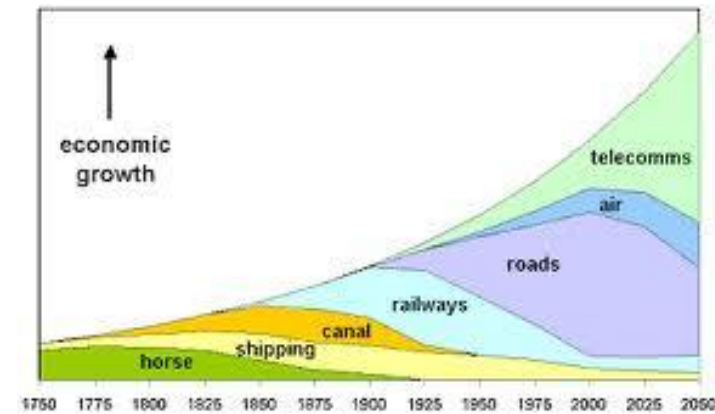
Why?

The world of mobility is changing



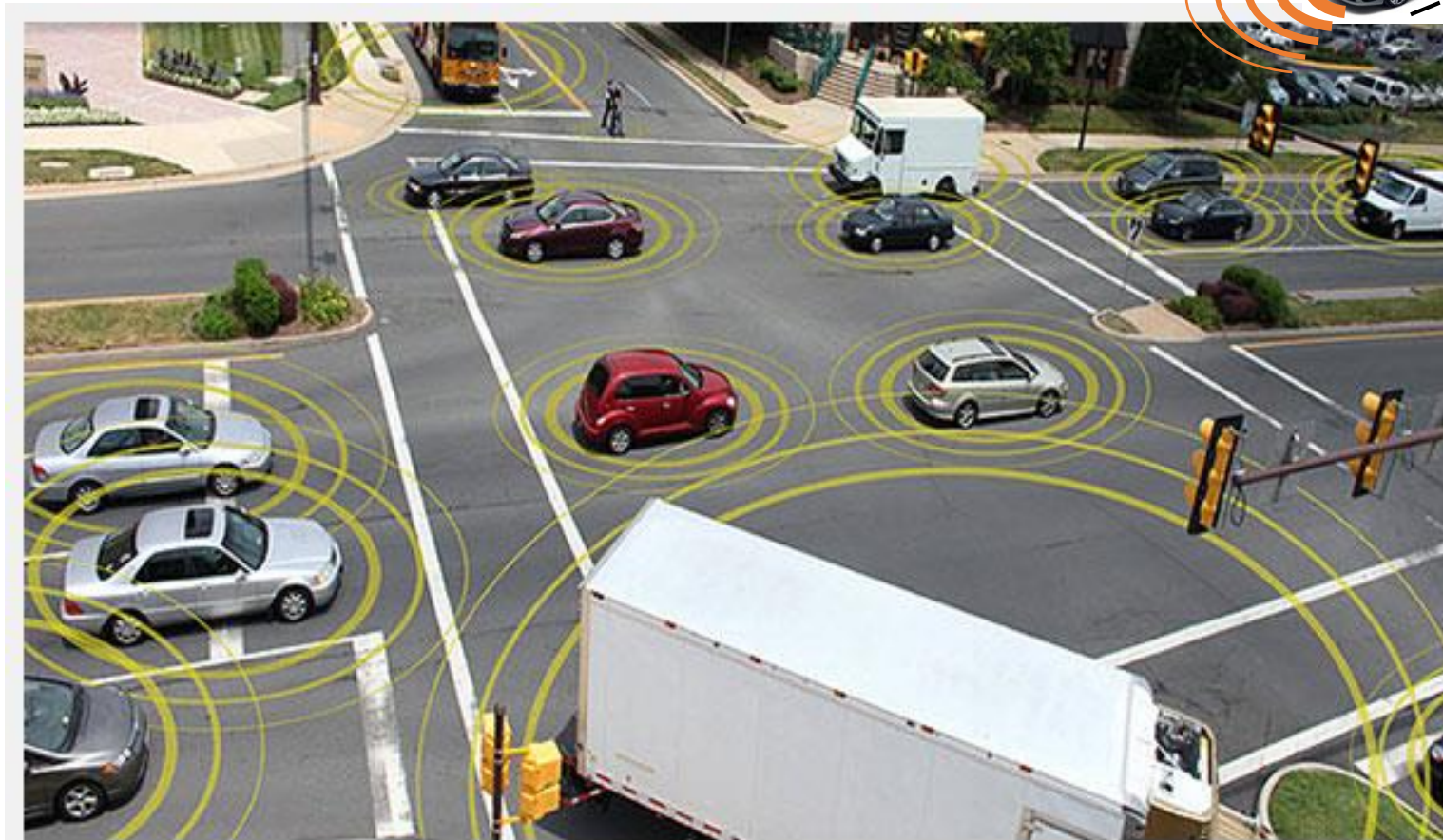
Why?

