

**Mahindra**  
RACING

EVENT GUIDE



**R7-8**

**BERLIN**

FIA FORMULA E CHAMPIONSHIP 2016-17



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# RACE PREVIEW

Mahindra Racing aiming to soar in Berlin

Mahindra Racing is ready to soar in the season's first double-header weekend as Tempelhof Airport plays host to the Berlin ePrix, rounds seven and eight of the 2016-17 FIA Formula E Championship.

Fresh from its recent team-best results in Monaco (third and sixth) and Paris (third and fourth), Mahindra Racing wants to continue the momentum as the Formula E Championship enters an exciting and busy period.

Tempelhof Airport makes a return to the calendar after a year's hiatus, during which the series raced around Karl-Marx-Allee.

The 2.2-kilometre Tempelhof circuit has been modified from its original format for Formula E's return. The new layout is shorter and features 10 turns around the former airfield, presenting new challenges for teams as they get to grips with the abrasive, high-friction surface. On Saturday, Formula E will race 44 laps of the circuit before returning on Sunday to contest 46 laps.

For his home ePrix, Nick Heidfeld will be sporting the winning entry from the second DrivenbyDesign competition, which saw fans from 19 countries submit 480 racesuit concepts. Winner Tejas Manek will travel to Berlin to present the racesuit in person before enjoying the electrifying racing as a guest of the team.

Nick now lies fourth in the drivers' standings after powering his M3Electro to two successive podiums, while teammate Felix Rosenqvist sits seven points behind in sixth place. After a run of strong results, the team has now accumulated 250 points across all three seasons of Formula E.

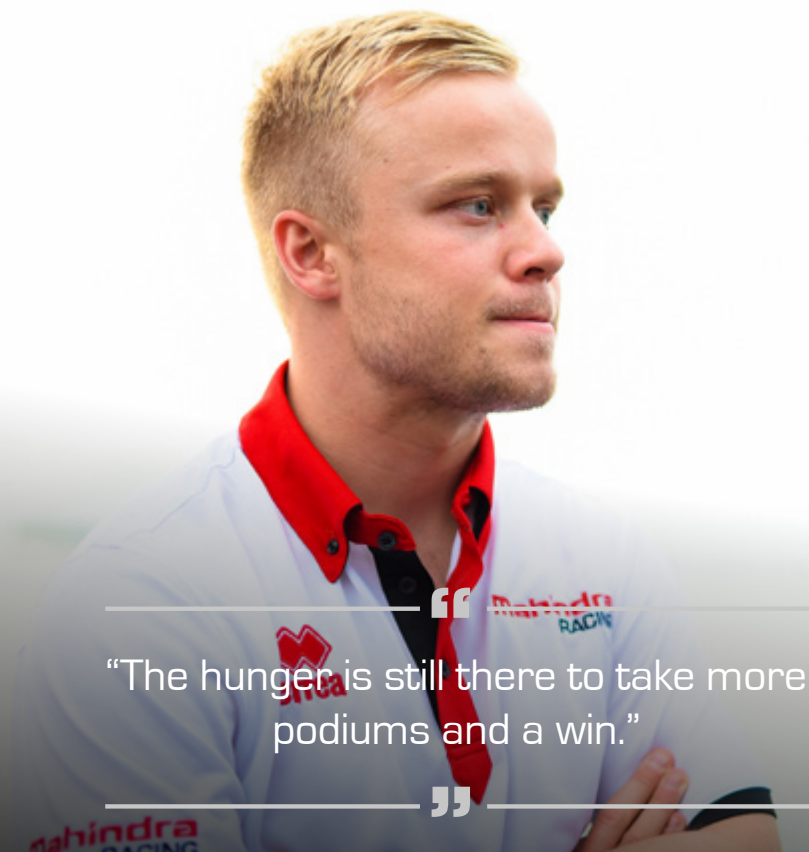
“The team is going from strength to strength and we've proven time and again that we are capable of fighting the top teams for podium positions.”

