



Stichting NIOC en de NIOC kennisbank

Stichting NIOC (www.nioc.nl) stelt zich conform zijn statuten tot doel: het realiseren van congressen over informatica onderwijs en voorts al hetgeen met een en ander rechtstreeks of zijdelen verband houdt of daartoe bevorderlijk kan zijn, alles in de ruimste zin des woords.

De stichting NIOC neemt de archivering van de resultaten van de congressen voor zijn rekening. De website www.nioc.nl ontsluit onder "Eerdere congressen" de gearchiveerde websites van eerdere congressen. De vele afzonderlijke congresbijdragen zijn opgenomen in een kennisbank die via dezelfde website onder "NIOC kennisbank" ontsloten wordt.

Op dit moment bevat de NIOC kennisbank alle bijdragen, incl. die van het laatste congres (NIOC2025, gehouden op donderdag 27 maart 2025 jl. en georganiseerd door Hogeschool Windesheim). Bij elkaar zo'n 1500 bijdragen!

We roepen je op, na het lezen van het document dat door jou is gedownload, de auteur(s) feedback te geven. Dit kan door je te registreren als gebruiker van de NIOC kennisbank. Na registratie krijg je bericht hoe in te loggen op de NIOC kennisbank.

Het eerstvolgende NIOC vindt plaats in 2027 en wordt dan georganiseerd door HAN University of Applied Sciences. Zodra daarover meer informatie beschikbaar is, is deze hier te vinden.

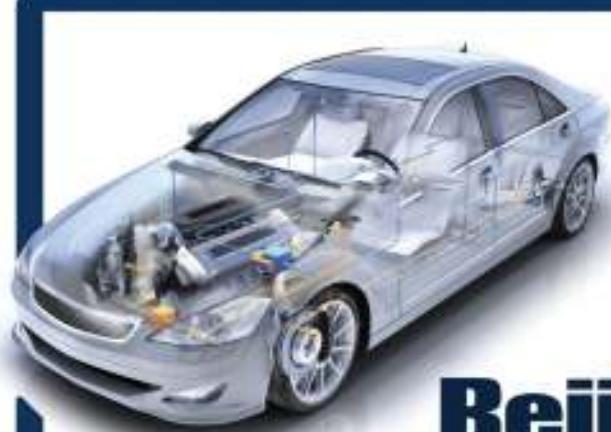
Wil je op de hoogte blijven van de ontwikkeling rond Stichting NIOC en de NIOC kennisbank, schrijf je dan in op de nieuwsbrief via

www.nioc.nl/nioc-kennisbank/aanmelden_nieuwsbrief

Reacties over de NIOC kennisbank en de inhoud daarvan kun je richten aan de beheerder:

R. Smedinga kennisbank@nioc.nl.

Vermeld bij reacties jouw naam en telefoonnummer voor nader contact.



