

RACEGUIDE

2021 MICHELIN FORMULA E



MAY 8

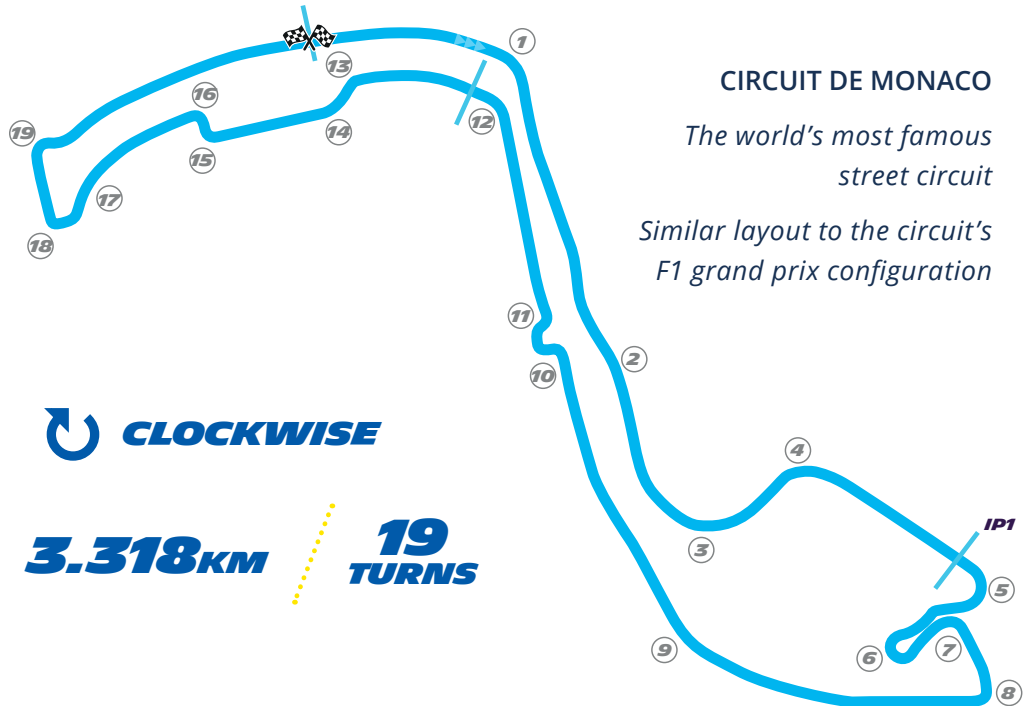
ROUND 7

2021 FIA ABB
FORMULA E WORLD
CHAMPIONSHIP

MONACO



MONACO E-PRIX 2021 4th RUNNING



CIRCUIT DE MONACO

The world's most famous street circuit

Similar layout to the circuit's F1 grand prix configuration

CLOCKWISE

3.318KM / 19 TURNS

STABILITY, DIRECTIONAL PRECISION AND TRACTION

The chicane after the famous tunnel will be the most demanding part of this season's circuit for the MICHELIN Pilot Sport EV tires which will need to combine stability under heavy braking out of the tunnel, front-end steering precision through the chicane and traction out of it, as well as through all the harborside section.

TIMETABLE

ROUND 7

MAY 8

Free Practice 1 (45 minutes)	8:00am
Free Practice 2 (30 minutes)	10:15am
Qualifying (in four groups)	12:00 noon
Super Pole (20 minutes)	12:37pm
Monaco E-Prix (45 minutes + 1 lap)	4:04pm

Local time GMT +2

MONACO E-PRIX - PREVIOUS WINNERS



2015 Sébastien Buemi
(Team e.dams Renault)

2017 Sébastien Buemi
(Renault e.dams)

2019 Jean-Eric Vergne
(DS Techeetah)



**MONACO
AND SUSTAINABLE
MOBILITY**

Monaco's aim is to halve its CO2 emissions by 2030, with carbon neutrality targeted by 2050.

Monaco's three windfarms and 10 solar farms provide 25 percent of the Principality's electricity requirements.

The ACM (Automobile Club de Monaco) organizes the annual eRallye Monte-Carlo for emissions-free vehicles.

Monaco hosts the annual EVER Conference which covers the topic of green vehicles.

Ocean thermal energy covers 17 percent of Monaco's energy needs and saves 15,000 tons of oil equivalent yearly.



MONACO TRIVIA

The length of Monaco's Mediterranean coastline is 3.829km.

Monaco is the world's second-smallest independent state after the Vatican.

The Principality of Monaco has 9 wards (quarters), one of which is Monte Carlo.



MICHELIN GREEN GUIDES

Discover the delights of France's Côte d'Azur and the Principality of Monaco with the Michelin Green Guide.

