

March 2023

Volkswagen Sachsen GmbH

The Gläserne Manufaktur in Dresden

Area:	83,000 m ²
Production:	Since January 2021: 10,874 ID.3 ¹ ,
	previously: 50,401 e-Golf (2017-2020);
	84,235 Phaeton (2001-2016) and 2,186
	Bentley Flying Spur ² (2005/2006 and
	2013/2014)
Model:	Volkswagen ID.3
Employees:	340 (incl. work-study degree students
	and vocational trainees; as of December
	2022)

Current situation

With the launch of production of the ID.3 in January 2021 in the Gläserne Manufaktur in Dresden, the former "Centre of Future Mobility" will steadily transform into the "Home of the ID." over the coming years.



Start of series production of the ID.3 in January 2021

The central goal is to act as a beacon for Volkswagen in Germany, offering customers, visitors and guests a holistic experience of the ID. family – from initial advice and road tests, to production visits, co-constructing the ID.3 and modern event formats, up to the handover of electric vehicles. An additional focus of the strategic realignment is the development of a research and innovation site (Pilot Factory) that drives innovative

projects on a pilot scale for later use in large capacity sites at Volkswagen.

In Dresden, customers, visitors and guests get to experience how the Volkswagen brand is shaping the mobility of the future. During a 75-minute tour, they can see close-up how Volkswagen produces its ID.3. The highlight of the visit is a free road test (30 minutes) through Dresden with electric vehicles.

Dresden's largest public, partially solar-powered e-mobility station is located next to the Gläserne Manufaktur and has been in operation since April 2017. Cooperation has also been agreed between Volkswagen Sachsen and Dresden, the capital of Saxony. The objective is to make Dresden a model city for e-mobility and digitalisation.

Since August 2017, innovative start-ups in the field of mobility services have received support for six months each at Volkswagen's newly installed Future Mobility Incubator at the Gläserne Manufaktur. So far, they have each received financial support in the amount of €15,000, IT infrastructure, software, free office space, vehicles and access

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to the Volkswagen expert network. The city of Dresden also provided assistance and financed accommodation for the young entrepreneurs. The incubator concept is currently being reworked.

In March 2018, the Future Mobility Campus was inaugurated. This provides education and training for employees, school classes and, primarily, dealerships.

Production and new business areas

The Volkswagen Phaeton and the Bentley Flying Spur were produced at the Gläserne Manufaktur for 14 years up to March 2016. The realignment of the plant for the flexible handcrafted production of various models has been completed. The e-Golf was assembled here from April 2017 to December 2020. The Gläserne Manufaktur in Dresden was therefore the first site of the Volkswagen brand to be converted fully to electric mobility. Mass production of the ID.3 began in January 2021. As with the production ramp-up of the e-Golf in 2017, production of the ID.3 is also starting with one shift and 35 vehicles from Monday to Friday. In 2022, around 6,500 ID.3 vehicles were produced.

Alongside production, new and expanded business areas have been established and developed. For instance, the area of sales has become increasingly important in recent years. Up to 20 vehicles can be handed over to customers – not least because a second delivery point has been set up in production. A total of 2,470 vehicles were handed over to customers in 2022, over 95 percent of which were either partially or fully electrified. The front-runners are the ID.3 and ID.4 models, both of which are produced in Saxony.

The Functional Testing station in Dresden is being further expanded. It is an integral part of the worldwide network of testing stations for whole vehicle development. Its focal points: the testing of assistance systems, mobile online services, engines and chassis.

Moreover, Production 4.0 is being driven forward in the Gläserne Manufaktur. The guiding principle is the automation and digitalisation of complex operations within assembly and logistics. Specifically, the factory acts as a planned pilot plant in the company for the development and application of new technologies in real series processes.

