

Press Information

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On course for America's Cup defence with BMW Motorsport know-how.

BMW engineers develop intuitive cockpit design for ORACLE TEAM USA skipper Jimmy Spithill.

Munich/New York. The America's Cup Class catamarans appear to soar weightlessly above the water on their foils. However, what may seem effortless is actually the result of a permanent adjustment of the foils in the water. In order to allow the yacht to 'fly' without respite, helmsman Jimmy Spithill must adjust the angle of the daggerboard foil and rudder foil on a second-by-second basis to suit the course, wind, speed and position of the opposition. To do this, he must be incredibly sensitive – and have an intelligent steering mechanism. This is being developed by the BMW Motorsport engineers. In doing so, they are transferring technology from automobiles to the world of competitive sailing.

The mental demands placed on ORACLE TEAM USA skipper Spithill are huge. He must steer the boat, keep an eye on the wind and the regatta field, make tactical decisions and launch manoeuvres – whilst at the same time coping with the tricky task of adjusting the foils. To pull off all this at virtually the same time, he needs an intelligent and intuitive steering module, which works with absolute precision, similar to a steering wheel in a racing car. The BMW Motorsport engineers are very familiar with such demands. As in competitive sailing, the BMW works drivers competing in global GT races, endurance classics and the German Touring Car Masters (DTM) require a high-tech steering system that is intuitive to operate and allow multitasking.

"We have accepted the challenge to develop a solution for an optimal steering system for ORACLE TEAM USA with great enthusiasm," said BMW Motorsport Director Jens Marquardt. "This task gives us the opportunity to showcase our racing expertise in a demanding, competitive environment away from automobile racing. Racing is still racing – whether on asphalt or water. As such, we are entirely committed to the America's Cup technology transfer project."



BMW Yachtsport

America's Cup Defender ORACLE TEAM USA is now also benefitting from this technical expertise. Helmsman Jimmy Spithill said: "Races with the America's Cup Class catamarans are exciting to watch and incredibly fun to be part of it. The boats are unbelievably fast on the foils. However, mastering and steering these mighty yachts is very complex. We have not previously had an optimal solution for adjusting the rudder and foils. I am thrilled with the new system developed by the BMW race engineers, as the yacht that can 'fly' the longest has the best chance of winning the race."

Technology in the America's Cup is always pioneering work, and there are often no models and solutions, on which one can orient oneself. However, that is part of the daily routine for the specialists at BMW Motorsport. Only last year did they lay the foundations for a milestone in motorsport: the 24-hour race at Spa-Francorchamps saw double leg amputee Alessandro Zanardi share the cockpit of a BMW Z4 GT3 with other, fully-abled drivers for the first time. A team of up to nine engineers had developed many innovative technical solutions, thanks to which all three drivers could complete a race distance of 24 hours and perform driver changeovers as quickly as possible and without any problems. These included a steering wheel for Zanardi, into which the throttle and a shifting system were integrated.

The task now is to optimise a steering wheel for a racing yacht. "It was very exciting to work on the perfect solution with the ORACLE TEAM USA design team in Bermuda," said Jannis Hellwig, Performance Engineer at BMW Motorsport. "As different as a catamaran and racing car may look at first glance, the two are both tailored to extreme performance. Every detail can be crucial come the race. The dimensions and power of the America's Cup Class yachts are very impressive. Our cockpit design will help make it possible to control the yachts better and could, perhaps, prove to be a key factor in the team's success."

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