→ **More infrastructure not always offer the solution**



Why?

→ **Smart Mobility is the next level of mobility**



→ Challenges?



1. Dealing with changing system boundaries and new stakeholders – mix from old and new systems
2. Dealing with moving targets – Moore's Law
3. Dealing with unpredictable human behaviour

→ System Innovation (*on traffic management*)

- Many System Components,
- with different owners,
- and different life cycles

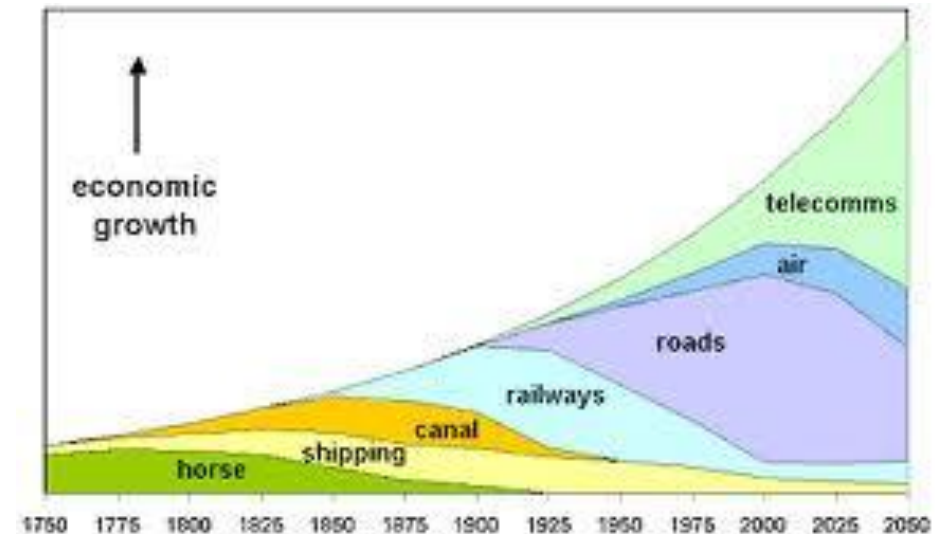
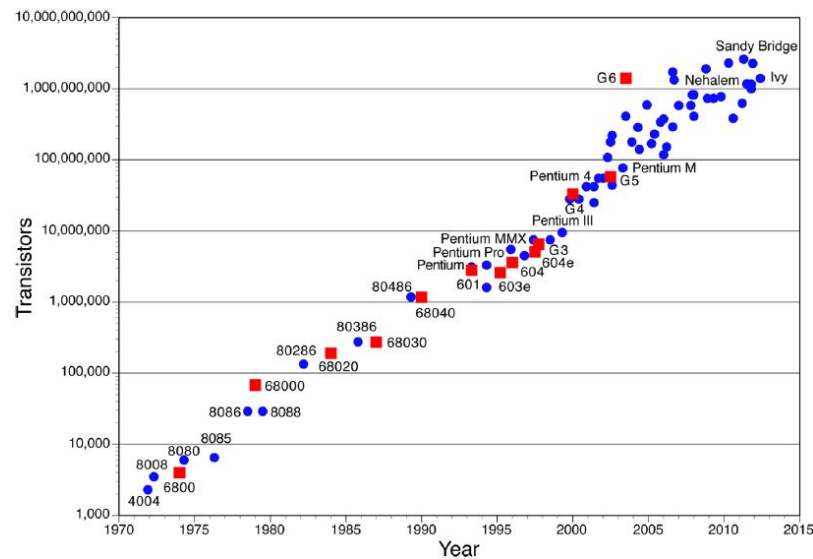