Experience world and service for customers

Volkswagen is breaking new ground with an experience world integrated in the Transparent Factory. Here, visitors and customers can find out about Volkswagen, emobility, and digitalisation. They get a close-up view of production as the tour goes directly along the assembly line. Around 64,000 visitors were welcomed in 2020, despite the many months of closure due to the COVID-19 pandemic. In 2021, the number was 42,000 with visitor numbers then rising back up to over 81,000 again in 2022. In comparison, some 146,000 visitors were welcomed in 2019 before the outbreak of coronavirus.



With KID.s tours, sustainability tours for school groups or the newly designed plain-language option, tour formats have been advanced and expanded. Guests also have the option to take a road test in the ID.3, ID.4 and ID.5³. The exclusive hands-on production experience in the ID.3 was particularly popular in 2022, as were the experience packages combined with the e-VITRUM restaurant and combo tickets with the Semper Opera House, transport museum, and city tour.

Customers can take delivery of the following models in the Gläserne Manufaktur: ID.3, ID.4⁴, ID.5, e- up!⁵, Golf eHybrid⁶, Golf GTE⁷, Passat GTE Estate⁹, Arteon eHybrid¹⁰, Arteon Shooting Brake eHybrid¹¹, Tiguan eHybrid¹², Touareg eHybrid¹³, Golf Saloon mild hybrid, Golf Estate mild hybrid and all varieties of the Touareg with a conventional drive system. Customers benefit from an exclusive welcome in a separate part of the Visitors' Forum. The actual handing-over of the new vehicle is a special experience.

Environmental protection

In 2018, the brand set itself an ambitious target for reducing environmental impact in production. By 2025, vehicles and components are to be produced in a way that is 45 percent more environmentally compatible than in 2010, the reference year of the current "Think Blue. Factory" environmental programme. Volkswagen is therefore well on the way to resource-optimised operations at all the sites of the brand.

The Gläserne Manufaktur became the first of the brand's sites worldwide to begin carbon-neutral production of its vehicles in 2018. The electricity supply by Volkswagen-Naturstrom® and the heat supply by SachsenEnergie are already CO2-free. This saves over 4,000 tonnes of CO2 per year. In addition, the vehicle fleet will also be CO2-free.

Volkswagen's responsibility for the environment also includes biodiversity. The planners already paid special attention to environmental protection during the planning of the Gläserne Manufaktur. 350 trees were planted at a cost of roughly €56,000 and special lamps in the outdoor areas operate in a yellow spectral range that does not disturb insects in the nearby Botanical Gardens. Specifically, Volkswagen is also committed to the diversity of species. Since May 2019, nine beehives with 50,000 inhabitants each have been installed on the plant site beside the Botanical Gardens. These 450,000 bees are cared for by an employee of the Transparent Factory. The honey, about 360 kilograms, is sold at the plant restaurant, e-Vitrum. The depth of the complex was designed to maintain groundwater equilibrium and the sealed surface area, compared with previous development on the site, has been reduced from 6.7 to 4.8 hectares.

Social and cultural commitment

The Gläserne Manufaktur is not only a production facility and an industrial employer. With its location in the centre of Dresden, it also forms part of the city's social and cultural life and shares responsibility for the future of the region. The Gläserne Manufaktur aims to allow visitors to experience e-mobility close-up and to help shape the automotive future of the city of Dresden with new mobility concepts and offerings. The fact that the Gläserne Manufaktur also assumes responsibility for people of the



region is evident from the support for a large number of projects and activities connected with social well-being and cultural development.

Employees have also given a signal for sustainable commitment with a small change campaign. For more than 15 years, they have donated the cents on their salary statements every month. The Gläserne Manufaktur uses the proceeds of these donations to provide long-term support for Sonnenstrahl e.V. – a charity in Dresden supporting children and young people with cancer. Annual activities by the workforce also include sponsored runs for UNICEF Dresden. Through regional cultural projects and partnerships, Volkswagen furthermore fosters cultural education and development. Activities include long-term partnerships with the Sächsische Staatskapelle Dresden and the Semper Opera House.

