

PORSCHE



Press release

Porsche factory, Leipzig

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The Porsche factory in Leipzig is now the centre of excellence for electromobility

Investment in the future: Following the decision to also manufacture the second, electric generation of the Macan at the production site in Saxony, Porsche invested some 600 million euros in the fifth expansion of the Leipzig factory – which included a state-of-the-art body construction facility for the new Macan, the integration of axle preassembly on the factory premises, and a new ‘marriage’ process in assembly. A paint shop and further assembly and logistics operations have been implemented in the existing buildings. The site is now equipped to produce three different types of drive with great flexibility within the existing production line, namely for petrol, hybrid and all-electric cars. In 2024, the factory started ramping up production of the electric Macan.

This is now the fifth extension to the former assembly plant, which became a full factory in 2013 for the production of the first generation of the Macan when a body construction facility and a paint shop were built. Before this, two other extensions were carried out. In 2004, two years after production started, Porsche added a separate manufacturing area for the assembly of the Carrera GT. This was followed in 2009 by the construction of a production hall and a logistics centre for the first generation of the Panamera. Following the decision to manufacture the second generation of the Panamera completely in Leipzig from 2016 on, the fourth extension step was carried out at the site in Saxony. A quality-control centre was built in addition to a further body construction facility. Since the plant was founded in 2000, Porsche has so far invested a total of around 1.9 billion euros in the site.

At present, it produces around 550 Macan and Panamera models every day in three-shift operation. Since production started in 2002, more than two million cars have been manufactured at the Leipzig factory. The first Leipzig model was the Porsche Cayenne – a

total of 738,503 units were assembled there between 2002 and 2017. From 2003 to 2006, an edition of the Carrera GT super sports car limited to 1,270 units was also produced at the site.

Since 2021, the Porsche factory in Leipzig has been operating net carbon neutral. For its lean management approaches coupled with environmental and sustainability aspects, the factory received the 'Lean & Green Management Award' in that same year. The site was also voted 'Factory of the Year' for 2023 by the *Kearney* corporate consulting firm in conjunction with event management company *Süddeutscher Verlag Veranstaltungen* and trade magazine *Produktion*.

With the new Macan, Porsche Leipzig integrated the axle preassembly at the site. The axles for the new generation of the Panamera are also produced here. The arrival of this production facility signifies an increase in the production expertise at the site and an investment in its future viability. Located in close proximity to the factory, the axle preassembly covers an area of around 15,000 m² and includes 24 production systems, 24 handling devices, 53 bolting technology systems and a conveyor system with 43 cars. The facility started series operation in 2023.

The focus is on people

A key success factor at Porsche is its workforce. The strong corporate culture is based on passion, pioneering spirit, performance and familial togetherness. Today, more than 4,600 people are employed at Porsche Leipzig. For the factory and its workforce, electromobility is not exactly a novelty. The first hybrid car from Porsche, the Cayenne S Hybrid, left the production line in Leipzig as far back as 2010. Over the years, the site has acquired the necessary know-how for working with alternative drivetrains. On its path to becoming a centre

of excellence for electromobility, the sports car manufacturer also involved the entire workforce at an early stage and implemented comprehensive qualification measures for all-electric cars.

Shaping the future together: again and again, ideas for innovations come from the workforce. Porsche set up the 'Porsche Ideas Management' tool expressly for this purpose. It allows every employee to participate in what is happening in the company beyond the scope of their own set of tasks. With continuous improvement as its goal, Porsche Ideas Management is an integral part of the corporate culture and an established component of the organisational development.

In order to continue to be successful in the future, Porsche is looking for young people who have completed their education with dedication and a talent for technology. Each year, 30 school-leavers begin vocational training at Porsche Leipzig. The following skilled occupations are currently offered (m/f/x): automotive mechatronics technician with focus on passenger car technology; automotive mechatronics technician with focus on system and high-voltage technology; mechatronics technician; electronics technician for operating technology; industrial mechanic – this also operates as a dual vocational training course with the secondary school leaving certificate (Abitur). In this last case, the trainees receive further teaching at a vocational school, and after four years receive their general secondary school certificate along with their qualification as a skilled worker.

