



# RACECARD

2019 BMW i BERLIN E-PRIX



**SATURDAY  
MAY 25 2019**

BMW i BERLIN E-PRIX  
PRESENTED BY CBMM  
NIOBIUM

**ROUND 10**  
2018/2019 ABB  
FIA FORMULA E  
CHAMPIONSHIP  
**5<sup>TH</sup> RUNNING**

**ROUND 8**  
JAGUAR I-PACE ETROPHY

**BERLIN  
GERMANY**

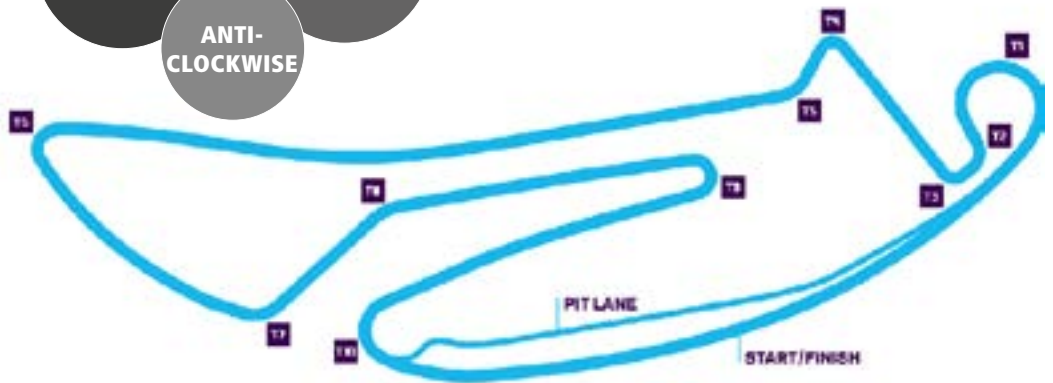


## THE CIRCUIT BERLIN-TEMPELHOF

**2.375  
KM**

**10  
TURNS**

ANTI-  
CLOCKWISE



The circuit essentially comprises straights  
and tight turns

Tempelhof's abrasive concrete surface is  
hard on tyres

### THE 2018 BERLIN E-PRIX

**WINNER:**

Daniel Abt (Audi Sport Abt Schaeffler/  
Michelin), 45 laps

**POLE POSITION:**

Daniel Abt (Audi Sport Abt Schaeffler/  
Michelin), 1m9.472s

**FASTEST RACE  
LAP:**

Daniel Abt (Audi Sport Abt Schaeffler/  
Michelin), 1m12.409s



Racing on home soil, Daniel Abt claimed  
pole position, the fastest race lap and  
the win

A one-two finish for Audi/Michelin

Jean-Eric Vergne defended his lead in the  
Drivers' standings with 3<sup>rd</sup> place

### BERLIN E-PRIX WINNERS

2014/2015

**Jérôme d'Ambrosio**  
(Dragon Racing Formula E Team/Michelin)

2015/2016

**Sébastien Buemi**  
(Renault e.dams/Michelin)

2016/2017

**Two races**

**Felix Rosenqvist**  
(Mahindra Racing/Michelin)

**Sébastien Buemi**  
(Renault e.dams/Michelin)

2017/2018

**Daniel Abt**  
(Audi Sport Abt Schaeffler/Michelin)

### TIMETABLE

#### FRIDAY, MAY 24

<b>11:30am</b>	30 minutes	Shakedown (Formula E)
<b>2:00pm</b>	40 minutes	Free Practice (I-Pace eTrophy)
<b>3:30pm</b>	45 minutes	Free Practice 1 (Formula E)
<b>4:35pm</b>	30 minutes	Qualifying (I-Pace eTrophy)
<b>6:00pm</b>	30 minutes	Free Practice 2 (Formula E)

#### SATURDAY, MAY 25

<b>8:45am</b>	30 minutes	Qualifying (Formula E)
<b>9:30am</b>	20 minutes	Super Pole (Formula E)
<b>1:03pm</b>	45 minutes +1 lap	Berlin E-Prix
<b>2:00pm</b>		Formula E podium ceremony
<b>3:15pm</b>	25 minutes +1 lap	Race (I-Pace eTrophy)
<b>4:00pm</b>		I-Pace eTrophy podium ceremony

