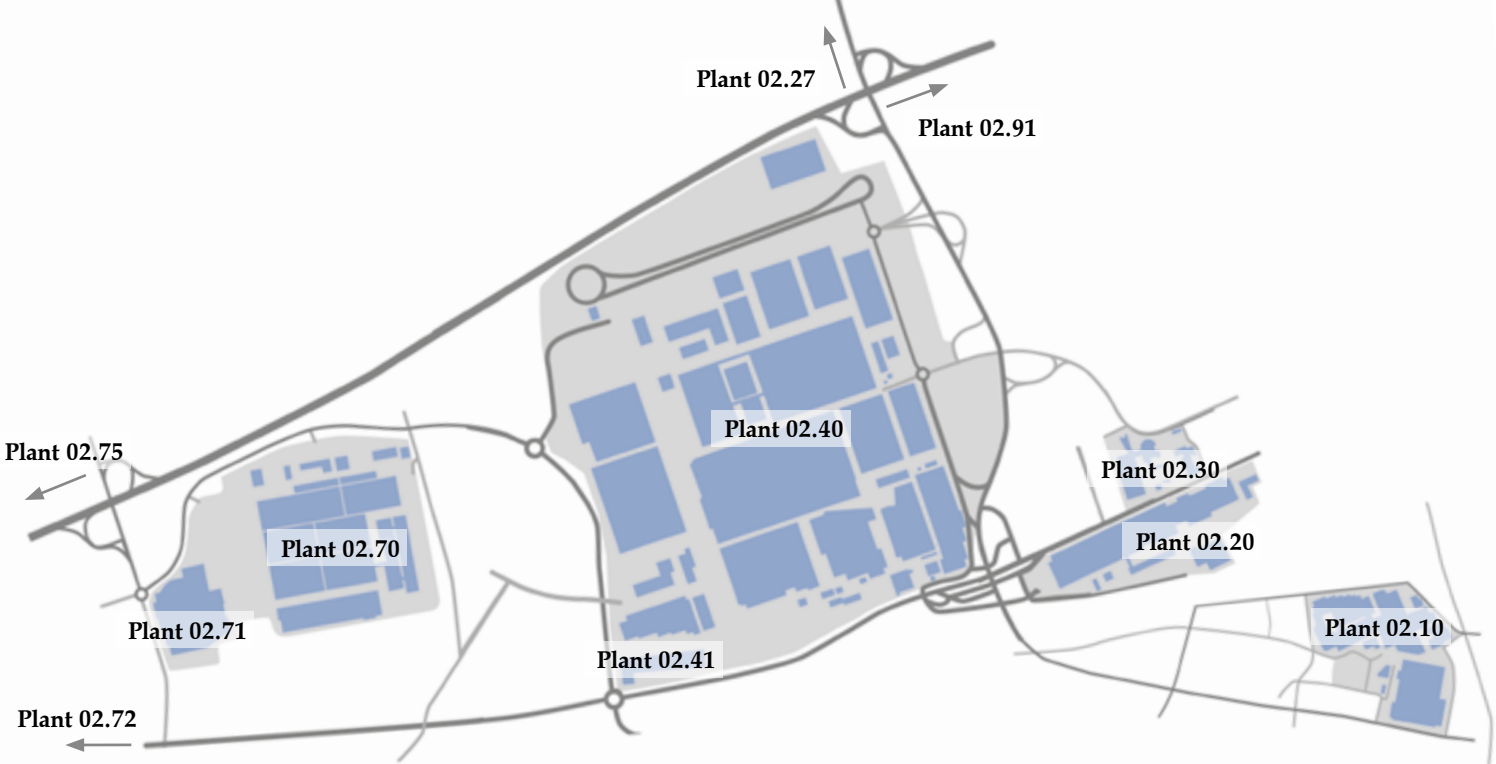
BMW GROUP PLANT DINGOLFING.

FLEXIBLE. EFFICIENT. SUSTAINABLE.