MICHELIN STATISTIC



Thirty-four different drivers have had the pleasure of donning Michelin's famous podium cap in Formula E. The three additions to the prestigious list after Valencia were Nico Müller, Alex Lynn and Jake Dennis.



JÉRÔME MONDAIN,
Formula E Manager
Michelin Motorsport

THIS IS OUR FIRST EXPERIENCE OF THIS YEAR'S 25-PERCENT REDUCTION IN TIRE ALLOCATIONS

What can I say about Monaco – which the Formula E are tackling for the first time in a version of the circuit that is close to that used by F1 – other than it's an iconic, legendary venue that is steeped in history? Every driver dreams of winning in the Principality, so the seventh round of the 2020/2021 world championship is sure to have a special savor. The surface is not very hard-wearing for tires and

this is our first experience of this year's 25-percent reduction in tire allocations for single-race meetings. The drivers consequently

have a package of just three front tires and three rears for the entire day. Given the combination of the start/finish straight, the climb up to Casino Square and the tunnel portion, this could well be one of the fastest races of the season.

THE 2021 MONACO E-PRIX AND THE MICHELIN PILOT SPORT EV

MICHELIN PILOT SPORT EV



Developed specifically for the FIA Formula E Championship

The first 18-inch single-seater racing tire

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

The first tire capable of lasting an entire race meeting

Size (front/rear)	Front: 245/40 R 18 / Rear: 305/40 R 18
Width (front/rear)	245mm / 305mm
Tread width (front/rear)	240mm / 270mm
Side wall height (front/rear)	98mm / 122mm (i.e. 40 percent of tread width)
Rim diameter	18 inches
Weight (front/rear)	Front: 8kg / Rear: 10kg
Type of tread pattern	Asymmetric, non-directional
Usage	Circuits, street circuits, asphalt, concrete, wet or dry weather
Number of tires taken for this race	144 (24 cars x 6 tires)
Weight saving per set of four tires	9kg for 4 tires (season 6 vs season 1)
Embedded Michelin tire monitoring sensors (TMS)	Automatic transmission of encrypted tire pressure data



MICHELIN PILOT SPORT EV

**MICHELIN
PILOT
SPORT EV**
THE WINNING
TIRE
RANGE

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

A REVOLUTIONARY RACING TIRE, IN MORE WAYS THAN ONE!

Developed specifically for the world's first all-electric single-seater motor racing championship, the new MICHELIN Pilot Sport EV is an exceptionally versatile tire 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 tire is its size. The MICHELIN Pilot Sport EV was effectively the first ever single-seater tire 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 tires, in keeping with the firm's 'track to street' policy.**

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

FORMULA E: A HI-TECH LAB FOR MICHELIN

As part of its **VISION plan**, Michelin is targeting the production of tires that incorporate 100% recycled, regenerated and bio-sourced materials by 2050. The extreme conditions encountered in Formula E enable Michelin to incubate new ideas and accelerate the introduction of sustainable materials. The proportion of sustainable materials employed for the textiles that go into the MICHELIN Pilot Sport EV Formula E tire is notably high.

THE MICHELIN PILOT SPORT EV: THE HEIR

Monaco hosted a Formula E race for the first time in 2015, during the championship's inaugural 2014/15 season. The successive versions of the MICHELIN Pilot Sport EV have therefore all raced in the streets of the Principality. The current-generation tire will get to tackle the famous grand prix circuit which includes such famed landmarks as Sainte-Devote, Casino Square, Rascasse, etc.

As a founding partner of Formula E, Michelin pioneered a fresh approach to world class motor racing with the development of a single, treaded 18-inch Pilot Sport for the series.

This exceptionally versatile tire is capable of performing in wet and dry conditions alike and has evolved over successive seasons to match the constantly-improving performance of the electric single-seaters that star in the championship. Michelin's current Formula E challenger is 20 percent lighter than the original, but at the same time it is appreciably more efficient, in line



with the increasingly higher power output of the cars' power units which today deliver 250kW (335hp).

The third-generation Pilot Sport EV for Formula E benefits from the experience Michelin has gained over six seasons and at some 70 e-prix across the world. A number of the race-proven technologies it packs have been carried over to the MICHELIN Pilot Sport EV for road-going hybrid and electric sports cars.

The latter also benefits from a hard rubber compound for the central part of the tread for optimal grip, plus a more efficient compound for the shoulders to reduce energy consumption, not to mention MaxTouch Construction™ technology which maximizes the size of the contact patch to optimize acceleration, braking and cornering performance.

Available in a choice of 16 sizes for 18- to 22-inch rims, the MICHELIN Pilot Sport EV delivers outstanding grip in wet and dry weather and, in addition to its durability, extends the range of high-performance electric cars by up to 60 kilometers.

