Your challenges
Manufacturers, infrastructure managers, operators and authorities must provide safe and reliable guided passenger transport systems. This entails challenges to deliver on schedule and within budget, from the planning phase through to operation. Whether you are designing and constructing a new metro system or upgrading an existing one, higher performance considerations, increasing technical complexity and evolving passenger expectations are concerns. Beyond this, the ever-increasing requirements of standards and regulations impose a great deal of preparatory work and commercial risk on the approval process.

How can we help you?
TÜV SÜD supports the approval process of systems, subsystems or components, and the operational issues for urban guided passenger transport. Engaging our expertise at the onset ensures safety, reliability and reduced risk, both technical and commercial. To help operators meet commuter expectations, we adopt an end-to-end approach that involves good planning, sound implementation, and processes for continuous feedback and improvement. Our experts are qualified to conduct safety assessment. They can review technical documentations and carry out practical examinations of the product to confirm the validation made, thereby applying the basic safety principle of four-eyes examination.

Based on almost 50 years of involvement in many large global rail projects, we can devise tailored solutions to meet the challenges of metro railway service delivery. Ensuring the safety, reliability, maintainability, convenience, affordability, inter-modal transfer and security that are all important factors for the ultimate customer.
Our independent safety assessment services
By recognising weaknesses at an early stage, analysing appropriate intervention measures and ensuring your specific requirements are addressed at the onset, our experts prevent high consequential costs and schedule delays. Our services include:

- Evaluation of tender documents and technical specifications, and requirements management to allocate identified requirements to technical functions or properties respectively.
- Review of risks by assessing safety analysis, basic concepts and requirements definitions.
- Review of technical documents for aspects related to design and construction, fire safety, mechanical engineering, electrical engineering, software, EMC, etc.
- Inspections of manufacturing, assembly and commissioning.
- Measurements on mechanical and electrical components; for example, mechanical strain, door functions, brake performance, electrical insulation, earthing, EMC, noise emissions, ventilation, etc.
- Acceptance inspections of completed systems; for example, by testing control functions and failure simulations.

Our consulting services
Our experts provide holistic support throughout every stage of your metro project lifecycle, from planning and design to operation and maintenance.

Project planning and design phase:
- Consultation on project definition, and conceptual planning and design.
- Tender preparation services for contractors and suppliers.
- Support for project management (scope, time, safety, quality, cost, resource, risk, communication, procurement and contract).
- Support development of common ticketing strategies and solutions (e.g. smart card technology).
- Advice on international business strategy.
- Advice on non-fare revenue (e.g. advertising, retail).

Operation and maintenance phase:
- Train and station operation strategies (ticketing, central control and operations planning).
- Station-based maintenance, way-side maintenance, rolling stock maintenance and maintenance planning.
- Asset management.

Your business benefits
- **Minimise risk** – by identifying risks as early as possible and ensuring things are done right the first time.
- **Save time and money** – by leveraging our experience and expertise to establish the necessary steps or requirements, thereby avoiding cost-intensive, time-consuming problems at a later stage.
- **Increase efficiency** – with a seamless, multidisciplinary solution throughout your project lifecycle.
- **Gain an expert partner** – to support your innovative projects and special constructions.

Why choose TÜV SÜD?
We adopt a proactive and pragmatic approach to achieving compliance at an acceptable cost. As a respected international brand, TÜV SÜD possesses a wealth of technical experience and a proven track record in urban metro systems. We are widely recognised as a railway safety assessor by many railway authorities and National Safety Authorities; for example, NE railways and BOSStrab in Bavaria & Saxony (Germany).

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 and Asia. 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:
- Approval management
- Complete system services
- Electrical and mechanical (E&M) system services
- Rail infrastructure services
- Rolling stock services
- Generic safety system services
- Training for the rail sector