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A sleek, white Siemens Desiro Verve high-speed train is shown in motion on a track. The train has a distinctive orange stripe running along its side and a small Union Jack flag on the side panel. The front of the train is aerodynamic with a large, dark windshield. The background is a blurred landscape, suggesting high speed. The sky is clear and blue.

SIEMENS

Ingenuity for life

Desiro Verve

Putting proven technology
on the fast track

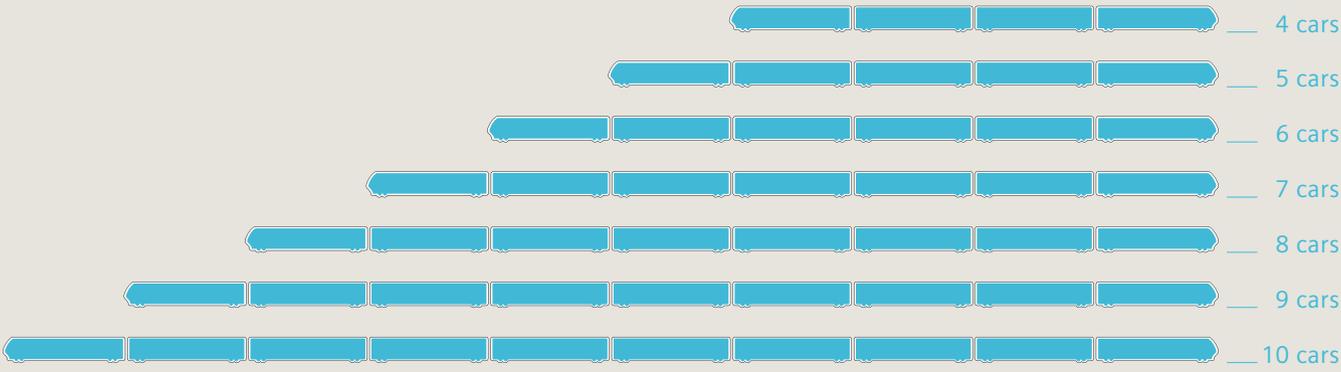
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Make light of intercity services

Get to know a train that is more cost effective than conventional intercity solutions: As a lightweight vehicle, the Desiro Verve guarantees lower track usage and energy consumption. At the same time, the train features reduced maintenance efforts, which leads to all in all less operational costs. This will bring you huge savings over the next 30 years of service.

Examples of possible train configurations



Speeding up flexibility

Meet a platform concept that combines innovative high-speed performance with a proven high level of flexibility. Like its experienced family member Desiro City, the Desiro Verve offers the right configuration for every route. This is achieved by a single-car concept where each motor car is equipped with all the necessary traction components.

Tailored to intercity needs

The Desiro Verve cars are 23 metres long – three metres longer than the Desiro City – and equipped with an enhanced traction system including bogies to enable a top speed up to 125 mph, featuring proven MK3 and PG2 dimensions. The flexible single-car concept of the Desiro Verve platform makes it possible to configure from 4 to 10 cars for a maximum train length of 230 metres.

Adjustable performance

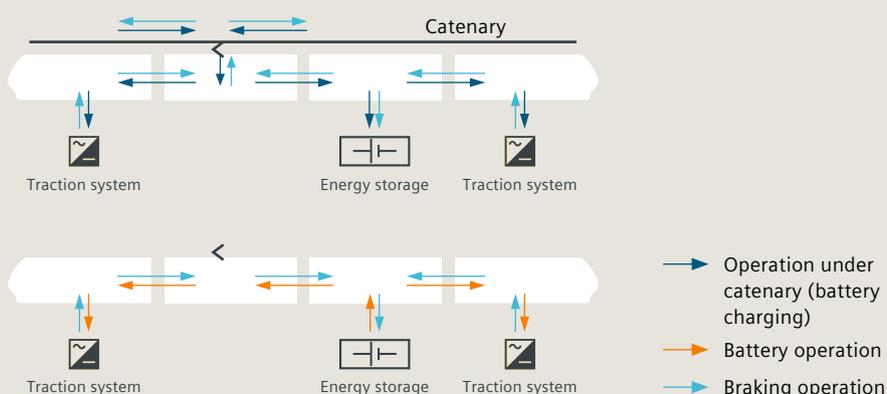
The single-car concept means: All motor cars are identical and consist of a traction container with an integrated auxiliary converter, drive unit, line filter, and braking resistor. The result is a train that you can tailor precisely to your specific needs: Motor and trailer cars can be combined in a variety of ways. We also offer Desiro Verve optionally as a hybrid vehicle. This means that you can replace diesel-driven units on partly electrified lines and standardise your fleet.