NXP

IBM

NOKIA

TNO innovation
for life



kpn

www.cibatax.nl
TAXIBEDRIJF 17-040-366 33 33

TU/e

Technische Universiteit
Eindhoven
University of Technology

Beijer®
automotive

Technolution

tss
TECHNOLGY SOLUTIONS

anwb

SMART-IN-CAR

SRE

Provincie Noord-Brabant

ADG
Autonome en Gedragsneutrale
voertuigen

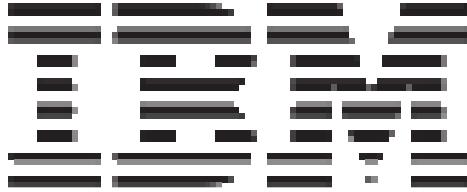


Henk Derksen

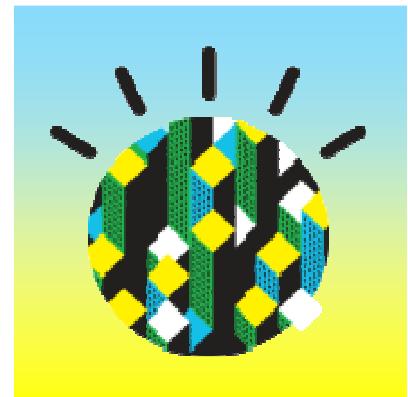
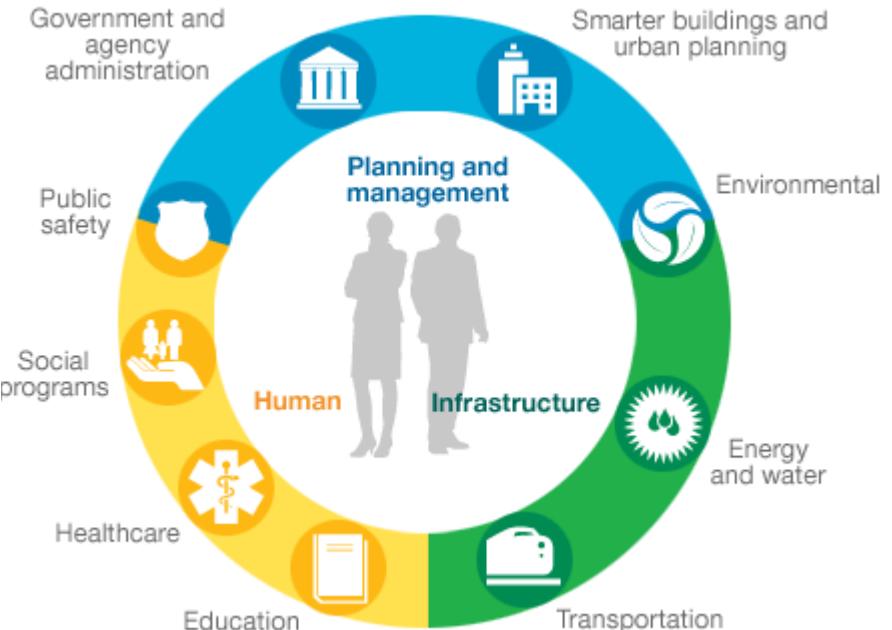
Project Manager IBM

