



Media Information
BMW Motorsport SIM Racing
30th April 2020

BMW Motorsport simulator accelerates development and set-up work for drivers and engineers.

- **Close collaboration between BMW Motorsport and production pre-development.**
- **Unique simulator configuration with an extremely high level of detail.**
- **Experience the significance of race simulations for BMW drivers, engineers and sim racing pros in a video.**

Munich. Perfect preparation has a major influence on teams' chances of success in highly professional race series such as the ABB FIA Formula E Championship or the DTM. For BMW Motorsport, the modern simulator in Munich (GER) plays a key role.

It not only helps the drivers get to know a new track or to fine tune the racing line. The sim also enables precise optimisations to the car set-up and supports the development of new race cars. The BMW Motorsport engineers work closely together with their colleagues from BMW production pre-development in this area.

The BMW works drivers and engineers lay the foundation for success in races way before heading to the racetrack – namely in a simple hall at BMW Motorsport on Anton-Ditt-Bogen in Munich. This is the home of the BMW Motorsport simulator, one of the most important tools for the best-possible race preparation. 'Experiencing' new tracks or drivers making their first acquaintance with the BMW M4 DTM or BMW iFE.20 are as much a part of day-to-day business as devising the perfect chassis tuning and energy management.

“The BMW Motorsport simulator is a very important and useful tool for us in training the drivers, preparing our race appearances in terms of car set-up and energy management, and last but not least, also in car development,” said Rudolf Dittrich, General Manager BMW Motorsport Vehicle Development. “The unique configuration of the hardware, continuous detailing of the software and modelling, the very close correlation with real data and the high computer performance make even the smallest changes in vehicle set-up or the development of new cars



noticeable and comparable. The compatibility with other BMW Group simulators brings about many synergies and a continuous transfer of technology and knowledge between motorsport and production development.”

Globally unique simulator configuration.

At the core of the BMW Motorsport simulator is a detailed car model. Its basis is identical for all BMW simulators in development. The feedback relevant to the driver is determined from the model for a globally unique configuration with linear actuators and a turntable, and transmitted with high precision and minimum delay. For this, the system relies on processing power of 100 teraflops. This means that 100 billion calculations are possible every second. Three projectors display the racetrack for drivers in the simulator. Great value is placed on a high quality of immersion into the virtual world. If the immersion is not good enough, driving in the simulator can trigger headaches and nausea similar to motion sickness. This has not been the case for racing drivers to date. The necessary foundations in this area are undergoing scientific research in several research projects in parallel. The findings are also available to other areas within the BMW Group, which, for example, are involved in the development of autonomous driving.

Currently, the BMW Motorsport simulator can visualise the BMW M4 DTM and the BMW iFE.20. It is possible to switch between these two cars within the space of an hour. The following track configurations are available: Nürburgring (GER) including the Nordschleife, Hockenheimring (GER), Norisring (GER), Lausitzring (GER), Assen (NED), Jerez de la Frontera (ESP), Brands Hatch (GBR) and the future DTM venues Anderstorp (SWE) and Monza (ITA). Also available are all the tracks from the 2018/19 and 2019/20 seasons of the ABB FIA Formula E Championship, and the BMW test site in Miramas (FRA) modelled in collaboration with production colleagues. Changes to existing tracks or the implementation of new venues can be realised in less than a week, as required. A total of 19 racing drivers have already taken the wheel of the simulator; in addition to BMW works drivers from the DTM and the ABB FIA Formula E Championship in 2019 and 2020, this also includes new drivers ahead of their rookie tests.

Klaus Fröhlich, Member of the Board of Management of BMW AG, Development, has also taken to the virtual test track in the BMW Motorsport simulator.



Maximum precision, maximum efficiency.

The high-level precision makes it possible to make even the smallest changes to the chassis tuning noticeable in the cockpit. This means that various chassis options can be tested before setting off for the racetrack. In addition, in Formula E it is possible to enter data in the vehicle control unit for optimum energy management at an early stage. In vehicle development, the great attention to detail allows comparative analyses on different circuits without great financial expense, the results of which would be very difficult to realise at the real racetrack.

Last but not least, the simulator allows engineers as well as the driver to prepare for a race appearance. Up to 15 engineers are connected directly via an intercom and data server during a simulator session. This enables reactions and processes in extraordinary situations to be practised, for example.

BMW Motorsport is developing the simulator continuously in parallel to ongoing use, in addition to the hardware, primarily in the areas of software and modelling. Experience from other BMW Group simulators is also incorporated.

Note to editors: The following link leads to new TV footage of the BMW Motorsport simulator, including statements from BMW works driver Maximilian Günther and Rudolf Dittich, Head of BMW Motorsport Vehicle Development: <https://www.press.bmwgroup.com/global/tv-footage/detail/PF0007590/bmw-motorsport-simulator-at-the-bmw-group>.

Sim racing live streams this weekend:

DNLS powered by VCO (Sat., 13:00hrs CEST):

Facebook: https://b.mw/DNLS_Facebook_EN

YouTube: https://b.mw/DNLS_YouTube

Twitch: <http://www.twitch.tv/bmwmotorsport>

ABB Formula E Race at Home Challenge, Round 2 (Sat., 16:30hrs CEST):

Facebook: <https://b.mw/RaceAtHomeChallenge2FB>

YouTube: <https://b.mw/RaceAtHomeChallenge2YT>



Media Contact.

Benedikt Torka
Spokesperson BMW Motorsport SIM Racing
Phone: +49 (0)151 601 32455
E-mail: benedikt.torka@bmwgroup.com

Ingo Lehbrink
Spokesperson BMW Group Motorsport
Phone: +49 (0)176 – 203 402 24
E-mail: ingo.lehbrink@bmw.de

Benjamin Titz
Head of BMW Group Design, Innovations & Motorsports Communications
Phone: +49 (0)179 – 743 80 88
E-mail: benjamin.titz@bmw.de

Media Website.

<http://www.press.bmwgroup.com/global>

BMW Motorsport on the web.

Website: www.bmw-motorsport.com
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