LOCAL TIME



## THE BERLIN E-PRIX AND MOTORSPORT

- » Berlin is the penultimate European round of the 2018/2019 championship
- » Berlin has hosted Formula E action every season since the inaugural series in 2014/2015
- » The 2016 race took place in the streets of Berlin, and not at Tempelhof Airport
- » Germany will also host rounds of the 2019 FIA Formula 1 and World Rally Championships
- » Germany has produced 17 motorsport world champions and 5 world-title-winning makes
- » In June 2018, Porsche and Michelin established a new lap record for the Nürburgring (5m19.546s)



## THE BERLIN E-PRIX AND RENEWABLE ENERGY

- » In 2018, renewable energy accounted for 40.4% of Germany's total production (wind power: 20%)
- » In 2018, 1,610 wind turbines were in operation in Germany
- » It is expected that a million electric vehicles will be running in Germany by 2022
- » The German automobile industry plans to invest €40 billion in electric vehicles over the next three years
- » The number of battery charging stations in operation in Germany increased by 20% in 2018
- » Audi expects that hybrid and electric vehicles will account for one-third of its sales by 2025
- » France and Germany plan to create an Airbus-type European battery-production consortium to ward off competition from the sector's Chinese giants



## BERLIN

- » The former Berlin-Tempelhof airport (THF) is today a vast public park and leisure facility
- » Its hangars form the world's third biggest building after the USA's Pentagon and Romania's presidential palace
- » This November 9 will be the 30th anniversary of the fall of the Berlin Wall



- » The Brandenburg Gate is a symbol of Berlin, but the Fernsehturm Tower, Gendarmenmarkt and Kurfürstendamm are also big tourist attractions

- » Berlin is the European Union's second-biggest city (population: 3.7 million)

## MICHELIN GREEN GUIDES

Make the most of your visit to multicultural Berlin with Michelin's Week&Go Green Guide. The Michelin Green Guide to Germany is the ideal companion for touring the country.



## SERGE GRISIN

Formula E Programme Manager, Michelin Motorsport

## " THE MICHELIN PILOT SPORT FACES ANOTHER BIG CHALLENGE IN BERLIN "

After having to contend with mud, severe heat and rain so far, the Michelin Pilot Sport faces what will probably be the last big challenge of the season in Berlin which features a concrete track. Its surface is particularly abrasive, so we expect this will be the toughest round of the campaign in terms of wear. This is the first season when the drivers have just one set of tyres for the entire race, but we feel reasonably confident about the Michelin Pilot Sport's

ability to deliver lasting performance at the former Tempelhof Airport based on our engineers' analysis of the data we have collected for our latest-generation Formula E tyre. The timetable of the Berlin E-Prix is a little different inasmuch as we will have qualifying in the morning, with the race start at 1pm local time. Friday afternoon's free practice is consequently likely to be representative of the conditions if the weather is stable over the two days.

## MICHELIN AND THE 2019 BERLIN E-PRIX

### TECHNICAL DATA

**MICHELIN PILOT SPORT**  
FRONT: 245/40R18  
REAR: 305/40R18



Developed specifically for the FIA Formula E Championship

The first 18-inch single-seater racing tyre

The first single-seater racing tyre capable of competing in dry and wet conditions

The first tyre capable of lasting the full race distance

<b>Size (front/rear)</b>	24/64-18 / 27/68-18
<b>Width (front/rear)</b>	245mm / 305mm
<b>Tread width (front/rear)</b>	240mm / 270mm
<b>Side wall height (front/rear)</b>	98mm / 122mm (i.e. 40 percent of tread width)
<b>Rim diameter</b>	18 inches
<b>Weight (front/rear)</b>	8kg / 9.9kg
<b>Type of tread pattern</b>	Asymmetric, non-directional
<b>Usage</b>	Circuits, street circuits, asphalt, concrete, wet or dry weather
<b>Number of tyres taken to each race</b>	176 (22 cars x 8 tyres)
<b>Weight saving (compared with the MICHELIN Pilot Sport EV)</b>	Front: 2kg Rear: 2.5kg



# MICHELIN PILOT SPORT

THE REVOLUTIONARY NEW  
MICHELIN PILOT SPORT:  
LIGHTER AND MORE ENERGY-  
EFFICIENT THAN EVER

## A REVOLUTIONARY RACING TYRE, IN MORE WAYS THAN ONE!

Developed specifically for the world's first all-electric single-seater motor racing championship, the new MICHELIN Pilot Sport is an exceptionally versatile tyre that was designed by Michelin Motorsport's engineers to cover the entire race day (free practice, qualifying, race), whatever the weather, as required by the technical regulations that govern the series.