Desiro Verve can even be equipped with single-leaf end doors or double-leaf plug sliding doors at 1/3 – 2/3 position.



Hybrid option



As a hybrid vehicle, Desiro Verve can also operate without catenary, which increases its efficiency and enables an optimised succession of trains on partly electrified lines – for minimised fuel consumption and reduced lifecycle costs.

Delivering efficiency

Environmentally friendly, quiet, and state of the art: The Desiro Verve has been designed with efficiency in mind. It delivers excellent recycling characteristics, reduced energy consumption, and less noise and greenhouse gas emissions – based on meticulous analysis and design iterations in order to significantly reduce the train's weight.

Light and reliable bogies

The Desiro Verve bogie is an enhanced version of the innovative SF 7000 bogie of which over 2,500 are being fitted to Desiro City vehicles. Their proven design is adapted to achieve 125 mph.

Reduced noise and vibration

Thanks to inboard bearings and a very compact design, they are much lighter than any outboard-bearing bogie type – resulting in a weight reduction of approximately one third of the weight of a conventional bogie. The mass reduction not only contributes to lower energy consumption: Along with reduced axle spacing and unsprung mass, the wheel and track wear damage as well as noise and vibration are substantially decreased. This minimises wheel maintenance costs and variable track access charges.

Less energy consumption

In addition, an intelligent Driver's Advisory System (DAS) provides recommendations for an energy-saving mode of driving. It eases the driver's work by calculating the optimal speed, acceleration, and deceleration, taking into account the route's profile, timetable, and the train control system settings.

The latest LED lighting technology also means weight and energy savings, and major cost savings on maintenance and cleaning. The units are fully sealed, have a very long service life that far exceeds comparable fluorescent light sources, and require no routine maintenance.

Less greenhouse gas emissions

The Desiro Verve's heating, ventilation, and air condition (HVAC) system is equipped with CO₂ sensors that control the flow of fresh air by taking the number of passengers in each car into account. The system is designed according to EN 14750 regarding saloon and EN 14813 regarding driver's cab systems, and incorporates special features such as the operational mode "Free-Cooling". In this mode, the saloon is ventilated with an increased amount of fresh air without active use of the refrigerant cooling system.

High recycling quota

It is our ultimate goal to avoid ecological damage or reduce it to a minimum. Therefore, Desiro Verve has a recycling quota of more than 97%.



LED lighting, an intelligent air-conditioning system with CO₂ sensors, and an innovative Driver Advisory System mean optimum energy efficiency.



The interiors and all electrical equipment, including the cabling, are weight-optimised.



The trailer bogie is based on proven technology featured by the Desiro City: The short wheelbase – just 2,100 mm – and the very low weight of the new bogie design lead to significant improvements in energy consumption, track-friendliness, and wheel wear.

Opening up new freedom

Spacious, modular, and easy to maintain: The Desiro Verve has been designed to create a most pleasant and appealing travel experience for all types of passenger groups – and comfort doesn't compromise capacity: **The entire available interior space can be utilised in a flexible manner. This means increased passenger capacity compared with the present intercity rolling stock.**

Empty car-body concept

The Desiro Verve's empty car-body concept allows for flexible and modular interior layouts while providing complete accessibility on one even level. Electric cabinets are no longer located in the passenger saloon. They are now mounted in panels between the ceiling and car body roof. Continuous body-side mounted tracking systems and the elimination of floor fixings ensure complete furnishing freedom.

Cantilevered and slim seat design

The seats are cantilevered from the body sides and can be repositioned in order to provide bay instead of airline seating. Thanks to their extra-slim design, the seats allow fully open floor space. As a result, not only passenger foot space is optimised but cleaning efforts reduced. At the same time,

the seat design meets all current ergonomic requirements, which provides a high standard of comfort for passengers.