Plant manager

Martin Goede (56) comes from Hannover and joined the Volkswagen Group in 2002. Holding a doctorate in mechanical engineering, Mr Goede has worked in the area of Production and Logistics since joining the group. Over the past three years, he has been focusing on factory concepts and production for the future at Volkswagen Passenger Cars. Prior to that, he was in charge of Technology Planning and Development from 2011.

About Volkswagen Sachsen GmbH

The founding of Volkswagen Sachsen GmbH in December 1990 marked the launch of an ambitious project by Volkswagen AG to establish a competitive production facility for Volkswagen vehicles and engines in one of the most traditional regions of the German automotive industry. In addition to the temporary use of existing facilities at Zwickau and Chemnitz, which Volkswagen fully modernised, two new manufacturing facilities were built for vehicle and engine production. The Gläserne Manufaktur in Dresden was inaugurated in 2001. Automobilmanufaktur Dresden GmbH was merged with Volkswagen Sachsen GmbH in 2014.

Volkswagen Sachsen GmbH now includes the Zwickau vehicle plant, the Chemnitz engine plant and the Gläserne Manufaktur in Dresden. Volkswagen Sachsen GmbH has a workforce of around 13,000 employees (including dual degree students, apprentices and members of the Volkswagen Training Institute). Roughly 98 per cent of the employees have industry-related vocational training, a master craftsman's certificate or a technical college or university degree. The average age is around 44 years and women currently account for 12.5 per cent of the workforce.

Robert Janssen is Chair of the Board of Management of Volkswagen Sachsen GmbH with responsibility for Technology and Logistics. The Management Board also includes Professor Thomas Edig (Human Resources and Organisation) and Lukas Folc (Finance and Controlling).



Fuel consumption labels

 1 ID.3: Power consumption WLTP combined: 16.1–15.3 kWh/100 km and CO $_{2}$ emissions combined: 0 g/km

²Bentley Flying Spur: vehicles of this model generation are no longer offered for sale.

 $^3\text{ID.5}$: Power consumption WLTP combined: 16.4 kWh/100 km and CO $_2$ emissions combined: 0 g/km

 4 ID.4: Power consumption WLTP: 17.7–16.5 kWh/100 km and CO₂ emissions combined: 0 g/km

 $^5 e\text{-up}!$: Power consumption WLTP: 14.8–14.4 kWh/100 km 2 and CO2 emissions combined: 0 g/km

 $^{\circ}$ Golf eHybrid: Fuel consumption WLTP in I/100 km: combined 1.2–0.9; power consumption in kWh/100 km: combined 14.9–14.0; CO₂ emissions in g/km: combined 27–21.

 7 Golf GTE: Fuel consumption WLTP in I/100 km: combined 1.2–1.0; power consumption in kWh/100 km: combined 15.3–14.8; CO₂ emissions in g/km: combined 28–24.

 9 Passat GTE Estate: Fuel consumption WLTP in I/100 km: combined 1.3–1.2; power consumption in kWh/100 km: combined 15.8–14.9; CO₂ emissions in g/km: combined 30–26.

 10 Arteon eHybrid: Fuel consumption WLTP in I/100 km: combined 1.4–1.1; power consumption in kWh/100 km: combined 16.0–14.7; CO $_{\rm 2}$ emissions in g/km: combined 31–25.

 11 Arteon Shooting Brake eHybrid: Fuel consumption WLTP in I/100 km: combined 1.4–1.2; power consumption in kWh/100 km: combined 16.2–15.0; CO₂ emissions in g/km: combined 32–26.

 $^{12}\text{Tiguan}$ eHybrid: Fuel consumption WLTP in I/100 km: combined 1.9–1.5; power consumption in kWh/100 km: combined 15.5–15.2; CO₂ emissions in g/km: combined 44–35.

 13 Touareg eHybrid: Fuel consumption WLTP combined in I/100 km: 2.4–2.1; power consumption combined in kWh/100 km: 24.2–23.7; CO₂ emissions combined in g/km: 54–49.