

Control System Technology (Rolling Stock)



Control system technology in railways is based on the principle of functional and operational safety. The corresponding requirements in the areas of hazard and risk analysis, software, hardware and safety cases are based on the standards of the European committee for electrotechnical standardization (CENELEC) and within the framework of approval processes, wide-ranging proofs are required regarding development of control systems.

Our inspection Body which is accredited by the German accreditation agency (DAkkS) performs independent and competent inspections of control systems as well as the associated safety cases.

TÜV NORD assessors have long years of experience in the assessment of control systems technology, including associated software related to national approval procedures.

TÜV NORD - Making our world safer.

Our services

Qualification of safety-relevant systems and control equipment

- Examination/assessment of the system design, failsafe mechanisms, failure tolerance, error identification and circuit diagrams.
- Assessment of components, systems attributes, safety and functional proofs

Certification of hardware and software applications (EN 50126 / EN 50128 / EN 50129 / EN 50159 and EN 50657)

- Planning/implementation of verification during development
- Validation planning (Establishment of validation procedures, creation of test plans and completeness checks)
- Validation (Functional tests in the laboratory and on rolling stock)

System-related items

- Operational requirements
- Hazard and risk analyses
- System design (diversity/redundancy)
- Safety-related application conditions
- Special technical questions (communication networks, automatic train protection systems and remote control systems)

Advisory service regarding standards

- CENELEC standards EN50126 / EN50128 / EN50129 / EN 50657
- Information security and cyber security
- Quality and Safety management

Training

- Hardware development EN 50129
- Software development EN 50128
- Verification management EN 5012x
- Security in railways sector EN 50159 and IEC 62443

The benefit to you:

- Protection of people and the environment
- Total service supplier with multi-system expertise
- Comprehensive support from our experts
- Independent advice appropriate to requirements
- Officially recognised reports
- Cost-effective processes
- In-depth knowledge of homologation processes

Our expertise:

- Independence and neutrality
- Specialist independent experts with long-standing experience
- Assessors with EBA-recognition
- Accredited inspection body according to DIN EN ISO/IEC 17020 (DAkKS)
- Notified Body (NoBo)
- Designated Body (DeBo)
- Assessment Body (AsBo)
- Partner of country and municipal authorities (Landeseisenbahnaufsicht (LfB, TAB))
- Associated partner of the German notified body

We look forward to sharing our expertise with you.
Why not contact us.

Tel.: +49 431 7307-127
rail@tuv-nord.com

TÜV NORD Systems GmbH & Co. KG

Große Bahnstraße 31 · 22525 Hamburg
Am TÜV 1 · 30519 Hannover
Am Technologiepark 1 · 45307 Essen

www.tuev-nord.de