Modular interior components

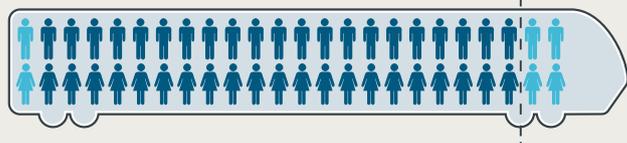
It's not just the seats that are flexible: The tables, grab poles, draught screens, luggage modules, and racks can also be easily changed thanks to a minimum number of interfaces between all interior components. This reduces refurbishment times and costs and means that you can realise almost any saloon layout you like. Feel free to tailor First and Standard Class precisely to your needs, or to install bicycle modules or racks instead of seats.



Intercity



Desiro Verve

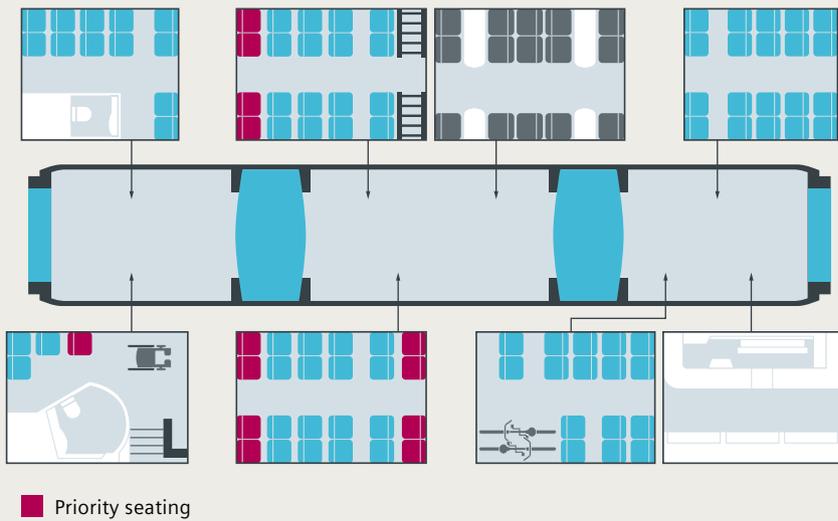


+9%
passenger capacity

The Desiro Verve completely utilises the available interior space, resulting in up to 9% increase in passenger capacity.



All seats and tables are cantilevered from the body side to provide completely unobstructed floor space.



Thanks to the "empty car-body" concept, the entire layout is fully flexible. The interior and all door configurations can be converted again and again with minimal effort.

Creating cosiness

Atmosphere and safety go hand in hand: The Desiro Verve welcomes passengers with an interior design that is comfortable, modern and provides a strong sense of security. Elegant interior panelling and pleasant lighting create an enjoyable travel experience. Large windows offer splendid views of the passing scenery, while a train-wide WLAN connection ensures worldwide communications throughout the entire journey.

Much more than just attractive

With its clear internal layout, wide aisles, and good visibility throughout, a ride in the Desiro Verve is accompanied by a reassuring air of safety – for both passengers and driver. The Desiro Verve driver's cab is spacious and can be accessed via a separate door. Its design is a result of extensive stakeholder input – incorporated in every step of the driver's cab development.

The entire Desiro Verve has been designed to meet the very latest safety standards. By ensuring optimal crashworthiness, all the crash scenarios defined by TSI Loc & Pas 1302/2014/EU with reference to EN 15227:2008+A1:2011 were taken into consideration as well as TSI SRT with reference to EN 45545-2/2016.

Full passenger satisfaction

Long-distance travel requires more luggage racks. The trains are fitted with much more luggage space than in the current fleet of Desiros. Various fittings for luggage stacks are provided to meet individual service requirements.

