

eHighway - Electrification of Freight Transport

Role of BAST: Technical Review of the eHighway system

Test facility in Groß-Dölln near Berlin

- reproduction of a BAB section
- about 1500m/ 1 mile long
- safety barriers, traffic signs, VMS
- 2 trucks, 1 trailer truck

BAST: Technical Validation / Review

- effects on infrastructure
- effects on traffic safety, traffic flow, vehicle safety and operation
- interdependency between eHighway and other technical systems
- rescue / repair after accidents
- technical review of the solution



Results of Technical Review for German Motorways

Results of Technical Review:

- No additional limitation regarding height of heavy goods vehicles ✓
- Successful construction of poles and catenary at motorways ✓
- Solution for construction of catenary beneath traffic signs and bridges ✓
- Proposals for construction of poles and catenary on long bridges
- Concept for crash test, at least H4b safety barrier necessary ✓
- Psychological study about legibility and visibility of traffic signs ✓
- Proposal of electrical safety and operational concept (system & vehicles)
- Study about EMC and impact on human beings ✓
- Integration of pantograph requires 50 cm extended vehicles

Basic Concepts for Construction and Operation, to be detailed in following projects:

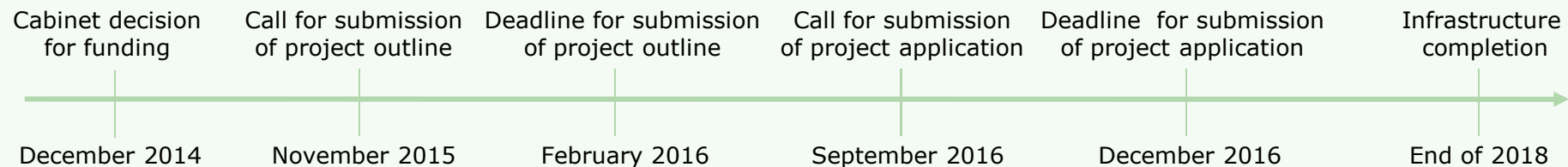
- landing of rescue helicopter on motorway impossible -> adapted rescue concept
- Emergency circuit breaker and shut-down system
- Construction of contact line on motorways without traffic limitations
- Road maintenance (infrastructure and catenary) without traffic limitations

Field Trials Germany

Description

The German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) set up a funding program for an eHighway trial under realistic applications and in public traffic space with comprehensive scientific support. This pilot project is a consistent follow-up of the former ENUBA R&D-projects and focuses mainly the investigation of the functionality and reliability of an eHighway system in real operation.

Process and Timeline



Scope

- Number of projects: 3 (BW, HE, SH)
(different locations / applications)
- Length of the track: approx. 5 to 8 kilometer per project
- Amount of trucks: approx. 5 per project
- Use cases: Highway and Shuttle (i.e. port)
- Project timeline: approx. 8 months construction
& 2 years testing
- Support: Comprehensive scientific assessment

