

# FACT SHEET XXL ROUND 1 FORMULA E HONG KONG OCTOBER 9, 2016

SCHAEFFLER



## KICK-OFF IN ASIA

The race in the bustling metropolis of Hong Kong marks the start of the third Formula E season



### INNOVATIVE

Many details improved:  
the ABT Schaeffler FE02

p. **10**



### HISTORIC

Electric mobility in  
automotive design

p. **20**

## EDITORIAL



**Jörg Walz**  
Vice President  
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*A warm welcome to the season-opening round. As the exclusive technology partner of the ABT Schaeffler Audi Sport team, we are very much looking forward to the sprints through the world's most fascinating cities. Formula E is an ideal platform for Schaeffler to advance mobility for tomorrow through ideas*

*and innovations – on and off the racetrack. In this issue, allow us to present some examples and background information on the series, the drivers, the technology, the city of Hong Kong and our company.*

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## VIDEOS



Racing for a reason



Down to the wire

Electrifying Team ABT Schaeffler Audi Sport

# WELCOME TO THE F

Formula E offers a number of distinct motor racing specialties. The most obvious feature is that, unlike conventional internal combustion engines (as in the DTM) or hybrid drives (as in the WEC), Formula E race cars are one hundred percent electrically-powered. The development of the electric motor as well as the transmission and subsequent software is unrestricted. Schaeffler and the team joined forces to design the entire powertrain, and this combination laid the foundation for clinching the vice-championship in the second season. The energy for all teams comes from identical batteries weighing approx. 320 kilograms and positioned in the rear of the car.

A second special feature is that Formula E races are not contested on conventional, permanent racetracks, but rather on



Electric, in the heart of cities, all over the globe – this is Formula E. Forget everything that you knew about motorsport, and experience the world of the first ever fully-electric international race series

# UTURE!

temporary courses set up right in the heart of major cities. So, rather than the fans having to travel to events, racing is brought straight to the fans. Competing in these unusual locations is possible thanks to the low noise level of the Formula E racing cars and their zero emissions. Even the electricity that is used to charge the batteries is generated at the track using a glycerine-powered Aquafuel generator.

## ELECTRIFYING AROUND THE WORLD

In the motor racing scene, the venues are unique and exotic: Hong Kong, Marrakesh, Buenos Aires, Paris, Berlin and New York are just some of the metropolises where the ePrix are held, with backdrops such as Les Invalides, the Alexanderplatz, the skyline of Manhattan or the Statue of Liberty.

The grid line-up is studded with interesting names, including Nelson Piquet Jr, Nico Prost, Nick Heidfeld and, of course, the defending champion Sébastien Buemi. As the sole German team, ABT Schaeffler Audi Sport again tackles the series with its regular drivers Daniel Abt and reigning vice-champion Lucas di Grassi. The other nine squads include outright factory teams such as Renault, Jaguar and DS Virgin as well as other top international teams from China, the USA and India.

The Formula E format is clear and concise: The practice, qualifying and race are all run within just a few hours on a single day. The race itself takes about 50 minutes – with pilots coming into the pits at around halftime to switch cars. ■

# AROUND THE GLOBE

The Formula E race calendar offers one highlight after the other over ten months and on four continents. Five new metropolises, Hong Kong, Marrakesh, Brussels, New York and Montreal, host the fully-electric race series for the first time this season

## 1 SEASON-OPENER IN THE FAR EAST HONG KONG CHINA



**October 9, 2016**

A Formula E premiere in the Asian megacity. The course runs through the harbor area with the world-famous Skyline as a backdrop.

## PREMIERE IN AFRICA MARRAKESH MOROCCO



**November 12, 2016**

With the first race in the "Red City", Formula E visits a fourth continent: Africa. A picturesque setting for Formula E.

## GUARANTEED ACTION BUENOS AIRES ARGENTINA

**February 18, 2017**

Argentinean motorsport enthusiasts have already been treated to two action-packed Formula E races at this venue. To be continued ...



## 3

## AIM HIGH MEXICO CITY MEXICO

**April 1, 2017**

Mexico City hosts the only race to run on a permanent racetrack, and at an altitude of 2,500 meters, it's the highest venue. Fans witnessed a spectacular debut here last season.



## 4

## 6



## 5 BACK ON THE CALENDAR MONACO

**May 13, 2017**

In its very first season, Formula E raced through the streets of the Monegasque Principality. Now, in season three, the electric race cars are making a comeback. The course is a shorter version of the traditional world-famous Grand Prix track.