BMW
GROUP
Plant Dingolfing



PLANT 02.10
Production of chassis and drivetrain components

PLANT 02.20
Storage facility and production of chassis and drivetrain components

PLANT 02.27
Production of bodies-in-white for Rolls-Royce

PLANT 02.30
Training Center
BMW BKK, BMW Service Center

PLANT 02.40
Automotive production

PLANT 02.41
Plant engineering

PLANT 02.70
Dynamics Center (spare parts delivery)

PLANT 02.71
Spare parts logistics

PLANT 02.72
Production of chassis and drivetrain components

PLANT 02.75
Spare parts warehouse Bruckberg

PLANT 02.91
Spare parts warehouse Wallersdorf

SHAPING THE FUTURE – WITH EXPERTISE AND PASSION.

Dear Reader,

Over the past five decades, the BMW Group's site in Dingolfing has gradually grown to a new dimension. Since the beginning of its success story back in 1973, the plant has produced over ten million cars.

The strength of our site lies in the expertise of our team, the proximity to development, our experience with complex products and processes, and our distinct understanding of quality. In sum, these characteristics provide the best foundation for building new skills sets and knowledge in future technologies. At BMW Group Plant Dingolfing, outstanding people work together on shaping the mobility of the future with pride and passion. The BMW Group entrusts our site with its flagship models and technology carriers.

In Dingolfing, we put the future on the road. From 2021 on, we will be producing the BMW iNEXT, the BMW Group's all-new technological beacon for e-mobility, autonomous driving, the interior of the future and intelligent lightweight construction. The new model will add the next chapter to the success story of BMW Group Plant Dingolfing.

Enjoy the read!

Sincerely yours, Dr. Andreas Wendt
Director, BMW Group Plant Dingolfing

288	HECTARES TOTAL PREMISES
1.600	VEHICLES A DAY
376.000	CARS PRODUCED IN 2017
6	MODEL SERIES
18.000	EMPLOYEES
800	APPRENTICES
48	NATIONALITIES

BMW GROUP PLANT DINGOLFING SITE – OVERVIEW.

Every day, about 1,600 cars roll off the assembly lines at BMW Group Plant Dingolfing. In 2017, more than 376,000 vehicles were built here. With its team of 18,000 employees and 800 apprentices, the site in Lower Bavaria is the BMW Group's Center of Excellence for the large model series

The production portfolio comprises the BMW 5, 6 and 7 Series as well as the BMW 3 Series Gran Turismo and the BMW 4 Series Gran Coupe. In 2018, the range will be complemented by the new BMW 8 Series.

Mastering this scale of complexity requires maximum flexibility and efficiency, two of Dingolfing's core strengths. In the past few years, the production site has drawn on the potential of digitalization, optimized logistics structures and production processes, and invested in future technologies, primarily electrification and lightweight construction.

LIGHTWEIGHT CONSTRUCTION AND ELECTRIFICATION

The plant has taken production to a new level with the innovative and intelligent combination of aluminum, steel and carbon fiber (CFRP) used for the car body of the BMW 7 Series. Over the last couple of years, comprehensive preparations have been made to set up our assembly area for the addition of e-mobility solutions, so that today we are able to manufacture the plug-in hybrid variants of the BMW 5 and 7 Series on a single line together with cars fitted with conventional engines.

Beyond the vehicle production, BMW Group Plant Dingolfing is also the company's Center of Excellence for the production of electric drive systems. In addition, Dingolfing is home to the plant engineering unit, the parts distribution center as well as a separate body-in-white line for the Rolls-Royce models.

THERE IS NO FUTURE WITHOUT A PAST.

BMW Group Plant Dingolfing's success story began more than half a century ago. Some milestones from six decades:

1967
BMW AG takes over Hans Glas GmbH.
The Dingolfing site has a workforce of approx. 2,600 people.

1973
The first BMW made in Dingolfing – a red BMW 520 – rolls off the line at the new vehicle plant 02.40.

1987
Production anniversary: 2 million BMW cars made in Dingolfing.
For the first time, the BMW 7 Series is offered with a 12-cylinder engine.

1996
The new paint shop is put into operation and the 4-millionth vehicle is produced in Dingolfing.

2000
5 million BMW cars made in Dingolfing.
The new Training Center is inaugurated.

