

Media Information ABB FIA Formula E World Championship 15th August 2021

Dramatic world championship finale in Berlin: Jake Dennis ends farewell season for BMW i Andretti Motorsport in Formula E with third place in the drivers' standings.

- Jake Dennis retires from the battle for the world title to finish third in the Formula E drivers' championship.
- Race in Berlin marks the end of BMW's works involvement in the ABB FIA Formula E World Championship.
- In three Formula E seasons, BMW i Andretti Motorsport chalked up seven wins, five pole positions and twelve podiums.
- Lessons Learned: development of BMW i production drivetrains benefited from knowledge gained during the involvement in Formula E.

Berlin. The world title was within touching distance, but luck deserted Jake Dennis (GBR) during the farewell race for BMW in the ABB FIA Formula E World Championship. Despite retiring from the season finale at the BMW i Berlin E-Prix presented by CBMM Niobium (GER), he completed his rookie season in Formula E with an outstanding third position in the drivers' standings. BMW i Andretti Motorsport finishes the season in sixth place in the team championship. This race marks the end of BMW's works involvement in Formula E after recording seven race wins in three years as a works team and seven years as Official Vehicle Partner. The home race in Berlin provided BMW Group with a stage to demonstrate the current range of fully-electric production vehicles whose drivetrains benefited significantly from the knowledge gained in the competitive environment of Formula E.

Jake Dennis started the 15th race of the season from ninth on the grid, just four points off the lead in the overall standings. The race was quickly over for two of his title rivals after a collision between Mitch Evans (NZL, Jaguar) and Edoardo Mortara (SUI, Venturi). That put Dennis in a promising position for the restart, only for a jammed rear axle to put paid to his world title ambitions as he slid into the wall and was forced to retire. Nyck de Vries (NED, Mercedes) went on



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to secure the title but Dennis was still able to finish third in the drivers' championship with 91 points despite his retirement – an outstanding performance in his rookie Formula E season.

Maximilian Günther (GER) was 18th place in qualifying and a bold race strategy was not enough for a points finish. He finished 15th, ending the season in 16th position in the overall standings. BMW i Andretti Motorsport completed its final season as a BMW works team in sixth place in the team championship with 157 points.

Reactions to Race 15 in Berlin.

Roger Griffiths (BMW i Andretti Motorsport Team Principal, team standings: 6th place):

"We came into this final race with a really good chance of winning the World Championship with Jake. Practice sessions went not quite as smoothly as yesterday and in qualifying he again just missed Super Pole by a few hundredths of a second. Still, he was in a good position having most of his title contenders behind him. Then at the restart after the unfortunate collision between Mitch Evans and Edoardo Mortara we suspect a technical issue with Jakes car that we yet have to analyse. The rear axle locked and Jake was just a passenger. At that point his championship hopes were over, but I told him: 'You must have had a pretty good season if you are disappointed with third place in the championship'. If someone had offered that position to us after the first two rounds, we would have bitten his hand off. Jake did an amazing job in his rookie season with his two race wins. Maximilian went in the wrong direction with his setup and didn't really have a competitive car in this race unfortunately. Today we are disappointed, but once all has settled in, I think we can be very proud of what we have achieved together as BMW and Andretti Formula E and of the hard work that everyone has put into it to get us to this point. Of course we would have loved to continue like this but it is not to be. We are excited what Season 8 swill bring for us. I say thank you to everybody, not only the team on the front line but also everybody in the background who helped to make this project a success. Thank you very much!"

Jake Dennis (#27 BMW iFE.21, starting position: 8th place, race result: 5th place, points: 91, driver standings: 3rd place):



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"It's a shame that the title fight ended like this – not only for me but for Mitch Evans and Edoardo Mortara as well. Three title contenders out of the race early. It felt like there was a technical failure at the rear, but I don't know yet what exactly happened. The rear tyres complete locked before I even had a chance to do anything. It's a sad end, but nevertheless we had an incredible season and a want to thank everybody for working so hard and giving me the chance to fight for the world championship."

Maximilian Günther (#28 BMW iFE.21, starting position: 18th place, race result: 15th place, points: 66, driver standings: 16th place):

"Starting from 18th, our aim was of course to make up as much ground as possible. We went for a bold strategy but unfortunately that did not pay off. I made some progress at the start and had a few good fights but we noticed early on that the level of grip wasn't quite there, and that we were a bit off the pace. I gave it my all at the end but a points finish was just out range, sadly. I would have liked to have managed that to finish the season. Many thanks to BMW for some great times in Formula E. It was an honour for me to be part of it for two years. We enjoyed many great moments together as BMW i Andretti Motorsport and I will never forget them."