## HISTORIC PARIS FRANCE

**May 20, 2017**

At just 1.9-kilometers in length, the racetrack around the historic Les Invalides is very short – ideal for the masses of fans. Lucas di Grassi won last year's race here.



## HOME RACE BERLIN GERMANY

June 10, 2017

Last year, the ABT Schaeffler Audi Sport team clinched a maiden double podium for Lucas di Grassi and Daniel Abt on home turf in Germany's capital. Repeat performance welcome ...

## HEART OF EUROPE BRUSSELS BELGIUM

July 1, 2017

The last three ePrix are held in cities in which Formula E has never raced before. First up is Brussels – the seat of the European Union parliament.



## CITY OF DREAMS NEW YORK USA

July 15/16, 2017

This is the first time a FIA automobile race is held in the middle of New York ... with not only one but two races – on Saturday and again on Sunday – in the legendary port district of Brooklyn.



## GRAND FINALE MONTREAL CANADA

July 29/30, 2017

Just like in New York, Montreal hosts a double-header at the final weekend of the 2016/2017 season. The multicultural metropolis on the St. Lawrence River, where French is the official language, is crazy about motor racing.



## ENTRY LIST

| #   | DRIVER                     | TEAM                         |
|-----|----------------------------|------------------------------|
| #2  | Sam Bird (GB)              | DS Virgin Racing             |
| #3  | Nelson Piquet jr. (BR)     | NextEV NIO                   |
| #4  | Stéphane Sarrazin (F)      | Venturi                      |
| #5  | Maro Engel (D)             | Venturi                      |
| #6  | Loïc Duval (F)             | Faraday Future Dragon Racing |
| #7  | Jérôme D'Ambrosio (B)      | Faraday Future Dragon Racing |
| #8  | Nicolas Prost (F)          | Renault e.dams               |
| #9  | Sébastien Buemi (CH)       | Renault e.dams               |
| #11 | Lucas di Grassi (BR)       | ABT Schaeffler Audi Sport    |
| #19 | Felix Rosenqvist (S)       | Mahindra Racing              |
| #20 | Mitch Evans (AUS)          | Jaguar Racing                |
| #23 | Nick Heidfeld (D)          | Mahindra Racing              |
| #25 | Jean-Éric Vergne (F)       | Techeetah                    |
| #27 | Robin Frijns (NL)          | MS Amlin Andretti            |
| #28 | António Félix da Costa (P) | MS Amlin Andretti            |
| #33 | Ma Qing Hua (CN)           | Techeetah                    |
| #37 | José María López (RA)      | DS Virgin Racing             |
| #47 | Adam Carroll (GB)          | Jaguar Racing                |
| #66 | Daniel Abt (D)             | ABT Schaeffler Audi Sport    |
| #88 | Oliver Turvey (GB)         | NextEV NIO                   |

## CES: SCHAEFFLER AND FORMULA E IN VEGAS LAS VEGAS USA

January 7, 2017

Wager in Vegas: The 20 Formula E pilots pit themselves against 10 gamers for a total purse of a million US dollars. This greatest spectacle in Simracing is held during the CES, the largest trade show for entertainment electronics, where Schaeffler is also represented.



# SETTING AN EXAMPLE HONG KONG

More than seven million people scurry around the densely-packed precincts of Hong Kong. And yet, according to a study by the American business consultancy Arthur D. Little, the city is leading the way in urban mobility



64%

*of people use public transport – or 92 percent including pedestrians*

**5 MINUTES**

*on foot to the next station in Hong Kong's congested urban center. At peak hour, the trains run every 90 seconds on ten lines*

Urban planners and builders in Hong Kong face many obstacles such as mountains, valleys and bodies of water, as well as extreme climatic fluctuations and cash-strapped residents. 7.1 million people live in an area covering just 1,100 square kilometers – that's 6,400 people per square kilometer. By comparison, the ratio in Hamburg is around 2,300. Moreover, around 50 million tourists visit Hong Kong every year.

### A PERFECT LOCAL PUBLIC TRANSPORT SYSTEM

Only eight percent of the population use bikes or private cars. In most large European cities, the proportion of cars amounts to 40 to 70 percent. The number of cars per capita in Hong Kong is one of the lowest of the study with 73 per 1,000 inhabitants. In Western Europe and the USA the ratio is around 500 vehicles. The solution to the traffic chaos threat is an almost perfect system of local public transport (LPT).

The star of local public transport is the subway. In congested areas, the next station is no more than five minutes away on foot. The closely-meshed network of the public bus system is reinforced by a range of private providers – mini-buses. The vans do not run to a fixed timetable and their routes stretch predominantly from one side of the city to the other. A shout lets the driver know when passengers want to hop on or off.

