

CITY ON RAILS



Škoda Group is one of Europe's leading companies in transport engineering, with a history stretching back more than 165 years. The Group focuses on the development and manufacture of vehicles for rail and urban public transport. Its products primarily include electric multiple units for suburban transport, battery electric multiple units, low-floor trams, metro trainsets, trolleybuses, electric buses, hydrogen buses, electric motors, components, passenger coaches, digital solutions and complete drive systems for environmentally friendly public transport.

Thanks to an ecosystem of production plants, service centres and engineering offices, the outstanding work of a thousand design engineers, project engineers and designers, and annual investments of billions in its own research and development, Škoda Group has a portfolio of modern vehicles that meet the latest European standards. The Group places great emphasis on the use of state-of-the-art technologies for top-class urban and rail vehicles and buses with alternative drive systems.

Škoda Group transport solutions are used in the Czech Republic, Slovakia, Germany, Finland, Poland, Lithuania, Latvia, Estonia, Italy, the Balkan region, Australia, the USA and many other countries around the world.

Škoda Group currently employs 10,000 people. In addition to production plants and technology centres in the Czech Republic, Finland and Turkey, Škoda Group has branches in Germany, Italy, Austria, Belgium, Hungary, Poland and Ukraine.

Škoda Group provides comprehensive transport solutions for urban, interurban and international rail transport and continues to strive to make travel comfortable, fast, sustainable and safe. Thanks to a wide range of boarding heights, low-floor access and barrier-free boarding are ensured wherever its vehicles operate.

Škoda Group is part of PPF Group, which invests in a variety of sectors – from financial services through telecommunications and biotechnology to real estate and engineering. PPF Group operates in Europe, Asia, Africa and North America.







RAW

The ForCity range of modern low-floor trams brings intelligent solutions to public transport. Several hundred vehicles have already been produced and can be found in many cities in the Czech Republic, Finland, Germany, Turkey, Slovakia, Lithuania and Hungary, as well as in China.

Škoda trams offer a sophisticated interior with a large number of seats and plenty of space for comfortable standing, as well as areas for prams, wheelchairs and bulky luggage. Thanks to their low-floor concept, people with reduced mobility can also travel easily in ForCity vehicles. The vehicles are also equipped with air conditioning and a clear passenger information system, which increases passenger comfort. ForCity trams are also easy to maintain.

FULL SERVICE

Comprehensive vehicle care and maintenance – also known as full service – is a major global trend in the maintenance sector. Full service involves transferring responsibility from the operator to the service provider, thereby ensuring daily vehicle availability. The full service offered by Škoda Group covers not only preventive maintenance, servicing and repairs, but also the diagnosis of faults and defects, their rapid rectification and, in cooperation with suppliers, the continued development of solutions for obsolete spare parts.

Škoda Group provides full service for trams in Pilsen, Miskolc in Hungary, Cagliari in Italy and Konya in Turkey.

Škoda Group also offers both warranty service for its products, focused on rectifying and repairing defects that typically arise during operation, and customer support regarding the supply of spare parts.

ECOLOGY

The entire life cycle of the ForCity vehicle, from operation to disposal, is environmentally friendly. We comply with the EN ISO 14001 standard. Low maintenance costs and reduced energy

consumption contribute to significant operating-cost savings. In addition, more than 95% of ForCity vehicle components are recyclable.

MODERNISATION

Škoda Group also modernises trams, extending the service life of customers vehicles, helping ensure the continued availability of installed components, increasing passenger comfort and safety and, last but not least, reducing

environmental impact. Modernised vehicles are also better adapted for carrying passengers who are blind or have reduced mobility.

The ForCity range of modern trams is the latest result of Škoda tram development. Unlike the two previous types, Astra and Elektra, ForCity trams feature a low-floor interior along the entire length of the vehicle and running gear with the drive system arranged outboard of the wheels, allowing the floor to remain low throughout the vehicle. The ForCity platform includes trams with pivoting bogies, fixed running gear and combinations of the two. Škoda Group has developed several technical solutions for its ForCity trams and continues to develop them further.

The ForCity platform was created to meet the needs of a broad range of customers and to provide vehicles suited to the different operating conditions, terrain and climate of individual cities, as well as to specific customer requirements and modern public-transport trends. As a result, ForCity trams offer tailor-made solutions.

The common features of all the vehicles include identical bogies, unified components, interior elements, the driver's cab and the interior layout above the bogie. Škoda Group's extensive know-how covers all phases of vehicle production – from the initial idea through design, all the main mechanical and electrical components and final assembly, to homologation and post-warranty service.

The ForCity platform is designed and supplied with pivoting and fixed bogies, with partially and fully suspended drives, and with liquid- or air-cooled motors.

