

# RACECARD

2019 MARRAKESH E-PRIX



**SATURDAY,  
JANUARY 12  
2019**

**ROUND 2**  
2018/2019 ABB  
FIA FORMULA E  
CHAMPIONSHIP

**MARRAKESH  
MOROCCO**



## THE CIRCUIT MOULAY EL HASSAN



### THE 2018 MARRAKESH E-PRIX

**WINNER:**

Felix Rosenqvist (Mahindra Racing/  
Michelin), 33 laps

**POLE POSITION:**

Sébastien Buemi (Renault e.dams),  
1m20.355s

**FASTEST RACE LAP:**

Nelson Piquet Jr (Panasonic Jaguar  
Racing), 1m22.832s

Felix Rosenqvist's third Formula E  
victory

Many drivers caught up in tangles

Defending champion **Lucas di Grassi**  
failed to finish



### THE 2019 MARRAKESH E-PRIX

3<sup>rd</sup> edition

1 race (45 minutes + 1 lap)

#### THE CIRCUIT

- » The track visits parts of the Circuit International Moulay El Hassan and Avenue Mohammed VI
- » The Circuit International Moulay El Hassan is a semi-permanent racing facility
- » Along with Kyalami, it is one of only two Grade 2 FIA-approved circuits in Africa
- » It has been visited by the FIA WTCC/WTCR since 2009

#### MICHELIN AND THE 2019 MARRAKESH E-PRIX

- » Tyre: MICHELIN Pilot Sport
- » Size: 245/40x18 (front) / 305/40x18 (rear)
- » Tyre allocation per driver per E-Prix: eight new tyres (four fronts, four rears)

#### TIMETABLE

##### FRIDAY, JANUARY 11

**3:00pm** 30 min. Shakedown

##### SATURDAY, JANUARY 12

**8:00am** 45 min. Free Practice 1

**10:15am** 30 min. Free Practice 2

**12:00 noon** 4 groups, 6 min. Qualifying

**12:45pm** SuperPole

**4:00pm** 45 min. + 1 lap Race

**5:00pm** Podium ceremony

LOCAL TIME



## THE MARRAKESH E-PRIX AND MOTORSPORT IN MOROCCO

- » The first motorsport event to take place in Morocco was a road race from Rabat to Casablanca in 1912
- » The first Moroccan cross-country rally was held in 1925 (total distance: 709km)
- » Winners of the former Moroccan Grand Prix (organised from 1924 until 1958) include Chiron, Farina, Behra and Trintignant
- » In 1952 and 1953, the Moroccan Royal Automobile Club organised the 12 Hours of Casablanca
- » The 1958 Morocco Grand Prix counted towards the F1 world championship and was won by Stirling Moss
- » In 1968, André de Cortanze won a sport-prototype race held at Casablanca's Circuit de la Corniche driving an Alpine A220/ Michelin
- » Michelin has won numerous events in Morocco, including cross-country victories (on two and four wheels) and WRC success in the 1970s with Alpine and Peugeot



## THE MARRAKESH E-PRIX AND RENEWABLE ENERGIES

- » Marrakesh hosted the Conference Of Parties in 2001 (COP7) and 2016 (COP22)
- » The Noor Power Station is the world's biggest solar plant and was opened near Ouarzazate in 2017. It is expected to generate 580MW by 2020
- » In October 2018, the second Rive Maroc rally for electric vehicles ran through the Atlas Mountains from Tangier to Ouarzazate
- » The first solar shade electric vehicle charging station has been established in Rabat
- » The 2018 Rallye Aïcha des Gazelles included a class for electric vehicles

## MARRAKESH AND MOROCCO

- » The ancient imperial city of Marrakesh is Morocco's fourth biggest city
- » Marrakesh is situated at the foot of the Atlas Mountains
- » Marrakesh is known as the Red City because of the colour of its ramparts which were built in 1123
- » The Medina, Marrakesh's historic centre, has been a UNESCO world heritage site since 1985
- » The Koutoubia Mosque (77 metres high), Jemaa el-Fnaa Square and the Palmeraie are Marrakesh's main tourist attractions
- » The capital of the Kingdom of Morocco (population: 34 million) is Rabat
- » Like France and Spain, Morocco has an Atlantic and a Mediterranean coast



**SERGE GRISIN**  
Formula E Championship  
Programme Manager,  
Michelin Motorsport

"Marrakesh is the longest track of the season and also the one that most resembles a conventional circuit because it is a semi-permanent facility. The street portion that doesn't form part of the circuit offers little grip."

