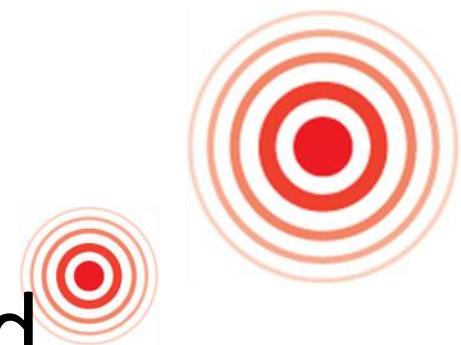


The Dutch hybrid testbed for C-ITS development, testing and deployment

13 september 2016
Oene Kerstjens

ITS Bureau Brabantstad



The Hybrid C-ITS testbed

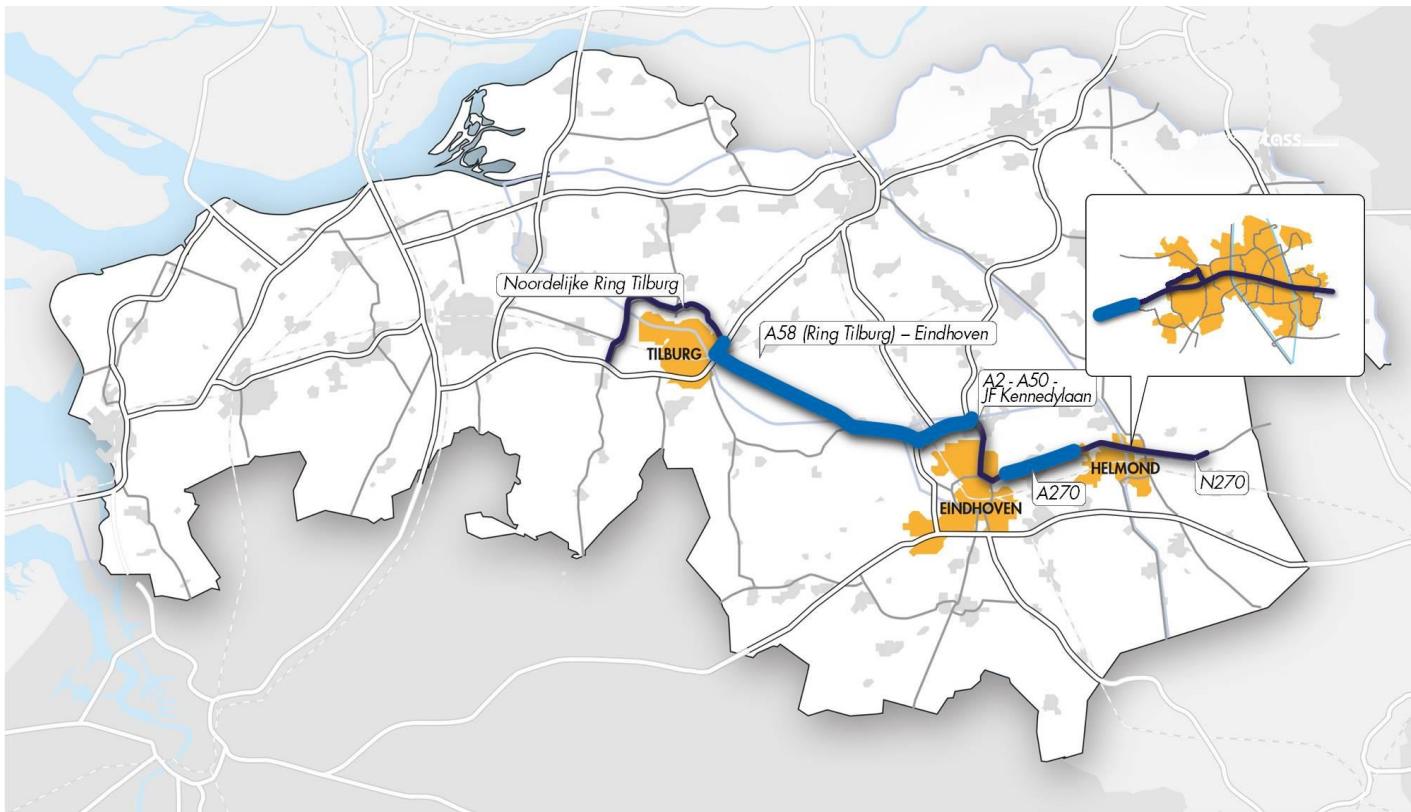
- A national and international Hybrid C-ITS test & deployment facility for several purposes:
 - Accelerating and elimination of risks in product development
 - Tools and facilities for ‘partners’
 - Open test facility for foreign public & private entities
 - Facilitate type approval / certification
 - *Value for partners and for external parties*
 - Platform for innovation that enables new market
 - Dutch development, testing & deployment (BB use cases, day 1 & 2 services, enhancing ITS corridor)



