Socrates en Concorda

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Context PPA

Problemen verkeer: congestie, overlast, milieu, veiligheid

Oplossingen? Problemen verkeer: Met smart mobility problemen verminderen en weggebruikers beter faciliteren

PPA richt zich op:
- Grootschalige praktijkproeven in stedelijk gebied
- Stapsgewijze integratie van wegkant en in-car
- Geïntegreerd Netwerkbreed Verkeersmanagement (GNV)
- Samenwerking publiek-privaat-wetenschap

Doel:
- Nieuwe sturingsmogelijkheden om de problemen op te lossen
- Weggebruikers beter faciliteren
- Kansen voor nieuwe markten

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3. Conclusie PPA fase 1 en 2

Betere sturingsmogelijkheden en nieuwe services voor de weggebruiker mogelijk gemaakt.

Integratie van wegkant en in-car dichterbij gebracht.

Door beproeven van innovatieve concepten is uitrol nu mogelijk, wordt de kosteneffectiviteit van geïntegreerd netwerkbreed verkeersmanagement vergroot en zijn er kansen voor nieuwe markten gecreëerd.

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4. Waarom integratie wegkant en in-car

Maken van Verkeer en Mobiliteit

- Efficiënter
- Veiliger
- Schoner

En:

- De weggebruiker beter en beter te faciliteren
- Nieuwe businessmodellen en markten

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4. PPA Fase 3

Nieuwe horizon: 2021
Twee Sporen:
- Consolidatie
- Innovatie

FASE 1	FASE 2	FASE 3
IN CAR		GO / NO GO INTEGRATIE
IN CAR EN WEGKANT APART	EERSTE INTEGRATIE IN CAR EN WEGKANT	100% INTEGRATIE IN CAR EN WEGKANT
WEGKANT		GO / NO GO INTEGRATIE
2014 – 2015	2016 – 2017	2017 – 2021

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5. Innovatie spoor

Doel:
Sluiten, activeren en testen van de complete keten van wegkant- en incar

Wat ontbrak:
- De (autonome of zelfrijdende) auto
- De industrie achter de (autonome of zelfrijdende) auto
  - ➤ Automobiel industrie (OEM's)
  - ➤ Navigatie en Service Providers
  - ➤ Telecom
  - ➤ Verkeer

Beste volgende stap:
Creëren en gezamenlijk Europese aanpak

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Innovatiespoor 2 Europese Projecten

- Initiatief voor **Socrates 2.0** samen met onze nieuwe PPA partner NDW (en Ertico Traffic Management 2.0 Platform)

- Aangesloten bij het **Concorda** program geïnitieerd door de EATA (European Automotive and Telecom Alliance) gecoördineerd door Ertico/ITS Europe

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Socrates2.0

SOCRATES2.0
FAST   SAFE   GREEN

Socrates 1.0 (Europees project 1990's)
- Samenwerking tussen de grote elektronica, telecom en automobielindustrie.
- Uitwisseling van verkeersinformatie
- Basis voor de moderne navigatiesystemen

Socrates 2.0
- Samenwerking wegbeheerders met de grote service en data providers , verkeer- en auto industrie
- Uitwisseling van verkeersmanagement informatie
- Basis voor geautomatiseerd rijden

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The continuous deployment of European-wide traffic management measures and services

SOCRATES[2.0]

SOCRATES[2.0] promotes a continuous deployment of European-wide traffic management measures and services.

It designs, deploys and evaluates:

- new and extended traffic management measures and mobile/in-car services for road users;
- a cooperation framework (at strategic, tactical and operational level)
  for interactive traffic management among road authorities, service providers and car manufacturers.