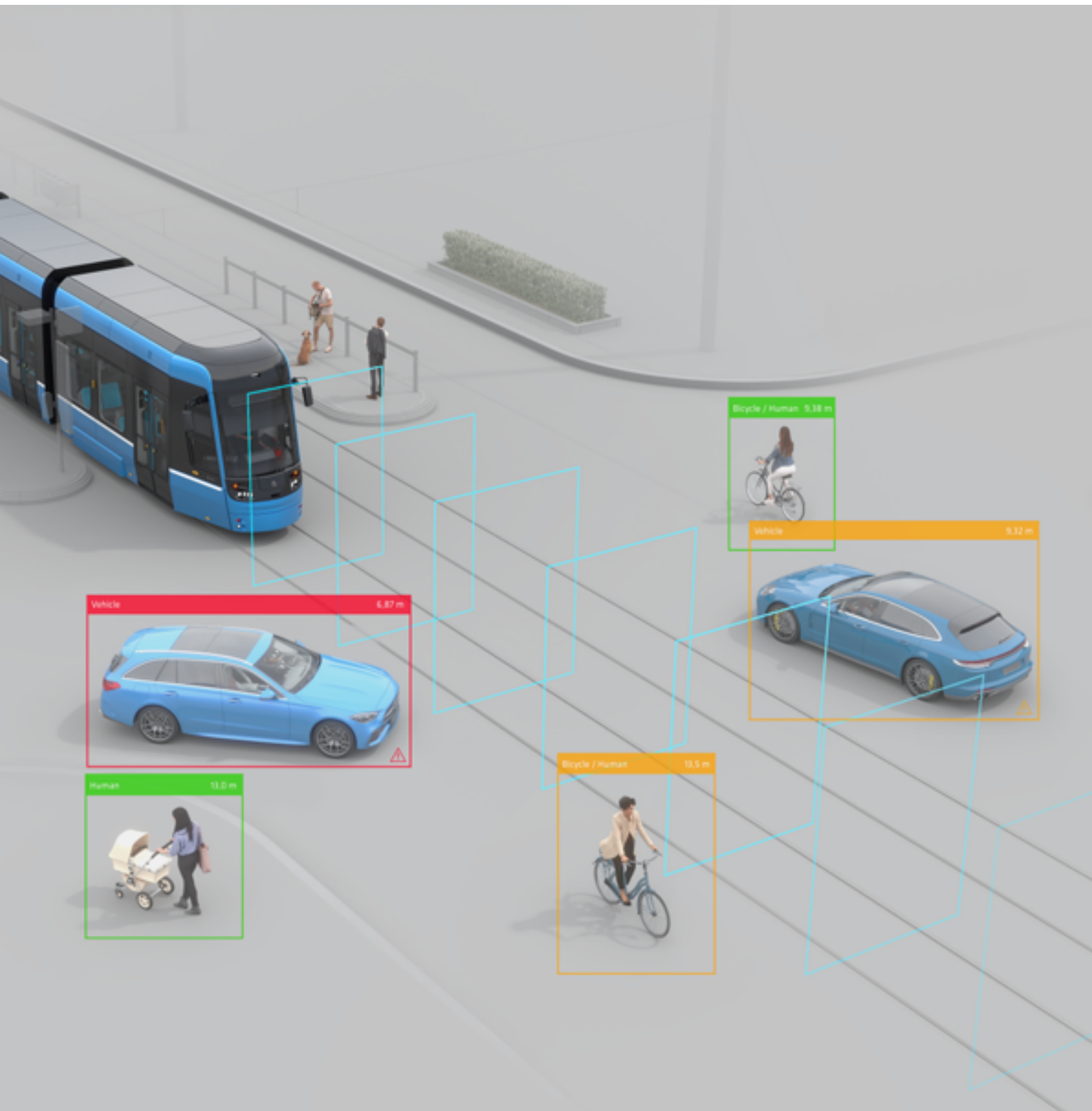
All bogies on the ForCity Alfa tram are pivoting and gearless, making the design suitable for routes with demanding operating conditions. ForCity Plus combines pivoting bogies and fixed running gear, making it ideal for challenging routes with tight curves. The latest addition to the ForCity family is the technologically advanced ForCity Smart tram.

ANTI-COLLISION SYSTEM – ACCIDENT PREVENTION

Safety requirements are constantly increasing, which is why we offer Škoda's anti-collision system for trams, designed to reduce the likelihood of collisions in operation. It uses a sophisticated technological solution combining two LiDAR sensors and an HD camera with precise localisation based on offline-recorded HD maps and odometry.

This arrangement allows the system to create a virtual driving corridor in which the tram can detect obstacles with an accuracy of 10 cm, issue timely warnings and, if necessary, initiate emergency braking, while minimising false alarms. The anti-collision system actively helps prevent serious accidents, personal injury and property damage.