Another exceptional characteristic of the tyre is its size. The MICHELIN Pilot Sport was effectively the first ever single-seater tyre to feature an interior diameter of 18 inches, a disruptive concept put forward by Michelin Motorsport and approved by the FIA (Fédération Internationale Automobile). The fact that 18-inch wheels have become a common

feature of road cars enables Michelin Motorsport's engineers and chemists to carry over the lessons they learn on the racetrack to everyday tyres, in keeping with the firm's 'track to street' policy.

The MICHELIN Pilot Sport (front: 245/40 R 18 / rear: 305/40 R 18) is tall and narrow in the interests of energy efficiency, which equates to longer range. Its low sidewalls also flex less, resulting in the generation of less heat, which in turn means reduced energy consumption, a valuable benefit for Formula E's latest-generation 'Gen2' Spark SRT 05Es.

The MICHELIN Pilot Sport is a connected tyre, too, thanks to an embedded RFID chip which facilitates tracking, from production through to recycling.



## MICHELIN PILOT SPORT: THE WINNING TYRE RANGE



### FRONT

#### Size

24/64-18 equivalent to 245/40R18

#### Side wall height

40% - 98mm



### Usage

Wet or dry weather

### Type of tread pattern

Asymmetric, non-directional

### Rim diameter

18 inches



### REAR

#### Size

27/68-18 equivalent to 305/40R18

#### Side wall height

40% - 122mm



# ENTRY LIST 2019 BERLIN E-PRIX

## ENVISION VIRGIN RACING AUDI E-TRON FE05



**N°2 SAM BIRD** (GBR)

Victory: 8 Fastest race laps: 5  
Pole position: 5 Podium: 17



**N°4 ROBIN FRIJNS** (NLD)

Victory: 0 Fastest race laps: 0  
Pole position: 0 Podium: 3

## PANASONIC JAGUAR RACING JAGUAR I – TYPE III



**N°3 ALEX LYNN** (GBR)

Victory: 0 Fastest race laps: 0  
Pole position: 1 Podium: 0



**N°20 MITCH EVANS** (NZL)

Victory: 1 Fastest race laps: 1  
Pole position: 1 Podium: 2

## HWA RACELAB VENTURI VFE05

ROOKIE



**N°5 STOFFEL VANDOORNE** (BEL)

Victory: 0 Fastest race laps: 0  
Pole position: 1 Podium: 1

ROOKIE



**N°17 GARY PAFFETT** (GBR)

Victory: 0 Fastest race laps: 0  
Pole position: 0 Podium: 0

## GEOX DRAGON PENSKE EV-3



**N°6 MAX GÜNTHER** (DEU)

Victory: 0 Fastest race laps: 0  
Pole position: 0 Podium: 0



**N°7 JOSE-MARIA LÓPEZ** (ARG)

Victory: 0 Fastest race laps: 1  
Pole position: 0 Podium: 2

## NIO FORMULA E TEAM NIO SPORT 004



**N°8 TOM DILLMANN** (FRA)

Victory: 0 Fastest race laps: 0  
Pole position: 0 Podium: 0



**N°16 OLIVER TURVEY** (GBR)

Victoires : 0 Fastest race laps: 0  
Pole position: 1 Podium: 1

## VENTURI FORMULA E TEAM VENTURI FVE05

ROOKIE



**N°19 FELIPE MASSA** (BRA)

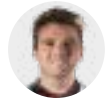
Victory: 0 Fastest race laps: 0  
Pole position: 0 Podium: 1



**N°48 EDOARDO MORTARA** (CHE)

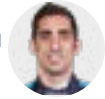
Victory: 1 Fastest race laps: 0  
Pole position: 0 Podium: 3