Bron: DITCM

→ Acceleration in innovation

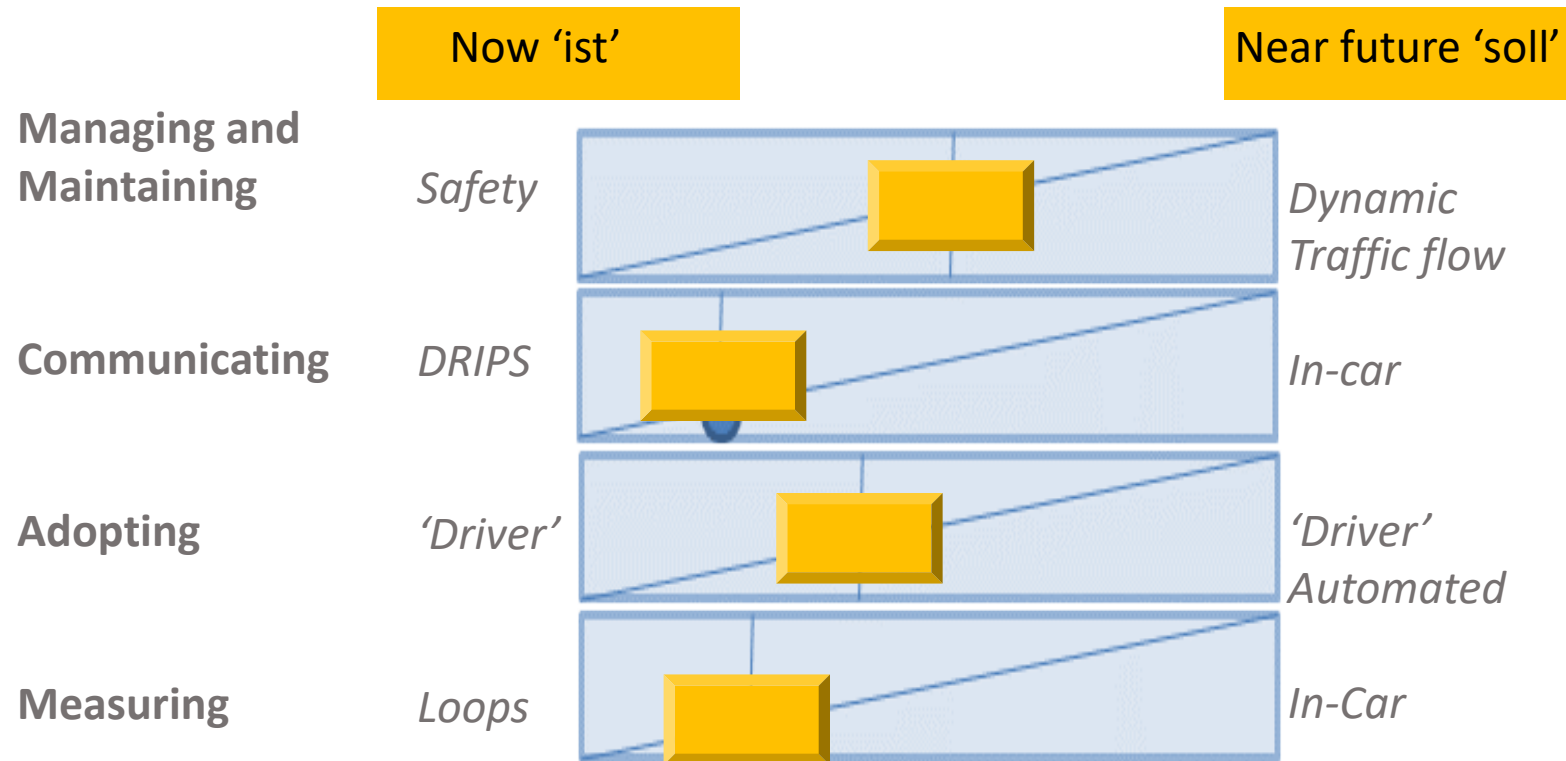
Each two year the extent of the digital innovation is as big as the total of the innovations in all the years before

50 year Moore's Law



→ Adaptive Programming *how to deal with 'a moving target'?*

- What will be the system?
- Who's in control? How about safety & privacy?
- What will be the timeline?



