



Media Information
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Around the globe with BMW i technology - solo and non-stop: BMW supports Pierre Casiraghi, founder of the Malizia sailing team, and record “round-the-world” sailor Boris Herrmann on their Vendée Globe campaign.

- **Hamburg’s ‘round-the-world’ record sailor Boris Herrmann aiming to be the first German to take part in the world’s toughest regatta.**
- **The racing yacht ‘Malizia’ will be optimised with BMW i technology for the non-stop solo race around the world.**
- **BMW engineers focussing on lightweight construction and zero-emission drive technology.**

Palma de Mallorca/Munich. For the first time, a German sailor is aiming to take on one of the greatest and toughest challenges in yachting: the Vendée Globe. The route takes participants on a journey of 25,000 nautical miles along the storm-tossed Southern Ocean and all around the globe. The race is referred to as the ‘Mount Everest’ of sailing. Hamburg native Boris Herrmann is planning to compete for the Yacht Club de Monaco with the yacht ‘Malizia’ in the next edition of the solo regatta, which will start in November 2020. As Team Partner, BMW is bringing to bear all its automobile manufacturing expertise and experience of technology transfer to competitive sailing. BMW has been involved in the America’s Cup since 2002 and claimed victory in the most sought-after trophy in yachting with BMW ORACLE Racing in 2010.

The ‘Malizia’, a racing yacht that measures 60 feet in length, is being optimised for the world’s toughest solo sporting competition, which will take place in November 2020. BMW development engineers have been involved in the identification of areas where the car manufacturer will be able to provide support, in the form of lightweight construction and electric drive expertise for which the visionary BMW i technology provides the basis.

“BMW i vehicles and the racing yacht ‘Malizia’ have both pushed the boundaries of physics to near their limits, and both are facing similar technological challenges,”



said Dr Robert Irlinger, Head of BMW i. “The smallest detail can have a massive effect. During the development of the BMW i8 Roadster, we fought for the lowest possible cx value in the aerodynamics and for every ounce of weight saved in the CFRP cell, in order to optimise consumption and performance. The best possible aerodynamics and intelligent lightweight construction allow the boat to reach higher speeds, making them decisive success factors for a racing yacht.”

For those reasons intelligent lightweight construction is one of the areas where BMW and Team Malizia are collaborating. The first result of this technological collaboration is the navigator's seat, constructed from CFRP. This is where Herrmann will spend much of his time during the Vendée Globe. “We are aiming to use our CFRP expertise to optimise weight. We will also continue to develop the seat in terms of ergonomics and comfort, to provide Herrmann with the best possible conditions to work and relax as he sails around the world,” says Dr Irlinger. Testing has already started on a first prototype. During the yacht's transfer from the shipyard in Lorient (Brittany) to its home port of Monaco, Boris Herrmann was able to gain important insights that will play a part in further development of the seat. A further test is scheduled to take place in April/May, at the record attempt on the Mediterranean route from Marseille, in the south of France, to Carthage in Tunisia.

The drivetrain will also be another area that will occupy the attention of the BMW engineers regarding technology transfer for Team Malizia. The objective is the development of an alternative to the diesel power unit, which weighs in at around 380 kg (including fuel) and is on board primarily for safety reasons. One option could be to replace this with an electric motor with BMW i battery technology, to cross the oceans of the world with zero emissions. As well as the electrical supply for the onboard systems and the canting keel, an electric engine – a so-called hydrogenator – could also contribute to the acquisition of regenerative energy from the yacht's movement, as well as replacing or improving the efficiency of the existing systems. The next generation of BMW i lithium batteries, which are characterised by outstanding energy density and longevity, have already been made boat-ready for some of the high-tech electric boat motors at the Starnberg-based company Torqeedo. Together with the BMW i collaboration partner, attempts are now underway to develop a reliable and emission-free drive system solution for Malizia.

“Emission-free round the world under race conditions, whilst simultaneously producing your own energy, is a thoroughly inspirational concept,” said Malizia



skipper Boris Herrmann. “Our Technology Partner BMW is conducting intensive research into battery development for hybrid and electric cars. We share a common vision of integrating these batteries into ‘Malizia’. We hope that the system will be ready for use in the 2019 season. Throughout the last 16 years, America’s Cup technology partner BMW has impressively proved that they have the know-how to optimise racing yachts, even right at the limits.”

The ‘Malizia’ sails under the flag of the Yacht Club de Monaco (YCM). The YCM vice-president, Pierre Casiraghi, is the youngest son of Princess Caroline of Monaco. He sails regularly with Herrmann and is supporting this Vendée campaign. He will be competing with the German sailor at the Open60 two-man regattas. Last year, Herrmann and Casiraghi secured third place at the legendary Rolex Fastnet Race.

“The campaign is really picking up speed this season and the partnership with BMW is really giving us a boost,” says Casiraghi. “I am really looking forward to working with a company as renowned and innovative as BMW. Together we can reach our ambitious targets.”

BMW i battery technology.

The battery cells for BMW i models come from Samsung SDI. The specific packaging and assembly into a storage element is performed by BMW. The packaging, construction principle and cooling system are key to the range of the vehicle and the life of the battery. For example, the high-voltage battery in the BMW i3 features an integrated liquid cooling system, which ensures the energy storage system is always at the optimal working temperature. However, a high-quality and stable production process is equally important for the high-voltage battery. In this regard, the BMW Group has faith in its in-house manufacturing, the laser welding expertise at the Dingolfing plant, and the process know-how in the field of high voltage.

BMW i carbon technology.

In order to compensate for the batteries, which are still heavy these days, in the fully-electric BMW i3, BMW i became the first manufacturer in the world to industrialise the high-tech material carbon for automobile manufacturing and on a large scale. Carbon is 50% lighter than steel and 30% lighter than aluminium.



As a result, the BMW i3 is the lightest electric car in the world in its sector, and is able to offer to the driving performance and agility for which BMW is known.

BMW i acquires the carbon fibre through its system partner SGLACF. The high-tensile passenger cells are then manufactured from individual carbon fabrics at the BMW plant in Leipzig. The entire process is more akin to the modern textile industry than classic automobile manufacturing. The energy-intensive production of carbon fibres is virtually emission-free, thanks to the use of electricity from renewable sources.

About Torqeedo.

Torqeedo is the market leader for electric mobility on the water. Founded in 2005 in Starnberg, the company develops and manufactures electric and hybrid drives from 0.5 to 100 kW for commercial applications and recreational use. Torqeedo products are characterised by an uncompromising high-tech focus, maximum efficiency and complete system integration. Torqeedo is part of the DEUTZ Group, one of the world's leading independent suppliers of diesel and natural gas engines.

www.torqeedo.com

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 30 production and assembly facilities in 14 countries; the company has a global sales network in more than 140 countries.

In 2017, the BMW Group sold over 2,463,500 passenger vehicles and more than 164,000 motorcycles worldwide. The profit before tax in the financial year 2017 was € 10.655 billion on revenues amounting to € 98.678 billion. As of 31 December 2017, the BMW Group had a workforce of 129,932 employees.

The success of the BMW Group has always been based on long-term thinking and responsible action. The company has therefore established ecological and social sustainability throughout the value chain, comprehensive product responsibility and a clear commitment to conserving resources as an integral part of its strategy.

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