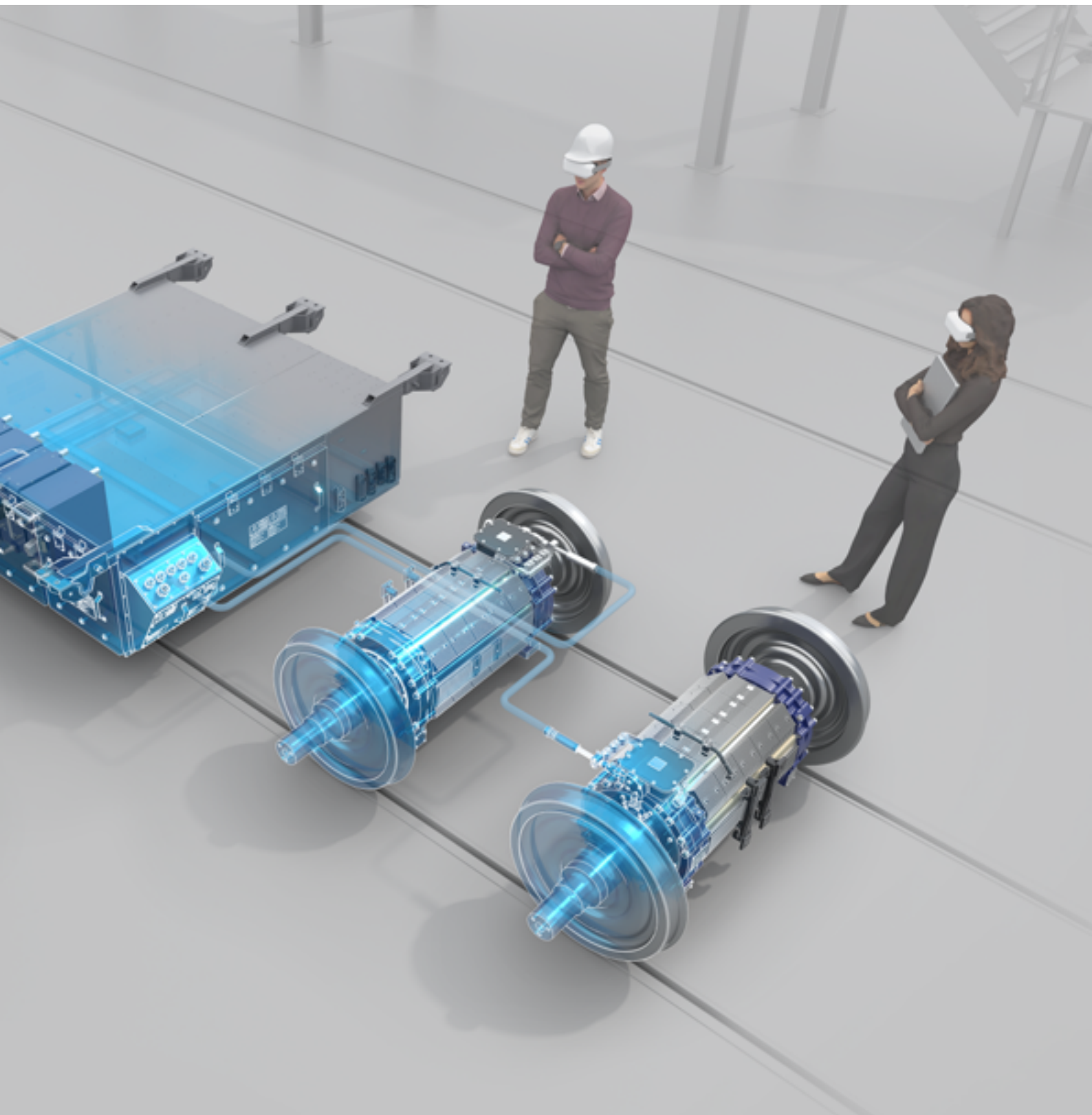


SUSTAINABLE BRAKING TECHNOLOGY

Some of our new tram models are equipped with an electromechanical braking system, chosen for its efficiency and sustainability. The electromechanical brake is used exclusively for emergency and safety braking. In normal operation, all braking functions are performed by the electrodynamic brake, which can slow the vehicle down to 0 km/h without any intervention by the mechanical brake. The advantages of this solution are lower noise and the maximum possible level of energy recuperation right up to a complete stop.

Energy recovered through regenerative braking is used primarily for vehicle operation or returned to the grid for use by another vehicle. This increases energy efficiency and reduces overall energy consumption. It also reduces wear on the brakes and track infrastructure. Unlike a hydraulic braking system, the electromechanical solution contains no hydraulic fluids, making it more environmentally friendly and significantly reducing the time required for maintenance and for returning the vehicle to service.





SERVIS

Škoda Group provides tailor-made services to its customers – from full service, charter service for rail vehicles, warranty service, warranty repairs and preventive main-

tenance (not only for Škoda vehicles) to cooperation with the public or private sector on fleet maintenance through public-private partnerships.

SPARE PARTS MANAGEMENT

- | Supply of individual spare parts
- | Component obsolescence management
- | Repairs and refurbishment of parts
- | Spare parts service, transport and logistics
- | Integration with the customer's SAP system

ACCIDENT REPAIRS AND MODERNISATION

- | Assessment and analysis
- | Consulting services
- | Solution design and implementation (locomotives, passenger coaches, etc.)

