

SIEMENS

Ingenuity for life



Inspiro

The metro platform
from Siemens

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Inspiro

Inspiration for city life

To meet the diverse demands posed by public transportation in the cities of tomorrow, we have developed a metro that sets new standards in its class. Inspiro – the new metro from Siemens.

The new Inspiro is designed to meet people's needs for a better quality of life. Passengers travel in a pleasant, stress-free environment – thanks to the bright interior, attractive lighting, and draft-free air-conditioning. The natural materials in warm colors enhance the relaxing and revitalizing atmosphere of the Inspiro metro.

The Inspiro also delivers maximum advantages with its high passenger capacity and low operating costs, combined with the Siemens environmental benefit: energy-efficiency and eco-friendliness – from its production and daily operation to its almost total recyclability.

Energy efficiency

The Inspiro's energy efficiency is based on two factors – its weight-saving design and energy-efficient technologies. The light-weight carbody and a weight-optimized bogie reduce the overall weight of a single car by more than three tons compared with the previous generation. LED lighting in the passenger compartment and a demand-responsive, air quality-controlled air-conditioning system reduce the Inspiro's energy consumption even more.



The option for driverless operation – a unique feature offered in combination with conventional operation – guarantees the highest level of energy efficiency by controlling braking and acceleration throughout the entire metro system. Recuperated brake energy can be used immediately by simultaneously accelerating trains.

Flexibility

The Inspiro platform allows up to eight-car train configurations with varying degrees of motorization – up to 100 percent. The interior can be equipped with longitudinal, transversal, or mixed seating configuration, depending on customer needs.

In addition, the length and width of the carbodies can be varied. The trains can also be configured with three or four doors per side – with outside sliding or sliding-plug door types as options.

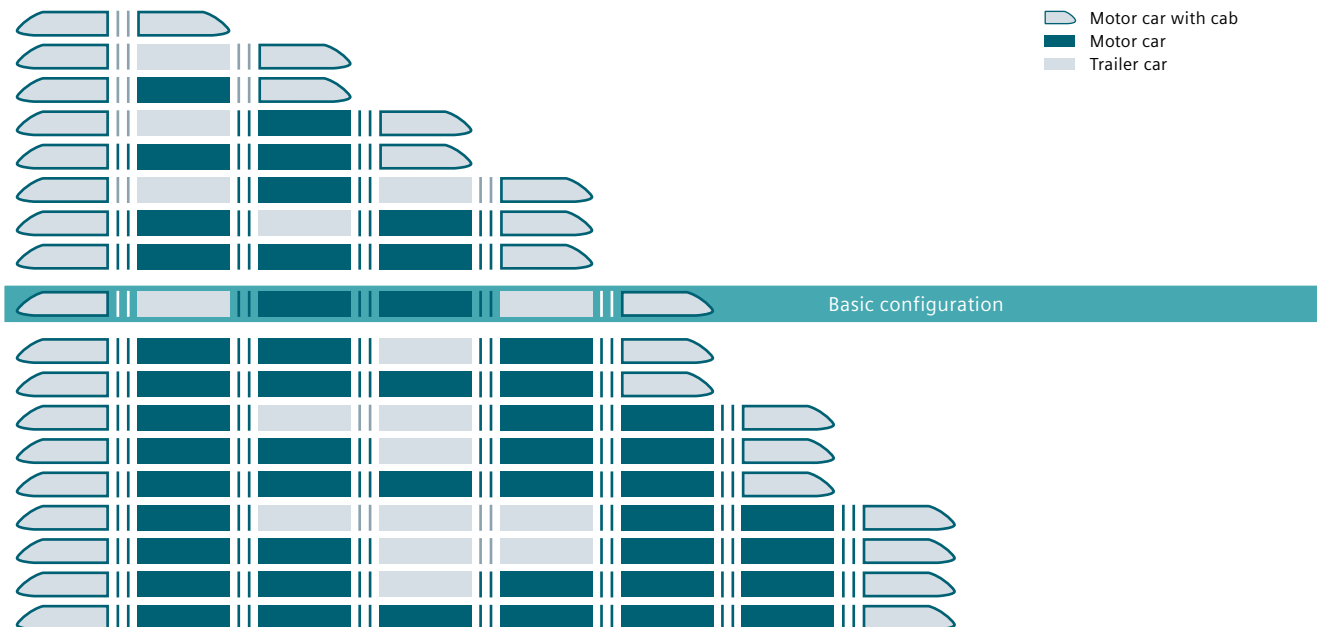
Optimized capacity

There are no electrical or appliance cabinets in the passenger area, creating more space for riders and enabling operators to optimize passengers capacity.

