



Volkswagen Smashes Time Record At Legendary Nürburgring With ANSYS Simulation Solutions

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PITTSBURGH, June 3, 2019 /PRNewswire/ -- [Volkswagen Motorsport's](#) ID.R race car, powered by [ANSYS'](#) (NASDAQ: ANSS) cutting-edge simulation solutions, cemented its place in racing history by shattering the lap time record for electric vehicles at the Nürburgring Nordschleife. Finishing in 6.05.336 minutes, Volkswagen driver Romain Dumas (F) pushed the ID.R's battery — supported by ANSYS simulations — to its limits on the demanding German race track, showcasing its industry-leading electrical efficiency.

ANSYS_Volkswagen

Volkswagen Motorsports faced a formidable engineering test to beat the record. The Germany-based Nürburgring Nordschleife is regarded by the international racing community as the world's most demanding racetrack. The course's tight corners and steep inclines require extreme acceleration and deceleration, causing thermal fluctuations that could have strained the ID.R's battery and created a temperature differential, potentially leading to shut down. Also challenging are the very long full-throttle passages, which place high demands on battery and temperature management.

To overcome these obstacles, Volkswagen Motorsports engineers leveraged ANSYS Fluids to evaluate different new cooling devices of the ID.R's battery that did not compromise the vehicle's aerodynamic design. Engineers also used ANSYS technology to create a digital twin that virtually replicated the car's performance on the track, proving that its battery could thrive on the challenging course and speed the ID.R over the finish line. With ANSYS simulation solutions, engineers eliminated the expensive and time-consuming trial and error testing process using a physical prototype.

Designed by Volkswagen to compete in motorsport events, the ID.R's latest record follows its [record-breaking run](#) last year at the Pikes Peak International Hill Climb, where ANSYS simulation solutions helped it claim the title of fastest car to ever climb the mountain.

"After claiming the Pikes Peak record, the ID.R has again showcased the power of e-mobility by beating the electric time record on the legendary Nürburgring Nordschleife, providing the world a glimpse of the enormous potential that electric cars offer on ordinary roads in the future," said Sven Smeets, Director, Volkswagen Motorsports. "ANSYS simulations were instrumental for improving the temperature management of ID.R's battery, ensuring adequate heat removal and uniformity of temperature and without impacting the car's aerodynamic performance."

"Volkswagen is a leading player in e-mobility and the ID.R has broken a new barrier for electric vehicles with its stellar success on the Nürburgring Nordschleife," said Shane Emswiler, vice president and general manager, ANSYS. "Leveraging ANSYS simulations, Volkswagen Motorsports attained the perfect balance of controlling battery temperature while maximizing the aerodynamic performance of the ID.R within extremely challenging driving conditions."

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