2005
Commissioning of the Dynamics Center (Plant 02.70).

2013
Start of production of BMW i components at Plant 02.10.

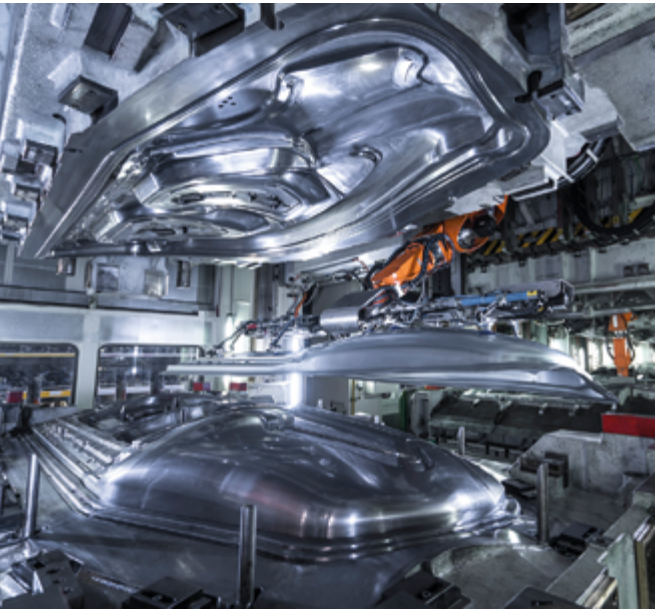
2014
Completion of a new body shop and CFRP production facility as part of the west extension.
Plant extension with commissioning of a high-speed servo press, a new door pre-assembly and a new assembly supply center.
Symbolic start of production of electric drive components for plug-in hybrids at Plant 02.20.

2017
The site celebrates its 50th anniversary and 10 million cars made in Dingolfing.


BMW
BAUT HIER EIN NEUES
WERK
INTEGRAL
AGI
PLAN
ENTWURF BAULEITUNG
AUSFÜHRUNGSPLANUNG


BMW 520


MÜLLER
SCHULER



PRESS SHOP.

Every day, huge steel and aluminum sheet rolls are converted into up to 1.6 million body parts for the Dingolfing plant and the production network. The Dingolfing press shop is the largest facility of its kind within the BMW Group.

Over 40 press systems produce about 2,500 different parts – from fuel tank caps to side frames. With the commissioning of two high-speed servo presses for the production of large-scale body parts in 2015, Dingolfing's press shop has further increased its efficiency and resource-friendliness. The facility has a press force of 10,300 tons. To put this figure into perspective: The Eiffel Tower weighs 7,300 tons.

Several test units control the impeccable quality of pressed parts – ranging from the visual surface check carried out by workers up to the robot-based measuring procedures.

Special technologies applied at the Dingolfing press shop include the production of components made of carbon fiber (CFRP), hydroforming and press hardening. The facility also contains the die-cutting unit were 15 die-cutting machines produce about one million smaller components a day for all vehicles in the BMW Group's portfolio.

BODY SHOP.

The body shop at BMW Group Plant Dingolfing is a high-tech lightweight construction facility. Here, approximately 2,000 industrial robots turn the sheet metal parts produced at the press shop into paintable bodies-in-white.

Up to 600 steel, aluminum and plastics components are combined in an intelligent mix of materials; the joining techniques applied range from welding to adhesive bonding and riveting. The result is a very safe car body with minimal weight.

Lightweight construction has reached a new level with the introduction of the 'carbon core' in the new BMW 7 Series, meaning the use of structural components made of CFRP around the passenger compartment, and the increasing use of die-cast aluminum. The new, state-of-the-art body shop for the BMW 7 Series is prepared to accommodate the latest joining technologies and combination of materials. Also in the BMW 8 Series aluminium, plastics (SMC), steal and CFRP are combined in an intelligent mix.

The body shop in Dingolfing is the BMW Group's Center of Excellence for aluminum. This is why the plant also manufactures bodies-in-white for the Rolls-Royce models in an exclusive small series production.

PAINT SHOP.