Milestones in the development of the factory

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| 2000 | Ground broken and first employee recruited |
| 2001 | Roofing ceremony for the customer centre (now the Porsche Experience Center) |
| 2002 | Opening of the Porsche factory Leipzig and start of production for the Cayenne |
| 2003 | Start of production for the Carrera GT |
| 2004 | First plant extension for a manufacturing area for assembly of the Carrera GT |
| 2005 | Production of the 100,000th Cayenne |
| 2006 | Start of the plant extension for production of the Panamera |
| 2009 | Start of production for the Panamera |
| 2010 | Start of production for the second generation of the Cayenne |
| 2011 | Start of the plant extension for production of the Macan – expansion to full factory with body construction facility and paint shop |
| 2012 | Production of the 500,000th Porsche in Leipzig |
| 2013 | Start of production of the Macan |
| 2014 | Start of the factory extension for production of the second generation of the Panamera |
| 2016 | Start of production of the second generation of the Panamera and celebration to mark the one-millionth Porsche from Leipzig |
| 2017 | Opening of the new training centre |
| 2018 | Decision to produce the second generation of the Macan in Leipzig |
| 2019 | Start of the fifth factory extension for the second generation of the Macan |
| 2020 | Integration of new 'marriage' section into the assembly plant |
| 2021 | Production at the Porsche factory in Leipzig achieves net-carbon-neutral status Lean & Green Management Award for the Porsche factory in Leipzig |
| 2023 | Start of production for the third generation of the Panamera Named 'Factory of the Year 2023' |
| 2024 | Start of production for the second generation of the Macan |

Production in detail: How is a Porsche made?

Since its foundation in 2000, the Leipzig factory has represented transformation and flexibility, with the result that today, three drive concepts – for combustion engine, hybrid and all-electric cars – can be built on a single assembly line. The Porsche production system combines efficient industrial production with Manufaktur quality. With its Smart Factory, Porsche production is implementing the vision of an intelligent, connected factory. Under the heading 'smart, lean and green', this vision is based on innovative, efficient and resource-sparing processes, and production that keeps the environmental footprint as small as possible.

The birthplace of every Porsche is the body construction facility. This is where the basic body is initially built. The Porsche factory in Leipzig has three body construction plants: one for the Macan, one for the Panamera and one for the electric Macan. The body is built in four main sections. First, the substructure is built. This is the station at which the car is given its 'birth certificate' – a transponder with a specific identification code. This contains all of the details and specifications of the car. In the superstructure – which is the stage that follows – the sides and the roof are attached to the substructure. The third section of the process chain completes the body frame with doors, a bonnet and tailgate. At the finish line, the car finally undergoes a quality inspection. Here, for example, the seams, the bonded joints and the surface quality are carefully checked by the workers. If all of the quality requirements have been fulfilled, the body is handed over to the paint shop,

where Macan and Panamera models pass through a total of six phases. First, the body is cleaned, degreased, and dipped in a zinc phosphate solution that ensures optimum adhesion of the subsequent corrosion protection, which is applied in the cathodic dip coating. After the subsequent seam sealing in the PVC line, three different coats of paint are applied: primer,

final coat and clear coat. The elastic primer protects the final coat (also known as the base coat) from damage, and improves the structure and subsequent brilliance. The final coat is then applied in the colour selected by the customer. After intermediate drying, a clear varnish seals the previously applied paint coats. Finally, all of the painted bodies are inspected by workers in the LED light tunnel. Additional support is provided by the automated error detection (AFE) system. In 70 seconds, two robots scan the entire outer surface of the body with a pattern of light strips. In the process, they take around 100,000 photos that enable them to identify even the tiniest irregularities using reflections in the paint. Over the next 30 seconds, five image-processing computers evaluate the results. In this way, the workers are shown the location and type of the identified irregularities on a 3D visualisation of the body. The automated error detection (AFE) system in the paint shop has been used in series production since 2023 and represents just one of the Smart Factory projects.

The final production step is performed in assembly, where the doors are first removed in order to be finished on their own separate line. In parallel, the interior is fitted into the body in a process that combines industrial assembly and manufacturing. After the interior is installed, the means of transport for the car changes. In place of the lifting table used up to this point, a rotary hanger that enables ergonomic working is deployed. For the subsequent exterior line, the car is returned to a lifting table which, with its adjustable height, also ensures an ergonomic working environment for employees. The exterior line includes the installation of the windscreen, rear window, headlights and seats. The doors are also refitted to the body here and the Porsche crest is attached. Then comes the 'marriage' – the fully automated merging of the body with the completed powertrain. This production step is an example of lean mixed production with a high degree of complexity. In Leipzig, the 'marriage' is designed for versatility and flexibility.