But even an exemplary example of urban mobility like Hong Kong also has its weak points – namely car sharing, bike sharing and cycle paths. The fact that the push bike is almost non-existent as a means of transport is again due to the high population density. Sidewalks and roads are packed with people, taxis and buses. Bike paths don't exist. Many Hong Kong Chinese don't even know how to ride a bike as it was never part of their upbringing at home or at school. ■





# FORMULA E BASICS

## PHILOSOPHY, REGULATIONS AND CHANGES FOR THE 2016/2017 SEASON

In our series Tech Talk we look behind the scenes of Formula E and the ABT Schaeffler Audi Sport team. Before season three gets underway, we explain the basics of the FIA Formula E racing series. What stays, what's new, what's planned for the future?

### #What makes Formula E so special?

Formula E is the world's first all-electric motor racing series. Its objective is to demonstrate the potential of sustainable mobility. With the competitive spirit inherent to engineers, teams and drivers in motorsport, sustainable and ambitious racing is contested in major cities around the world witnessed by a wide public. Based on a race car that was designed by renowned racing companies such as Dallara, Williams, McLaren and Michelin for the 2014/2015 debut season, the technical scope for development afforded to teams, suppliers and manufacturers has gradually expanded each season.

### #What are the basics?

Formula E races are contested on specially designed street courses in some of the world's biggest cities. Visitors are treated to an extremely entertaining support program, which brings them closer to the drivers and their vehicles, for instance in the eVillage of the pad-

dock, than has been the case until now in traditional motor racing. Currently, about halfway into the race the drivers switch to a second race car with a fully charged battery. In both halves of the race competitors must not only pay attention to turning the fastest lap times, but also watch energy consumption. For the race, each car has 170 kW of power (ca. 231 hp) and 28 kWh of energy available. In free practice and qualifying 200 kW (272 hp) is permitted.

### #What is FanBoost?

Formula E fans can vote for their favorite driver via the social media platforms Twitter and Instagram, in the Formula E app and on the Formula E homepage [www.fiaformulae.com](http://www.fiaformulae.com), "earning" the race drivers an additional power boost in the second half of the race. The three drivers with the most votes receive an extra 30 kW, which they can call up individually at the press of a button. Votes can be cast until six minutes into the race. FanBoost is without equal in worldwide motor racing.

### #Why is Schaeffler involved in the FIA Formula E series?

Formula E is the perfect platform for the world-wide technology group, Schaeffler. Prof. Peter Gutzmer, as Schaeffler's Chief Technology Officer responsible for the Formula E campaign, says: "Electric mobility as a whole, which includes hybrid solutions and electric driving, will largely determine the future of mobility, especially in the world's big cities. For years, Schaeffler has supplied innovative technologies, products and concepts towards mobility for tomorrow. For us, Formula E is a key commitment and is ideal for our company and our engineers."

### #What is Schaeffler's role with ABT Schaeffler Audi Sport?

Schaeffler and ABT Sportsline are responsible for the development of the entire powertrain – namely, the electric motor and transmission with the rear suspension including software and wiring. For the inaugural season, the entire grid fielded identical cars. In season two, the governing body gave teams the freedom to individually configure and develop their own powertrains. This is precisely the field in which Schaeffler's technological expertise can be utilized in the ABT Schaeffler Audi Sport team.

### #How does the future of Formula E look?

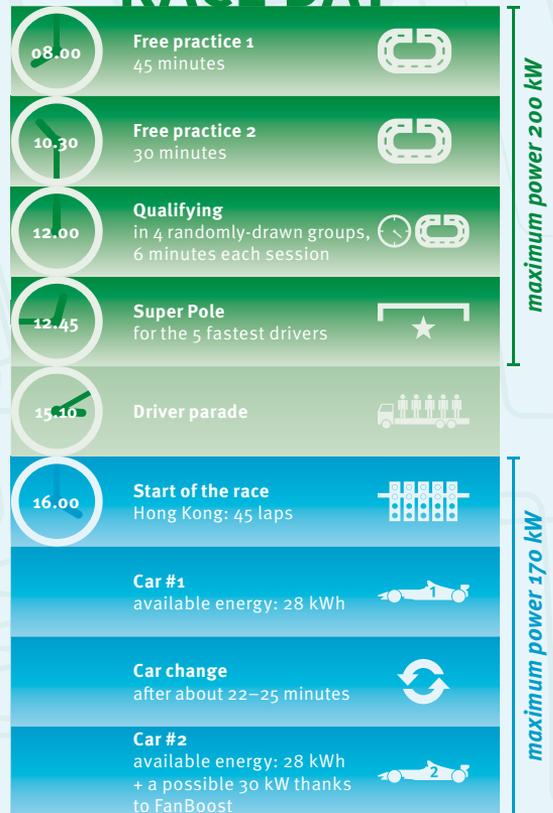
A key factor for Schaeffler's involvement in Formula E is the long-term, sustainable strategy of the FIA World Automobile Association. Right now, Formula E is the ideal platform for research and development at Schaeffler. The ongoing latitude, details of which have already been approved for season five such as an increased power output of 250 kW in practice and 200 kW in the race, provides clearly defined objectives. Sustainability, another important topic for Schaeffler, is also defined in this roadmap. It is the guiding principle towards an ecologically balanced footprint in Formula E with solutions for an automotive future based on renewable energy.