Bron: TNO

→ This means mixed traffic coming 20 years!



→ Dealing with human behaviour

- Now: our perception of traffic management signals

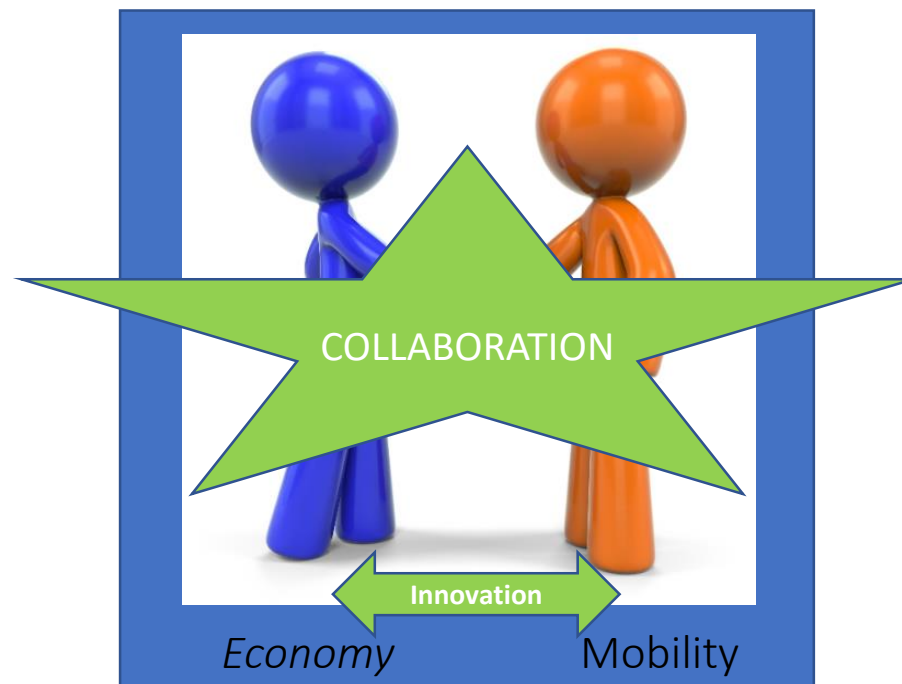
The mobilist is changing too!