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SOCRATES[2.0]

Objective 1

To design, operate and evaluate new and extended traffic management measures and mobile/in-car services for road users; based on a close cooperation of road authorities, service providers and car

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SOCRATES[2.0]

Objective 2

To design, operate and evaluate a cooperation framework (at strategic, tactical and operational level) for interactive traffic management by road authorities, service providers and car industries.
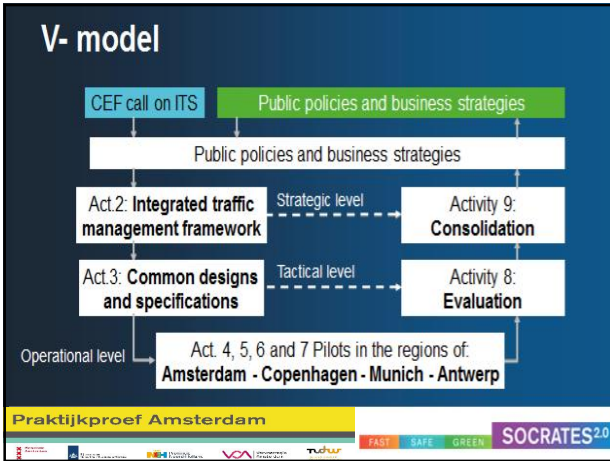
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Paradigm shifts

1990 Static route guidance

2000 Dynamic route guidance

2015 Integrated route guidance

2020 Route guidance for self-driving vehicles

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Current status

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Vision

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V- model
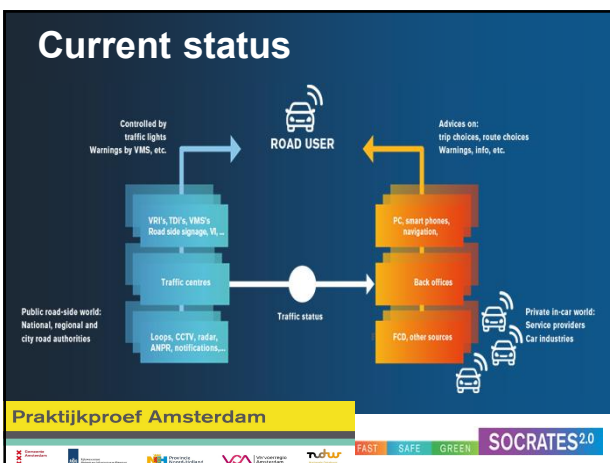
The basis

Interactive traffic management, based on a cooperation of equal partners:

- road authorities
- service providers
- car industries

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SOCRATES[2.0] pilots

Four large scale, operational pilots investigate:

- Feasibility and effectiveness of integrated trafficmanagement.
- Their effects and the acceptance of the users of new services.
- Different types of cooperation between road operators, service providers and car industries.

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Pilot

Amsterdam	Copenhagen
6000 drivers	1000 drivers
3 VC's	1 VC's
6 SP's	6 SP's

Munich	Antwerp
1000 drivers	1000 drivers
1 VC's	1 VC's
5 SP's	6 SP's

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SOCRATES2.0 pilots

With four use cases
- Smart routing
- Speed advices.
- Local warnings
- Improved road side measures

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SOCRATES2.0 Consortium

SOCRATES 2.0 is co-funded by the European Commission

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Pilot Amsterdam
Leader: Amsterdam Practical Trail

The Amsterdam Pilot

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ACTIVITY 1

Pilot in the region of Amsterdam

This Activity aims to deploy interactive traffic
management in the Amsterdam region by:

- realising the (changes to the) sub-systems;
- performing system integration tests;
- recruitment of beta users;
- operating the sub-systems during the integration
  tests and the evaluation period.

25

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ACTIVITY 8

Evaluation

Evaluation results

- For road users;
  (better, smarter etc. real-time travel advice
- For road authorities;
  (completer information on traffic status etc.
- For service providers and car industries.
  (when and why of traffic management,
  trustworthy advices, user acceptance)

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ACTIVITY 8

Evaluation

- Organizational implementation needs: roles and functions for
  stakeholders, business models, contractual agreements and
  schemes.
- Functional implementation needs: value of new and extended
  services, value of common data exchange protocol, value of
  Common Operational Picture (COP).
- Technical implementation needs: adaptations to traffic centre and
  back office systems, correctness, reliability, security, privacy and
  real-time performance of services, availability and liability of data,
  adequate HMI design and mitigation measures.

