

Media Information
01 October 2021

Sustainably produced and highly individual: BMW M4 small series takes shape using new paint process

+++ BMW Group Plant Dingolfing pilots new paint process +++ Over-spray-free paint application opens up a wide range of possibilities for customisation +++ Unique combination of customer benefits and sustainability +++ Technology boosts both resource and energy efficiency

Munich / Dingolfing. BMW Group Plant Dingolfing is piloting a new overspray-free painting process that allows several paint colours to be used and designs to be applied without stencils or masking the vehicle. The highly innovative application method not only increases the degree of individualisation for customers, but also contributes to sustainability by reducing waste and energy consumption. The technology is being used for the first time in 19 BMW M4 Coupés, which will soon roll off the production line at Plant Dingolfing with custom two-tone paintwork and M4 identification on the bonnet and tailgate.

Milan Nedeljković, member of the Board of Management of BMW AG, responsible for Production: “We expect the highest standards of efficiency, sustainability and digitalisation from our production. This smart painting technology meets all the requirements for an innovative production process and also offers unique customer benefits.”

The BMW Group developed the new EcoPaintJet Pro application process for waterborne base coats and 2K clear coat in collaboration with mechanical and plant engineering firm Dürr. In the conventional procedure, paint is atomised by a rotating bell with 35 to 55,000 revolutions per minute and adheres electrostatically to the body. The new method works without electrostatics, relying instead on jet application. The paint is applied using an orifice plate that enables high edge definition with a variable paint thickness of between 1 and appr. 50 millimetres. This requires maximum precision from both the robot and application technology. It also means two different colours of paint can be used, e.g. for a contrasting roof, and stripes and other designs applied – for instance, on the bonnet. The focus of technology and material development was on achieving the maximum range of applications. It

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will now be possible to paint every exterior component – offering customers virtually limitless options for individualisation.

Until now, custom designs like this can only be realised using manual masking. With the new technology, the material and personnel costs this previously entailed will be eliminated, making it possible to realize these options at a lower cost. This innovative process also prevents so-called overspray, i.e. excess paint particles, which therefore no longer has to be disposed of. A further contribution to sustainable production comes from lower energy consumption: Since paint separation is no longer required, the amount of air needed is also lower. At around 7,000 operating hours, this results in energy savings of more than 6,000 megawatt hours and reduces the carbon footprint by nearly 2,000 tonnes per year. Development of innovative paint technology for further series applications will continue.

With the paintwork for the M4 small series, the BMW Group is testing the possibilities of the new process. These unique vehicles will initially be used in the company's own fleet. Series introduction of the piloted paint process is scheduled to begin in 2022 in the BMW Group production network.

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The BMW Group production network

Uniquely flexible and highly efficient, the BMW Group production network is able to respond quickly to changing markets and regional sales fluctuations. Expertise in manufacturing is a key contributor to the BMW Group's profitability.

The BMW Group production network uses a range of innovative digital and Industry 4.0 (IoT) technologies, including virtual reality, artificial intelligence and 3D printing applications. Standardised processes and structures across the production system ensure consistent premium quality and allow a high degree of customisation.

The BMW Group

With its four brands BMW, MINI, Rolls-Royce and BMW Motorrad, the BMW Group is the world's leading premium manufacturer of automobiles and motorcycles and also provides premium financial and mobility services. The BMW Group production network comprises 31 production and assembly facilities in 15 countries; the company has a global sales network in more than 140 countries.

In 2020, the BMW Group sold over 2.3 million passenger vehicles and more than 169,000 motorcycles worldwide. The profit before tax in the financial year 2020 was € 5.222 billion on revenues amounting to € 98.990 billion. As of 31 December 2020, the BMW Group had a workforce of 120,726 employees.

The success of the BMW Group has always been based on long-term thinking and responsible action. The company set its course for the future early on and is making sustainability and resource efficiency the focus of the company's strategic direction – from the supply chain, through production, to the end of the use phase, for all its products.

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