

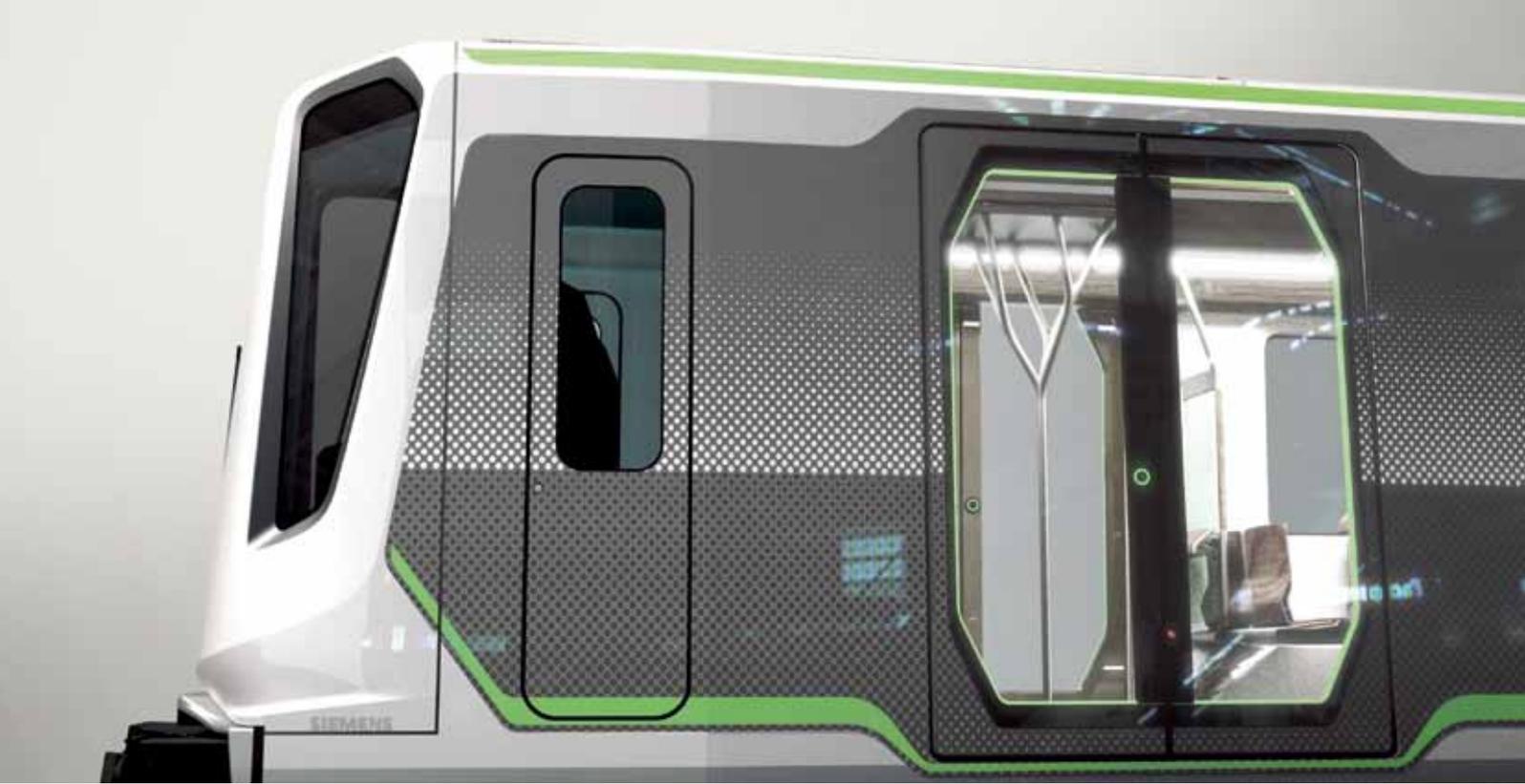
**SIEMENS**



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# Inspiro

The new metro platform from Siemens



# Inspiro

## Inspiration for city life



To address 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.

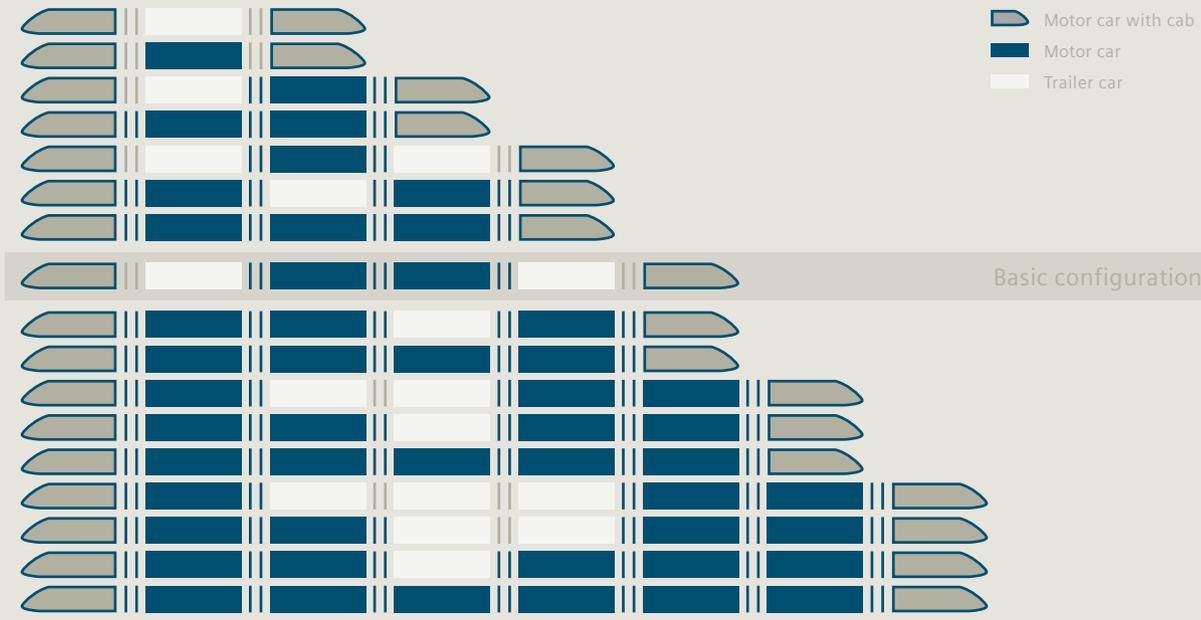
The new Inspiro is designed to meet people's needs for better quality of life. Passengers travel in a pleasant, stress-free environment – thanks to the bright interior, attractive lighting, and draught-free air conditioning. The natural materials in warm colors enhance the relaxing and revitalizing atmosphere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