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"A NEW COOPERATION FRAMEWORK FOR INTERACTIVE TRAFFIC MANAGEMENT"

FOR FURTHER INFORMATION
www.SOCRATES20.eu
info@SOCRATES20.eu

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Slide 1

CONCORDA

- Operational roll-out through companies: 38 members
- Telco network operators: Deutsche Telekom, Eurofiber, KPN, Orange, Play, Post Luxembourg, Proximus, Vodafone, Telefonica, Telecom Italia, Telenor
- Telco suppliers: Nokia, Huawei, Ericsson
- Automotive OEMs: BMW, DAF, Daimler, Fiat Chrysler, Ford, Hyundai, Iveco, Jaguar Land Rover, Opel, PSA, Renault, Toyota, Volkswagen Group, Volvo Cars, and Volvo Group
- Automotive suppliers: Autoliv, Bosch, Kapsch, Continental, Denso, Delphi, Hella, Valeo

Associated partners
- Member States: DE, NL (RWS), ES, FR, BE
- Industry: CRF, Ford, Hyundai, PSA, Renault, Bosch, Deutsche Telekom, Eurofiber, KPN, Orange, Vodafone, Telefonica, Nokia, Huawei, Ericsson, NXP, ICCS, CTAG, iMec, KU Leuven
- Associated Industry: BMW, Daimler Toyota , VW, Autoliv,Continental, Denso, Kapsch
- Projectmanagement en Trekker: Ertico

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Slide 2

CONCORDA

Concorda : aanleiding

Aanleiding
"The European automotive and telecommunications industries wish to initiate and execute a public-private, co-financed, large-scale and cross-border pre-deployment project for connected and automated driving.";

Doelstelling
As such the overall objective of the project is to address the practical, organizational and technical challenges faced due to the additional layer of complexity introduced by connected and automated vehicles."
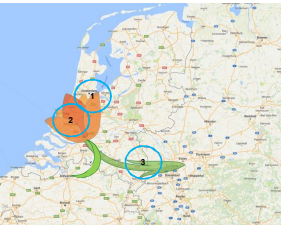
1. To assess the readiness of existing national C-ITS testbeds and C-ITS equipped roads to accommodate highly automated driving tests in real traffic situations, and to detail and recommend upgrades
2. To integrate, test and validate required technologies in support of the pre-deployment of set. Services, in light of the identification of gaps and recommended transition paths;
3. To test or simulate connected and automated functionalities in real-life circumstances to better understand and assess impacts on infrastructure requirements, network balancing, traffic safety and efficiency etc , in light of improving the digital infrastructure required and of paving the way for agreements, wider deployment and effective rule-making, if required;
4. To design, execute and evaluate a series of performance and interoperability tests, to feed discussions ongoing in a.o. C-ITS platform and C-Roads working groups
5. To set up an automated driving (test bed) guidance document describing best practices, methodologies and testing checklists
6. To contribute to and enhance a shared road-map for a European-wide implementation of CITS and autonomous functionalities

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Slide 3

Activity NL

Dutch Tulip
Traffic flow, traffic safety and reduction of Emissions

An innovative corridor that will be ready for:

1. Highly dense truck platooning from the port of Rotterdam towards Belgium (Antwerp) and Germany (Ruhr-area) in 2019.

2. Connected and automated driving (L3-4) that will communicate with each other and the infrastructure.

3. Transition of Traffic management.

Connecting the main ports within the Netherlands with the green ports, brain ports. And we would like to cooperate internationally with Belgium and Germany.

Bundling the work: C-ITS corridor, Intercor, Concorda, ...

- Work together with industry, European Commission and Member states.