**"MARRAKESH IS THE LONGEST TRACK OF THE SEASON."**

## MICHELIN AND THE 2019 MARRAKESH E-PRIX

### TECHNICAL DATA

**PILOT SPORT**  
FRONT: 245/40X18 &  
REAR: 305/40X18

- 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 all the race



<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>	-2kg front -2.5kg rear



# 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.



### 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



# THE 2018/2019 CALENDAR

15/12  
2018



**AD DIRIYAH E-PRIX**  
(SAUDI ARABIA)

12/01  
2019



**MARRAKESH E-PRIX**  
(MOROCCO)

26/01  
2019



**SANTIAGO E-PRIX**  
(CHILE)

16/02  
2019



**MEXICO CITY E-PRIX**  
(MEXICO)

10/03  
2019



**HONG KONG E-PRIX**  
(HONG KONG, CHINA)

23/03  
2019



**SANYA E-PRIX**  
(CHINA)

13/04  
2019



**ROME E-PRIX**  
(ITALY)

27/04  
2019



**PARIS E-PRIX**  
(FRANCE)

11/05  
2019



**MONACO E-PRIX**  
(MONACO)

25/05  
2019



**BERLIN E-PRIX**  
(GERMANY)

22/06  
2019



**BERN E-PRIX**  
(SWITZERLAND)

13-14/07  
2019



**NEW YORK CITY E-PRIX**  
(USA)



# ENTRY LIST

## 2019 MARRAKESH E-PRIX

### ENVISION VIRGIN RACING (AUDI E-TRON FE05)



**N°2 SAM BIRD** (GBR)

Victory: 7      Fastest race laps: 5  
Pole position: 4      Podium: 15



**N°4 ROBIN FRIJNS** (NLD)

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

### PANASONIC JAGUAR RACING (JAGUAR I – TYPE III)



**N°3 NELSON PIQUET JR** (BRA)

Victory: 2      Fastest race laps: 5  
Pole position: 1      Podium: 5



**N°20 MITCH EVANS** (NZL)

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

### HWA RACELAB (VENTURI VFE05)

ROOKIE



**N°5 STOFFEL VANDOORNE** (BEL)

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

ROOKIE



**N°17 GARY PAFFETT** (GBR)

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

### GEOX DRAGON (PENSKE EV-3)

ROOKIE



**N°6 MAX GÜNTHER** (DEU)

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



**N°7 JOSE-MARIA LOPEZ** (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)

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

### VENTURI FORMULA E TEAM (VENTURI FVE05)

ROOKIE



**N°19 FELIPE MASSA** (BRA)

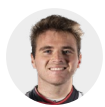
Victory: 0      Fastest race laps: 0  
Pole position: 0      Podium: 0



**N°48 EDOARDO MORTARA** (CHE)

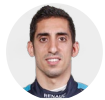
Victory: 0      Fastest race laps: 0  
Pole position: 0      Podium: 1

