

Project: "NET2012 Light Rail Karlsruhe"

Client: Stadler Rail Valencia

Contact Person: Technical Project Manager, Jorge Vara
Email: jorge.vara@stadlerrail.com

Project Duration: 2011 - 2013

Project Brief:

The given task was to provide engineering assistance for the development of a light rail vehicle. This vehicle concept may be implemented as a single-system light rail vehicle (750 V), as a two-system light rail vehicle (750 V / 15 or 25 kV), or as a diesel hybrid vehicle. In the case of the Karlsruhe project, a unidirectional low-floor light rail version was implemented for operation in BOStrab- and EBO-areas.

Brief Vehicle Description:



Model/Type: Unidirectional Vehicle	Max. axial load: 11,5 t
Vehicle length: 37,2 m	Min. curve radius: 22 m
Vehicle width: 2,65 m	Gradeability: 70 ‰
Entry height / Low-floor area ratio: 340 mm above top of rail / 80 %	Multi-functional area: 2 wheelchairs + 2 buggies + 2 bikes
Total capacity (with 4 people/m ²): 244 passengers total, 107 seats	Type approval in accordance with the BOStrab / EBO

Task Description:

1. Preliminary studies:

- Analysis of infrastructure and operating requirements, as well as legal regulations, for varying applications of light rail vehicles
- Definition of parameters for vehicle development, e.g., the maximum and necessary vehicle mass and dimensions, vehicle dynamics, passenger capacities, etc.
- Definition of parameters for the running gear

2. Preparation for vehicle development:

- Drafting the functional specification document
- Drafting the technical system description documents
- Outlining the norms and regulations that must be complied with in order to adapt the vehicle concept for international markets

3. Assistance with construction and procurement:

- Cooperation with the rail operator in calibrating the functional specification document
- Drafting and reviewing the system description documents
- Providing Technical Opinions and assistance with applying for type approval and operating permits
- Initial sample inspection and subsequent vehicle inspection, incl. protocolling
- Inspection of vehicle and maintenance documents