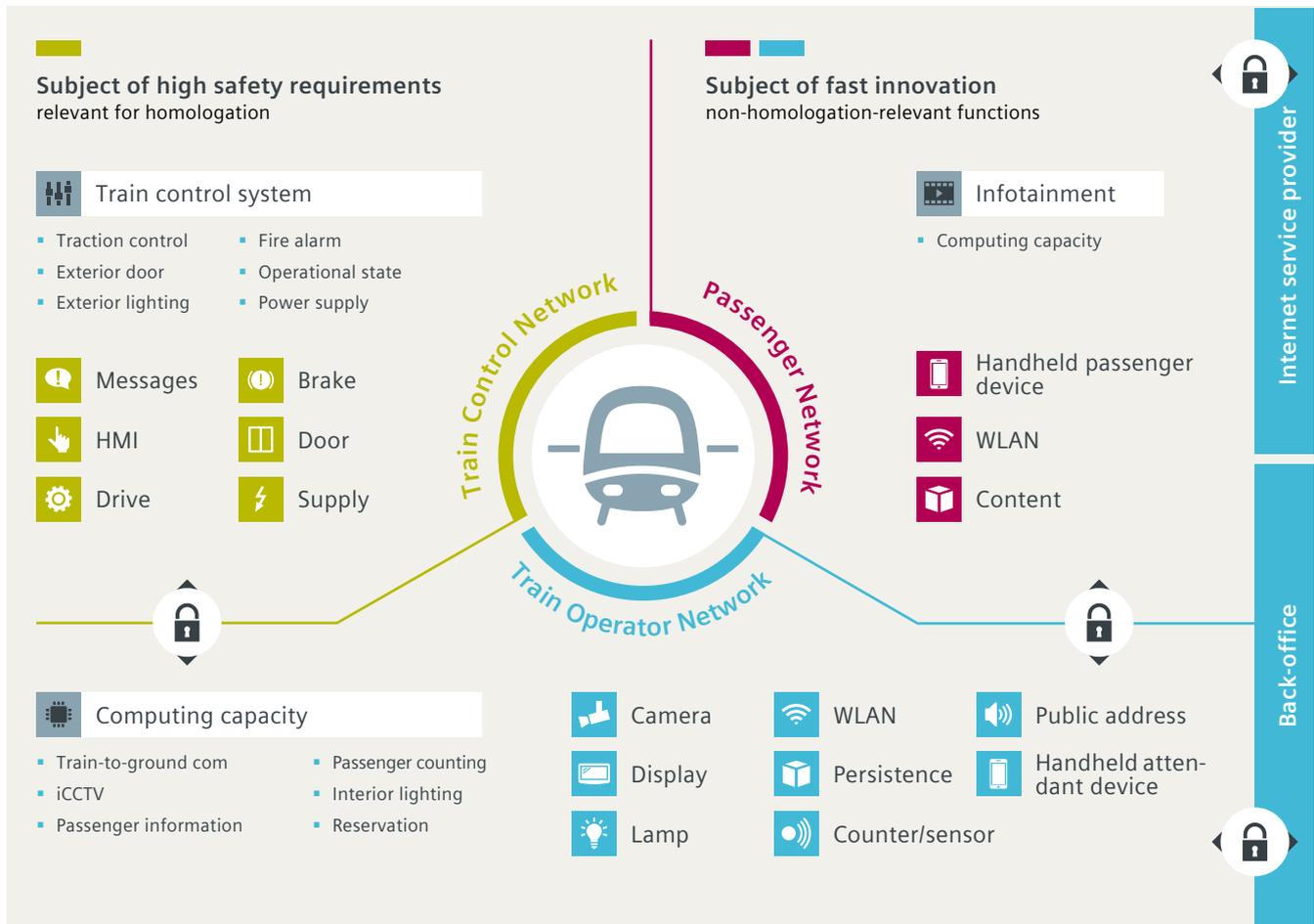
The toilets offer a high level of functionality and hygiene to the passenger as well as simplicity of maintenance for the operator. The choice of materials, colours and fittings seeks to exceed the passenger expectation and raises the standard for on-train toilets. Their reliability is ensured by a vacuum system which is based on proven design that has demonstrated much higher levels of availability compared to conventional systems.



Standard seats are equipped with 240-V power points and USBs to power laptops and mobile phones. Wi-Fi, apps, and electronic seat reservations are provided for customer convenience.



