

**SIEMENS**

*Ingenuity for life*

Side by side from  
start to finish

**Turnkey rail solutions**

Maximum reliability, availability and efficiency

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# Facing the challenges of today's cities and its clusters

Increasing pressure on infrastructure is driving demand for more efficient, higher-performing rail systems

### Growing urbanization

Cities are bursting at the seams, putting a strain on infrastructure. Such rapid urban growth demands new or extended rail systems. Mobility is the basis for economic growth within today's cities and regions.

### Demand for sustainability

Climate change calls for sustainability, regarding the use of our resources, pollution, and in terms of ROI. Embracing sustainable economic growth increases customer satisfaction, safety, and, above all, increases value sustainability over the entire lifecycle over the entire lifecycle.

### Digitalizing Mobility

As digitalization becomes increasingly important, innovative rail systems unlock new potential for the mobility sector. Digital solutions optimize operating costs, not only due to greater transparency, but also because of increased automation, reduced personnel overhead, as well as safety and an increased availability.

### Rising complexity

Complex infrastructure projects require a comprehensive approach, from planning, financing and technology, through to training, services and maintenance. The best way to deal with this increased complexity is using a turnkey solution, as the single source reduces overall risks and project costs. Siemens Mobility offers a sustainable mobility solution configured to your needs.

### One project from a single source. Benefits of a turnkey solution:

- Guaranteed fully functional system
- Reduction of complexity
- Fewer and risks
- Faster project execution
- Integrated design



# Experts all under one roof

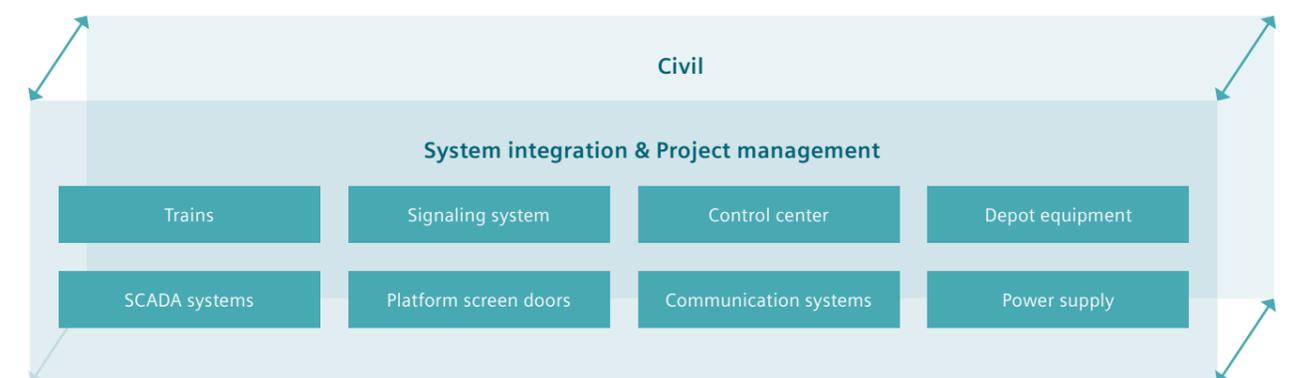
A single-source solution for maximum efficiency and minimum risk

### Effective project management

Productive project management provides you with reliable scheduling, resource-efficient organization, and seamless communication with your dedicated contact person. Our experts offer professional stakeholder management, clearly defined areas of responsibility, as well as realistic schedules, and standardized processes.

### Reliable system integration

System integration from a single source saves time and money: experts efficiently synchronize the various interfaces, seamlessly connecting all systems including platform screen doors, communication systems, depot equipment and automatic fare collection. Our systems and solutions are both safe and fulfill the cyber security requirements. Complete virtual planning of the project – using a digital twin – avoids system conflicts and allows for fewer delays and reduced risks.



# Reliable performance for both cost-efficient and safe operations

With state-of-the-art rolling stock and cutting-edge infrastructure technology from Siemens Mobility



## Innovative rolling stock

Public transportation must meet both economic and environmental requirements. Whether it's for metro systems, trams, or trains – light rail, commuter, local and regional, through to intercity and high-speed rail – or for passenger coaches and automated people movers: Siemens Mobility rolling stock ensures cost-effective, low environmental impact transportation, while saving resources.