Summary: BMW i Andretti Motorsport in Formula E.

BMW i Andretti Motorsport competed as a works team for the first time in Season 5 – and made a perfect start. António Félix da Costa (POR) claimed pole position and the win as the BMW iFE.18 debuted in Diriyah (KSA). Alexander Sims (GBR) also gave the team a perfect start to Season 6 in the same location, recording two pole positions and a win in the BMW iFE.20. Maximilian Günther (GER) then gave two triumphant performances in Santiago (CHI) and at the home race in Berlin. Season 7 saw Günther claim his third win for BMW i Andretti Motorsport in the BMW iFE.21 in New York City (USA). Jake Dennis topped the podium twice in his Formula E rookie season, at Valencia (ESP) and at his home race in London (GBR). In three seasons together, BMW i and Andretti Autosport celebrated a total of seven wins, five pole positions and twelve podiums.

Lessons Learned: Formula E as TechLab for BMW i production drivetrains.

After seven years as 'Official Vehicle Partner' for Formula E and three seasons of works team racing, the BMW Group is withdrawing from the race series. The



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farewell appearance included a look at the BMW iX, the BMW i4, the MINI Cooper SE (energy consumption in kWh/100 km combined (NEDC): 14.9 - 16.9 kWh/100km, combined CO₂ emissions (NEDC): 0 g/km) and the BMW CE 04 Scooter, which are spearheading the current range of fully-electric vehicles.

From the word go, the driving force behind the involvement of BMW i and BMW Motorsport in Formula E was the development of innovative technologies in the area of electromobility, which are also relevant for series production. Most of the opportunities for technology transfer between motor racing and production have largely been exhausted. An enormous amount of knowledge gained has been included in the fifth generation of E-drivetrains, which are already on the road in the BMW iX3 (energy consumption in kWh/100 km: 17.8-17.5 (NEDC); 19.0-18.6 (WLTP); electric range (WLTP) in km: 450-458)* and will continue to be applied in the BMW iX, the BMW i4 and other fully-electric vehicle models.

Examples:

- The control software in the high-voltage range, which controls the emotor after the inverter, is used in the BMW Formula E car, as well as in the current BMW i3, MINI Cooper SE, BMW iX3, and the coming GEN 5 vehicles, including the BMW iX and the BMW i4.
- Knowledge gained from the highly complex energy management in Formula E can also be transferred to series vehicles when considering how much energy to apply at which point in the driving cycle, to generate maximum efficiency and range.
- Tests, competitive racing and further development of extremely effective cooling technologies and materials in Formula E contribute to a significant improvement in energy efficiency for series drivetrains.
- Power density of the e-motor, thanks to very compact design.
- Advance development of silicon carbide technology for future generations of inverter.
- Advantages of the silicon carbide technology:
 - Maximum efficiency through MOSFETS with minimal switching and conducting losses and an effective cooling system).
 - \circ $\;$ High gravimetric power density.
 - \circ Reduced weight thanks to kevlar housing.

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- Increased experience with high-powered transmissions in Formula E results in the development of a bandage for the rotor, which also enables increased revs in series.
- Optimised use of the constructed space in the vehicle thanks to new knowledge about functional integration and packaging of the drivetrain, including auxiliary units.
- Experience in the handling and operation of 800V voltage level including safety concepts.

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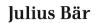
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The values for fuel consumption, CO2 emission and energy consumption shown were determined in the standardized test cycle according to the European Regulation (EC) 715/2007 in the version applicable at the time of type approval. The figures refer to a vehicle with basic configuration in Germany and the range shown considers optional equipment and the different size of wheels and tires available on the selected model. The values are already based on the test cycle according to the new WLTP regulation and are translated back into NEDC-equivalent values in order to allow a comparison between vehicles. With respect to these vehicles, for vehicle related taxes or other duties based (at least inter alia) on CO2-emissions the CO2 values may differ to the values stated here. Effective 06.12.2018

Further information about the official fuel consumption and the official specific CO2 emission of new passenger cars can be taken out of the "handbook of fuel consumption, the CO2 emission and power consumption of new passenger cars", which is available at all selling points and from Deutsche Automobil Treuhand GmbH (DAT), Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen, and under https://www.dat.de/co2/.







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