



Media information
29 March 2023

From the Arctic Circle to the foothills of the Alps: The new BMW i5 performs impressively in winter testing on ice and snow.

One-year testing phase of all drive and chassis control systems under wintry weather conditions +++ Fifth-generation BMW eDrive technology displays high level of maturity +++ Unique torque control optimises traction, dynamism and driving stability of the first-ever all-electric BMW 5 Series Sedan

Munich. The first-ever BMW 5 Series with a fully electric drive system has yet to make its global debut, but it has already come through the ultimate endurance test. The new BMW i5 repeatedly demonstrated both the stability of its electric powertrain and its dynamic performance qualities over the course of arduous test drives in wintry conditions. The programme of testing on ice and snow lasted about a year in all, from the initial test runs to the final stages of fine-tuning. During the extensive testing on country roads, motorways and specially prepared test tracks, the development engineers mainly focused their attention on the car's ability to drive at low temperatures and on surfaces offering little grip.

The innovative powertrain and chassis control systems on board the new BMW i5 do a great deal to optimise its traction, dynamism and driving stability, and nowhere is this more apparent than on a solid blanket of snow, icy mountain roads or frozen lakes. It was only right that the dynamic winter testing of the purely electrically powered sedan recently finished exactly where it began: in the biting cold of the BMW Group's winter test centre at Arjeplog, northern Sweden.

Endurance test for BMW eDrive technology, operating continuously at extreme sub-zero temperatures.

As part of the production development process, the new BMW i5 first had to prove its mettle back in February 2022, when it completed a road trip from Munich to the BMW test centre at Arjeplog. A prototype model of the all-electric BMW 5 Series fully camouflaged with a special wrap, plastic attachments, grilles and provisional headlights and rear lights set off on a five-day test drive from the foothills of the Bavarian Alps up to Denmark, then on to the edge of the Arctic Circle in Swedish Lapland.



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The journey of around 3,000 kilometres (1,850 miles) provided an early opportunity for the motors, power electronics, high-voltage battery and integrated heating and cooling system for the cabin and battery pack to demonstrate their advanced level of readiness on a long-distance journey. Featuring cutting-edge battery cell technology and intelligently controlled thermal management, the fifth-generation BMW eDrive technology – further upgraded for the new BMW i5 – forms the basis for long ranges and short charging times during breaks in the journey, even in extreme sub-zero ambient temperatures.

⇒ See photo set 1

The final destination of Arjeplog provided the team of development and test engineers with the ideal venue for their test programme. The snow-covered roads and frozen lakes of northern Sweden, with their vast expanses of ice, create the perfect setting for exploring how the chassis components, steering and braking systems, and driving dynamic and driving stability systems all interact with one another in extreme outdoor conditions. As a result, the groundwork for the authoritative, assured and characteristically sporty handling of the new BMW i5 were already laid in the first test drives in Arjeplog.

⇒ See photo set 2

Testing in everyday driving and on wintry roads in the foothills of the Alps.

This was followed by more testing over the course of 2022, both at other BMW Group test facilities and in everyday driving in and around Munich as well as in the vicinity of BMW Group Plant Dingolfing. The task here was to continue refining the car's chassis technology and acoustic properties under a wide variety of conditions, as well as honing the drive unit's power delivery, in order to produce a well-resolved driving experience at all times.

Here again, part of the development work was deliberately carried out during the colder months on icy and snowy roads in the Alpine foothills. This last winter, BMW i5 prototypes – now sporting less camouflage and near-production headlights – were regularly sent out for testing to verify the functionality and reliability of their powertrain and chassis control systems in extremely demanding



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road and weather conditions. The BMW engineers involved in the vehicle project were able to directly inspect the current state of development through testing in the BMW brand's native Bavaria before it was time to return to endurance testing near the Arctic Circle in February 2023.

⇒ See photo set 3

BMW i5 thrills with its unrivalled handling on ice and snow.

The purpose of this second round of testing in Sweden was to fine-tune all powertrain and chassis control systems. Thanks to their low-grip surfaces, the test areas sited on frozen lakes around Arjeplog were particularly well suited for delicately adjusting the drive torque control system in the BMW i5 under precisely reproducible conditions. In the new BMW i5, the DSC (Dynamic Stability Control) system, the near-actuator wheel slip limitation function and the drive torque control system are interlinked so that they can interact and complement each other flexibly in any driving situation. As a result, the all-electric sedan performs at least as proficiently as any conventionally powered model on ice and snow.

The integrated application of all powertrain and chassis systems underpins the outstanding handling abilities displayed by the BMW i5 in winter testing. The more challenging the conditions, the more impressive were the speed and precision of the control systems in the fully electric version of the new BMW 5 Series Sedan. The BMW i5 serves up a harmonious blend of optimum traction when pulling away and supreme driving stability when cornering or braking, which is unique in the competitive environment.

⇒ See photo set 4



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The fuel consumption, CO₂ emissions, electric power consumption and operating range figures are determined according to the European Regulation (EC) 715/2007 in the version applicable. They refer to vehicles in the German market. Where a range is shown, the figures take into account the impact of any optional extras.

All values were calculated based on the new WLTP test cycle. WLTP values are taken as the basis for determining vehicle-related taxes or other duties based (at least inter alia) on CO₂ emissions as well as eligibility for any applicable vehicle-specific subsidies. Further information on the WLTP and NEDC measurement procedures can also be found at www.bmw.de/wltp.

Further information on official fuel consumption figures and specific CO₂ emission values of new passenger cars is included in the following guideline: 'Leitfaden über den Kraftstoffverbrauch, die CO₂-Emissionen und den Stromverbrauch neuer Personenkraftwagen' (Guide to the fuel economy, CO₂ emissions and electric power consumption of new passenger cars), which can be obtained free of charge from all dealerships, from Deutsche Automobil Treuhand GmbH (DAT), Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen and at <https://www.dat.de/co2>.

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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 over 30 production sites worldwide; the company has a global sales network in more than 140 countries.



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In 2022, the BMW Group sold nearly 2.4 million passenger vehicles and more than 202,000 motorcycles worldwide. The profit before tax in the financial year 2022 was € 23.5 billion on revenues amounting to € 142.6 billion. As of 31 December 2022, the BMW Group had a workforce of 149,475 employees.

The success of the BMW Group has always been based on long-term thinking and responsible action. The company set the course for the future at an early stage and consistently makes sustainability and efficient resource management central to its strategic direction, from the supply chain through production to the end of the use phase of all products.

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