



EFour

Electric Road Transport System

4th International e-Bus Conference, 17 and 18 November 2014, Hamburg

Electric Highways - taking trolley bus technology into the future

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“Our mission is to explore business and financing opportunities in the transition to a fossil independent transport system.”



Scaling up efforts and a global demand for top CO2 reductions in the near future. Tomorrow's vehicles are electric.

We want to be a leading actor in the transition to a sustainable society and a new industrial revolution.

Electric road transport systems are a reality in 2020. Growing and operating them are profitable.

E4?

Economy

Ecology

Efficiency

Electricity



Transport Challenges

- 200% more transports on the highways worldwide (from 2000 to 2050)...
- global CO2 emissions from road freight traffic to more than double by the year 2050....
- Scarce resources & rising crude oil prices...



Safeguards reliable transports

Energy independence

Efficient usage of energy

Reduces CO2 emissions

Zero emissions of air & noise

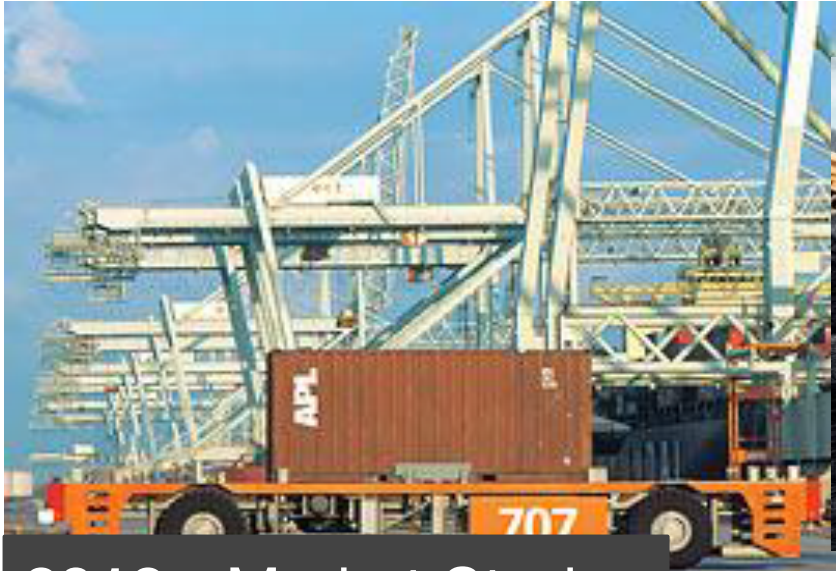
New industry

Road transport systems - beginning with
industrial shuttle systems 2-3 km

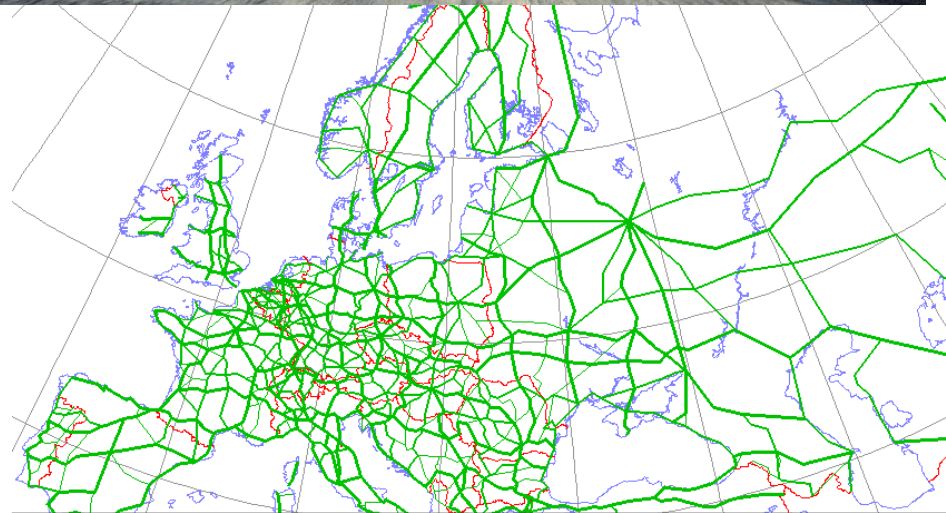
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Milestones