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On the final assembly line, the work is concluded by filling the car with fuel, brake fluid, coolant and window cleaner. The wheels are also fitted at this point. The last assembly stages are for the commissioning, testing and final inspection of the car. After a test drive, the final inspection is performed and the car leaves the production line. One important quality-assurance measure is the audit, whereby individual cars of all model variants are subjected to a comprehensive inspection on a random basis. The cars are then delivered all over the world, with around 70 per cent of the cars from the Porsche factory in Leipzig transported in an environmentally friendly way via railways operated with 100 per cent green electricity.

Logistics: the pacesetter of production

High-performance, efficient logistics is key to the success of Porsche Leipzig. It functions as the pacesetter of production. Logistics faces the great challenge of mapping the high variance in the equipment of the cars and then providing the correct material for the correct car exactly when it is needed.

Production in the assembly plant is based on just-in-time production and its further development, just-in-sequence production. These are organisation and control concepts geared towards requirement-based supply. A finely tuned production and material flow along the supply chain enables each part to arrive at the assembly line in the correct sequence – and at the correct time. A coordinated, stable order sequence ensures that only those parts that can be installed immediately are delivered to the relevant section of the line.

One example of the state-of-the-art logistics concept is the automated small-parts storage system (AKL). This provides small load carriers for tugger trains and deploys a shuttle technique that distinguishes it from conventional AKLs. Around 90 shuttles ensure high availability and, due to their autonomous drivetrain, reduce the energy requirement by more than 30 per cent in comparison with an AKL with storage and retrieval units. The concept also uses driverless transport vehicles (FTF), which move autonomously and which transport, for example, the cockpit and seats directly to the line. Dynamic picking, which loads picking trolleys for the assembly line, also increases the storage capacity, while the automation aspect improves employees' working conditions by shortening their walking distances.

Sustainability at Porsche: vision of a Zero Impact Factory

Sustainability is an essential component of the Porsche Strategy 2030. The sports car manufacturer aims to consistently combine luxury with sustainability and social commitments. Porsche is working towards net carbon neutral across the value chain for newly built cars by 2030. One core element of this target is the company's vision of a Zero Impact Factory – a factory with the lowest possible negative impact on the environment. This holistic concept comprises economic, environmental and social aspects, and its goals include the promotion of a circular economy, biodiversity and air quality. To this end, Porsche aims to make consistent improvements in all areas, from resource and material efficiency to biodiversity. One important milestone has already been achieved: since 2021, the Porsche factory in Leipzig – along with the production sites in Zuffenhausen and Weissach – has been manufacturing on a net-carbon-neutral basis.

An important part of the sustainability concept is the way in which energy and resources are used. Since 2017, the Leipzig factory has used only green electricity. Part of the electricity used is produced at the site by four photovoltaic systems with a total output of around 9.4 MWp (megawatt peak). There is also a biomass heating plant in the immediate vicinity of the factory that covers approximately half of the room heating requirement.

To further reduce its environmental impact, Porsche has set up a resource efficiency programme in Leipzig. This includes regular energy inspections as well as workshops for the different disciplines. The successfully implemented measures include the ecological powdered rock filter system in the paint shop. Compared to a conventional water-based system, it reduces the energy required when applying the paint by up to 60 per cent. Another example is

the state-of-the-art cooling of the robotic welding guns with heat recovery in the body construction facility. These enable the annual electricity consumption to be reduced.

Biodiversity is another important cornerstone of the vision of a Zero Impact Factory. In Leipzig, Porsche has supported a range of projects to conserve the variety of species on the factory premises – for more than 20 years. On the factory's 132-hectare off-road terrain, European bison and Exmoor ponies live alongside native wild species in harmony with nature and the factory. Since Porsche cultivated the site in 2000, the former military compound has been successively rewilded. With its cultivated water pools, wetlands and pastures, the terrain provides a natural living space for many species of plants and animals. As part of an initiative of the Saxony Land Foundation for Nature and the Environment to provide flowering fields for the region's butterflies, an additional area of over 12,600 square metres of such fields were registered on the off-road terrain. The targeted preparation and maintenance of the flowering fields provide a habitat for insects. The insects, in turn, play an important role in the ecosystem of the terrain. In 2017, Porsche began relocating bees, and today around three million of them live here. In cooperation with a regional beekeeper, Porsche has been producing the factory's own eco-certified Turbienchen® honey since 2019.