DOCUMENTATION AND TRAINING

- | Comprehensive user documentation
- | Training and expert instruction
- | Life cycle and reliability management (LCC/RAM)
- | Maintenance and service documentation

MAINTENANCE

- | Tailor-made services – from preventive and corrective maintenance through accident and vandalism repairs to full service
- | Warehouse management
- | Technical support





FORCITY SMART

Vehicle length examples (mm)	BASIC VEHICLE CONFIGURATION ● fixed bogie / ● pivoting bogie	Transport capacity – seated / standing (4 persons/m ²)							
		Vehicle width							
		2 300 mm		2 400 mm		2 500 mm		2 650 mm	
		1	2	1	2	1	2	1	2
16 820		38/84	31/77	43/94	36/86	44/97	36/88	44/104	36/96
26 980		58/149	45/144	65/161	52/158	68/167	52/162	68/183	52/178
37 140		78/211	63/209	89/230	72/228	92/242	72/241	92/262	72/261
43 900		92/251	77/249	103/274	88/272	108/288	88/288	108/312	88/311
53 500		138/306	113/304	153/337	128/334	154/349	132/345	154/379	136/374
15 320		31/73	28/67	35/84	32/76	36/86	32/78	36/92	32/84
21 350		49/107	42/103	55/120	48/115	56/125	48/120	56/133	48/130
29 210		65/155	56/152	73/169	64/165	74/179	64/175	74/195	64/190
35 970		79/194	70/191	89/213	80/209	90/225	80/222	90/245	80/240
47 150		117/261	100/260	125/289	112/291	126/299	116/300	126/325	120/324

1 = single-direction / 2 = bi-directional version

ForCity Smart combines numerous benefits for passengers and operators. The vehicle configuration ensures balanced weight distribution across all bogies. This keeps axle loads low and, together with the bogie design, helps reduce infrastructure maintenance costs.

ForCity Smart offers excellent ride characteristics and, thanks to its configuration, a high level of ride comfort and practicality. Fewer articulation bellows not only reduce noise but also improve the vehicle's thermal insulation, helping to lower operating costs.

ForCity Smart also offers a large number of seats. The technical solutions of the bogies and the vehicle allow sixteen seats to be positioned ergonomically above the bogies.

MAIN TECHNICAL DATA

Version	Single-direction / bi-directional			
Low-floor area	100%			
Track gauge	950-1 524 mm			
Maximum speed	80 km/h			
Contact-line voltage	600-750 V (+20 % / -30 %)			
Vehicle width	2 300-2 650 mm			
Power output	240-1 200 kW			
Longitudinal force	up to 400 kN			
Number of tram sections	1	2	3	4
Drive – total bogies / powered bogies – adhesion	2/2 – 100 %	3/3 – 100 %	4/4 – 100 %	5/5 – 100 %
	2/1 – 50 %	3/2 – 65 %	4/3 – 75 %	5/4 – 80 %
			4/2 – 50 %	5/4 – 80 %

FORCITY SMART

The ForCity Smart tram offers a combination of maximum accessibility, with a low-floor share of up to 100%, generous passenger space and excellent ride characteristics. Its design and variability make it suitable for demanding everyday urban operation.

These trams meet the latest European standards for carbody strength and crashworthiness, as well as requirements governing the fire behaviour of the materials used.





The ForCity Smart tram for Rhein-Neckar-Verkehr GmbH is a bi-directional low-floor tram with pivoting bogies and a track gauge of 1,000 mm. Škoda Group produces these trams in three lengths using the same technical concept – three, four and

six-section versions with lengths of up to 30, 40 and 60 metres. The vehicles feature numerous innovations, including modern information systems and cameras. The maximum operating speed is 80 km/h. They also provide barrier-free access for

wheelchair users and passengers with prams. The trams operate in Mannheim, Heidelberg and Ludwigshafen, located in three different German federal states: Baden-Württemberg, Hesse and Rhineland-Palatinate.



The ForCity Smart trams for Bonn are modern, bi-directional, three-section, 100% low-floor vehicles with pivoting bogies. Full adhesion provides reliable ride

characteristics even in adverse weather conditions, while operators also benefit from low operating costs.



The new trams for Mainz will be based on the ForCity Smart platform. They will be bi-directional, with pivoting bogies, a length of 43.5 metres and a track gauge of 1,000 mm. Notable features include

panoramic windows around the vehicle, giving passengers a better view. The new trams will be 100% low-floor, carry up to 245 passengers and feature the latest digital technologies. Their design

maximises passenger comfort: in addition to 96 seats, each tram will offer four large multifunctional areas for wheelchairs, prams or bicycles.



The three-section, bi-directional, high-capacity ForCity Smart trams for Pilsen are 100% low-floor vehicles. Among other things, these trams offer a technical solution suitable both for the sharp curves and for the steep gradients in Pilsen.