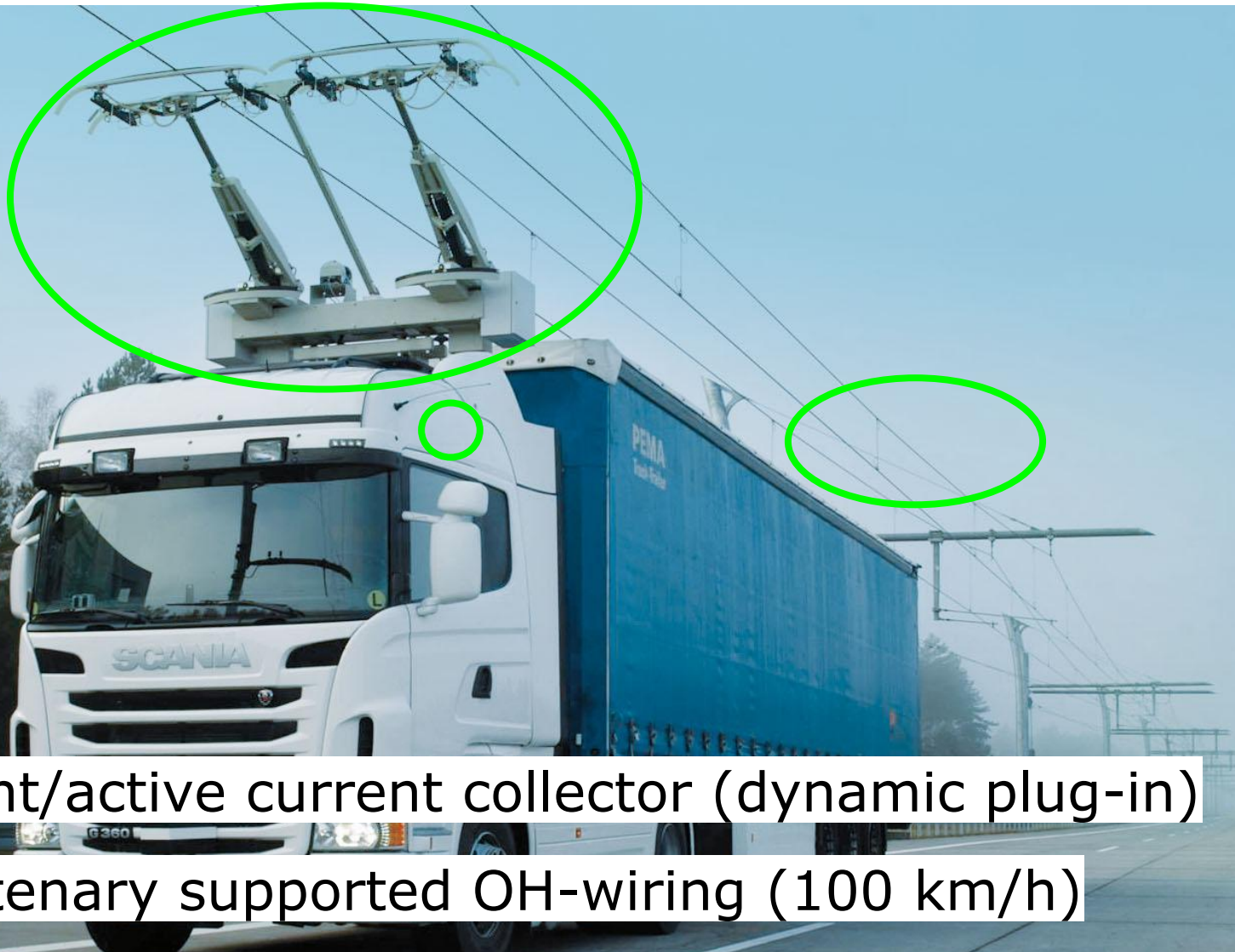




2012 - Market Study



2013 - Business Opportunities



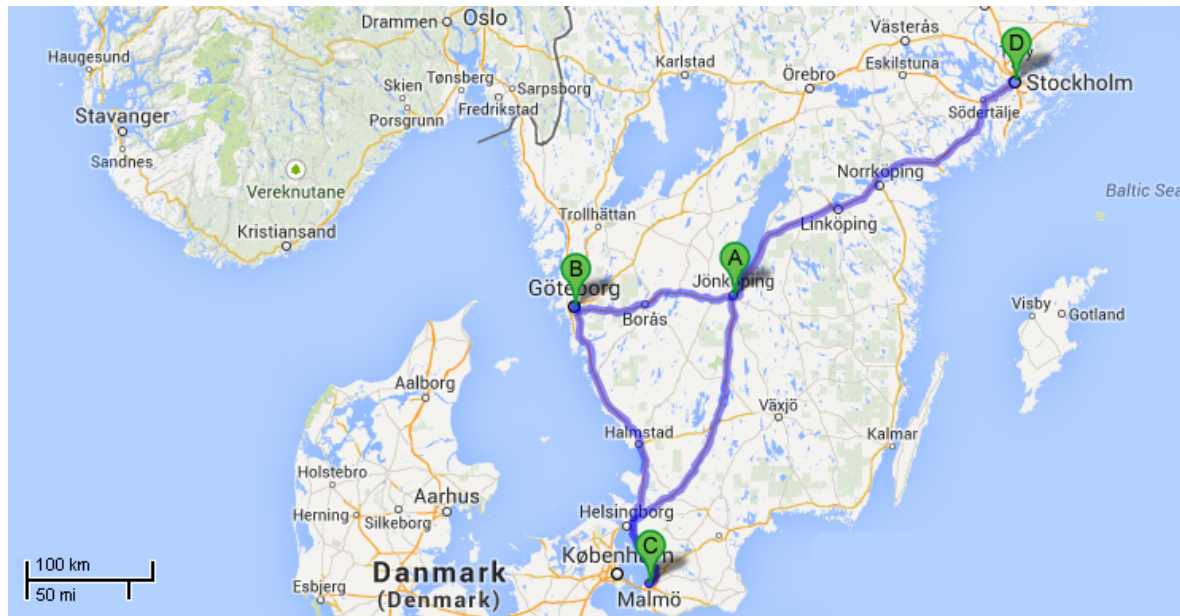
- + Intelligent/active current collector (dynamic plug-in)
- + Rigid/catenary supported OH-wiring (100 km/h)
- + Individual payment system

System economy depends upon how much energy is used, the energy price difference and the investment cost

- Cost of diesel
- Cost of electricity
- Cost of electrification of vehicles
- Cost of infrastructure

A number of uncertain parameters!

System economy



Distance 1 000 km

Annual mileage: 1 000 mkm (~1 truck / min)