Intelligent Transport SME

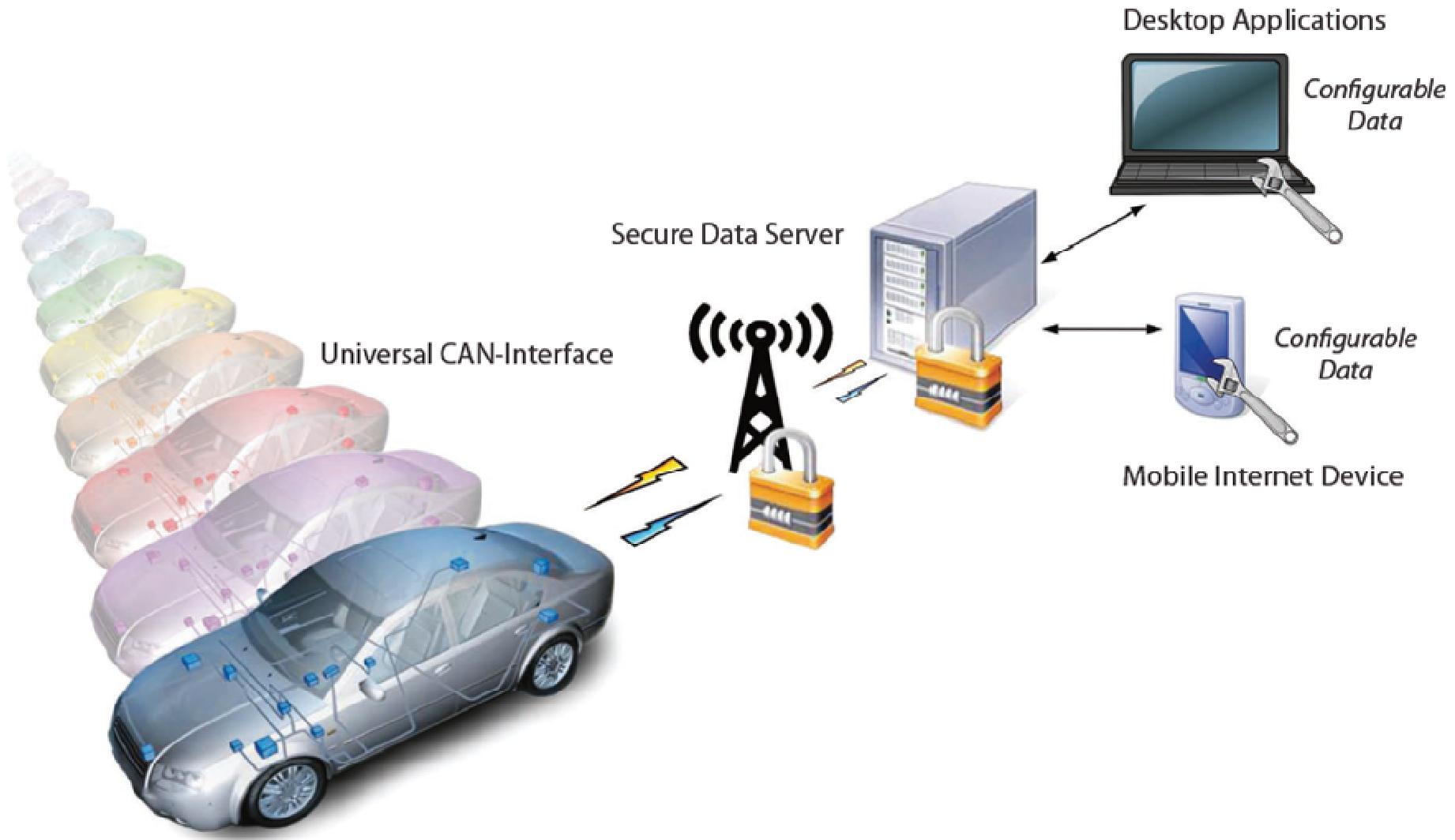




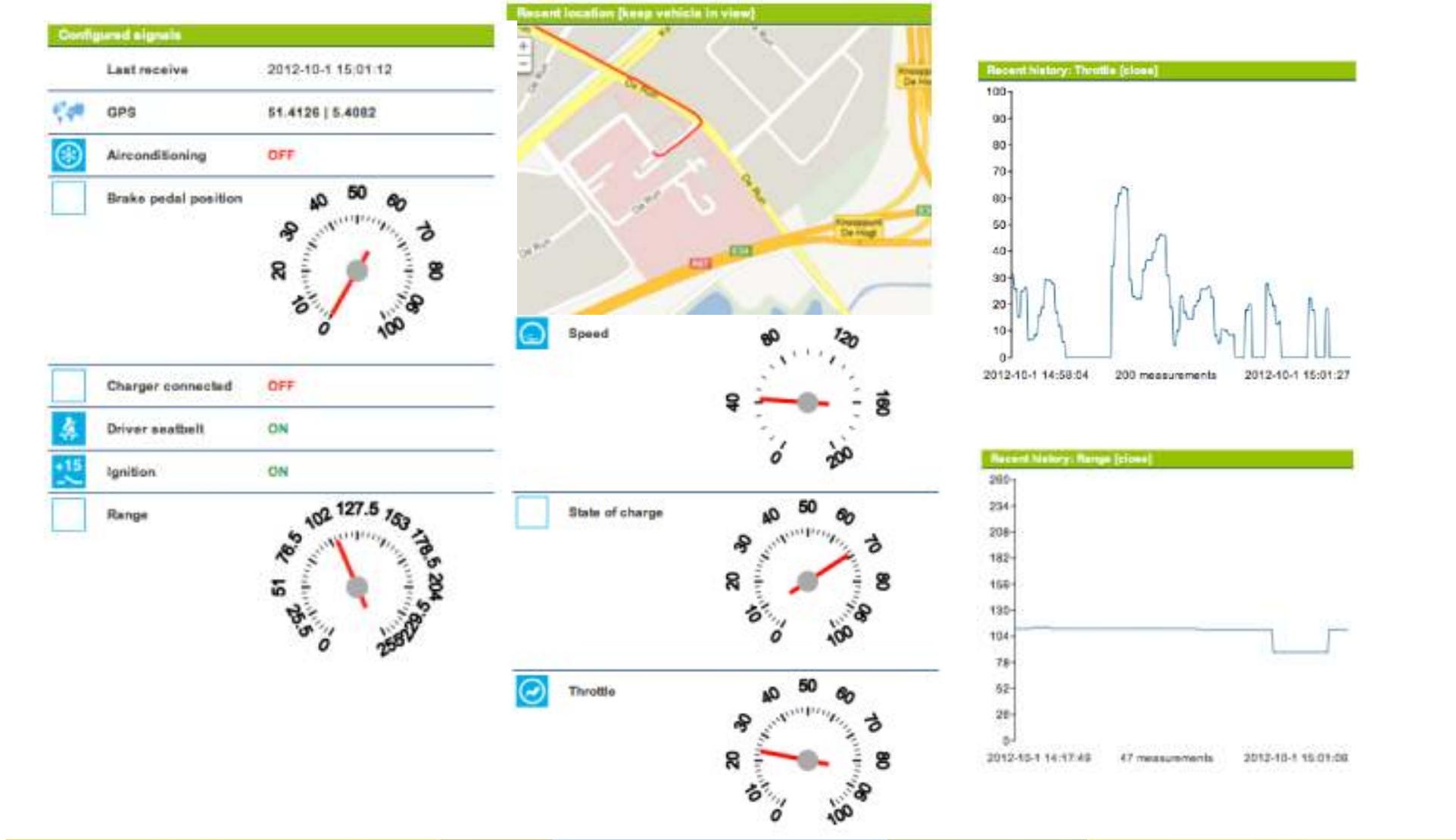
Smarter Cities



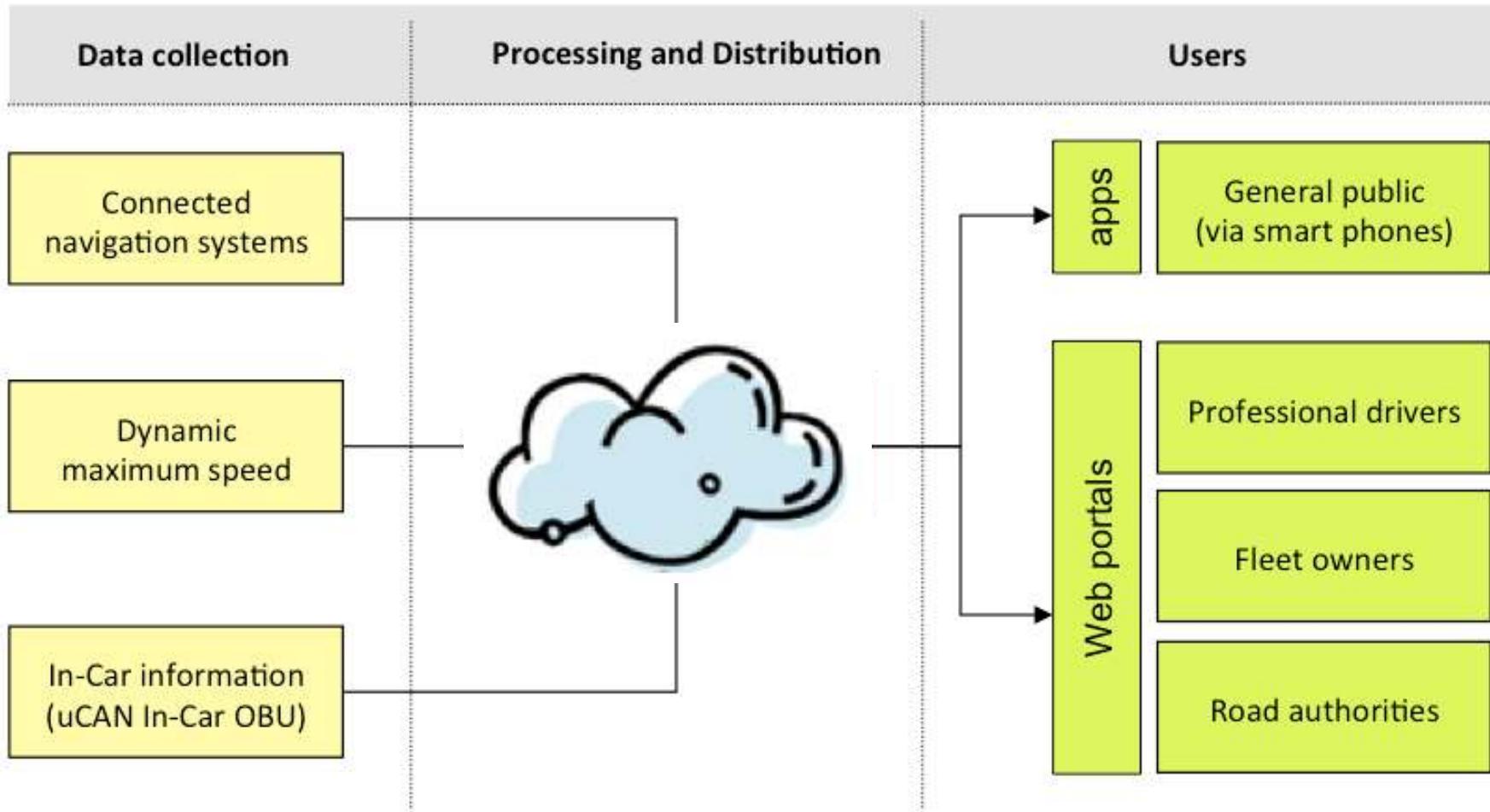
We Connect the Car and bring CAN data to the Cloud



Cloud dashboard available for 95% of existing car types

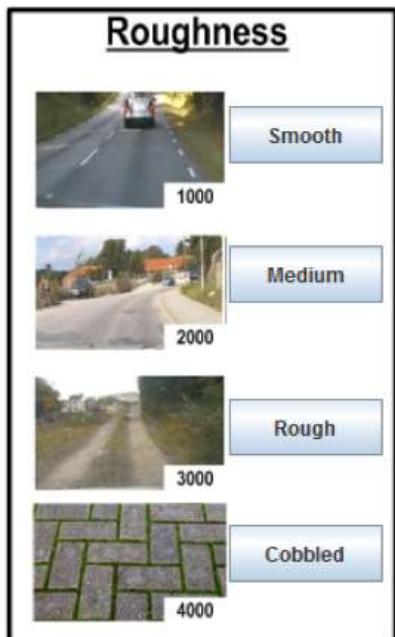


How to use the data to deliver valuable information?



Rijkswaterstaat benefits from road surface info

- ▶ Rijkswaterstaat and TU/E have concluded that in-car data can provide info on road surface