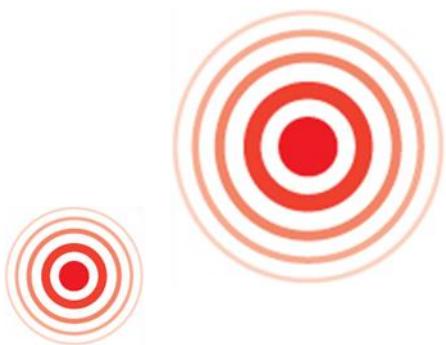
A unique proposition starting Q1 2017

- Fully hybrid: extensive DSRC/802.11p capabilities
- Combined with 4G/LTE, LTE+ and 5G (testing)
- Testing use cases in Urban & Interurban environment: different circumstances
- In regular traffic, no artificial circumstances
- Extensive research capabilities present, with top notch support if so requested (Technical University, TNO, AutomotiveNL, ACE and so forth)
- Next step in bringing the corridor Vienna-R'dam to life

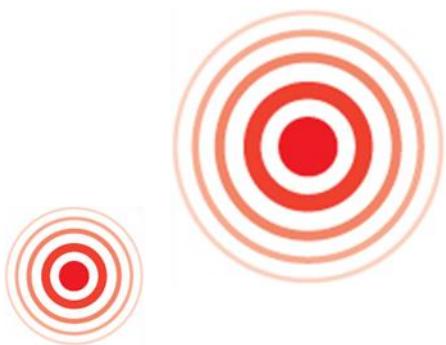
Testing in a daily urban system



Testing in a daily urban system

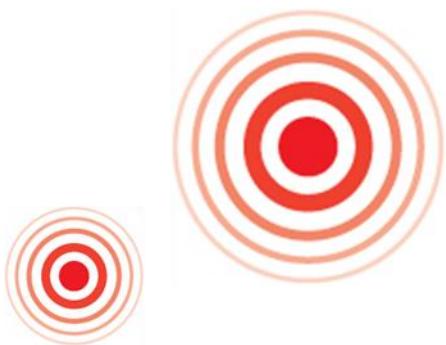


- Appr. 70 km of highway, provincial and city roads available with DSRC capabilities
- Combined population of Helmond, Eindhoven, Tilburg: 600.000
- Total population of Brabant: 2,5 million
- Test fleet of 2.000 – 3.000 cars, trucks, taxies and buses