- Co...
gene...
informa...
smooth...
comfortab... from a to b



→ The opportunity of smart mobility

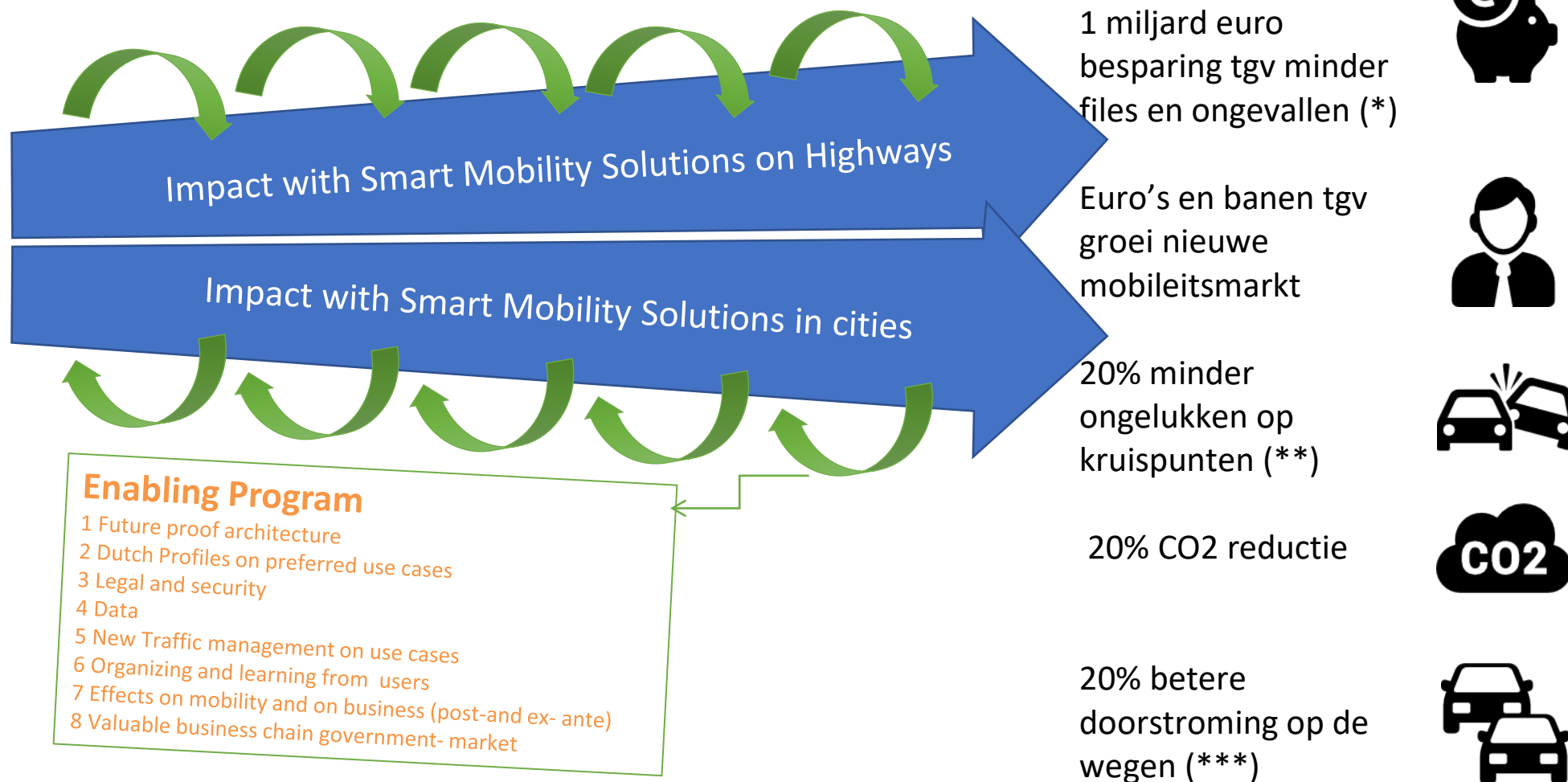
Create a joint challenge!



- Making driving more comfortable
- Economic value chain
- Improving traffic flow
- Increasing safety
- Decreasing emissions


→ Shared ambition:

Upscaling to realize *mobility* solutions with *economic* profits



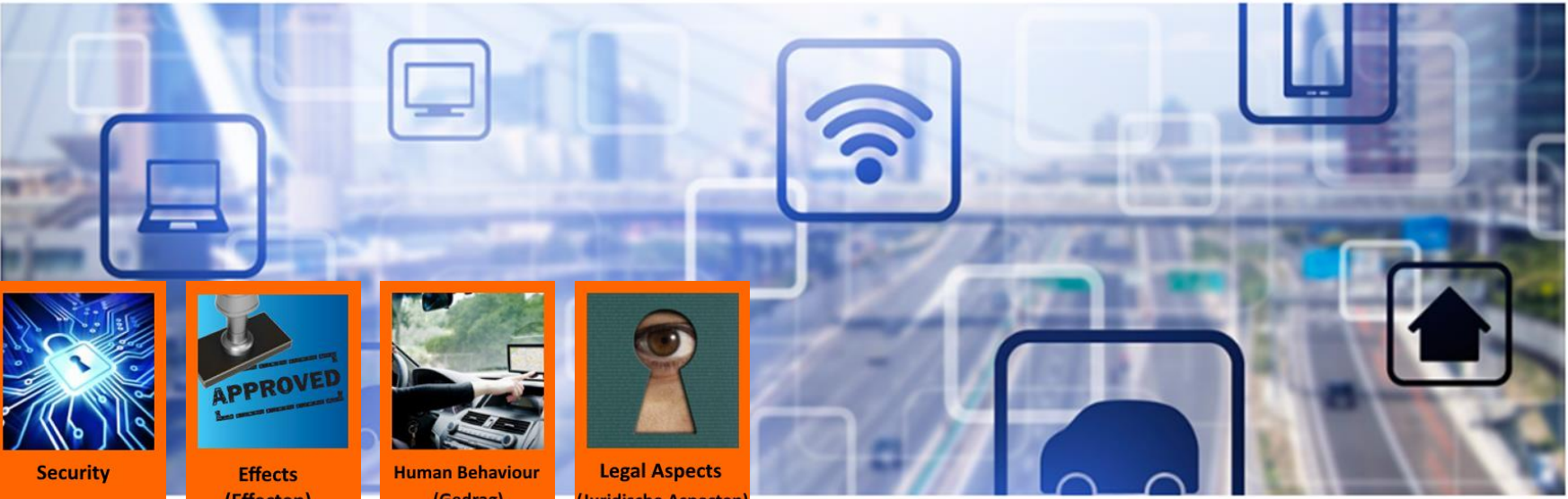
→ Smart Mobility Community for Standards and Practices