### #What's new in the 2016/2017 season?

A new front wing ... 150 kW instead of 100 kW energy recovery, thus 50% more recuper-

ation via a mechanical brake in the electric motor ... new and lighter control tires from Michelin which offer more energy efficiency in the rolling resistance and heat up faster ... only one extra point for the fastest lap (instead of two) ... Roborace, a demonstration of completely autonomous race cars ... Jaguar joins the Formula E action. ■

## RACE DAY



# HIGH-TECH FOR THE RACETRACK

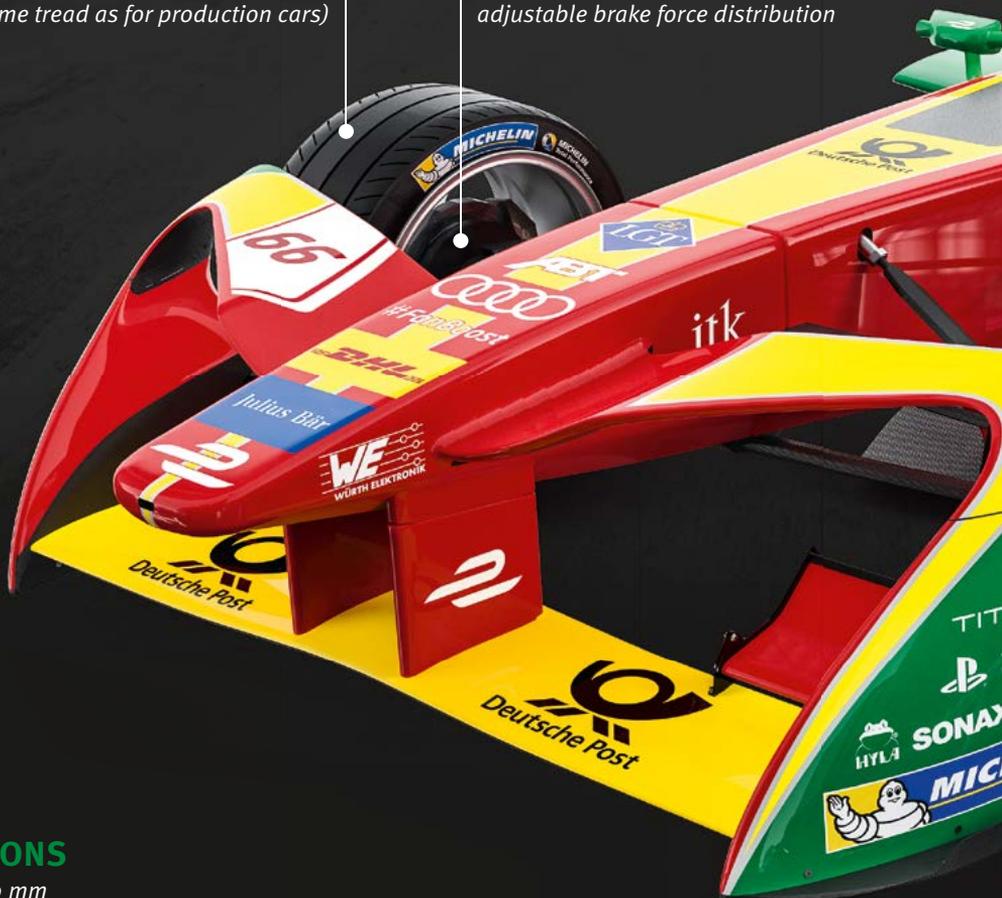
The Abt Schaeffler FE02 is a purebred racer packed with high-tech. While most of the components, including the battery and the entire aerokit, are identical for all contenders, Schaeffler and ABT have developed the entire powertrain

