Introduction SA Smart Mobility
Honors class candidates, 26-3-2018

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Marchetti’s Constant:
The 1h 06m mobility urge
Exponential Rise of Travel Distance:
Daily mobility in passenger - kilometres

(Scotland)
WHY?
The current mobility system is not sustainable

• 1.2 Million casualties per year
• Pollution (exhaust → non-exhaust)
• Fossil fuel dependency
• CO₂ (from 25% now to 50% in 2040)
• Congestion
• Use of public space

→ Societal damage: 3-6% of GDP
ICT has entered the Mobility Arena. The digitalization of vehicles and services lead to an increased need for research in a traditional strong competence area of Eindhoven University of Technology.

The guaranteed consequences to follow digitalization will happen to the mobility as well: **Disruption** of traditional industries, a **Service Quality Impulse** and **Dematerialization, Demonetization, Democratization**.
“Our Vision is that by 2020, nobody should be seriously injured or killed in a new Volvo Car.”

Hakan Samuelsson, CEO, Volvo Cars
Solar energy price development

Circular fuels

Solar fuels → Energy → CO₂ + H₂O
EV Private Lease in 5 years
< 100 Euro / Month
< 10 cents / Kilometer
(Roland Berger consultants, 2016)
Generation Y Giving Cars a Pass

The generation gap is a growing, long-term headache for automakers.

By Jim O'Uroff, Associate Editor, The Kiplinger Letter
September 19, 2010

Selling cars to young adults under 30 is proving to be a real challenge for automakers. Unlike their elders, Generation Yers own fewer cars and don't drive much. They're likely to see autos as a source of pollution, not as a sex or status symbol.

Motorists aged 21 to 30 now account for 14% of miles driven, down from 21% in 1995.

They're more apt to ride mass transit to work and use car sharing services -- pioneered by Zipcar -- for longer trips. And car sharing choices are expanding, with car rental firms moving into the market, making it convenient for young folks to rent without hourly rates and easy insurance. Gap car rentals rolled out its car sharing services in the New York area, and other firms have expanded them to around 40 college campuses nationwide.
Autobezit onder jongeren

Figuur 1: Ontwikkeling aandeel bevolking 18-25 jaar met eigen auto

Source: Feiten & cijfers over de trends: Bezit en deelauto onder jongeren 2014, VWE
TomTom’s Floating Car Data-based HD Traffic
Quantity or Quality?

More?
High speeds trains, hyperloops, planes, asphalt, parking

Better?
Bikes, Livable Urban spaces, inherent safe and clean transport, parks, leisure-mobility
WHAT’s NEXT?

• The Road Authorities didn’t see TomTom and Google/Waze coming

• The taxi companies didn’t see Uber coming

• What are the consequences of changing retail model, the explicitness of all supply and demand in transport, the urbanization
No pollution and traffic jams due to intelligent cars.