## Smart rail automation

For commercial success, mass-transit railways must be quick, reliable and convenient. Experience greater performance and safety with our innovative train control and operations control systems – even fully driverless automation (GoA4). Fail-safe signaling and crossings protection, as well as electronic interlocking solutions, ensures smart and safe train operations.

## High-performance rail electrification

Tailor-made, reliable AC and DC traction power supply, contact line or third rail system meet the full expectations of rail infrastructure operators for mass transit and mainline railways. You profit from our long-standing expertise from consulting to planning and leading technology.

## Further components

Efficient transportation needs all components to function seamlessly together. Siemens Mobility ensures this by integrating further components. This includes platform screen doors, automatic fare collection, communication systems and depot equipment. With everything covered in-house, we can respond rapidly to changes in plan or new schedules – giving maximum flexibility.

# Your partner over the entire lifecycle

From financing, to ensured cyber security and smart maintenance: Siemens Mobility is by your side

## Tailored financial solutions

Accurate financing is crucial to the sustainability of the investment. Siemens Financial Services combines unique technology know-how with financial expertise. We support your investments by offering equipment and technology financing as well as leasing solutions. Benefit from a partnership with a clearly defined distribution of responsibility and risks.

## Tailor-made maintenance and service

Choose from our modular service concept, tailored specifically to your needs. Our digital services offer the basis for optimized operations from sensory and intelligent algorithms to precise analysis. Prescriptive maintenance allows us to detect potential disruptions from the beginning and deliver data-based decision support.

## Professional training

Well-trained employees form the backbone of any operational system. Our certified courses and on-site training, give your staff the professional knowledge to monitor and maintain your systems. Tailor-made training solutions are adapted to individual requirements.

## Easy operations management

Digitally connected operations can be more streamlined and efficient. Our experts know what's important for operations to achieve the maximum throughput and highest availability, as well as the best use for your existing assets. Full-scale testing of vehicles and systems makes commissioning with Siemens Mobility both safe and efficient.

## Ensuring cyber security

The appropriate level of security is vital for safeguarding critical infrastructures. Siemens Mobility follows a comprehensive approach to secure products, solutions and services, which provide protection around and also within railway solutions. This concept is based on system security, network security and system integrity in accordance with the recommendations set out in ISA 99/IEC 62443.



# Testimonies of success

More than 50 successful turnkey projects across the world, for all sorts of transport systems



With our turnkey rail solutions, you can rely on high-performance, risk-free and sustainable systems, all tailored to your needs. You profit from Siemens Mobility as an experienced complete rail solution supplier with all major systems and services in-house – for maximum reliability, availability and efficiency.



### Light Rail Houston

The Light Rail Houston runs along a 12 km line. Running every three minutes at peak times, 8,000 passengers are transported per hour, in each direction. During the 35 month-long project, Siemens Mobility was responsible for project management and system integration, from signaling to track construction.



### High Speed Rail Beijing

The High Speed Rail Beijing runs along a 116 km line and is designed for a velocity of up to 350 km/h. Siemens Mobility was responsible for system integration and overall project management, as well as advanced signaling and overhead catenary.



### Automated People Mover Rennes

The Rennes Line B has very low headways of 67 seconds at peak times, with three car trains, and guarantees high availability of 99.7%. The highly scalable, modular system can be extended to a 3-car configuration. Maximized interior space and latest digital passenger information leads to an enhanced passenger experience.



### Airport Rail Link Kuala Lumpur

The 57-kilometre line in the Malaysian capital links Kuala Lumpur Central Station to the International Airport (KLIA) in just 28 minutes. The Express Rail Link system aims to provide smooth, comfortable and safe transportation to passengers, from the city to the airport and vice versa. As an "airport in the city", the main station's KLS terminal has all the necessary check-in and check-out facilities.



### Riyadh Metro Project

With six lines and a total route length of 176 kilometers, Riyadh is constructing one of the world's largest metro projects, commissioned by Riyadh Development Authority (RDA). Siemens Mobility provides a turnkey system for two driverless metro lines, lines 1 (Blue Line) and 2 (Red Line). This includes "Riyadh Metro Model" vehicles – based on the Inspiro platform, as well as electrification, signaling and communication systems for driverless operation, platform screen doors and depot workshop equipment for three depots.

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