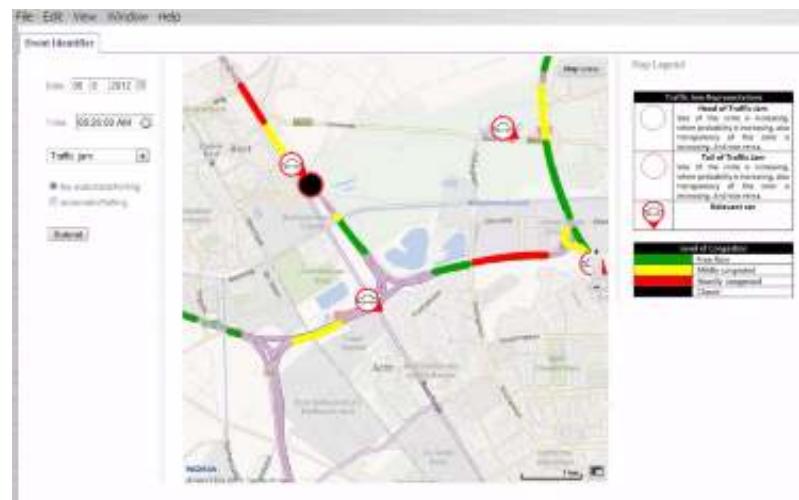


Potholes & Speedbumps

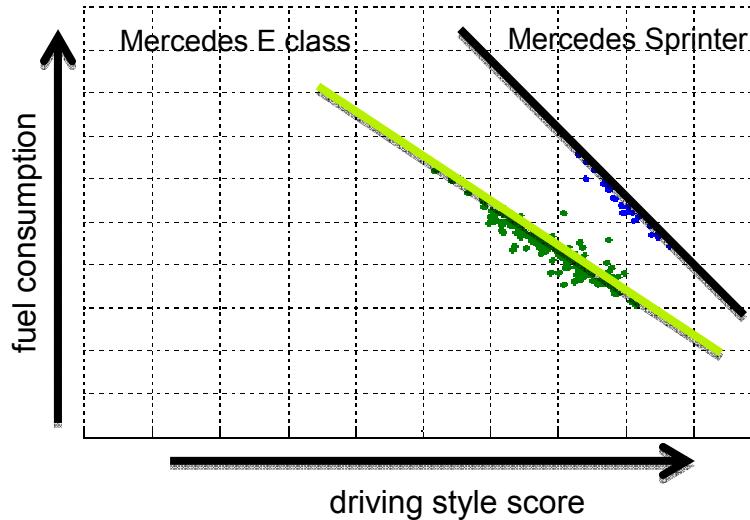
	1xx Through a pothole
	2xx Around a pothole
	3xx Narrow speed bump
	4xx Wider speed bump
	5xx Raised surface UP
	6xx Raised surface DOWN
	7xx Speed hump
	8xx Expansion joint

Smart phone app display *relevant* events

- ▶ Nokia's real time traffic
- ▶ Rijkswaterstaat dynamic max speed
- ▶ Events generated from CAN data, e.g.:
 - Fog, heavy rain
 - Road assistance car on rescue lane
 - Harsh braking – more accurate traffic jam info



Cibatax drivers have really improved driving style and fuel consumption



	Overall Rel Improve			
1265	0.82	9.27	9.87	
1512	0.81	0	8.14	
1821	0.80	0	7.95	
1788	0.77	9.4	9.86	
1330	0.76	0	7.57	
1096	0.75	0	7.51	
1462	0.75	9.13	9.78	
1145	0.73	8.59	9.62	
1964	0.73	0	7.26	
1855	0.71	0	7.14	
1534	0.69	9.52	9.85	
1219	0.66	7.54	9.17	
Urban Rel Improve				
1235	0.55	7.29	8.78	
1114	0.53	6.49	8.36	
1883	0.46	9.48	9.72	
1339	0.37	6.81	8	
1887	0.35	6.92	7.99	
1729	0.29	6.32	7.4	
Urban Absolute				
1883	10.00	9.72	10.00	
1129	10.00	9.36	10.00	
1013	9.99	9.29	9.99	
1088	10.00	9.20	10.00	
1219	10.00	9.16	10.00	
1733	10.00	9.12	10.00	
1506	9.99	9.12	9.99	
1265	10.00	9.11	10.00	
1693	10.00	9.01	10.00	
1534	6.69	7.59	0.90	
1217	5.67	6.36	0.69	
1004	6.95	7.63	0.68	
1104	5.98	6.62	0.64	
1264	6.21	6.83	0.62	
1063	6.07	6.68	0.61	
Urban Abs Improve				
1235	9.95	8.78	9.95	