In the paint shop, the body-in-white is given its color and shine. Moreover, it is protected against corrosion, sealed and given a perfect surface. BMW customers can choose from a range of more than 300 series and special colors.

When they arrive at the paint shop, the car bodies are cleaned in dip tanks, degreased and covered with a zinc-phosphate coating. This coating is the basis for lasting corrosion protection. After that, four further paint layers are applied, protecting the car against external impacts and giving it permanent color and shine. The Dingolfing paint shop is one of the world's most environmentally friendly facilities: Over the course of the past years, wastewater and solvents were reduced significantly.

ASSEMBLY.

In assembly, over 6,000 workers fit the painted car bodies with the equipment selected by the customers; the complete premium vehicle is a three-dimensional puzzle of up to 20,000 parts. About 1,600 BMW cars are created on the two assembly lines every day.

Complexity, flexibility and efficiency are particularly apparent in assembly: Up to four different model series roll off the same assembly line. Both assembly halls can produce various model series as well as a mix of models with combustion engines and plug-in hybrid drives.

Approximately 1,000 external and internal suppliers provide the plant with parts, which are always fed into the line in the right sequence (just-in-sequence) and at the right time (just-in-time). Customers can change their orders up to six days prior to the start of assembly.

High ergonomic standards and tools such as handling devices, pivot mounts and exoskeletons, a flexible support device for the body, make work steps as easy and ergonomic for workers as possible.

FOCUS ON CUSTOMER SATISFACTION.

Skilled workers and state-of-the-art measuring and testing systems ensure that all cars that leave BMW Group Plant Dingolfing are of the premium quality customers expect. US-based market researcher J.D. Power, among others, has repeatedly attested to the plant's top quality standards.

Dimensional accuracy and quality are guaranteed thanks to the in-line measuring systems that are applied from the very beginning of production. In mid-2014, the Dingolfing site commissioned a new short test track to complement its testing and break-in courses; before being dispatched to customers, all cars must pass the test without reservations.

The plant's own Analysis and Launch Center serves as the interface for the Research and Innovation Center (FIZ) in Munich. It ensures the production feasibility of vehicle series, launch preparations as well as the functioning and perfect interaction of all electronic vehicle systems. It also handles the launch preparation for new models.

OVERVIEW OF CURRENT PRODUCTS MADE IN DINGOLFING.

3

BMW 3 SERIES GRAN TURISMO

4

BMW 4 SERIES GRAN COUPE

5

BMW 5 SERIES SEDAN

BMW 5 SERIES TOURING

BMW 530e iPERFORMANCE

BMW M5

6

BMW 6 SERIES GRAN TURISMO

7

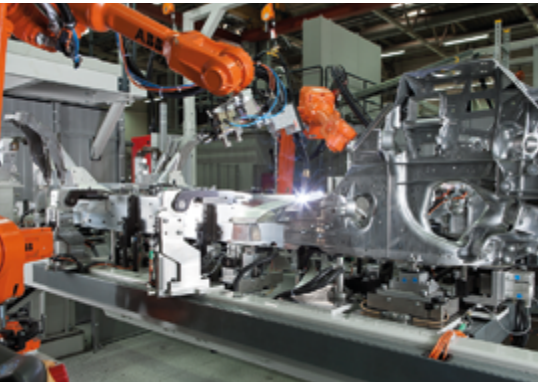
BMW 7 SERIES SEDAN

BMW 7 SERIES LONG VERSION

BMW 740e iPERFORMANCE

8

BMW 8 SERIES COUPE



MORE THAN JUST A CAR FACTORY.

The Dingolfing site is much more than just a car factory. It also produces chassis and drive parts at its Plant 02.10 and Plant 02.20 as well as eDrive components for BMW i and plug-in hybrid models.

The site also provides vital components to Rolls-Royce: Due to the expertise of the Dingolfing-based specialists in processing aluminum, they are responsible for producing the bodies-in-white for all models of the British ultra-luxury brand. At the remote location in Unterhollerau, Plant 02.27, highly specialized workers manufacture the sophisticated aluminum car bodies in an exclusive small series production.

