Siemens eHighway
Electrified heavy duty road transport

ITF Summit, 28th of May 2015
Electrification of hybrid trucks via an overhead catenary system

Advantages

- High energy efficiency
- Reduced operating costs
- Swift integration into existing infrastructure
- Safe, reliable & open technology
Electric road systems are able to integrate a wide range of technologies without operational limitations.

**Hybrid concepts**
- Parallel hybrid
- Serial hybrid
- Diesel or gas combustion engines

**Full electric concepts**
- On-board energy storage by batteries or capacitors
- Recharging schemes
- Fuel cell technology

**No concessions on truck availability and performance**
- Full electric operation up to 90 km/h

**Operability in all situations**
- Passing
- Cutting in / out of lanes
- Full electric idling

Compatible with and complementary to alternative fuel technologies. It could even aid their development.
eHighway demonstration track today

Development project

- Test track of 2.1 km with realistic highway conditions
- Technical assessment of complete system by TU Dresden & BASt (the German Federal Highway Research Institute).
- Analysis of the economic and ecological impacts by German federal ministries lead to approval of field trial plan by 2017
- Cooperation with e.g. Scania and Volvo
Public road demonstration in the U.S. in Fall 2015

Background

- Trucks are a key link between the ports and rail yards
- Air quality and GHG concerns
- AQMD (Air Quality Management District) is pursuing environmental relief for the LA metropolitan area

- **Goal:** To promote the implementation of zero emission goods movement technologies, and to demonstrate the most viable technology to be adopted for a future, regional zero-emissions corridor

Scope

- One mile of infrastructure on Alameda St. next to the near-dock rail terminals.
- Integration on different hybrid and zero-emission trucks supplied by Volvo Trucks and local truck manufacturers
- Construction work has started, with demonstrations to begin in Fall 2015
- Demonstration period of 12 months for data collection and evaluation
Electrification is especially attractive on highly frequented routes

**eHighway application fields**

**Shuttle transport**
- Solution for high frequency shuttle transport over short and medium distances

**Electrified mine transport**
- Connection of pits and mines to storage or transit locations

**Electrified long-haul traffic**
- Economical and sustainable alternative for road freight transport

The development path of road electrification is likely to echo that of rail electrification a century ago
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