## NISSAN E.DAMS NISSAN IM01



**N°22 OLIVER ROWLAND** (GBR)

Victory: 0 Fastest race laps: 0  
Pole position: 3 Podium: 2



**N°23 SÉBASTIEN BUEMI** (CHE)

Victory: 12 Fastest race laps: 9  
Pole position: 12 Podium: 21

## DS TECHEETAH DS E-TENSE FE19



**N°25 JEAN-ERIC VERGNE** (FRA)

Victory: 7 Fastest race laps: 3  
Pole position: 8 Podium: 18



**N°36 ANDRÉ LOTTERER** (DEU)

Victory: 0 Fastest race laps: 3  
Pole position: 1 Podium: 3

## BMW I ANDRETTI MOTORSPORT BMW IFE.18

ROOKIE



**N°27 ALEXANDER SIMS** (GBR)

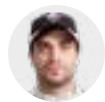
Victory: 0 Fastest race laps: 0  
Pole position: 0 Podium: 0



**N°28 ANTONIO FELIX DA COSTA** (PRT)

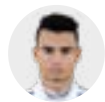
Victory: 2 Fastest race laps: 0  
Pole position: 1 Podium: 4

## MAHINDRA RACING MAHINDRA M5ELECTRO



**N°64 JÉRÔME D'AMBROSIO** (BEL)

Victory: 3 Fastest race laps: 1  
Pole position: 2 Podium: 9

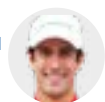


ROOKIE

**N°94 PASCAL WEHRLEIN** (DEU)

Victory: 0 Fastest race laps: 2  
Pole position: 0 Podium: 1

## AUDI SPORT ABT SCHAEFFLER FORMULA E TEAM AUDI E-TRON FE05



**N°11 LUCAS DI GRASSI** (BRA)

Victory: 9 Fastest race laps: 4  
Pole position: 3 Podium: 29



**N°66 DANIEL ABT** (DEU)

Victoire : 2 Fastest race laps: 6  
Pole position: 2 Podium: 9



# FIA FORMULA E

## DRIVERS STANDINGS

															TOT.
		SAU 15/12	MAR 12/01	CHL 26/01	MEX 16/02	HKG 10/03	CHN 23/03	ITA 13/04	FRA 27/04	MCO 11/05	DEU 25/05	CHE 22/06	USA 13/07	USA 14/07	
1	 <b>25 J.E. VERGNE (FRA)</b> DS TECHEETAH FORMULA E TEAM	18	10	0	0	0	26	0	8	25	-	-	-	-	87
2	 <b>36 A. LOTTERER (DEU)</b> DS TECHEETAH FORMULA E TEAM	11	8	0	10	0	12	21	18	6	-	-	-	-	86
3	 <b>4 R. FRIJNS (NLD)</b> ENVISION VIRGIN RACING	0	18	10	0	15	0	12	26	0	-	-	-	-	81
4	 <b>28 A. DA COSTA (PRT)</b> BMW I ANDRETTI MOTORSPORT	28	0	0	18	1	15	2	6	0	-	-	-	-	70
5	 <b>11 L. DI GRASSI (BRA)</b> AUDI SPORT ABT SCHAEFFLER	2	7	0	25	18	0	6	12	0	-	-	-	-	70
6	 <b>20 M. EVANS (GBR)</b> PANASONIC JAGUAR RACING	12	2	8	6	6	2	25	0	8	-	-	-	-	69
7	 <b>64 J. D'AMBROSIO (BEL)</b> MAHINDRA RACING	15	25	1	12	0	8	4	0	0	-	-	-	-	65
8	 <b>22 O. ROWLAND (GBR)</b> NISSAN E.DAMS	6	0	0	0	0	21	8	3	21	-	-	-	-	59
9	 <b>66 D. ABT (DEU)</b> AUDI SPORT ABT SCHAEFFLER	4	1	16	1	12	10	0	15	0	-	-	-	-	59
10	 <b>2 S. BIRD (GBR)</b> ENVISION VIRGIN RACING	0	18	25	2	9	0	0	0	0	-	-	-	-	54
11	 <b>48 E. MORTARA (CHE)</b> VENTURI FORMULA E TEAM	0	0	12	15	25	0	0	0	0	-	-	-	-	52
12	 <b>94 P. WEHRLEIN (DEU)</b> MAHINDRA RACING	-	0	18	12	0	6	1	1	13	-	-	-	-	51
13	 <b>23 S. BUEMI (CHE)</b> NISSAN E.DAMS	8	4	3	0	0	4	11	0	10	-	-	-	-	40
14	 <b>19 F. MASSA (BRA)</b> VENTURI FORMULA E TEAM	0	0	0	4	10	1	0	2	15	-	-	-	-	32
15	 <b>5 S. VANDORNE (BEL)</b> HWA RACELAB	0	0	0	0	3	0	15	0	2	-	-	-	-	20
16	 <b>27 A. SIMS (GBR)</b> BMW I ANDRETTI MOTORSPORT	0	12	6	0	0	0	0	0	0	-	-	-	-	18
17	 <b>6 M. GÜNTHER (DEU)</b> GEOX DRAGON	0	0	0	-	-	-	0	10	0	-	-	-	-	10
18	 <b>17 G. PAFFETT (GBR)</b> HWA RACELAB	0	0	0	0	4	0	0	4	0	-	-	-	-	8
19	 <b>16 O. TURVEY (GBR)</b> NIO FORMULA E TEAM	0	0	4	0	2	0	0	0	0	-	-	-	-	6
20	 <b>3 A. LYNN (GBR)</b> PANASONIC JAGUAR RACING	-	-	-	-	-	-	0	0	4	-	-	-	-	4
21	 <b>7 J.M. LÓPEZ (ARG)</b> GEOX DRAGON	0	0	2	0	0	0	0	0	1	-	-	-	-	3
22	 <b>3 N. PIQUET JR. (BRA)</b> PANASONIC JAGUAR RACING	1	0	0	0	0	0	-	-	-	-	-	-	-	1
23	 <b>8 T. DILLMANN (FRA)</b> NIO FORMULA E TEAM	0	0	0	0	0	0	0	0	0	-	-	-	-	0
24	 <b>6 F. NASR (BRA)</b> GEOX DRAGON	-	-	-	0	0	0	-	-	-	-	-	-	-	0
25	 <b>94 F. ROSENQVIST (SWE)</b> MAHINDRA RACING	0	-	-	-	-	-	-	-	-	-	-	-	-	0