Support & possibilities

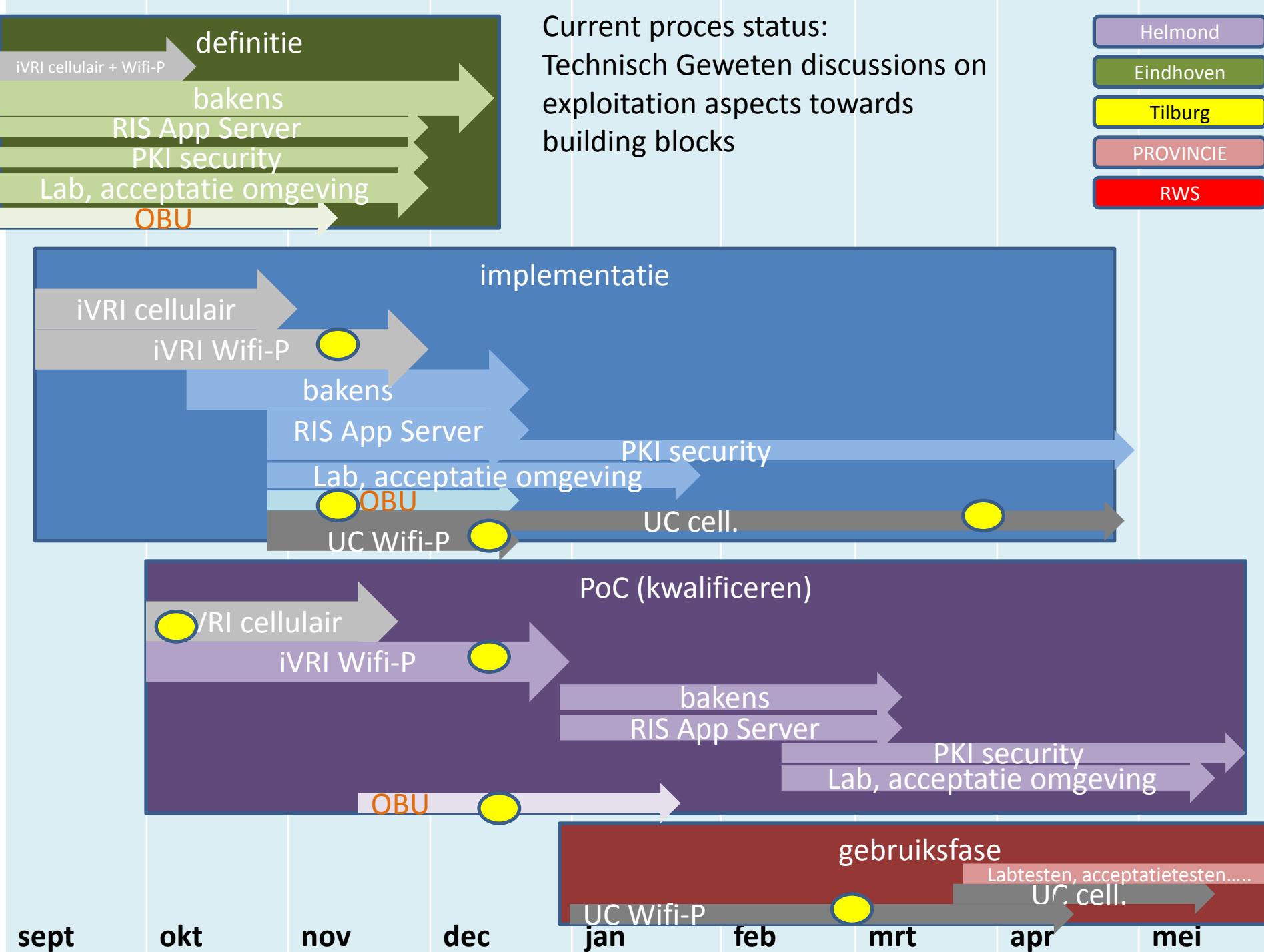
- Support and insights through assistance in the Traffic Management Center's Innovation desk
- Cross-over testing with Autonomous Driving possible
- Not just Road Side Units functional, but also a substantial fleet of vehicles and multiple service providers
- Integration and further development Compass4D en SFA58 functionalities
- Functional PKI and high level architecture



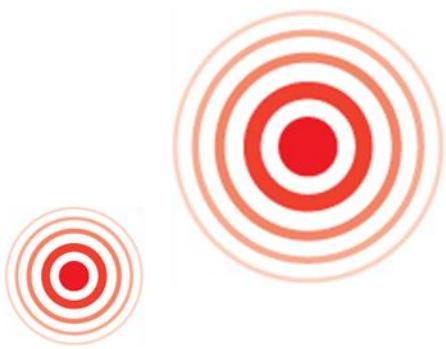
and

- fully compliant with ETSI G5 where available
- all RSU and services privately held and operated, test facility will be public-private cooperation
- multiple use cases to be developed and/or tested in the next years
- open test facility: all interested parties are welcome to join and/or use all available facilities

- It's not free, but it is excellent: testing the future in real life traffic with real life road users, testing different telecommunication capabilities separately or combined.



Hybrid...



- Wèrkelijk Hybride betekent dat de heterogeniteit van de diverse telecommunicatie technologieën zoveel mogelijk aan het zicht van de service providers en eindgebruikers wordt ontrokken
- Hybride is dan niet hetzelfde als 'duaal' en wordt een meerwaarde
- De verwachting is dat tbv de realisering hiervan nog heel wat ontwikkeling nodig is, hetgeen ook weer leidt tot een testbehoefte
- Hybride Testomgeving kan de definitie, ontwikkeling en het testen van 'het hybride zijn' mede faciliteren

Meer informatie via:

ITS Bureau

Locatie: Automotive Campus, Helmond
(2^e etage naast de Innovatiecentrale)

ITSBureau@brabant.nl



Dank je wel!