Special vehicle interiors made of superior quality materials are also hand-built by Dingolfing's specialists in the individual manufacture unit. These exquisite interiors are primarily fitted in the BMW 7 Series models made in Dingolfing but also delivered to other production sites as the Dingolfing individual manufacture unit is a unique feature in the BMW Group production network.

DINGOLFING – THE HEART OF AFTERSALES LOGISTICS

The Dingolfing site is also home to the BMW Group's Central Parts Delivery (ZTA), called the Dynamics Center, at Plant 02.70. This unit supplies the global BMW and MINI retail organizations with original parts and equipment. Aftersales is growing in sync with the increase in the number of models and vehicles produced. The latest addition to the ZTA are two new large-scale warehouses in Bruckberg (Landshut county) and Wallersdorf (Dingolfing-Landau county), respectively, both put into operation in 2016. Overall, ZTA stores more than 300,000 different product items on a total floor space of 800,000 sqm. Each day, 45,000 parts are shipped to destinations all around the world.

The Dingolfing site also has toolmaking and plant engineering facilities – in-house partners that operate as 'companies within the company', manufacturing industrial tools and facilities for automotive production.

ELECTRO-MOBILITY FROM BMW GROUP PLANT DINGOLFING.

The era of e-mobility has begun – and BMW Group Plant Dingolfing is at the forefront of the development. This is where key components for the BMW i and plug-in hybrid models come from, as well as electrified vehicle variants of the BMW 5 and 7 Series.

Plant 02.10 makes the high-voltage battery as well as the e-transmission and the Drive structure for the BMW i3, which is the 'chassis' of the BMW i3, an aluminum composite frame construction. In assembly of the Drive module, the battery is integrated and the drivetrain transmission unit fitted.

In producing the e-transmission, BMW Group Plant Dingolfing benefits from its significant process expertise in the fields of mechanical processing, linking and assembly technologies.

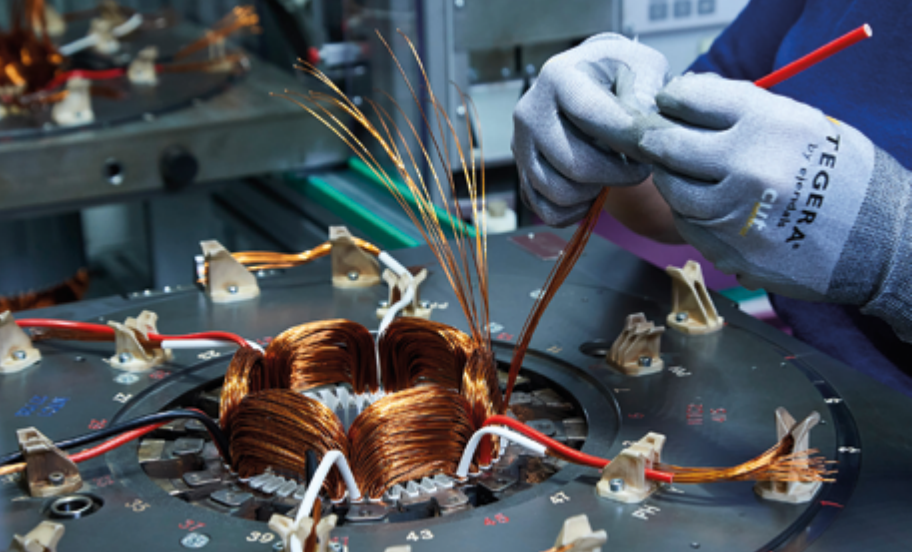
E-DRIVES AND HIGH-VOLTAGE BATTERIES

As part of Plant Group 2, a new remote location in Niederviehbach has been created as a production site for chassis and drivetrain components. This is where chassis scopes for the BMW i8 are manufactured, among other things.

Following the launch of the BMW i models, the company is currently introducing the eDrive technology step by step to the traditional product line-up. To this end, two production lines for the production of high-voltage batteries and electric motors were commissioned at Plant 02.20 in 2014. In 2016, the Dingolfing plant started to produce its first plug-in hybrid model, the BMW 740e iPerformance, which was followed by the BMW 530e iPerformance in March 2017.