Large doors 1,400 mm wide make it easier for passengers to board and exit the Inspiro.

The doors can be equipped with easy-to-see light strips. In conjunction with the octagonal door shape, they help guide passengers into the cars from the platform.

This reduces the dwell time in stations, which makes the fleet operation more efficient and increases system capacity.



Inspiro

Subway travel that engages
all the senses



Extraordinary design

The Inspiro's modern and distinctive vehicle design is immediately impressive. It was developed in collaboration with Designworks, a BMW Group Company.

The exterior's dynamic front end and large windows are striking and elegant, and make a lasting impact on the city's image.



Inspiro Interior with Lighttree

High level of passenger comfort Interior

The Inspiro has large entrance doors and a thoughtfully designed interior with wide passageways that impart a generous feeling of space. The innovative ambient lighting system, with its carefully placed groups of lights, creates a pleasant atmosphere not previously seen in metros.

New grab-handle concept

Instead of the usual grab poles and hand rails, Inspiro offers innovative and distinctive supports in the form of a stylized branched tree: the Lighttree. It allows several passengers to hold on while maintaining a comfortable distance from others.

Innovative passenger information system

Some of the passengers supports in the Inspiro also feature large displays that provide information at convenient places throughout the car. Known as "Virtual conductors," they can also be used for other purposes, such as advertisement or entertainment. Additional displays can be installed on the side walls.

Safety

The vehicle concept was developed in accordance with the latest crash and fire protection standards, and the car body



Inspiro Interior with Virtual Conductor

Reliability

The Inspiro platform is a product of Siemens' wide-ranging experience with metro systems. After all, Siemens metros are in use in large cities all over the world. The new Inspiro modular vehicle concept is based on tried and tested components.

During development, special attention was given to ensuring easy replacement of worn parts and spare parts and to component



Interior Metro Riyadh



Interior Metro Munich

has an enhanced compressive strength of 1,000 kN. Ultramodern interior video monitoring, fire alarm, and firefighting systems can be installed.

A derailment detection system and highly sensitive door monitoring can also be provided to maximize passenger safety.

reliability. Sensors in the traction motors could be completely eliminated. Maintenance activities can be facilitated even more by the optional use of remote diagnosis, which increases the metro trains' availability for passenger transport.

To ensure high quality and reliability, every vehicle is thoroughly tested before delivery at Siemens' own test center in Wegberg Wildenrath.

Inspiro

Efficiency through innovation



Metro Warsaw

Cost-efficient and environment-friendly

The low operating and maintenance costs, reduced energy consumption, and the natural and recyclable materials used offer benefits for operators and the environment alike.

The Inspiro's environmental impact has been reduced throughout the entire product lifecycle. As a result, the train has a recyclability rate of up to 95 percent at the end of its service life (UNIFE Recyclability Calculation Method for Rolling Stock).

References

The first Inspiro trains were put into service in Warsaw. In February 2011 Metro Warsaw ordered 35 six-car trainsets for the existing Line 1 and to expand the city's network.

References based on the Inspiro platform:

- **2010:** Order for 21 six-car trains for Munich – first Inspiro components
- **2011:** Order for 35 six-car trains for Warsaw
- **2012:** Order for 58 four-car trains for Kuala Lumpur
- **2013:** Order for 67 two- and four-car trains for Riyadh
- **2015:** Order for 21 four-car trains for Nuremberg
- **2015:** Order for 20 three-car trains for Sofia

Metro Riyadh





Metro Munich

Technical data	Basic configuration	Variants
Train configuration	6-car train, 66% motorization	2- to 8-car train, up to 100% motorization
Car body material	Aluminum	Stainless steel
Traction power supply	750 VDC, 3rd rail	1,500 V, pantograph
Car length (over coupler)	20.1 m / 19.4 m (end car/intermediate car)	18.6 m to approx. 22.0 m
Car width (over door step)	2.77 m	2.63 m to approx. 3.0 m
Door type	Exterior sliding doors	Sliding-plug doors
Number of passenger doors per car side / door width	4 / 1,400 mm	3 / 1,400 mm
Maximum axle load	Approx. 13 t	Approx. 16 t to 17 t
Seat arrangement	Longitudinal configuration	Transversal and mixed configuration
Passenger capacity per train (7 pass./m ²)	1,450 passengers	Depending on train / carbody size and seat configuration
Seats per train	256	Depending on train / carbody size and seat configuration
Gauge	1,435 mm	–
Maximum operational speed	80 km/h	100 km/h

Metro Kuala Lumpur



Metro Nuremberg G1 Interior

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