Alongside its economic and ecological commitments, Porsche Leipzig also engages with the local community in relation to sustainability issues. The sports car manufacturer is involved in education, sport, culture, as well as environmental and social issues in the region.

Commitment to the region

Porsche sees itself as a partner to society and is active in Leipzig and the region in a range of different areas – from education and culture to the environment and social issues.

In the field of education, Porsche is passionate about promoting young talent in the MINT subjects – maths, IT, natural science and technology. In the VDI-GaraGe technology centre, the company's Porsche Erlebniswerkstatt (Porsche Experience Workshop) gives participants insights into car production, the mobility of the future, and drive-system technology. Two trainers take pupils from the third to ninth grades through a range of courses. Education on environmental topics is also supported. Since 2018, school classes, families and children from seven years of age have benefited from the 'Porsche Safari' education project in which environmental educators from the company's cooperation partner Auwaldstation Leipzig provide a four-kilometre guided tour of the animal and plant biospheres of the factory's off-road terrain.

In the cultural sector, Porsche is the main sponsor of the 'Klassik erleben' open-air concert series performed by the Gewandhaus Orchestra. The concerts are free, giving everyone the opportunity to enjoy this cultural experience. Since 2013, Porsche has also been the sponsor of the Leipzig Opera Ball. Porsche donates the Opera Ball's main prize for the annual donation raffle, the proceeds of which go to the Leipzig hilft Kindern (Leipzig Helps Children) foundation. Porsche is also supporting the restoration of the renowned Ladegast organ in Leipzig's Nikolaikirche. A donation of some 150,000 euros is enabling three further organ stops to be added to the instrument in 2024, thus perfecting its soundscape. The sports car manufacturer previously donated 1.8 million euros in 2004 as well as producing a dynamic new design for the restoration of the organ. Because the original console by master organ builder Friedrich

Ladegast no longer existed, the sports car manufacturer's designers remodelled the console with elements from car manufacturing.

On the social side, the Porsche Leipzig benefit football tournament – known as the Leipziger Rasen Cup since 2019 – has been held since 2005. Here, companies from around the region compete against each other in support of a good cause. The proceeds from the tournament are donated to social institutions. Additionally, Porsche makes donations to community projects in Leipzig and its surroundings, in particular to support children and young people in the region. The company's staff are also encouraged to get involved. On its 'Porsche Helps' intranet platform, the sports car manufacturer informs its employees about suitable voluntary work opportunities.

Porsche Experience Center Leipzig

The Porsche Experience Center Leipzig is a location for events of all types and sizes on the factory premises itself. Each year, up to 70,000 guests visit the PEC to take part in events, experience programmes and factory collections. For example, more than 2,000 factory collections take place every year at Porsche in Leipzig. These are offered for all Porsche models, regardless of where they have been produced. Customers taking up the opportunity of a factory collection enjoy a factory tour, an exclusive lunch in the restaurant and a dynamic instruction session in a car of the same model.

The PEC in Leipzig has its own 3.7-kilometre race circuit, various parts of which are based on famous bends and sections of racetracks all over the world. The circuit was designed by Hermann Tilke, racing driver and designer of multiple Formula One courses, including those in Malaysia and Bahrain. The circuit is augmented by an additional 2.2 km handling track that has a wet-handling section more than 150 metres long and a circular track with a diameter of 120 m that also facilitates wet-road dynamic experiences. This can be used for car handling training at different speeds and in a variety of conditions, or to practise emergency braking. The 132-hectare off-road terrain includes the six-kilometre circuit with a total of 15 test modules. These include a water crossing that is 100 m long and 0.5 m deep, and an extreme ramp with an 80 per cent gradient.

The Porsche Experience Center is also open for drop-in visits. Guests can enjoy speciality coffees and snacks in the Carrera Café with a view of the track. The design of the café pays homage to that classic Porsche, the Carrera RS 2.7 – with elements in iconic Signal Yellow or the legendary Pepita houndstooth fabric. The café is also the starting point for further experiences. Last-minute openings in factory tours or driving events can be booked on site. The Carrera Café is also part of the Porsche Charging Experience. Since 2020, the Porsche

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Experience Center Leipzig has been equipped with one of the best fast-charging parks in Europe in terms of potential charging capacity and number of charging points. The charging park is open to the public and is accessible to customers of all car brands. A total of 12 high-power chargers providing 350 kW (direct current) and eight charging points supplying 22 kW (alternating current) are available around the clock, seven days a week.

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