Electric Road System Conference
May 7-8, 2019 in Frankfurt
Planning, approval, construction and commissioning of the eHighway route on BAB A1 in Schleswig-Holstein
Where is the test track?
Why is this section suitable for testing?

- Representative of busy motorways in Germany
- About 9,000 heavy trucks per day
- Structural typical "hurdles" for the technology (existing structures, pipes, embankments, etc. at the BAB)
- Rehabilitated section of the BAB A1
- Part of the main traffic route ‘Spedition Bode’
- Supply from 100% regional renewable energy sources possible
- Expansion of the cooperation with Sweden on eMobility
Project objectives

- Proof of the road and traffic feasibility of the electrification of highways using overhead lines

- Test and document of the technical performance of the overhead contact line system in situ (with scientific support)

- Evaluation of the system in the context of structural, traffic engineering and operational requirements
Basic conditions

- OLA is an accessory of the highway
- project is not obliged to EIS

Planning approval

- TÖBs, stakeholders, etc. agree
- permission is available

Tender of the construction work

- award maturity
- approval

Project schedule

May 2017

July 2017

September 2018
Project schedule / 2

**Construction phase**
- detailed design
- training
- testing
- test mode
- decrease

**Operational phase**
- commissioning
- scientific accompanying research

**Assignment of the construction**
- work
- procurement

- **March 2018**
- **June 2019**
- **July 2019**
Two variants are possible in Germany by law to get a permit for the test track:

**Variant 1: Usual way** (duration 2 - 3 years)
- Implementation of the environmental impact assessment
- Implementation of the plan approval and planning approval

**Variant 2: Exception** (duration 4 - 5 months)
- No environmental impact assessment
- No plan approval and planning approval
- Detailed description of project and written approval of all parties involved
To go for variant 2 it is necessary to proceed a professional assessment of all conceivable environmental influences through the test track, in particular:

- influence on existing protected areas
- influence on soil, water, air and climate
- influence on human health and fauna, landscape and flora, cultural and material assets
- cumulative effects
- influence on the traffic flow

Written consent of all concerned "public authorities"; these are residents, associations, NGO, police, fire brigade, et al. (38 parties)
The short variant 2 has been successful, because:

- much proactive information about the project to all parties concerned
- high support from the sponsor BMU
- high support from the state government
- request for various independent studies
- close support by nature conservation experts
- signing of an “realization commitment" with the parties concerned
Construction phase

A lot of things went very well and according to plan, but you are not sure about surprises.
Construction phase
Pipe ramming and foundation
Construction phase
Mast installation and cantilever mounting
Construction phase
Cable construction
Construction phase
Driving wire installation
Construction phase
Installing crash barriers
Construction phase
Substation construction
Construction phase
Bridge construction
Special challenges during the construction phase
Concrete at unexpected places
Special challenges during the construction phase
Insufficient soil bearing capacity
Special challenges during the construction phase
Delaying the approval of heavy goods transport
Full closure of the highway
Findings to date from the project:

- project is almost in-time
- invest a lot time in the beginning phase of the project
- inform all affected persons about the project at an early stage, take notes and concerns in consideration
- especially close cooperation with police, fire and rescue workers
- who builds must expect surprises
- Special attention to transport companies who will drive on track
- the potential of the eHighway system for Germany can only be tested as part of a "real" test on a German autobahn
- the eHighway system does fit on the motorways in Germany and can be implemented
We look forward to the completion of the construction phase in June 2019 and start to testing.

Many thanks to BMU and VDI / VDE for the promotion.