The vehicles are also equipped with modern information systems and cameras, as well as other innovations. Five double-leaf doors on each side of the vehicle ensure fast passenger boarding and alighting.



The ForCity Smart trams for Brno have four powered bogies, improving ride comfort and ensuring a smooth ride even in adverse weather. Operators will also appreciate the low operating costs of this Škoda ForCity

Smart platform vehicle. The tram can carry up to 233 passengers, has 64 seats and reaches a maximum speed of 70 km/h.

FORCITY SMART ARTIC

This variant of the ForCity Smart tram is adapted for the demanding climatic conditions of northern Europe. Its equipment includes thermal insulation and the innovative use of braking energy to heat the vehicle. The bogies are also specially adapted, and with all wheels driven the tram can cope with harsh Nordic conditions.





The Helsinki ForCity Smart Artic tram is the first mass-produced narrow-gauge, 100% low-floor tram with fully pivoting bogies. With a length of 27.6 m and a width of 2.4 m, this single-direction,

three-section tram with a 1,000 mm gauge accommodates 125 passengers (5 persons/m²) and is fitted with 74 fixed and 14 folding seats.



The bi-directional ForCity Smart Artic tram has five to seven sections, a track gauge of 1,000 mm and a fully low-floor design. It accommodates 214 to 287 passengers (4 persons/m²) and has 82 to 108 seats,

depending on the number of sections. These trams are intended for the new Raide-Jokeri line connecting the Finnish cities of Helsinki and Espoo.



The trams for Uppsala are based on the platform developed for Tampere, Finland. The trams will be 38 metres long, 100% low-floor and bi-directional. They will offer a capacity of 186 passengers (at an occupancy of 2.5 passengers per square metre), including 80 seated. On each side they will be fitted with three double-leaf and two

single-leaf doors, allowing a rapid exchange of passengers. The interior has been designed with an emphasis on passenger comfort. It will offer a spacious layout, large windows, an ergonomically designed interior and adjustable lighting, which together will create a bright and pleasant environment for daily commuting. An important part of

the vehicles will also be the latest digital safety technologies: the advanced anti-collision system developed by Škoda Group, as well as the Intelligent Speed Limiter System, which adapts the vehicle's speed in curves and other selected sections of the line. These technologies will contribute to greater safety and operational reliability.

The bi-directional ForCity Smart Artic trams in Tampere have a track gauge of 1,435 mm, are fully low-floor and accommodate up to 264 passengers (4 persons/m²). Their materials and modern construction technologies are

designed for the Nordic climate and provide a service life of up to 40 years. The technical concept also allows the tram to be extended by one section, increasing maximum capacity to 345 passengers.



FORCITY CLASSIC

Vehicle length examples (mm)	BASIC VEHICLE CONFIGURATION ● fixed bogie / ● pivoting bogie	Transport capacity – seated / standing (4 persons/m ²)							
		Vehicle width							
		2 300 mm		2 400 mm		2 500 mm		2 650 mm	
		1	2	1	2	1	2	1	2
20 870		38/112	30/107	42/122	34/117	43/129	34/124	46/138	36/133
31 000		59/175	46/172	65/190	52/187	66/201	52/198	72/216	56/213
41 680		80/242	66/240	88/263	74/261	89/278	74/276	98/299	80/297

1 = single-direction / 2 = bi-directional version

The ForCity Classic tram represents the most widespread type of low-floor tram on the market. Its concept and design offer a high degree of modularity in vehicle length and width, track gauge, number of seats and supply voltage.

ForCity Classic is a tram with fixed bogies. The vehicles use rigid axles, ensuring good ride characteristics.

ForCity Classic trams are 100% low-floor vehicles allowing fast passenger boarding and alighting, as well as barrier-free access.

Given the vehicle's dimensions, its advantages include high capacity, evenly distributed entrance doors along the entire vehicle and a compact kinematic envelope, allowing operation even where infrastructure is constrained.

MAIN TECHNICAL DATA

Version	Single-direction / bi-directional			
Low-floor area	100%			
Track gauge	950-1 524 mm			
Maximum speed	70 km/h			
Contact-line voltage	600-750 V (+20 % / -30 %)			
Vehicle width	2 300-2 650 mm			
Power output	480-1 200 kW			
Longitudinal force	up to 400 kN			
Number of tram sections	3	5	7	9
Drive – total bogies / powered bogies – adhesion	2/2 – 100 %	3/3 – 100 %	4/4 – 100 %	5/4 – 80 %
		3/2 – 67 %	4/3 – 77 %	5/3 – 60 %
			4/2 – 55 %	

FORCITY CLASSIC

The design of ForCity Classic trams is based entirely on the needs of modern metropolises. These trams offer up to a 100% low-floor design, a modular construction and the possibility of incorporating a range of modern technologies.





