

INSPIRO – THE METRO FOR HIGH CAPACITY

SIEMENS

# Increase your capacity. Raise your expectations.

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EXECUTIVE SUMMARY:

# Why a high-capacity metro can meet your urban challenges

## INSPIRO – MADE FOR CITIES ON THE MOVE

Urbanization remains one of the top megatrends of our century. With more and more people living in cities, how can they move from point A to point B sustainably? How can we significantly improve the footprint of transportation and decrease congestion, pollution, CO<sub>2</sub> emissions, and lost time? And how can we create seamless journeys to make public transportation even more attractive?

The answer is Inspiro – the metro that gives “mass transit” a new meaning. It boosts passenger capacity while offering a pleasant, modern, safe, and comfortable experience. With the high-capacity metro, we’ve expanded our proven and successful Inspiro platform to meet the specific needs of fast-growing cities. Owners and operators benefit from a future-proof solution for rolling stock throughout the entire lifecycle. From concept and manufacturing to installation, training, and performance-oriented maintenance: You can always count on Siemens Mobility.



# Three reasons to move more people with metros

## Urbanization

- 70% of the global population will live in cities by 2050 (today: 55%)<sup>1)</sup>
- The need to connect growing satellite towns and suburbs
- Dramatic traffic congestion with huge economic and ecological costs
- The need for new intermodal traffic solutions, including transporting bikes and scooters on metros

## Climate change and environmental protection

- Today traffic contributes over 23% of our global CO<sub>2</sub> emissions<sup>1)</sup>
- Climate change is forcing decision-makers to advance their technologies and reduce their footprint
- Increased emission and pollution levels are forcing legislative bodies to reduce the environmental impact of human activities

## Seamless intermodal transportation

- Provides integrated and intermodal passenger experiences – “search, book, pay, drive”
- One of the primary strategies for increasing the capacity, attractiveness, and efficiency of public transport
- Metros as the strong mass-transit backbone
- The key to covering the entire passenger journey



### Did you know ...

That in many metropolises, the hidden cost of traffic jams can amount to **€ 1,000** per person per year<sup>2)</sup>?

INSPIRO

# Our solution: High capacity ...



## The metro that grows with your city.

- **For any operational need:**  
Get a metro that's optimized for high-capacity requirements. Thanks to its modular train configuration, you can choose what suits your needs.
- **For satisfied passengers:**  
Offer them more: for example, with large entrance doors, wide walk-through gangways, and a thoughtfully designed interior. To mention just one benefit, the exceptional low noise emissions.



## The metro you can rely on.

- **Trust a running system:**  
You can build on superior technical reliability and a long service life. This also comes with a range of solutions that increase energy efficiency and reduce the CO<sub>2</sub> footprint.
- **Trust our commitment:**  
As a worldwide leader in metro technology, we never stop making good things even better. Having built metros for more than 130 years, we are – and will remain – the perfect business partner for the long term.



## The metro for sustainable cities.

- **Reduce emissions:**  
The high-capacity metro is designed for economical power consumption. All kinds of emissions, from carbon dioxide and noise to dust, remain low throughout the entire lifecycle.
- **Reduce waste:**  
At the end of the lifecycle, a very high proportion of the car body and the components can be recycled.



## The metro for today and tomorrow.

- **Digital in every respect:**  
This metro is designed to respond to current and future scenarios: for example, the fully integrated Train IT ecosystem as the backbone for innovative plug-in applications. We've also placed a strong focus on extraordinary system security.
- **Ready to go driverless:**  
Do you want to operate your system driverlessly? Then GoA4 is the right option for you.

## INSPIRO

# ... for high demands.

### **Configure your metro – the train arrangement**

Number of cars, number of doors, car width, longitudinal dimensions, seat arrangement – Inspiro HC features a set of different configurations to meet your operational and infrastructure requirements.

### **Wide and open – the gangways**

Convenient walk-through gangways between the cars enhance the passenger flow, allow for better distribution of passengers throughout the train, and offer passengers a continuous, unified space during their journey.

### **Spacious and functional – the car areas**

Inspiro HC features customer-centred design with multifunctional areas and fully integrated wheelchair areas, and provides passengers with air conditioning and exceptional low noise emissions a comfortable ride.

### **Just the way you need it – cab and emergency door**

Depending on the chosen automation system, you can opt for a conventional driver's cab or an auxiliary driver's desk. Emergency doors at the front of the vehicles can be integrated based on the evacuation concept.



### **Excellence as standard – the bogies**

The advanced, track-friendly bogies are optimized for efficient maintenance. They allow for different mechanical brake systems, axle loads of up to 17 t, and operating speeds of up to 120 km/h.

### **Precise and safe – the brake system**

The electro-dynamic brake system saves energy and reduces wear and tear of the friction brake. As an option, operators can select the air-free brake and benefit with faster operation readiness and reduction of dwell time.

### **Modular and reliable – the energy supply**

Inspiro HC is compatible to an external power supply of 25 kV AC overhead catenary system, as well as to 1500 V DC and 750 V DC via a third-rail current collector.

### **Integrated and connected – the Train IT system**

The modular, fully integrated Train IT ecosystem allows to monitor and manage the trains from the wayside, and provides features to optimize operations such as remote diagnostics, remote configuration, and remote software updates.

## INSPIRO

# A future with its roots in the past

Siemens has been shaping the mobility business since 1890. Back then, our company provided electric equipment for the world's first metro train in London. That was the beginning of a shared success story with our customers around the globe.

For more than 130 years, our metro trains in more than 21 cities worldwide have been helping make cities livable. They feature pioneering technologies that 13 million passengers around the world rely on each and every day.

### Quick facts:

- Siemens history: Over 170 years in 190 countries worldwide
- For 130 years plus, metro trains in more than 21 cities worldwide
- 5000 metro cars transport 13 million passengers around the world every day
- 35 years of experience with GoA4 systems
- More than 50 turnkey projects implemented, including systems integration

UNITED  
KINGDOM



### Goole

Train production

### Berlin

Turnkey solutions

### Braunschweig

Global Competence Center  
for signaling

### Erlangen

Engineering, development,  
and service

### Nuremberg

Component development and  
engineering

### Vienna

Metro production,  
development and  
engineering, assembly,  
and commissioning

### Graz

Global Competence Center  
for bogie development  
and engineering



GERMANY

AUSTRIA

INDIA

**Aurangabad**  
Train & bogie production

THAILAND

**Bangkok**  
Service hub

**Nashik**  
Production of electrical  
components

**Bangalore**  
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1) Siemens research

2) <https://www.economist.com/graphic-detail/2018/02/28/the-hidden-cost-of-congestion>