Dilbagh Gill, Team Principal



# 19 ROSENQVIST

“We have great momentum after two podiums for Nick and my sixth and fourth place positions. The hunger is still there to take more podiums and a win, but at this stage of the season you’re also starting to look at the championship. You try to take fewer risks to secure a strong result – especially with the double-headers. We have some great things coming from the team on the technical side, which is improving all the time and both Nick and I are in the mix with those at the front of the grid. I’m starting to feel really at home in Formula E – I don’t feel like a rookie anymore!”



“The hunger is still there to take more podiums and a win.”



“A home ePrix is always special! I think Tempelhof is an awesome place.”

# 22 HEIDFELD

“A home ePrix is always special and, this time, I have double the chance of a strong result with a race on both Saturday and Sunday. We’re going back to Tempelhof after a year away, and I think it’s an awesome place. The layout is a bit different: it was already great for spectators the last time and now they can see even more of the circuit. It’s not like other races because it’s not a street circuit and the surface is different to anything we’ve raced before. On the performance and car side, we’re building on the success of the last couple of races.”

# 19 ROSENQVIST

**Formula E:** 6 races, 1 podium, 1 pole position, 2 fastest laps

**Born:** 7 November 1991, Värnamo, Sweden

**Height:** 170cm / **Weight:** 66kg

## Career Overview:

2016 FIA Formula E (Mahindra Racing), Indy Lights, Blancpain GT Series Sprint Cup, DTM (test and reserve driver)

2015 FIA Formula 3 European Championship: Champion

2014-2015 Macau Grand Prix: two-time winner

2011-2014 FIA Formula 3 European Championship

2010 ATS Formula 3 Cup

2009 Formula Renault 2.0 Sweden / NEZ: Champion

2008 Formula Asia 2.0: Champion

2007 Asian Formula Renault: Rookie of the Year



# 23 HEIDFELD

**Formula E:** 26 Races, 5 podiums, 1 fastest lap

**Born:** 10 May 1977, Mönchengladbach, Germany

**Height:** 167cm / **Weight:** 62kg

## Career Overview:

2015-2016 FIA Formula E (Mahindra Racing), 24h Le Mans LMP1

2014 FIA Formula E (Venturi)

2014 World Endurance Racing LMP1 Endurance Trophy: Champion

2013 Petit Le Mans: 1st place

2012 24h Le Mans LMP1: 4th overall

2000-2011 Formula 1: 13 podiums; 5th 2007 Drivers' Championship

1999 FIA Formula 3000: Champion

1997 German Formula 3: Champion

1995 Formula Ford 1800: Champion

1994 Formula Ford 1600: Champion







# TECHNICAL PREVIEW

Vinit Patel, Chief Engineer






Berlin is a unique challenge for Formula E in season three because it's an independently designed circuit layout on the Tempelhof airfield, not dictated by streets, pavements and traffic islands.

The experience we had at the same venue in season one is largely irrelevant because the layout has changed completely, which is good as it varies the set of challenges we face. We have the geometry of the circuit from the organisers to run our simulations as we normally do in the two weeks running up to the event so the drivers will get used to the layout. Based on those simulations we will do all of our energy management work but just like street circuits, until we get there and see if the design has been replicated accurately or not, we will see how much of our learning has been useful.

The final major hurdle will be understanding the surface at Tempelhof, which is unique being a historic WWII runway with high friction surface that's protected by the Tempelhof Conservation Act. It's very abrasive and poses a high demand on tyres: some of the corners are going to accentuate the demand, making it an interesting race from a tyre perspective which is something we don't tend to talk about in Formula E on a regular basis.