# FIA FORMULA E

## TEAMS STANDINGS

		 SAU 15/12	 MAR 12/01	 CHL 26/01	 MEX 16/02	 HKG 10/03	 CHN 23/03	 ITA 13/04	 FRA 27/04	 MCO 11/05	 DEU 25/05	 CHE 22/06	 USA 13/07	 USA 14/07	TOT.
1	● DS TECHEETAH FORMULA E TEAM (CHN)	29	18	0	10	0	38	21	26	31	-	-	-	-	173
2	● ENVISION VIRGIN RACING (GBR)	0	36	35	2	24	0	12	26	0	-	-	-	-	135
3	● AUDI SPORT ABT SCHAEFFLER (DEU)	6	8	16	26	30	10	6	27	0	-	-	-	-	129
4	● MAHINDRA RACING (IND)	15	25	19	24	0	14	5	1	13	-	-	-	-	116
5	▲ NISSAN E.DAMS (JPN)	14	4	3	0	0	25	19	3	31	-	-	-	-	99
6	▼ BMW I ANDRETTI MOTORSPORT (USA)	28	12	6	18	1	15	2	6	0	-	-	-	-	88
7	▼ VENTURI FORMULA E TEAM (MCO)	0	0	12	19	35	1	0	2	15	-	-	-	-	84
8	● PANASONIC JAGUAR RACING (GBR)	13	2	8	6	6	2	25	0	12	-	-	-	-	74
9	● HWA RACELAB (DEU)	0	0	0	0	7	0	15	4	2	-	-	-	-	28
10	● GEOX DRAGON (USA)	0	0	2	0	0	0	0	10	1	-	-	-	-	13
11	● NIO FORMULA E TEAM (GBR)	0	0	4	0	2	0	0	0	0	-	-	-	-	6