Smart Mobility Community for Practices and Standards




Trefwoorden invoer **Zoeken**

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Architectuur & Interoperabiliteit




Security




Effects (Effecten)



Human Behaviour (Gedrag)



Legal Aspects (Juridische Aspecten)



Smart Mobility
Community
for
Practices &
Standards

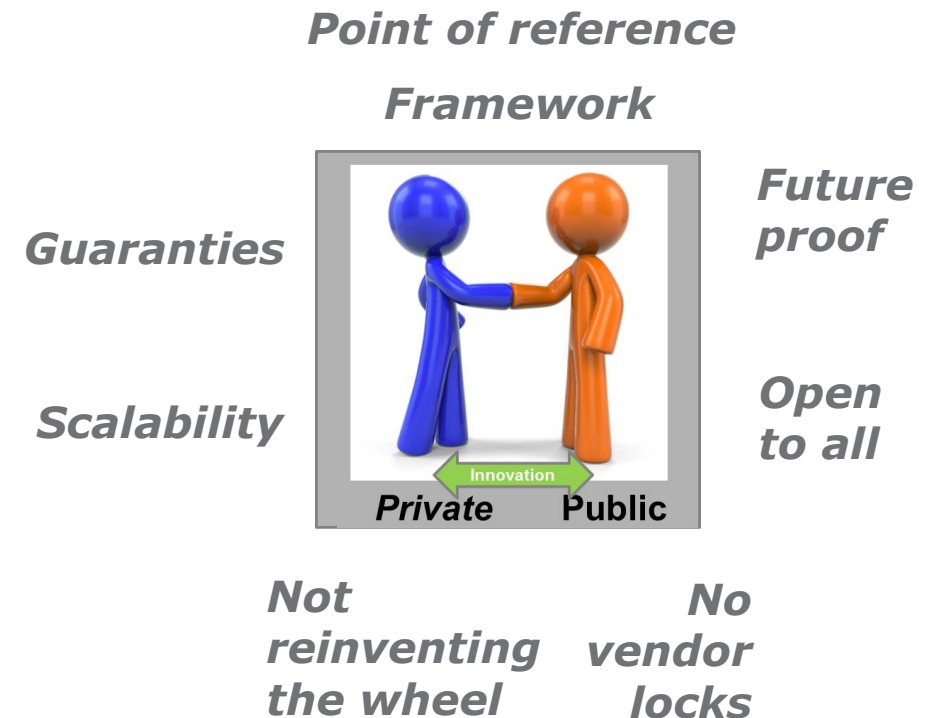
→ From Projects to (inter)national Deployment

→ From:

- Architecture and standard choices made within the scope and deadlines of the projects based on available services of the market parties involved.

→ To:

- National, project independent, choices based on interoperability with other countries and guaranteeing a sustainable open marketplace.