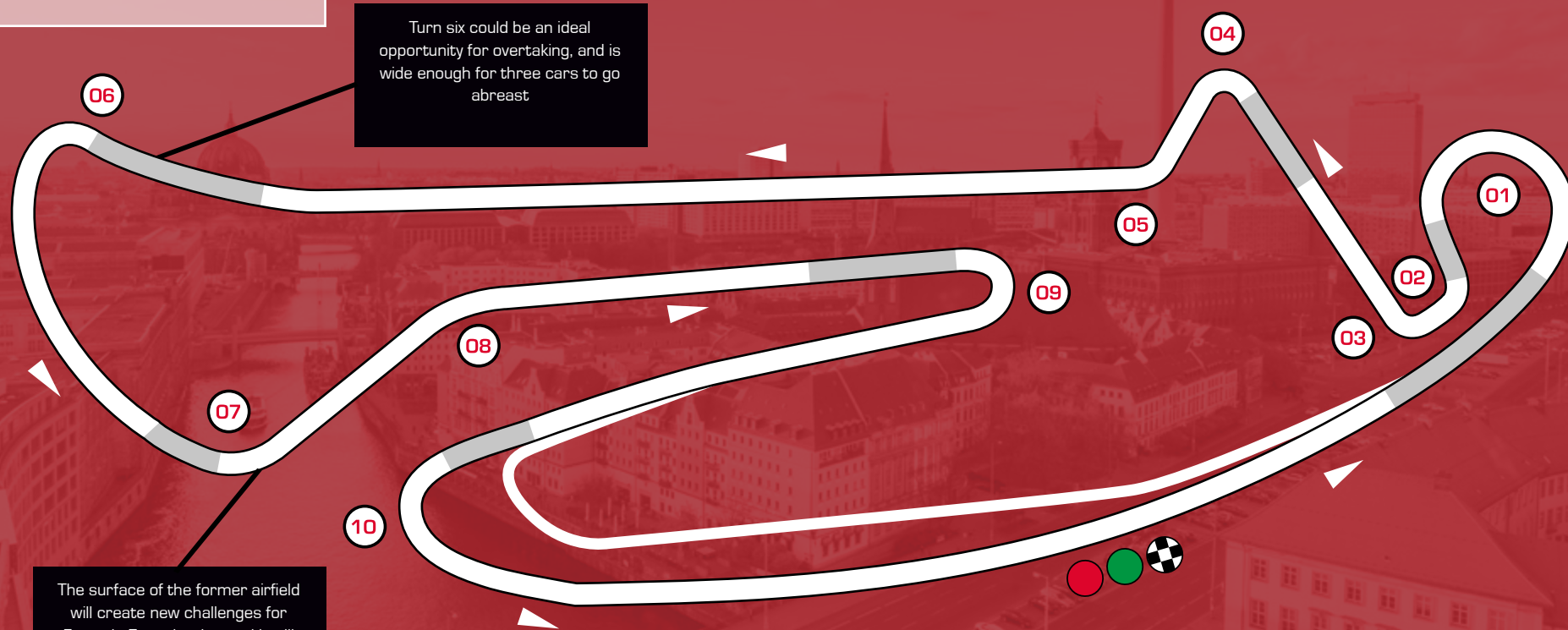
The circuit has been designed in a way that potentially allows more overtaking opportunities than a traditional street circuit which is boxed-in and dictated by the architecture of the city or landscape we're in. In this regard, we think there will be quite a good opportunity into turn six, which is very wide. At least three cars can approach that corner side-by-side – how many come out the other end will be the main question! With difficult energy targets there are options to play around with strategy for the drivers and the teams that want to be more gung-ho can prioritise track position and try overtaking, which in the last two events has been quite difficult with a number of incidents, full course yellows and safety cars.

We are going into Berlin in our strongest form as a team in our three seasons, so there is no reason we cannot improve on that. We have been steadily improving and incrementally increasing our points-scoring positions to cement our third place in the teams' championship. We need to have more of a focus on qualifying to try and guarantee we are in Super Pole, and in turn guaranteeing that we are fighting for at least one step on the podium – hopefully, the top one.

	<b>Weather Forecast:</b> 25-29° C
	<b>Predicted Lap Times:</b> Qualifying (200kW) 1:19.7s Race Mode (170kW) 1:19.9s
	<b>Race Mode Lap Time with Energy Saving:</b> 1:24-1:28 depending on strategy
	<b>Track Length:</b> 2.277km <b>Corners:</b> 10
	<b>Tyre Operating Temperature</b> 60-90° C

# RACE CIRCUIT

Berlin ePrix - Tempelhof



Turn six could be an ideal opportunity for overtaking, and is wide enough for three cars to go abreast

The surface of the former airfield will create new challenges for Formula E, as the demand it will place on tyres has never been seen before in the series

