ETCS Level 2 Denmark, Preliminary Design Study and Migration Planning

Feasibility study, preliminary project and migration scenario for the by Banedanmark proposed networkwide migration of the existing, partly obsolete signalling, to the new European train control system ETCS level 2. Despite the train control system interlockings and central control shall be replaced too.

The service contract was executed in a joint venture with Rambøll (DK) and R+R Burger und Partner (CH). Emch+Berger AG Bern has been essentially responsible for the technical expertise. This included the development and application of models for the quantitative recording and evaluation of the new signalling system as well as the development of realistic migration scenarios based on predetermined financing strategies.



Client
Banedanmark (DK, Copenhagen)

Period: 2005 - 2008

Delivered services
- Generation of the technical data base
- Evaluation of available technology
- Development of appropriate models for quantification
- Development of Migration-Scenarios
- Development of maintenance models
- Assistance in cost modelling
- Market surveys

Specifications
- Line length: 2'100 km
- Track length: 3'200 km
- Max. speed: 200 km/h
- Headway: 3 min. on main lines
- Train control system: ETCS level 2
- RBC with interface to GSM-R-netzwork: approx. 40
- Interlockings: approx. 20
- Balises: approx. 3'000
- Control centres: 2 equipped with state-of-the art control systems