

ETCS Level 2 Denmark, Submission Train Control and Signalling System

Submission project for the by Banedanmark proposed total renewal of the Danish signalling infrastructure by the new European train control system ETCS level 2. Despite the train control system interlockings and central control shall be replaced too. The basics for the Submission have been set by the end of 2008 in a preliminary project which was proper designed also by Emch+Berger AG Bern.

The service contract was executed in a joint venture with Rambøll (DK), Atkins (DK/UK) and Parsons (UK). Emch+Berger AG Bern has been essentially responsible for the project management and development of technical issues of the long-distance rail network. This included the development of concepts, requirements and tender documents in the fields of ETCS, interlockings, traffic management systems, timetable concept 2020 or passenger information systems as well as the preparation and the execution of the offer evaluation.

**Client**

Banedanmark (DK, Copenhagen)

Period: 2009 - 2011

Delivered services

- Technical concepts
- Conceptual timetable 2020
- Requirements / specifications
- Comprehensive technical requirements
- Submission documents
- Offer evaluation

Specifications

- Line length: 2'100 km
- Track length: 3'200 km
- Max. speed: up to 200 km/h
- Headway: 3 min. on main lines
- Train control system: ETCS level 2
- RBC with interface to GSM-R-network: approx. 20
- Interlockings: approx. 15
- Balises: approx. 3'000
- Control centres equipped with state-of-the art control systems: 2