The bi-directional trams for Bergamo are specially designed for a new line to be built in the city and its surroundings and represent a major investment in sustainable urban transport in the region. Their design is tailored to local conditions and sets a new standard in urban transport

through its exceptional characteristics. The proven platform is fully adapted to Italian requirements and will be 100% low-floor. The trams also feature automatic retractable steps at the doors to bridge the gap between the platform edge and the vehicle, making boarding easier for people

with reduced mobility. The ergonomically designed driver's workstation provides exceptional comfort, while the wide field of view from the cab improves safety and situational awareness.



This bi-directional five-section tram is 31.7 m long, 2.65 m wide and has a track gauge of 1,435 mm. It accommodates up to 64 seated and a further 128 standing passengers. Its bogies use axleless wheel

pairs, and all wheels are driven by fully suspended gearless traction motors. Škoda Group delivered a total of 14 of these trams to the German city of Chemnitz.



The design of this tram is based on the Miskolc model and uses largely the same components. The main differences are a vehicle body that is 100 mm narrower, automatic couplers enabling the operation of high-capacity tram formations, and

higher-capacity air-conditioning units suited to the more demanding climatic conditions. We have also delivered this tram in a battery version capable of operating over sections without overhead lines.



The ForCity Classic trams operating in Eskişehir are 30 metres long and 2.3 metres wide, with fixed bogies and a track gauge of 1,000 mm. In addition to overhead-line power, the vehicles are equipped with

traction batteries providing energy for up to 5 km of operation. Once the catenary-free section of the line in Eskişehir is completed, the trams will also be able to operate there without an overhead contact line.



The ForCity Classic trams in Miskolc represent the most common type of 100% low-floor tram and are particularly suitable for modern tram networks with relatively simple track geometry. Using three bogies

instead of four, with a higher load carried by each axle, enables a significant reduction in vehicle weight, efficient use of the route profile and favourable operating and maintenance-cost parameters.

FORCITY PLUS

Vehicle length examples (mm)	BASIC VEHICLE CONFIGURATION ● fixed bogie / ● pivoting bogie	Transport capacity – seated / standing (4 persons/m ²)							
		Vehicle width							
		2 300 mm		2 400 mm		2 500 mm		2 650 mm	
		1	2	1	2	1	2	1	2
30 080		57/169	42/168	63/184	48/181	68/193	48/191	68/209	48/207
41 360		78/239	58/239	86/259	66/259	91/273	66/273	98/294	72/294
23 650		51/121	42/118	57/133	48/128	58/141	48/136	58/153	48/148
34 930		72/191	58/189	80/208	66/206	81/221	66/218	88/238	72/235

1 = single-direction / 2 = bi-directional version

ForCity Plus combines the advantages of pivoting bogies and fixed running gear. The use of pivoting bogies at both ends still allows the vehicle to remain 100% low-floor.

The interior layout in the end sections allows fast passenger boarding and alighting and the placement of multifunctional areas, e.g. for persons with reduced mobility or passengers with prams.

In addition, ForCity Plus has a compact kinematic envelope suitable for European cities.

The pivoting bogies in the outer sections also reduce wear when entering and negotiating curves.

MAIN TECHNICAL DATA

Version	Single-direction / bi-directional	
Low-floor area	80-100%	
Track gauge	950-1 524 mm	
Maximum speed	80 km/h	
Contact-line voltage	600-750 V (+20 % / -30 %)	
Vehicle width	2 300-2 650 mm	
Power output	480-1 200 kW	
Longitudinal force	up to 400 kN	
Number of tram sections	2	3
Drive – total bogies / powered bogies – adhesion	3/3 – 100 %	4/4 – 100 %
	3/2 – 60 %	4/3 – 75 %
		4/2 – 50 %

FORCITY PLUS

The ForCity Plus tram offers a high degree of modularity and can integrate modern solutions from the Škoda Group portfolio. Different track gauges and carbody widths allow the vehicles to be tailored to the cities for which they are intended. A high low-floor share and a carefully designed interior help make the trams as accessible as possible to all passengers.





The new tram for Prague is 32 metres long, 100% low-floor and equipped with full air conditioning using the environmentally friendly refrigerant R290 (propane), an anti-collision system, automatic passenger counting and energy-efficient LED lighting inside and out. The interior provides 70 upholstered seats, 44 forward-facing and 26 rear-facing. Prague, with its historic centre, is characterised by narrow streets, sharp curves and steep gradients,

considerable elevation differences across the tram network, as well as long and relatively straight sections of track. Development of the new tram took all these factors into account and combined them with the technical requirements of the Prague Public Transport Company (Dopravní podnik hl. m. Prahy), based on its previous operating experience. The new tram combines a multi-section articulated vehicle with two pivoting bogies

beneath the end sections and two partially pivoting bogies beneath the inner sections. This arrangement creates a much more accessible and airy interior with short, wide and spacious articulation areas free of steps or other obstacles. It also provides adaptability to different track profiles and promises a smooth, comfortable and quiet ride with reduced wheel and rail wear.



