



Choose certainty.  
Add value.

## Railway energy services

Establish safe and reliable rail power supply systems that meet operational requirements.

### Your challenges

As rail networks grow, so do the number of trains in operation, leading to increased frequency of acceleration and braking as well as higher air-conditioning demand. Rail manufacturers, railway infrastructure managers and operators need to accommodate rising energy demands, ensure constant availability and meet energy efficiency requirements. Railway stakeholders require reduced downtime, fewer service interruptions and lower lifecycle costs. Due to these growing challenges, ageing assets and complex operating environments, manufacturers must ensure that new components and complete systems are designed with reliability, availability, maintainability, electromagnetic compatibility (EMC) and electrical safety in mind. In addition to all of these challenges, customers increasingly demand energy efficiency in railway power supply systems to achieve cost reductions and support a greener image.

### What services are available to meet energy requirements in the rail sector?

Our experts fully understand the needs of rail manufacturers, railway infrastructure managers and operators. We support these stakeholders with a range of services that includes safety management, safety assessment of design and interoperability, traction power simulations, specification of main equipment, and design review.

### How do these services benefit your business?

Railway infrastructure managers and operators can ensure service reliability by utilising third-party services to establish power supply systems that meet operational parameters and applicable standards. For equipment and rolling stock manufacturers, these services facilitate access to lucrative markets while providing an edge over the competition.

## How can we help you?

With years of experience in the rail sector, TÜV SÜD offers proven capabilities backed by international recognition. We help you to ensure reliable and safe operation of all rail power supply systems. Our experts understand the complex needs of the rail business and have the experience to support the execution of appropriate test programmes. We provide a witness testing service in third-party facilities and on-site. As part of our certification services, we offer TÜV SÜD certification marks that are globally recognised and synonymous with quality and safety. Furthermore with the affiliated company SIGNON, TÜV SÜD offers engineering services within the rail energy sector.

## Our railway energy services

TÜV SÜD's railway energy services help you to operate your rail power supply system safely and reliably, taking into consideration increased power demands, energy efficiency requirements, interoperability according to TSI, maintainability, availability and safety, even with ageing assets.

- **Traction power demand studies and subsequent specification of main equipment**

TÜV SÜD's experts specify the equipment that is necessary to meet operational requirements (transformer power, number of cables and voltage requirements, contact line design, feeding configuration). Our service is integrated with the ELBAS-SINANET® and ELBAS WEBANET simulation programs.

- **Energy saving**

TÜV SÜD has the tools and expertise to evaluate your power supply systems and support you in identification of energy-saving opportunities.

- **EMC studies**

Our EMC engineers have the competence to verify your equipment designs to ensure compatibility of the equipment in its operating environment.

- **Design review**

TÜV SÜD provides design review services to ensure design standards, alignment and diligence throughout the course of your equipment design phase.

- **Safety assessment of design for rail power supply installations**

Our experts support you by verifying the design of your rail power supply system. They also carry out audits and site visits to ensure that the actual construction of the installation meets safety requirements.

## Your business benefits

- **Minimise risk** – from the onset by ensuring that your installations comply with requirements for their operation.
- **Save time and money** – through our experience in definition and quality control to ensure minimal downtime and avoid costly interruptions.
- **Gain a competitive edge** – by meeting efficient energy system requirements based on operational parameters to achieve market success.
- **Work with an expert partner** – to support your innovative manufacturing and system integration activities.
- **Promote a green image** – by achieving your environmental targets for energy implementation while realising cost savings at the same time.

## Why choose TÜV SÜD?

As an independent third-party service provider with nearly 50 years of experience in the rail business, TÜV SÜD is uniquely qualified to verify the reliability and functionality of your rail energy systems. We adopt a transparent approach to your projects that helps to instil confidence in your customers. Leveraging our international presence, we support your business by applying global expertise together with local knowledge of key markets. Our multidisciplinary experts offer world-class insights based on best practices and foresight knowledge. Through our close collaboration with railway authorities and other stakeholders, we can keep you updated on the latest regulatory requirements and industry trends.

## Choose certainty. Add value.

TÜV SÜD is a premium quality, safety and sustainability solutions provider that specialises in testing, inspection, auditing, certification, training and knowledge services. Represented in over 800 locations worldwide, we hold accreditations in Europe, the Americas, the Middle East, Asia and Africa. By delivering objective solutions to our customers, we add tangible value to businesses, consumers and the environment.

## Related services

TÜV SÜD provides the following related services:

- Signalling services
- Embedded system services
- Rail infrastructure services
- Urban rail system services