→ Learning by doing



Home

News

European Truck Platooning Challenge

Press release:
Government and market working together to integrate truck platooning within logistic
2 weeks ago

During its Presidency of the European Union in 2016, the Netherlands has initiated a European Truck Platooning Challenge. Six brands of automated trucks - DAF Trucks, Daimler Trucks, Iveco, MAN Truck & Bus, Scania and Volvo Group - have been driving in columns (platooning), on public roads from several European cities to the Netherlands. The aim of the Challenge was to bring platooning one step closer to implementation.

en Slim en vlot van deur tot deur
Spookfiles

Over Spookfiles Mijn Mirt

ETER BENUTTEN

Beter Benutten

Het Project Spookfiles A&B is een project van het Ministerie van Infrastructuur en Milieu, de Provincie Noord-Brabant, het Samenwerkingsverband Regio Eindhoven en Rijksoverheid en is onderdeel van het programma Beter Benutten. Beter Benutten staat voor minder files, groei op het spoor en meer gebruik van vaarwegen, zodat de economie kan groeien en het reizen comfortabeler wordt. Rijk, regio en bestaande samen in de draadte regio's innovatieve maatregelen die de bereikbaarheid verbeteren. Kijk voor meer informatie op de website van Beter Benutten.

GCDC_2016
from Code Zero Visual Concept

gcadc
i-AME

03:00

HD :: vimeo

AutoMotive Week 2017
Where Smart Mobility meets Traffic

Driven™
Helmond City of Smart Mobility

DRIVEN NIEUWS PROJECTEN VOOR WIE

← TERUG NAAR DE HOMEPAGE

ZOEK CONTACT

deze experimenten helpen Nederland filevrij te maken

Hoofdmenu

- Home
- Achtergrond
- Nieuws
- A270demo
- A270demo 2010

Home Contrast 2012 Partners Pers

Contrast 2012 zoekt bestuurders

Vrijwillige bestuurders gezocht voor experimenten met

DURING THE AUTOMOTIVE WEEK 2015

deployment of smart mobility was the central theme in Helmond, The Netherlands

On Wednesday, 1st April, Automotive Week 2015 was concluded successfully. For a whole week the Automotive Campus in Helmond was place to be when it comes to intelligent mobility. The purpose of this week was to take the step in moving towards a nationwide scale-up of smart mobility and thereby ensure the acceleration of the implementation of new techniques that lead to faster, more comfortable traffic.

A270 DEMO

SPITS
STRATEGIC PLATFORM FOR INTELLIGENT TRAFFIC SYSTEMS



Joëlle van c 1500 VISITORS

→ Example: Shockwave damping on highways



Theory
(Japan)



Experiments
(A270)



Beter Benutten

Het Project Spookfiles A58 is een project van het Ministerie van Infrastructuur en Milieu, de Provincie Noord-Brabant, het Samenwerkingsverband Regio Eindhoven en Rijkswaterstaat en is onderdeel van het programma Beter Benutten. Beter Benutten staat voor minder files, groei op het spoor en meer gebruik van vaarwegen, zodat de economie kan groeien en het reiscomfort van de reiziger verbetert. Rijk, regio en bedrijfsleven nemen samen in de drukste regio's innovatieve maatregelen die de bereikbaarheid verbeteren. Kijk voor meer informatie op de [website](#) van Beter Benutten.



Predeployment
(A58)

**mobility
movez.nl**

Deployment



→ Example: Throughput in cities



Theory
(SimSmartMobility)



Experiments
(City of Helmond)



Predeployment



Deployment



→ Break through – example: GCDC Grand cooperative Driving Challenge



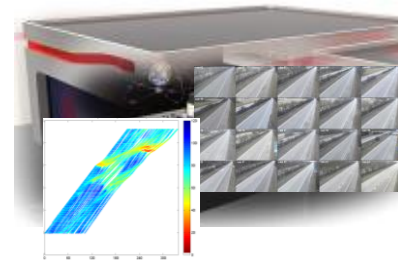
→ The Netherlands is a testbed for predeployment!



Hardware in the Loop



Simulation environments



Data centers



Closed Tracks



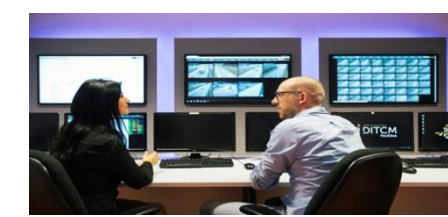
Controlled open environments



Brabant Hybrid testbed



Testing in the real world



Innovation Centre



→ In the end... also the system borders of mobility are changing: what's your contribution in this new world?

Mobility as a service

Green living,
Sustainable building
Energy sector

Smart Cities
Smart grids

Big Data Business



→ Thank You

Thanks for your attention.

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