The ForCity Plus vehicle for Bratislava is designed for narrow-gauge tram networks. The end sections are fitted with pivoting bogies at the ends of the vehicle, while the arrangement of the inner sections and running gear resembles the ForCity Classic. The vehicle retains the excellent ride characteristics of pivoting bogies and an optimal door arrangement and, despite the narrow gauge of only 1,000 mm, offers a spacious interior with plenty

of comfortable seats. The trams were delivered in two versions, single-direction and bi-directional, both 32.5 m long and less than 2.5 m wide. The single-direction version carries 207 passengers and has 69 seats, with a low-floor share of 88%; the bi-directional version accommodates 204 passengers and has 52 seats, with a low-floor share of 92%.

The new Škoda ForCity Plus trams for the cities of Frankfurt (Oder), Cottbus and Brandenburg an der Havel are replacing the current high-floor trams, which are approaching the end of their service life in these cities. Despite the great similarity in the requirements and conditions of these cities, there are specific requirements, including the delivery of vehicles in two different widths.

Thirteen of the 24 vehicles ordered will be delivered to Frankfurt (Oder); four – and, depending on an option, a further eight – to Brandenburg an der Havel; and the remaining seven, plus another thirteen depending on an option, have been ordered by the city of Cottbus.







Škoda Group metro trains offer a flexible and efficient solution for modern urban transport in large metropolitan areas.

Škoda metro trains have been in service in the Polish capital, Warsaw, since 2023. There are currently 37 six-car metro trains running there. A further 8 four-car trains have been delivered to the Bulgarian capital, Sofia. A second series of another 8 four-car trains is now being prepared for delivery.

In addition, 24 six-car NeVa metro trains are in operation in St Petersburg, Russia. These trains were developed to modernise the existing fleet and have been reliably transporting passengers in regular service since 2013.

Škoda has also been involved in the extensive modernisation of Prague metro vehicles. In total, it modernised 93 trains, significantly extending their service life. The modernised vehicles meet current safety standards and feature a completely new interior, traction motors capable of regenerative braking and a modern control system.

Škoda's strong international know-how is also demonstrated by deliveries of complete traction equipment for metro trains in Budapest, Kyiv, Kazan and Suzhou, China. Each project has provided valuable experience with different operating conditions and technical requirements and confirms Škoda's ability to deliver technologically demanding solutions for metro systems in markets around the world.

Building on these references, Škoda is now pursuing new complete-vehicle projects. One important example is Sofia, Bulgaria, where Škoda has already delivered eight metro trains. A further signed contract covers eight new trains with an option for another eight, confirming Škoda's continued success in the modern metro vehicle segment.

MODERN ELECTRICAL EQUIPMENT

The electrical equipment is based on proven IGBT technology and enables significant energy savings compared with earlier trains. All electrical equipment is housed in traction containers suspended beneath the car floor. The vehicles receive 750 V DC power from the third rail via current collectors mounted on the bogies. Electrodynamic braking with energy recuperation further reduces electricity consumption and operating costs.

The metro train provides the driver with comfortable and intuitive control through an ergonomically designed workstation equipped with a modern control desk, a camera system and a higher-level control system that collects and processes data from the entire vehicle.

QUALITY AND COMFORT

The interior of the metro cars is designed to provide a comfortable environment for passengers and the driver while maximising the train's transport capacity. The interior layout and modern audiovisual passenger information system allow passengers to find their way around the train quickly and easily.

All cars have four double-leaf doors on each side for boarding and alighting. A modern camera system increases the safety of passengers and the driver. The materials used meet the strictest requirements of the EN 45545 fire-safety standard in category HL3.

METRO

Number of cars	BASIC VEHICLE CONFIGURATION		Transport capacity		
			Seated	Standing	TOTAL
4		W6	156	638	794
		W8	156	850	1006
5		W6	200	803	1003
		W8	200	1070	1270
6		W6	230	1088	1318
		W8	230	1450	1680
7		W6	288	1133	1421
		W8	288	1510	1798

MAIN TECHNICAL DATA

Car width	2 710 mm
Car height	3 665 mm
Track gauge	1 435 mm
Maximum speed	90 km/h
Supply voltage	750 V DC (third rail)
Body material	Aluminium
Fire safety according to standard	EN 45545 (HL3)

METRO

The six-car trains for Warsaw carry up to 1,500 passengers. Their maximum operating speed is 90 km/h. The interior is designed to provide a pleasant and comfortable environment. The materials used withstand normal wear and deliberate damage while remaining easy to maintain and clean. The cars meet the latest safety standards and are equipped with a camera system with recording capability.

Great emphasis was placed on the safety and comfort of passengers and operating staff during the development and design of the metro trains. The trains are designed in accordance with EN and UIC standards and therefore reflect the latest technical

knowledge and requirements, including those relating to fire safety. They provide safe operation at minimal operating cost. The equipment also includes features that increase travel comfort, such as a sufficient number of comfortable seats and modern, clear audiovisual passenger information systems inside and outside the train. The end cars also include an area for passengers with reduced mobility or impaired orientation, and each car has a dedicated space for a pram and a bicycle.