PHEV models are powered by a combustion engine and an electric drive with a high-voltage battery that can be charged at a wall socket. Shorter distances can be covered in electric mode; for longer distances, the cars usually switch to mixed-mode operation.

In 2021, the BMW Group will launch its first all-electric car, the BWM iNEXT. This model will be made in Dingolfing. A year earlier, the Dingolfing site is scheduled to start the production of the fifth generation of e-drives, which will further optimize the interaction between the electric motor, transmission, power electronics and battery. Another important milestone for BMW Group Plant Dingolfing as the Center of Excellence for the production of electric drive systems.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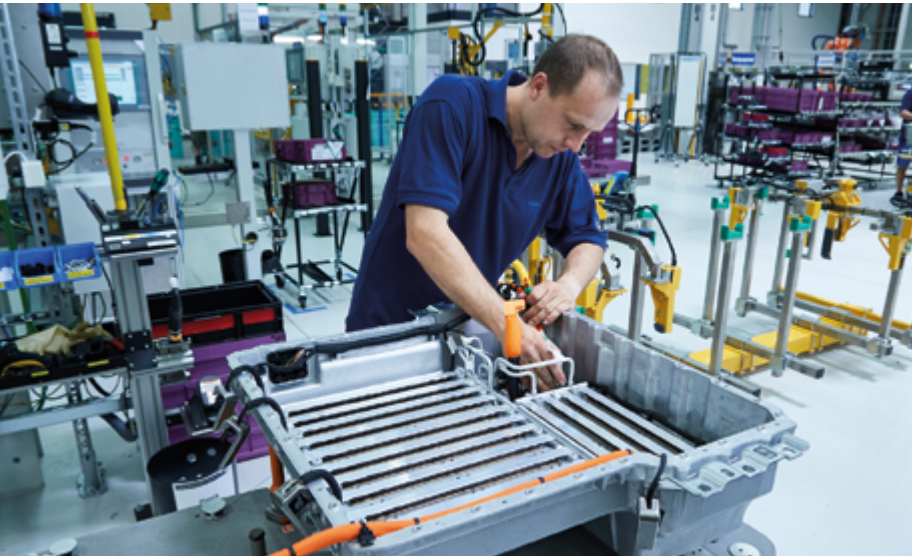
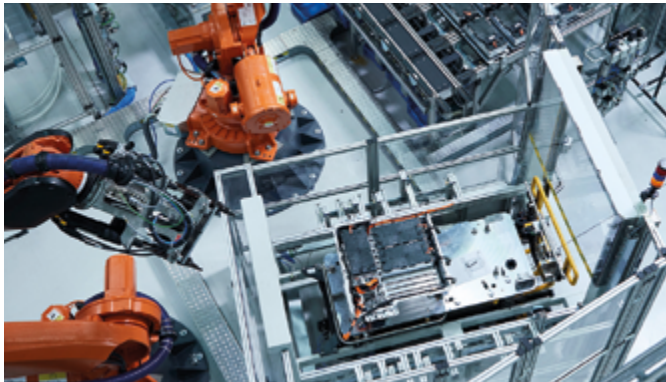




WORKING WORLD 4.0.

To improve efficiency, quality and customer orientation even further, BMW Group Plant Dingolfing draws on the potential of digitization in production.

Areas of application range from virtual process validation to intelligent, self-controlling systems and advanced robotics, namely the increased use of lightweight robots. This development toward Vehicle Production 4.0 entails a modernization of the working world, in which people, data and technologies become more and more connected, and complex workflows in production can be made more efficient and reliable. For instance, workers have been qualified for the production of the BMW 8 Series by using virtual reality devices.

Another example: Sensitive lightweight robots support workers by taking on physically demanding tasks. They operate in an environment without protective fences alongside their human colleagues. Lightweight robots are utilized in several areas, including door pre-assembly, 3D measuring of gap sizes in the body shop's quality control area and the assembly of axle differentials.