### NISSAN E.DAMS (NISSAN IM01)



**N°22 OLIVER ROWLAND** (GBR)

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



**N°23 SÉBASTIEN BUEMI** (CHE)

Victory: 12      Fastest race laps: 9  
Pole position: 11      Podium: 21

### DS TECHEETAH (DS E-TENSE FE19)



**N°25 JEAN-ERIC VERGNE** (FRA)

Victory: 5      Fastest race laps: 1  
Pole position: 8      Podium: 15



**N°36 ANDRÉ LOTTERER** (DEU)

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

### 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: 2

### MAHINDRA RACING (MAHINDRA M5ELECTRO)



**N°64 JÉRÔME D'AMBROSIO** (BEL)

Victory: 2      Fastest race laps: 1  
Pole position: 2      Podium: 7



**N°94 FELIX RONSENQVIST** (SWE)

Victory: 3      Fastest race laps: 3  
Pole position: 6      Podium: 7

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



**N°11 LUCAS DI GRASSI** (BRA)

Victory: 8      Fastest race laps: 3  
Pole position: 3      Podium: 27



**N°66 DANIEL ABT** (DEU)

Victory: 2      Fastest race laps: 5  
Pole position: 2      Podium: 8



# FIA FORMULA E

## DRIVERS STANDING

															TOT.
		SA	MA	CL	MX	HK	CN	IT	FR	MC	DE	CH	US	US	
1	<b>28 A. DA COSTA (PRT)</b> BMW I ANDRETTI MOTORSPORT		28	-	-	-	-	-	-	-	-	-	-	-	28
2	<b>25 J.E. VERGNE (FRA)</b> DS TECHEETAH FORMULA E TEAM		18	-	-	-	-	-	-	-	-	-	-	-	18
3	<b>64 J. D'AMBROSIO (BEL)</b> MAHINDRA RACING		15	-	-	-	-	-	-	-	-	-	-	-	15
4	<b>20 M. EVANS (GBR)</b> PANASONIC JAGUAR RACING		12	-	-	-	-	-	-	-	-	-	-	-	12
5	<b>36 A. LOTTERER (DEU)</b> DS TECHEETAH FORMULA E TEAM		11	-	-	-	-	-	-	-	-	-	-	-	11
6	<b>23 S. BUEMI (CHE)</b> NISSAN E.DAMS		8	-	-	-	-	-	-	-	-	-	-	-	8
7	<b>22 O. ROWLAND (GBR)</b> NISSAN E.DAMS		6	-	-	-	-	-	-	-	-	-	-	-	6
8	<b>66 D. ABT (DEU)</b> AUDI SPORT ABT SCHAEFFLER		4	-	-	-	-	-	-	-	-	-	-	-	4
9	<b>11 L. DI GRASSI (BRA)</b> AUDI SPORT ABT SCHAEFFLER		2	-	-	-	-	-	-	-	-	-	-	-	2
10	<b>3 N. PIQUET JR. (BRA)</b> PANASONIC JAGUAR RACING		1	-	-	-	-	-	-	-	-	-	-	-	1
11	<b>2 S. BIRD (GBR)</b> ENVISION VIRGIN RACING		0	-	-	-	-	-	-	-	-	-	-	-	0
12	<b>4 R. FRIJNS (NLD)</b> ENVISION VIRGIN RACING		0	-	-	-	-	-	-	-	-	-	-	-	0
13	<b>16 O. TURVEY (GBR)</b> NIO FORMULA E TEAM		0	-	-	-	-	-	-	-	-	-	-	-	0
14	<b>19 F. MASSA (BRA)</b> VENTURI FORMULA E TEAM		0	-	-	-	-	-	-	-	-	-	-	-	0
15	<b>8 T. DILLMANN (FRA)</b> NIO FORMULA E TEAM		0	-	-	-	-	-	-	-	-	-	-	-	0
16	<b>6 M. GÜNTHER (DEU)</b> GEOX DRAGON		0	-	-	-	-	-	-	-	-	-	-	-	0
17	<b>5 S. VANDOORNE (BEL)</b> HWA RACELAB		0	-	-	-	-	-	-	-	-	-	-	-	0
18	<b>27 A. SIMS (GBR)</b> BMW I ANDRETTI MOTORSPORT		0	-	-	-	-	-	-	-	-	-	-	-	0
19	<b>48 E. MORTARA (CHE)</b> VENTURI FORMULA E TEAM		0	-	-	-	-	-	-	-	-	-	-	-	0
20	<b>94 F. ROSENQVIST (SWE)</b> MAHINDRA RACING		0	-	-	-	-	-	-	-	-	-	-	-	0
21	<b>17 G. PAFFETT (GBR)</b> WA RACELAB		0	-	-	-	-	-	-	-	-	-	-	-	0
22	<b>7 J. LÓPEZ (ARG)</b> GEOX DRAGON		0	-	-	-	-	-	-	-	-	-	-	-	0

# FIA FORMULA E

## TEAMS STANDING

															TOT.
		SA	MA	CL	MX	HK	CN	IT	FR	MC	DE	CH	US	US	
1	<b>DS TECHEETAH FORMULA E TEAM</b>	29	-	-	-	-	-	-	-	-	-	-	-	-	29
2	<b>BMW I ANDRETTI MOTORSPORT</b>	28	-	-	-	-	-	-	-	-	-	-	-	-	28
3	<b>MAHINDRA RACING</b>	15	-	-	-	-	-	-	-	-	-	-	-	-	15
4	<b>NISSAN E.DAMS</b>	14	-	-	-	-	-	-	-	-	-	-	-	-	14
5	<b>PANASONIC JAGUAR RACING</b>	13	-	-	-	-	-	-	-	-	-	-	-	-	13
6	<b>AUDI SPORT ABT SCHAEFFLER</b>	6	-	-	-	-	-	-	-	-	-	-	-	-	6
7	<b>ENVISION VIRGIN RACING</b>	0	-	-	-	-	-	-	-	-	-	-	-	-	0
8	<b>NIO FORMULA E TEAM</b>	0	-	-	-	-	-	-	-	-	-	-	-	-	0
9	<b>VENTURI FORMULA E TEAM</b>	0	-	-	-	-	-	-	-	-	-	-	-	-	0
10	<b>GEOX DRAGON</b>	0	-	-	-	-	-	-	-	-	-	-	-	-	0
11	<b>HWA RACELAB</b>	0	-	-	-	-	-	-	-	-	-	-	-	-	0

# 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 can be activated twice per race. The car's halo head protection device lights up (Blue) when the Attack Mode 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)

