pilot project with a catenary-based electric road system

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route and specific characteristics
road network in Baden-Württemberg

⇒ Searching for a route on a main road
route and specific characteristics

- located in the west of Baden-Württemberg on a main road (not a highway)
- distance: 18.3 km
- 3 electrified areas (distance in total: ~ 5.7 km)
- limited space ratio in area 3; one single lane in each direction
- existing shuttle-transportation 24/7 between a logistics center and 3 paper manufacturers
- noise problem with the arrival and departure of the trucks
- Tunnel in Gernsbach (not electrified)
- railway line runs parallel; opportunity for a comparison
**feature of trucks**

<table>
<thead>
<tr>
<th>Km per year</th>
<th>circulation</th>
<th>Total weight</th>
<th>payload</th>
<th>LOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>180.000 – 220.000</td>
<td>&gt; 60 per day 24/7</td>
<td>40 tons</td>
<td>23 – 25 tons</td>
<td>07/2017</td>
</tr>
</tbody>
</table>

transport partners have the same routes and goods (cardboard) → similar conditions for both transport partners
Scientific research

Research for various aspects, especially:
- Impact on planning and operation of the road
- Impact on noise and air pollution (→ measurement)
- Aspects to the supply of electricity
- Comparison between the hybrid catenary trucks and the railway goods traffic
- Connection to adjoining countries (e.g. France)
- Social acceptance of hybrid catenary trucks

→ foundation for a decision on a rollout of catenary-based electric road systems
Current situation
completed work

1. Initialization: searching for partners
   - **partners**: Regierungspräsidium Karlsruhe, Landkreis Rastatt, Südwestdeutsche Landesverkehrs-AG
   - **scientific research**: Fraunhofer ISI, Fraunhofer ICT, Forschungszentrum Informatik, PTV Transport Consult
   - **8 associated partners**: 2 transport partners, 3 paper manufactures, Netze BW, e-mobil BW, Bundesanstalt für Straßenwesen, Verband Spedition und Logistik

2. preparation: site investigataion and measurement

3. Preliminary planing and searching for a suitable location for the infrastructure
Current situation
completed work

4. Visualization for two sections

5. Statement of experts for electromagnetical aspects, impairment of noise, vibration during construction

6. Conversations to the local authorities

7. Building permission

8. Various information events for citizens
Visualization
area 2 „Oberndorf“
Visualization
area 2 „Oberndorf“
Visualization
area 3 „Ottenau“
Visualization
area 3 „Ottenau“
profile in area 3
Current situation

- Announcement for the construction terminated in February 2019
- Result: no offers
  - no established market or series production
  - infrastructure depends on the local conditions
- Special technical solution for area 3 is necessary
  - Delay in the construction of the infrastructure
- New negotiations with potential contractors

A pilot project is for doing research!
Thank you for the attention!

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