Industry 4.0 applications also include clever inventions such as the ProGlove, a glove with an integrated scanner that logistics and assembly workers wear instead of having to use a hand scanner. ProGlove was developed to series maturity together with members of the BMW logistics team and initially applied at the Dynamics Center in Dingolfing.

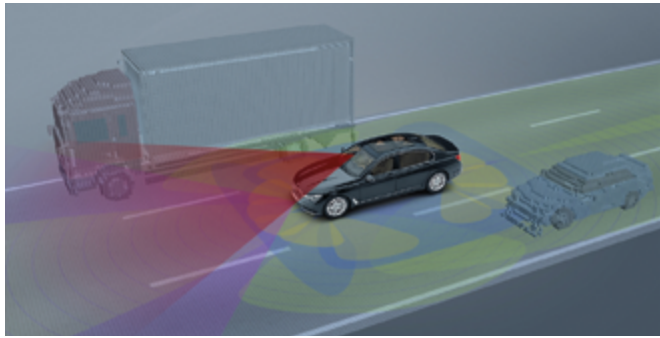
THE PATH TOWARD AUTONOMOUS DRIVING.

The mobility of the future is connected, with cars communicating both with each other and their environment. We are on the path toward self-driving cars.

As the production site for large model series, BMW Group Plant Dingolfing is well prepared for mastering the challenges of future mobility. The BMW 8, 7 and 5 Series are considered technology leaders in their respective segments, not least on account of their driver assistance systems and comprehensive connectivity features.

The BMW Group is implementing autonomous driving in five development steps. Today, we have reached level 2, where the driver is supported by assistance systems and can take their hands off the steering wheel for a short period of time. At level 3, the driver will be able to turn their attention away from the road entirely at times. At level 4, the driver could even take a nap, provided that they are generally fit to drive. Self-driving will be introduced with level 5 when the driver turns into a passenger. The Munich-based Research and Innovation Center (FIZ) is already running tests on the autonomous driving of the future. Since mid-2017, about 40 self-driving BMW 7 Series cars have been cruising on public roads in the U.S. and Europe.

The lighthouse project in these efforts is the BMW iNext, announced for 2021, which will be built at BMW Group Plant Dingolfing. This model will combine all future technologies, namely an e-drive, lightweight construction, artificial intelligence, autonomous driving, the interior of the future and connectivity.



COMMITTED TO SUSTAINABILITY.

Environmentally friendly production is a top priority for the Dingolfing site. The plant meets its environmental responsibility with activities on air purification, resource conservation and energy saving.

The reduction of traffic cuts carbon emissions. With its unique commuter bus system – 300 buses, used by 10,000 employees – the plant makes an important contribution: Compared to people using their own cars to drive to work, the buses account for a reduction in CO_2 emissions of about 7,000 tons annually. Almost 70 percent of all vehicles produced at BMW Group Plant Dingolfing are dispatched by rail, cutting the number of trucks used by 100.

There are many aspects to applying environmentally friendly technologies in production: For instance, the Dingolfing paint shop recycles up to 25,000 liters of water per hour and feeds them back into the production process. Emissions of organic solvents are also down considerably, and over the past few years, the site has managed to significantly reduce water and energy consumption per vehicle produced. The application of the innovative LED technology alone has resulted in annual energy savings of 50 percent for lighting production halls.

HIGH ENERGY EFFICIENCY

BMW Group Plant Dingolfing applies energy-efficient installations and resource-optimized processes.

One of many examples is the innovative press technology that has reduced energy consumption by about five million kilowatt hours a year. Thanks to the constant efforts to reduce waste for disposal, the recycling rate at BMW Group Plant Dingolfing stands at 99.7 percent.

In late 2017, the Dingolfing site commissioned a new power plant at Plant 02.40, increasing its commitment to highly efficient power and heat generation even further with cogeneration systems. Four state-of-the-art facilities increase the share of power produced on site. Thanks to the new technology, about 34,000 tons of CO_2 are saved annually.

THE HUMAN SUCCESS FACTOR.

Each year, more than 260 apprentices begin their professional training at BMW Group Plant Dingolfing. In total, the plant is currently training about 800 young people in 14 different professions.

