

Technical Data

Length	11.20 m
Width	2.65 m or 2.80 m
Height	3.62 m
Possible train configurations	1 to 8 cars
Number of doors per car	2
Number of seats per car	up to 24
CBTC	✓
Automated shuttle mode (Airval)	✓

Performance Data

Maximum operating speed	80 km/h
Minimum horizontal curve radius	30 m (down to 22 m under certain conditions)
Minimum vertical curve radius	200 m
Maximum gradient	12 %
Inclination	10 %
Acceleration, service braking	1.3 m/s ²
Power distribution system	750 V DC

Options

Inter-car gangways, air conditioning, dynamic information system, multimedia
On-board internet access, CCTV, services on demand
Front-end evacuation
High commercial speed

Siemens is an international provider of rail vehicles and a global market leader in urban transportation automation.

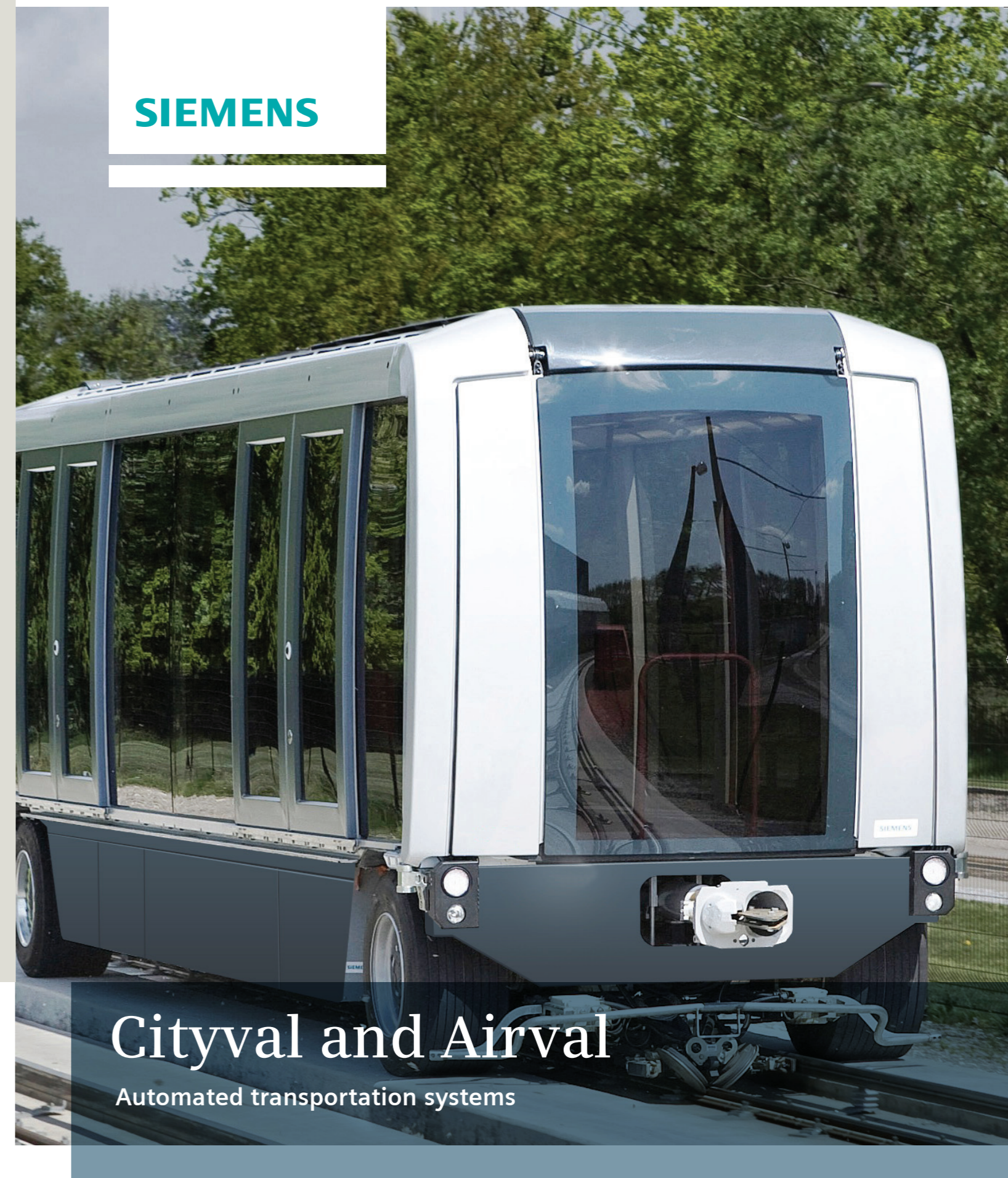
As such, Siemens participates in metro line construction or renovation projects around the world. Its extensive experience in implementing turnkey projects and offering maintenance services provides the perfect finishing touch to its range of expertise.