Concurrent trucks 5 500

System economy

Fuel savings	0,3-0,4 €/km
Annual mileage	1 000 mkm
Annual savings	3-400 m€/year

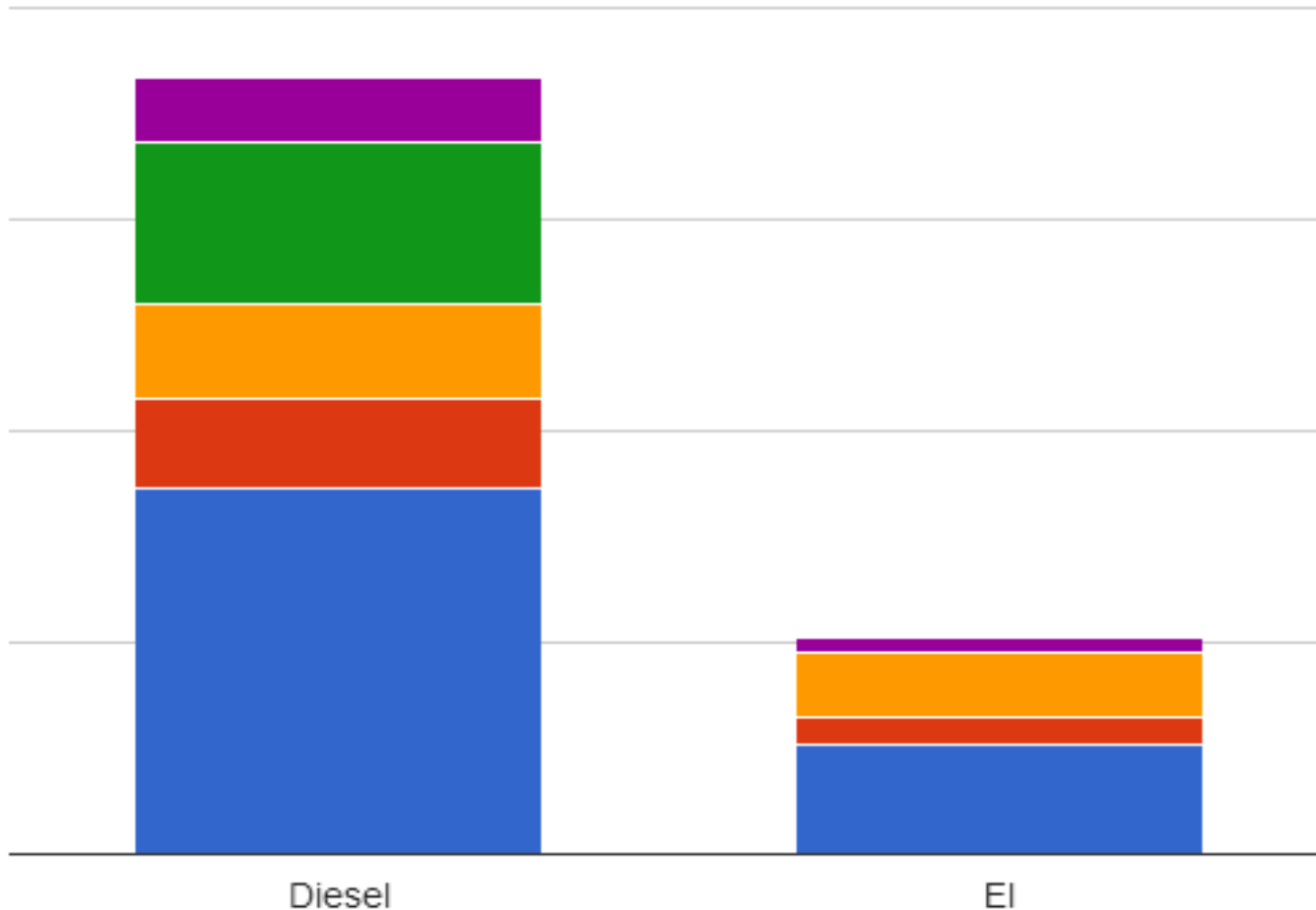
Investment

1 000 km	1 m€/km	1 000 m€
5 500 trucks	50 000€	275 m€
Total investment		1 275 m€

Payback period

Investment	1 275 m€
Annual savings	300 m€
Payback time	4.24 year

Product price and tax



1 liter diesel equals 4 kWh electricity (energy efficiency 2.5)

1. Gamechanger
 - a. Politics - railroads vs roads
 - b. Truck market
 - c. Tax authorities - 50% of savings are tax!
-

2. Cost?
3. When?
4. Standards?
5. Road safety?
6. Aesthetics?

Whats up now?

Port of Los Angeles:
1 mile demo route
2015 or sooner



Sweden:
Location ?
2015-2016



Thank you for your attention!