Since the plant was opened, Dingolfing has trained about 10,000 young people. Innovative training concepts, such as the dual apprenticeship with a college entry qualification (DBFH), complement the offering. In the three-year program, the site trains electronics technicians, industrial mechanics and automotive mechatronics specialists. The BMW Group's 'Speed up' program gives graduates the opportunity to follow up on their DBFH program with studies at a partner college.
With its 'entry qualification' (EQ) program, BMW Group Plant Dingolfing offers young people who have not succeeded in finding an apprenticeship position a long-term internship – and the possibility to secure an apprenticeship contract afterwards.

The site's WORK HERE! initiative supports the integration of refugees. Since its launch in 2016, more than 100 refugees have participated in the six-week on-the-job training course. About half of them have since found employment in the German labor market.

In light of future technologies, continuous further education is vital. The BMW Group's comprehensive training course offering, also at the Dingolfing site, helps employees acquire the necessary skills sets.


J. Städler

WORKING ERGONOMICALLY, LIVING HEALTHILY.

The BMW Group is countering the demographic change with its integrated health management and the 'Today for Tomorrow' project.

The 'Today for Tomorrow' program supports production in aligning with the requirements of an aging workforce. Age-appropriate workplaces are created through the introduction of load-optimized workplace rotation as well as a variety of ergonomic measures. From the early planning stage, company physicians and ergonomics specialists are involved in the design of new facilities and workstations to make sure that ergonomic requirements are met optimally, ensuring a healthy work environment.

The BMW Group's health management ('Initiative Health') focuses on raising people's health awareness and behavior. Attractive offerings in the fields of health promotion and preventive action encourage the workforce to take responsibility for their health – at the workplace and at home. One example: Dingolfing's PROAKTIV center offers physiotherapy, fitness and strength training, as well as relaxation, sport and smoking cessation classes.

BEING A GOOD NEIGHBOR.

BMW Group Plant Dingolfing considers itself a reliable key partner in the region of Lower Bavaria and as such assumes social responsibility to make a lasting positive contribution to the region's development.

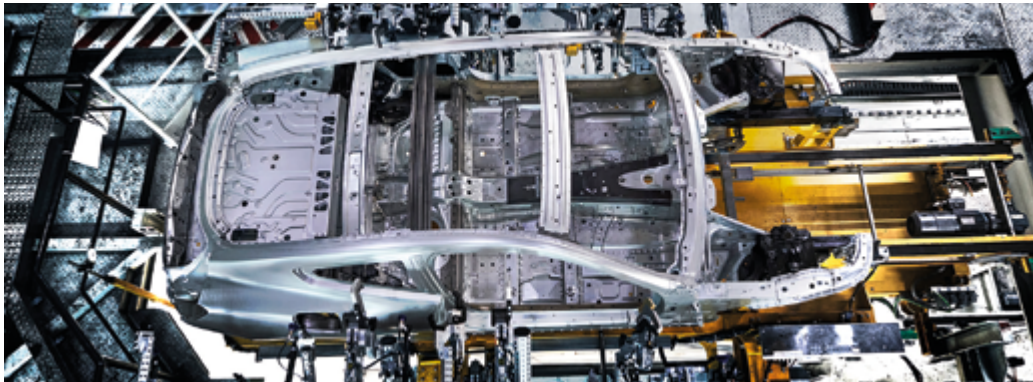
Its commitment ranges from vehicle donations to educational institutions or charities to the sponsoring of social projects. BMW Group Plant Dingolfing has supported various events hosted in the region for many years, including the Dingolfing Half Marathon. The plant is also a partner of the 'Dingfest', a festival that takes place in Dingolfing every two years, and hosts the annual 'Jugend forscht – Schüler experimentieren' student STEM research competition.

BMW Group Plant Dingolfing frequently enters into a dialog with stakeholders. This is how the site emphasizes its role as a good neighbor and partner of the region.

FASCINATION PRODUCTION – EXPERIENCE IT LIVE.

Take a look behind the scenes of the BMW Group's production site in Lower Bavaria and visit BMW Group Plant Dingolfing.

Tours through the production area are offered to both groups and individuals.



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