Siemens France hosts the international center of competences for fully automated metro systems.

Read the QR code with the QR code reader in your mobile!



SIEMENS



Cityval and Airval

Automated transportation systems

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Answers for infrastructure and cities



Offering a modular system that respects the environment

Cityval and Airval are the perfect automated transportation solutions for use in cities and at airports.

Turnkey solutions from Siemens
Cityval/Airval offers a range of turnkey solutions for automated passenger transportation. Designed for greater flexibility, performance and efficiency, Cityval/Airval is transforming the world of medium-capacity automated transportation systems. Both systems have been developed using the same platform, with Cityval offering the perfect transportation solution for cities and Airval designed to suit passenger transportation at airports.

Modular design and configuration
Cityval/Airval can be easily integrated into urban environments thanks to its small curve radii and ability to negotiate steep gradients.

Its design also makes it highly versatile, allowing for configurations using between

1 and 8 train cars. This modular design makes it easier to adopt a phased approach to the construction of the lines, which means that investment can be made gradually and the system can be extended without disrupting service.

The system's modular configuration is also reflected in the selection of car widths, the potential for inter-car gangways and a greater scope for individual train design; for example on the front-ends of vehicles and glass surfaces, as well as the interior layout. Its innovative design draws on the latest market trends, meaning that the range is ideal for use in modern urban and architectural projects.

Long-lasting infrastructure that respects the environment

Vehicles running on rubber tires are silent and provide a smooth, comfortable



Siemens Guidance System

Example of vehicle for the second line in the conurbation of Rennes (France)



For optimum integration: optional front-end evacuation



method of transportation. The trains feature a Communication Based Train Control (CBTC) driverless system, which optimizes train movement and can reduce energy consumption by up to 15%. The trains' innovative storage and energy recovery systems also allow for even greater energy savings.

In addition to this, the unique central rail guidance system («Siemens Guidance System») can reduce civil engineering, operation and maintenance costs.

Safety and quality of service like no other

Thanks to the success of its Val train, Siemens has managed to set records in terms of safety and availability.

Since 1983, more than two billion passengers have been transported without any accidents caused by the system itself. The availability rate of the lines in operation is greater than 99%.

Thanks to thirty years' experience in fully automated systems and a number of impressive references from urban and airport projects, Cityval/Airval trains guarantee both safety and efficiency.

Video surveillance enhances the sense of security on board the trains, while also allowing transportation operators to optimize passenger flow.

Comfort and information for every passenger

The vehicle is air-conditioned, comfortable, spacious and ideal for all types of passenger, particularly for families, business travelers and people with reduced mobility.

Plus, thanks to the on-board internet access and multimedia services, every passenger can benefit from receiving up-to-date information during their journey.

Cityval: freedom to operate for towns and cities

Cityval allows operators to adjust transportation capacities automatically and in real-time to meet demand, for instance during exceptionally busy periods.

Cityval is perfectly suited for use in megacities as a feeder line into high-capacity metro systems, or as the main transportation lines in medium-sized cities.



Airval: maximum flexibility for airports

This service is available 24 hours a day, 7 days a week, offering the perfect solution to deal with fluctuating demand at airports. The system supports a number of different operating modes; for instance, it can be used as a demand-responsive transportation service or as a shuttle service running on a single track.

The various cars within a single shuttle can be used to transport different types of passengers, for example to separate national and international travelers. Airval can be used to transport passengers between terminals and also offers a link between the airport and the urban rail network.



Example of integration into an airport environment