Cibatax drivers have really improved driving style

- ▶ In our zero measurement the most seen urban driving style score was 6.9 (on scale of 0 - 10)
- ▶ After stimulating the taxi drivers to improve their driving style, the most seen urban score improved with 10% (to 7.6)
- ▶ Those who scored in the zero measurement below 6 in urban areas, improved their average driving style score in the competition with 6%
- ▶ The 10 drivers who showed the highest urban improvement have on average improved their score with over 18%
- ▶ On Mercedes E Class car we monitored fuel consumption from the CAN bus
 - Almost 75% of these cars showed reduced fuel consumption in urban areas
 - The average of these reductions in fuel consumption was close to 5%
- ▶ Extrapolating to all passenger cars in The Netherlands this would save yearly 730 Million tons CO₂ emission and 800 Million Euro fuel costs
- ▶ Effective driving style improvement for taxi drivers:
 - Shows better results in urban environments than on high ways
 - Can be best achieved with direct driver feedback
 - Really pays off in emissions and fuel savings

Successful SMART-In-Car World Tour





In-Car II has really stimulated innovation

- ▶ The innovation demonstrated is world wide well recognized and is expected to be deployed large scale in the coming years
- ▶ Our consortium wouldn't have achieved this without In-Car II
- ▶ Lessons learned:
 - Ask for real innovations, not for solving one mobility challenge: this will address the challenge **and** stimulate real 'exportable' innovation
 - It's too much a challenge to ask for real innovative solutions that are expected to be deployed large scale from day one

The SMART-IN-CAR logo features a cutaway illustration of a silver sedan showing its internal electronic components. To the right of the car are the logos of ten partners: NXP, IBM, Nokia, TNO, kpn, cibatax.nl, TU/e, Beijer automotive, Technolution, tass, and anwb. Below the car, the text "SMART-IN-CAR" is displayed in a large, bold, blue sans-serif font. At the bottom right, there are logos for SBE, Provincie Noord-Brabant, and ADAC.

SMART-IN-CAR

NXP IBM NOKIA TNO innovation for life

kpn cibatax.nl TU/e Technische Universiteit Eindhoven University of Technology

Beijer automotive Technolution tass TECHNOLOGY SOLUTIONS

anwb

SBE Provincie Noord-Brabant ADAC

Nationale en Internationale profiling van (ZO) Noord-Brabant als ontwikkelcentrum en proeftuin in-car

EE Times Design Article: NXP says energy efficiency will drive IoT. Peter Steren: In-car traffic like a system. Cost decreases, voice presence of automotive PCBs at NXP, said that cars are already racing towards interconnection with mobiles for safety critical applications being supported by automotive Ethernet.

Autonieuws.nl: NXP's strategy described the ATOM initiative (Automotive Testbeds On-chip Network) which will start in 2011. This ATOM initiative, expected to be fully up and running by 2013, will be deployed in twelve countries in an effort to develop a car-to-car and car-to-infrastructure system that can reduce the risk of a serious road accident, and reduce travel times and deployment time for sensor information, as well as OPE, telecommunication in local emergency situations.

Smart-in-car meldt waar het mistig is: Smart-in-car meldt waar het mistig is. Nog meer pareltjes van NXP.

Tell us: What You Think: Tell us: What You Think. We want to know what you think about the Design. Let us know by leaving a comment. 2011 COMMUNITY.

Together with NXP's traffic state live data and information for drivers, their owners, and road authorities: Investing a city's traffic like a swimming pool can bring economic benefits, says NXP.

Smart-in-car meldt waar het mistig is: Smart-in-car meldt waar het mistig is. Nog meer pareltjes van NXP.

Smart-in-car meldt waar het mistig is: Smart-in-car meldt waar het mistig is. Nog meer pareltjes van NXP.

NXP logo: NXP

Thank You

henk.derksen@nl.ibm.com