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Slide 4

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ACTIVITY NL

Overall activity objectives
- **Declaration of Amsterdam**
- **Netherlands test country**
- • Ambitious on all kinds of test in relation to transition connected and Automated driving
- **Technology and business, operation, implementation etc.**
- **Connected and Cooperated**
- **Integration in-car and road side**
- **Role of businesses and public authorities**
- **Different networks (city-> metropolitan->national->international corridors)**
- **Project driven approach (not just technical)**
- **Dutch projects and use cases complementary to Concorda project and further initiatives and projects (C-roads,Socrates, CDR, EATA,Ursa mayor etc.)**
- **Hybrid communication approach**
- **Engage and involve stakeholder user groups**

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Slide 1

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ACTIVITY NL

Project consortium NL

Partners
FCA/CRF (Metropolitan Area Amsterdam)
NXP (Metropolitan Area Amsterdam)
Ministry of Infrastructure & Environment (Metropolitan Area Amsterdam)
Eurofiber (Metropolitan Area Rotterdam The Hague)
KPN (Noord-Brabant)
TU/e (Noord-Brabant)
OPTN (Noord-Brabant)
TASS (Noord-Brabant)
Others; Project partners not beneficiaries Concorda

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Slide 3

ACTIVITY METROPOLITAN AREA AMSTERDAM

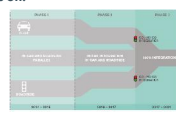Praktijkproef Amsterdam

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Slide 4

ACTIVITY METROPOLITAN AREA AMSTERDAM

Overall activity objectives

For the Metropolitan Area Amsterdam the focus is on cooperation with FCA/CRF and on defining concrete use cases together that will contribute to the development of the Interurban Chauffeur (also linked to highway scenario).

On behave of the integral Dutch plan in Amsterdam we focus on:

• Integration of roadside and in car systems

• Hybrid Communication (pre) deployment and road side networks for automated driving Use cases

• Public role in relation to Automated driving and safety

• Road systems (RSU, and communication networks)

• Integration of communication and functionality in cars

• On interfaces of different networks urban to national (city/provincial/highway); extended tests, not only Amsterdam area but also e.g. A58, Brabant.

Metropolitan Area Amsterdam has a practical perspective on the whole chain needed for Automated driving. For this reason in this plan we integrate the broader cooperation with companies and authorities in and outside of Concorda and their goals (Road operators, OEM, RDW, FCA/CRF,NXP, Technology integrators,Telecom)

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Slide 1

ACTIVITY METROPOLITAN AREA AMSTERDAM

As stated in the initial plan, part D, the aim will amongst others focus on:

•Urban intersection: Collision avoidance feature implementation joint with communication technology can improve vehicle preventive safety to preview blinded or unexpected obstacles

•Obstructed view on interurban scenarios : On a hill, curve, or before any other obstruction, autonomous collision avoidance system can prevent dangerous conditions where there is, for example, a broken down vehicle

•Highway scenarios with blinded queue: Autonomous longitudinal vehicle control system based on''

As a basis we use C-roads use cases.

We are discussing on the final interpretation on use-cases. Now under discussion are eg. Weather Warning, IVS, Slow and Stationary Vehicle, on city, provincial and highway (national roads) with the use of hybrid communication technology.

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ACTIVITY METROPOLITAN AREA AMSTERDAM

Input partners:

PPA: infrastructure, RSUs, Traffic management centers, vehicle acceptance (RDW)

CRF/FCA: test fleet, minimum 2 vehicles (the costs of vehicles are not eligible under this Action)

COM box provider(s) (NXP): A (limited number of) communication boxes, typically for in-car usage, will be developed and deployed in a phase 1 (LTE-A 802.11p) and phase 2 (LTE-V R14 +802.11p) time scale (part of activities 1,2.1,2.2,5)

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Slide 3

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Activity Metropolitan Area   Rotterdam The Hague

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Slide 4

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Activity Metropolitan Area   Rotterdam The Hague

Activities:
- Roll out of hybrid telecom infrastructure WiFi-p and LTE/5G
- MEC
- Parallel studies, review business and value case

Partners:
- Smartport/Port of Rotterdam
- TNO
- Huawei
- CGI
- Thales
- Supported by ''Real Life Cases'' and "Roadmap Next Economy" program

CONCORDA

DANK VOOR UW AANDACHT!

Meer informatie:

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