PILOT SPORT EV
FIA FORMULA E



For track use

PILOT SPORT EV



For road use

(high-performance electric vehicles)

PILOT SPORT 4S



For track use

PILOT SPORT 4 SUV



For road and occasional track use

PILOT SPORT 4



For road use

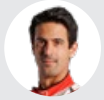


ENTRY LIST

2021 MONACO E-PRIX

AUDI SPORT ABT SCHAEFFLER FORMULA E TEAM

AUDI E-TRON FE07



N°11 Lucas DI GRASSI (BRA)

Races: 75
Victories: 10
Pole positions: 3

Fasted race laps: 7
Podiums: 32



N°33 René RAST (DEU)

Races: 13
Victory: 0
Pole position: 0

Fasted race lap: 0
Podium: 1



ENVISION VIRGIN RACING AUDI E-TRON FE07



N°37 Nick CASSIDY (NZL)

Races: 6
Victory: 0
Pole position: 1

Fasted race lap: 0
Podium: 0

ROOKIE



N°4 Robin FRIJNS (NED)

Races: 51
Victories: 2
Pole position: 1

Fasted race lap: 1
Podiums: 8



BMW I ANDRETTI MOTORSPORT BMW iFE.21



N°27 Jake DENNIS (GBR)

Races: 6
Victory: 1
Pole position: 1

Fasted race lap: 0
Podium: 1

ROOKIE



N°28 Max GÜNTHER (DEU)

Races: 27
Victories: 2
Pole position: 0

Fasted race lap: 0
Podiums: 3



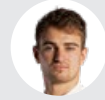
DRAGON / PENSKE AUTOSPORT PENSKE EV-4



N°7 Sergio SETTE CAMARA (BRA)

Races: 12
Victory: 0
Pole position: 0

Fasted race lap: 0
Podium: 0



N°6 Nico MULLER (CHE)

Races: 16
Victory: 0
Pole position: 0

Fasted race lap: 1
Podium: 1



DS TECHEETAH DS E-TENSE FE20



N°25 Jean-Eric VERGNE (FRA)

Races: 73
Victories: 10
Pole positions: 11

Fasted race laps: 4
Podiums: 24



N°13 Antonio Felix DA COSTA (PRT)

Races: 71
Victories: 5
Pole positions: 5

Fasted race laps: 3
Podiums: 12



MAHINDRA RACING MAHINDRA M7ELECTRO



N°29 Alexander SIMS (GBR)

Races: 30
Victory: 1
Pole positions: 3

Fasted race lap: 2
Podiums: 3



N°94 Alex LYNN (GBR)

Races: 33
Victory: 0
Pole position: 1

Fasted race lap: 0
Podium: 1



ENTRY LIST

2021 MONACO E-PRIX

MERCEDES-BENZ EQ FORMULA E TEAM

MERCEDES-BENZ EQ SILVER ARROW 02



N°5 Stoffel VANDOORNE (BEL)

Races: 30
Victories: 2
Pole positions: 3

Fasted race laps: 2
Podiums: 6



N°17 Nyck DE VRIES (NED)

Races: 17
Victory: 2
Pole position: 1

Fasted race laps: 2
Podiums: 3



JAGUAR RACING

JAGUAR I-TYPE V



N°20 Mitch EVANS (NZL)

Races: 54
Victories: 2
Pole positions: 2

Fasted race laps: 3
Podiums: 8



N°10 Sam BIRD (GBR)

Races: 75
Victories: 10
Pole positions: 5

Fasted race laps: 6
Podiums: 11



NIO 333 FE TEAM

NIO 333 001



N°8 Oliver TURVEY (GBR)

Races: 64
Victory: 0
Pole position: 1

Fasted race lap: 0
Podium: 1



N°88 Tom Blomqvist (GBR)

Races: 14
Victory: 0
Pole position: 0

Fasted race lap: 0
Podium: 0



TAG HEUER PORSCHE FORMULA E TEAM

PORSCHE 99X ELECTRIC



N°36 André LOTTERER (DEU)

Races: 42
Victory: 0
Pole positions: 2

Fasted race laps: 3
Podiums: 7



N°99 Pascal WEHRLEIN (DEU)

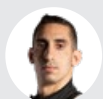
Races: 23
Victory: 0
Pole position: 1

Fasted race laps: 3
Podiums: 2



NISSAN E.DAMS

NISSAN IMO2



N°23 Sébastien BUEMI (CHE)

Races: 71
Victories: 13
Pole positions: 14

Fasted race laps: 7
Podiums: 29



N°22 Oliver ROWLAND (GBR)