In addition, the Inspiro delivers maximum advantages through high passenger capacities and low operating costs, combined with the Siemens environmental benefit: energy efficient and eco-friendly – from the production and daily operation to the nearly complete recyclability.

### Energy efficiency

The energy efficiency of the Inspiro is based on two pillars – its weight-saving design and its use of energy-efficient technologies. The lightweight aluminum body and a weight-optimized bogie reduce the overall weight of a single car by more than three tons compared to the previous generation. LED lighting in the passenger compartment and a demand-responsive, air quality controlled air conditioning system further reduce energy consumption.

The possibility of driverless operation – as a unique feature also in combination with conventional operation – guarantee the highest level of energy efficiency through control of braking and acceleration throughout the entire metro system. Recuperated brake energy can be used immediately by simultaneously accelerating trains.



**Flexibility**

The Inspiro platform covers three- to eight-car train configurations with varying degrees of motorization – up to 100 percent. The interior can be fitted with lateral seating, rows of seats, or a mixed seating configuration, depending on the customer’s needs.

Moreover, the length and width of the car-bodies can be varied. Thus, the cars can also be configured with three or four doors per side – optionally with outside sliding or swing-plug door types.

**Optimized capacity**

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

Large doors with a width of 1,400 mm make it easier for passengers to board and exit the Inspiro.

The doors can be equipped with highly perceptible light strips. In combination with the octagonal door shape, this helps to guide the passengers standing on the platform. This reduces passenger boarding and disembarking times at stations, thereby making fleet operation more efficient and increasing system capacity.



# Inspiro

Subway travel that uses all the senses



## Extraordinary design

The modern and distinctive vehicle design, developed by the internationally award-winning Siemens partner DesignworksUSA, a subsidiary of the BMW Group, makes an immediate impression.

The exterior, with its dynamic front end and large windows, is striking and elegant, putting a stamp on the image of the city.

## High level of passenger comfort

### Interior

The Inspiro has large entrance doors and a thoughtfully designed interior with wide passageways that give a generous feeling of space. The innovative interior ambient lighting system, with its carefully placed groups of lighting, 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, called Lighttree. Here, several passengers can hold on while maintaining a comfortable distance from others.

## Innovative passenger information system

Some of the supports provided for passengers to hold onto in the Inspiro also have large displays providing information at convenient places in the car. Known as the "Virtual conductor," these displays can also be used for other purposes, such as advertising 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 has a heightened 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**

The Inspiro platform is a product of Siemens' wide-ranging experience in 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, particular attention was paid to ensuring easy replacement of wear parts and spare parts as well as component reliability. Thus, sensors in traction motors could be completely eliminated. Maintenance activities can be further facilitated through the optional use of remote diagnosis, thereby increasing the availability of metro train sets 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



### Cost efficiency and environmentally sound

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

The experience gained with the Oslo metro project, which has a certified 94.7 percent recycling rate, is an integral part of the platform concept. For the Inspiro, a recycling rate of more than 95 percent was achieved.

### References

The first Inspiro trains will be put into service in Warsaw. Metro Warszawskie ordered 35 six-car trainsets in February 2011 for its existing Line 1 and for further expansion of its network. The first units will be handed over to the customer in December 2012.

The trains for the Münchner Verkehrsbetriebe, which placed an order in November 2010 for 21 new six-car trains, are also equipped with Inspiro components.



Technical Data	Basic configuration	Variants
Train configuration	6- car train, 66% motorization	3- to 8-car train, up to 100% motorization
Car body material	Aluminum	--
Traction power supply	750 VDC, 3rd rail	1,500 V, pantograph
Car length (over coupler)	20.1 m	18.6 m to 20.1 m
Car width (over door step)	2.77 m	2.63 m to 3.0 m
Door type	Exterior sliding doors	Sliding-plug doors
Number of passenger doors per car side / door width	4 / 1400 mm	3 / 1400 mm
Max. axle loads	Approx. 13 t	–
Seat arrangement	Longitudinal configuration	Lateral and mixed configuration
Passenger capacity per train (7 pass./m <sup>2</sup> )	1,450 passengers	Depending on seat configuration
Seats per train	256	Depending on seat configuration
Gauge	1,435 mm	–
Maximum speed (operational)	80 / 90 km/h	–



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The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.