# REGULATIONS

## 2018/2019 ABB FIA FORMULA E CHAMPIONSHIP

### CARS (SINGLE-SEATERS)

- » **Spark STR-05e / chassis:** Dallara / battery: McLaren Applied Technologies
- » **Maximum length:** 5,200mm,
- » **Maximum width:** 1,800mm,
- » **Maximum height:** 1,250mm
- » **Minimum weight:** 900kg, including driver and battery/capacitor (385kg)
- » **Maximum power, electric powertrain:** 250kW (335hp) for free practice and qualifying, 200kW (270hp) during races.
- » 2 MGUs can be used
- » **Allocation per race number:** 2 electric motors, 2 gearboxes, 2 inverters and 1 battery pack for the season

### TYRES

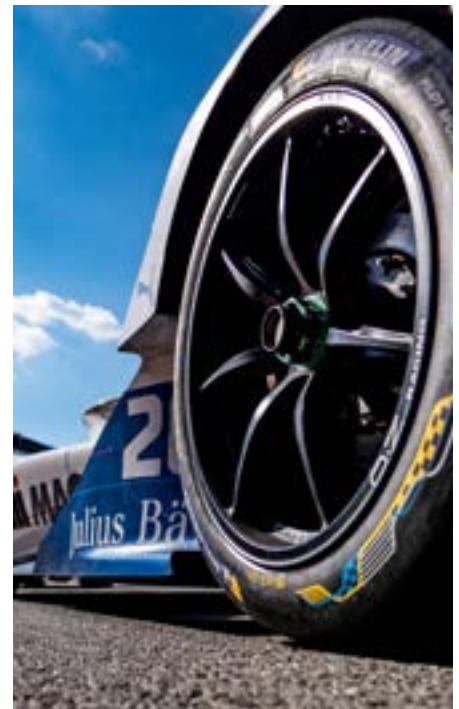
- » A single type of tyre (pattern and construction)
- » No mid-race tyre changes
- » 4 new front tyres and 4 new rear tyres per driver per event
- » Can be inflated using air only
- » Minimum tyre pressure: 1.3 & 1.6 bar (measured at the end of races)
- » Tyre warmers not authorised

### EVENT FORMATS

- » A **Shakedown** session of a maximum duration of 30 minutes may be organised the day before the race. Power is restricted to 110kW. A maximum of six laps per car
- » **Practice:** Two practice sessions (45 and 30 minutes) in the course of the morning of Race Day. Maximum power: 250kW
- » **Qualifying:** The drivers are divided into four

groups as a function of their championship positions (or of the previous championship order in the case of the season's first race). Each driver has six minutes and up to two flying laps to post a qualifying time. The six fastest drivers go on to take part in the Super Pole shootout. Maximum power: 250kW

- » **Super Pole:** Start order is based on the times posted in qualifying, with the 'slowest driver' to lap first, etc. One flying lap only
- » **Grid:** The six places at the front of the grid are reserved for the drivers who take part in the Super Pole session
- » **Race:** Standing start. Maximum duration: 45 minutes + 1 lap. Use of two power outputs mandatory: Normal Mode (200kW / regeneration: 250kW) and Attack Mode (225 kW / regeneration: 250kW) which must be activated twice per race, for a period of four minutes. The car's halo head protection device lights up (Blue) when the Attack Mode is activated
- » **Attack Mode:** For the 2018/2019 season, drivers have two power options during the race: Normal Mode (200kW) and Attack Mode (225kW). Attack Mode must be activated twice per race. To trigger it, the driver must run off the ideal racing line through the corner specified for this purpose by the race organiser, a little like in Mario Kart. Attack Mode is activated for four minutes. The car's halo head protection device lights up when it is activated
- » **FanBoost:** A temporary 100kJ power boost (240kW-250kW) for five drivers chosen by a fan vote. To be activated once when in Attack Mode. The car's halo head protection device lights up (Magenta)



### POINTS-SCORING SYSTEM RACE

1<sup>st</sup>: 25 points / 2<sup>nd</sup>: 18 points / 3<sup>rd</sup>: 15 points  
 4<sup>th</sup>: 12 points / 5<sup>th</sup>: 10 points / 6<sup>th</sup>: 8 points  
 7<sup>th</sup>: 6 points / 8<sup>th</sup>: 4 points / 9<sup>th</sup>: 2 points  
 10<sup>th</sup>: 1 point  
**POLE POSITION** 3 points  
**FASTEST RACE LAP** 1 point  
 (if a top-10 finisher)