Races: 31
Victory: 1
Pole positions: 4

Fasted race lap: 1
Podiums: 3



ROKIT VENTURI RACING

Mercedes-Benz EQ SILVER ARROW 02



N°48 Edoardo MORTARA (CHE)

Races: 38
Victory: 1
Pole position: 0

Fasted race lap: 0
Podiums: 4



N°71 Norman NATO (FRA)

Races: 6
Victory: 0
Pole position: 0

Fasted race lap: 0
Podium: 0



FIA FORMULA E

DRIVERS' STANDINGS

		R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	TOTAL des POINTS
		 SAU	 SAU	 ITA	 ITA	 ESP	 ESP	 IDN	 MEX	 MEX	 USA	 USA	 GB	 GB	 DEU	 DEU	
		26/02	27/02	10/04	11/04	24/04	25/04	08/05	19/06	20/06	10/07	11/07	24/07	25/07	14/08	15/08	
1	NYCK DE VRIES		29	3	-	-	25	-									57
2	STOFFEL VANDOORNE		4	-	3	26	15	-									48
3	SAM BIRD		-	25	18	-	-	-									43
4	ROBIN FRIJNS		-	22	12	-	9	-									43
5	MITCH EVANS		15	-	16	8	-	-									39
6	RENÉ RAST		13	-	8	-	10	8									39
7	JEAN-ÉRIC VERGNE		-	-	25	-	2	6									33
8	JAKE DENNIS		-	-	-	-	4	29									33
9	EDOARDO MORTARA		18	-	-	12	-	2									32
10	PASCAL WEHRLEIN		10	1	6	15	-	-									32
11	NICO MÜLLER		-	10	-	2	18	-									30
12	OLIVER ROWLAND		8	6	1	-	-	12									27
13	ALEXANDER SIMS		6	-	-	18	-	-									24
14	ANTÓNIO FÉLIX DA COSTA		-	15	-	6	3	-									24
15	ALEX LYNN		-	-	4	-	1	16									21
16	ANDRÉ LOTTERER		-	-	-	-	-	18									18
17	NICK CASSIDY		-	-	-	3	12	-									15
18	OLIVER TURVEY		1	8	-	-	-	4									13
19	LUCAS DI GRASSI		2	4	-	-	6	1									13
20	SÉRGIO SETTE CÂMARA		-	12	-	-	-	-									12
21	MAXIMILIAN GÜNTHER		-	-	2	10	-	-									12
22	SÉBASTIEN BUEMI		-	-	10	1	-	-									11
23	NORMAN NATO		-	-	-	1	-	10									11
24	TOM BLOMQVIST		-	-	1	4	-	-									5

REGULATIONS

2021 ABB FIA FORMULA E WORLD 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 and/or capacitor (maximum: 280kg)
- Maximum power, electric powertrain: 250kW (335hp) for free practice and qualifying, 200kW (270hp) during races.
- Gearbox: six speeds maximum
- Only 1 MGU may be used
- Allocation per race number: 2 electric motors, 2 gearboxes, 2 inverters and 1 battery pack for the season



TIRES

- A single type of tire (pattern and construction)
- No mid-race tire changes
- Allocation of 1.5 sets (3 front + 3 rear) of new tires per driver for single race and 2 sets (4 front + 4 rear) per driver for double headers.
- All tires are returned to Michelin after every event
- In the case of a puncture during a practice session, the use of a marked tire is authorised (identified by FIA)
- Can be inflated using air only
- Minimum tire pressures are checked before qualifying and before races
- In the case of a 'Wet Track', tire pressures may be adjusted in parc ferme
- Tires must remain visible in the team garages at all times
- Tires are identified by RFID chips
- Tire warmers not authorised

EVENT FORMATS

- A **Shakedown** session of a maximum duration of 15 minutes + three laps 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 of six cars 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 up to two flying laps (only one running at maximum power) 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 (235kW / regeneration: 250kW).
- **Attack Mode:** Power: 235kW (compared with 225kW in 2018/2019). The number and duration of Attack Mode activations is specific to each race and are notified at least one hour before the start. The cockpit halo lights up when a car is in Attack Mode.
- **FanBoost:** A temporary 100kJ power boost (minimum: 240kW/maximum: 250kW) for five drivers chosen by a fan vote. To be activated once, but not before the 22nd minute of the race.

POINTS-SCORING SYSTEM

Race result: 1st, 25 points • 2nd, 18 points
3rd, 15 points • 4th, 12 points • 5th, 10 points
6th, 8 points • 7th, 6 points • 8th, 4 points
9th, 2 points • 10th, 1 point.

Pole Position: 3 points.

Fastest drivers in the qualifying groups:
1 point

Fastest race lap: 1 point
(if driver classified inside the top 10).