METRO

The Sofia metro system is developing very rapidly and, in its final form, will carry more than one million passengers a day. This development is supported by modern four-car metro trains from Škoda Group, which entered service in March 2026 and will be deployed on lines 1, 2 and 4. Škoda is currently preparing the delivery of further trains under a second contract. These will be handed over to the customer in the first half of 2028.

In the Bulgarian capital, the metro runs partly above ground, and the design and equipment of the vehicles are adapted accordingly. Given the region's warm climate, the new trains are fitted with efficient air conditioning, ensuring a high level of travel comfort even during the hot summer months.

To ensure accessibility for all passengers, the trains are equipped with dedicated areas for people with reduced mobility, spaces for prams and priority seats. Four double-leaf doors on each side of every car ensure a smooth passenger exchange, while the secondary suspension aligns the

boarding edge with the platform to provide level boarding. The vehicles are also equipped with battery propulsion, allowing easy shunting in the depot without connection to the external power supply.

The trains are fitted with a train protection system incorporating automatic train operation. The system ensures safe operation on the line through speed regulation and continuous safety supervision. The vehicles are powered by three-phase asynchronous traction motors manufactured by Škoda Group. The metro trains for Sofia are produced at the Ostrava and Pilsen plants.

The Sofia metro uses the standard track gauge of 1,435 mm and is powered by a third rail with a nominal voltage of 750 V. The design speed of the new trains is 90 km/h.







RID

URBAN COMMUTER

MAIN TECHNICAL DATA

Configuration	two-car unit
Unit length	36 m
Power supply	750/1 500 V DC
Propulsion	all bogies powered
Capacity	approximately 360 passengers
Number of seats	94
Multiple-unit operation	up to 3 coupled units
Air conditioning	system with an environmentally friendly propane-based refrigerant
First deliveries	2029
Planned start of operation	2029/2030

URBAN COMMUTER

Škoda Group is developing a new generation of two-car rail vehicles for suburban transport in the Stockholm region. The modern vehicles are being developed with an emphasis on high passenger comfort, dynamic performance and operational flexibility, as well as exceptional reliability in the demanding conditions of the Nordic climate.

A responsible approach to the environment and ESG principles is also an important part of the design. Requirements for energy efficiency, sustainability, long service life and minimising environmental impact throughout the vehicle's entire life cycle are therefore taken into account from the development phase onwards. The result will be a modern, reliable and sustainable solution meeting the high demands of future suburban mobility.

Each vehicle will consist of a two-car unit 36 metres long with a 750/1,500 V DC power supply. All bogies will be powered, contributing to good traction characteristics and reliable operation.

Each two-car unit will have a capacity of approximately 360 passengers, including 94 seats. To increase transport capacity, particularly at peak times, up to three units can be coupled together.

The vehicles will be equipped with a modern air-conditioning system using an environmentally friendly refrigerant based on pure propane, helping to reduce the environmental impact of operation.



REGION STOCKHOLM



COMPLETE MODERNISATION

Škoda Group not only manufactures new metro cars, but also modernises older fleets. The company has extensive experience in this field, including the modernisation of the original Soviet cars of the Prague metro. The modernisation was completed in 2009, and the modernised trains have been successfully serving in regular operation for more than 15 years.

The five-car 81-71M trains, which serve two lines of the Prague metro, consist of two driving cars, one intermediate car with batteries and two intermediate cars with compressors. Batteries are also located in the driving cars.

The modernisation has increased the safety of passengers and drivers, significantly extended the service life of the cars and rationalised maintenance and operation so that the parameters of the modernised trains are comparable to new cars. At the same time, passenger comfort has increased considerably.

The front section of the vehicle, including the driver's cab, underwent a fundamental redesign. The refurbished cars received new high-performance compressors and pneumatic equipment, including air dryers, as well as a computer-based control system. The cars are equipped with a modern traction drive with regenerative braking.

The modernised trains meet the relevant safety regulations, including requirements for fire resistance and the health and hygiene safety of the flooring, interior panelling and cables used. Each car is equipped with a modern fire alarm system.

The interior of the cars has been completely transformed with the aim of increasing the comfort of both seated and standing passengers. The modifications also included the installation of a clear passenger information system.

FULL SERVICE

In addition to the modernisation itself, Škoda Group also provides long-term full service for metro cars. It has been providing this in Prague since 2009.

The company performs full service at the largest service centre, as well as in two of the three depots of the Prague metro. Here it carries out repairs to the fleet of two Prague metro lines and looks after a total of 93 modernised 81-71M trains.

Maintenance and repairs are carried out 24 hours a day, 7 days a week. Škoda guarantees high-quality work, precise

adherence to service intervals and the rapid return of repaired cars to service. It is responsible not only for vehicle maintenance and repairs, but also for diagnosing faults and failures and for keeping vehicle interiors and exteriors clean, including graffiti removal and the repair of damage caused by vandalism.

The company also works with suppliers to replace obsolete and no-longer-available spare parts with modern alternatives.







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