**KEY:**

-  Corner Number
-  Regen Area



Berlin will be the 28th Formula E race



The circuit has been revamped for 2017



Warm temperatures are expected for both days

# RACE TIMETABLE

Saturday 10 June and Sunday 11  
June

08.00 - 08.45	Practice 1
10:00	Qualifying Group Lottery
10.30 - 11.00	Practice 2
12.00 - 12.06	Qualifying Group 1
12.10 - 12.16	Qualifying Group 2
12.20 - 12.26	Qualifying Group 3
12.30 - 12.36	Qualifying Group 4
12.45 - 13.00	Super Pole
16.00	Berlin ePrix

# RACE POSTER

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# STORMING SEASON 3

Inside Mahindra Racing's best-ever season in Formula E

Mahindra Racing currently lies third in the Teams' Standings in what is currently our best-ever season in the ground-breaking, fully-electric global championship.

At the halfway point of the season, the team has taken four podiums in six races as well as two fastest laps. So far the series has visited new locations Hong Kong and Marrakech, enjoyed welcome returns to Buenos Aires and Mexico, and produced two spectacular races in Monaco and Paris.

The remaining races will take place in three exciting double-headers in Berlin, New York and Montreal.

The pace and superior energy management of the M3Electro continues to impress, and combined with spectacular moves from our two drivers is bringing us hard-earned results.

Each of the team's four M3Electro cars is lighter with the FIA minimum weight restriction lowered to 880kg, includes a fully-customisable steering wheel with greater data visibility for drivers and also sports a striking new curved front wing. Under the revised sporting regulations, energy harvesting (known as regeneration or regen) has been increased from 100kW to 150kW.

Mahindra Racing has now amassed 250 points cumulatively in the three seasons of the FIA Formula E Championship and is aiming for more with rising star Felix Rosenqvist and motor-racing stalwart Nick Heidfeld.



## FACTS & FIGURES

Nick has taken **three** podiums so far this season and Felix **two** fastest laps.

The team scored its **best-ever team result** at the 2017 Monaco ePrix, only to break the record seven days later at the Paris ePrix.

The livery of the M3Electro was selected from **281** competition entries from Mahindra Racing fans.





TOP SPEED 225KPH | ALL-NEW POWERTRAIN | 0-100KPH IN LESS THAN 3 SECONDS

## M3ELECTRO OVERVIEW

Revolutionary changes for season three of the FIA Formula E Championship

With increased ambition in the world's first fully-electric racing championship, Mahindra Racing set about developing an all-new powertrain for the third season of the FIA Formula E Championship. The M3Electro project was initially born from over 2,500 hours of work and successfully completed 4,100km in testing since July 2016. Mahindra Racing's own technical team, its partner Magneti Marelli and a host of top flight suppliers have contributed to a big step forward in the car's specialised electric and mechanical components for the new season.

- All new Mahindra Racing-developed multispeed powertrain
- Minimum weight including driver lowered to 880kg
- Updated carbon-fibre front wing
- Next generation Michelin-supplied Formula E 18-inch tyres
- New fully-customisable race steering wheel
- Permitted energy regen increased from 100kW to 150kW
- Williams-supplied batteries (350kg, 600V, 28kWh capacity)

Spark-supplied FIA Formula E chassis:

- Overall length 5,000mm
- Overall width 1,800mm
- Overall height 1,250mm
- Track width 1,300mm
- Ride Height 75mm



LAS VEGAS ERA CE  
7 JAN 17

# BERLIN

Races 7 and 8  
10-11 June 2017



Mahindra Racing returns to the iconic Tempelhof airport in Berlin after taking a year away to race around Karl-Marx-Allee.

Formula E will race the seventh and eighth rounds of the 2016/17 Championship on a revised layout of the former airport.

The Berlin ePrix will mark the final rounds in Europe. Formula E heads to America for the inaugural New York ePrix in July, followed by the Montreal ePrix two weeks later.

R1

Hong Kong  
09 OCT 16

R2

Marrakesh  
12 NOV 16

R3

Buenos Aires  
18 FEB 17

R4

Mexico City  
01 APR 17

R5

Monaco  
13 MAY 17

R6

Paris  
20 MAY 17

R7

Berlin  
10 JUN 17

R8

Berlin  
11 JUN 17

R9

New York  
15 JUL 17

R10

New York  
16 JUL 17

R11

Montreal  
29 JUL 17

R12

Montreal  
30 JUL 17





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