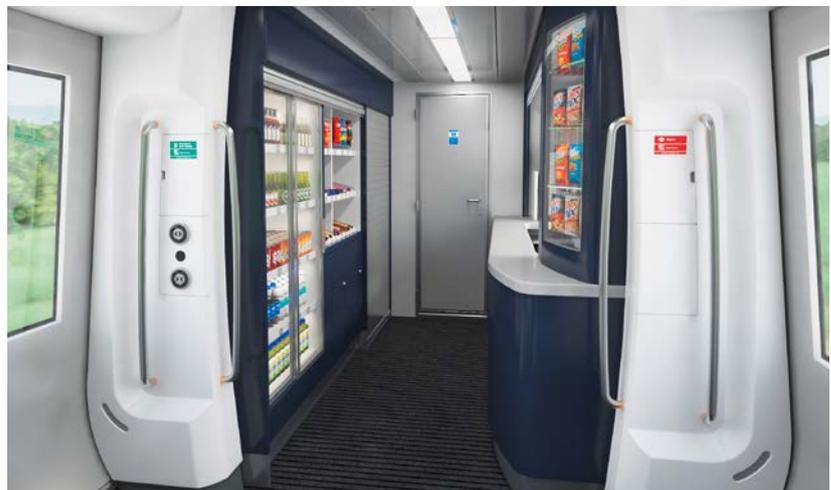
The seating has been designed taking ergonomics as well as additional space and passenger comfort for intercity travel into account. The standard seats have a slim visual aesthetic that lends a contemporary design appearance to the Standard Class saloon and creates a feeling of spaciousness in the vehicle.



A powerful IT infrastructure not only enhances passenger comforts and helps prevent damage, it also saves money throughout the entire lifecycle of your train. Our modular, fully integrated Train IT system is the backbone for innovative plug-in applications like iCCTV, on-board Internet, passenger assistance, entertainment, diagnostics, and maintenance.

Seamless entertainment and information

Your passengers deserve the highest level of comfort. Today, this definitely includes connectivity. The Desiro Verve is equipped with WLAN technology according to the latest standards. In addition, a passenger information system provides comprehensive travel information – visually and audibly. For those who prefer a good book: LED reading spots provide appropriate illumination.



The flexible design enables numerous catering concepts, including kitchen, bar service, dispenser machines, and trolley storage.

Ensuring smooth operation

Get on board a train that carries innovation, dedication, and reliability: Desiro trains already run throughout the United Kingdom. Delivering day to day failure-free services. Ensuring cost-effective services for train operators and owners. Providing an enhanced travel experience for UK passengers.

Proven track record of UK experience

For over 170 years, Siemens has been a global powerhouse, that stands for technical achievement, quality, and reliability. In 1843, we recognised the importance of the UK market and opened our first office in London. Today, with 14,000 employees, we are one of the UK's leading technology companies. With over 3,000 rail vehicles already in use or on order, Siemens trains are a familiar sight and well established on the UK rail network.

Comprehensive service and support

Siemens offers comprehensive services to ensure that our products meet our customers' requirements: from technical support and finance packages to long-term maintenance and repair services. In the UK, Siemens has been constantly extending its depot capabilities. In addition, Siemens' outstations and "mobile technicians" network provide cost-effective solutions for delivering maximum availability and reliability – 100% RAILability.

Committed to responsibility

Our track record of "delivering our promise" is renowned and demonstrated by our reputation that we do what we say. Built over many years, our excellent credit rating gives proof of Siemens' long-term stability and strong financial standing. Besides our dedication to on-time, on-budget delivery, Siemens is also committed to the UK market with over 5,000 manufacturing jobs and even more manpower in the supporting supply chain.

With 30 km of track and special testing equipment, the Test- and Validationcenter Wegberg-Wildenrath, Germany can easily simulate train operations under any real-life conditions.



2002



Class 360 ONE



Class 444 SWT



Class 450 SWT



Class 360/2 HAL



Class 185 TPE



Class 350 WCML

2005



Reliable right from the start

The company made a multi-million euro investment in its purpose-built Test- and Validationcenter in Wegberg-Wildenrath, Germany, which was constructed to replicate UK network conditions. The test tracks ensure that all trains are fully tested in a Network Rail-approved environment – prior to their entry to the UK. This allows a fault-free mileage accumulation for each vehicle and avoids disruptions on the busy UK rail networks.

The Desiro Verve is based on tried and tested technology that incorporates the latest innovative features – exceeding passenger expectations and setting a new benchmark for intercity rail services in the United Kingdom.

2007

2013

2014

2016



City Line / Express



Class 350/2 WMF



Class 380 FG



Class 700 Thameslink



Class 707 SWT



Class 717 Moorgate