## TIRES

18-inch wheels with Michelin control tires (same tread as for production cars)

## BRAKES

Hydraulic dual-circuit braking system, adjustable brake force distribution



## DIMENSIONS

**Length** 5,000 mm  
**Width** 1,800 mm  
**Height** 1,250 mm  
**Weight** min. 880 kg including driver

## POWER OUTPUT

**Practice and Qualifying** 200 kW (270 hp)  
**Races** 170 kW (231 hp) plus FanBoost

## STEERING WHEEL

Standardized steering wheel with paddles for shifting and recuperation, controls for various engine settings and a display for all key information

## BATTERY

Developed by Williams Advanced Engineering, charging time: approx. 45 minutes

## AERODYNAMICS

Adjustable front and rear wing

## SUSPENSION

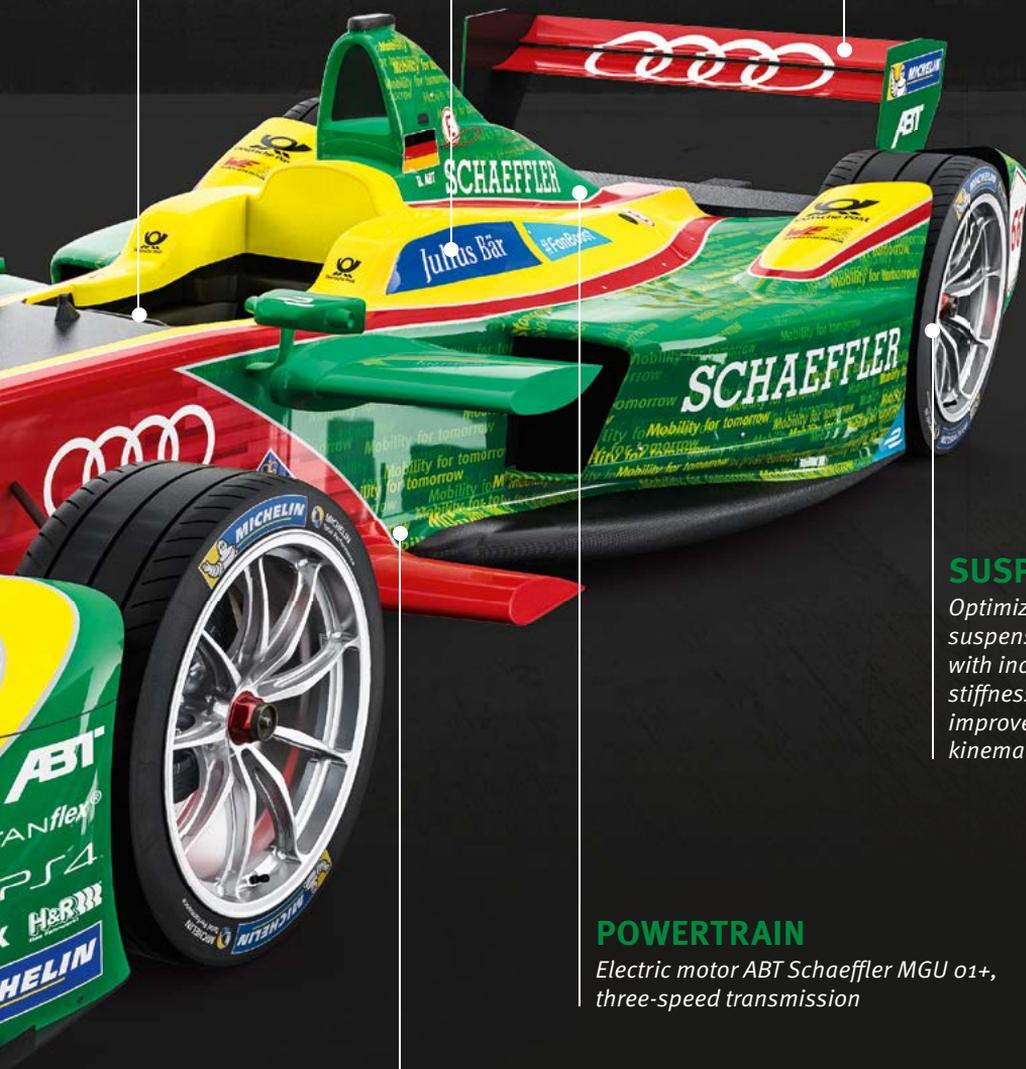
Optimized suspension with increased stiffness and improved kinematics

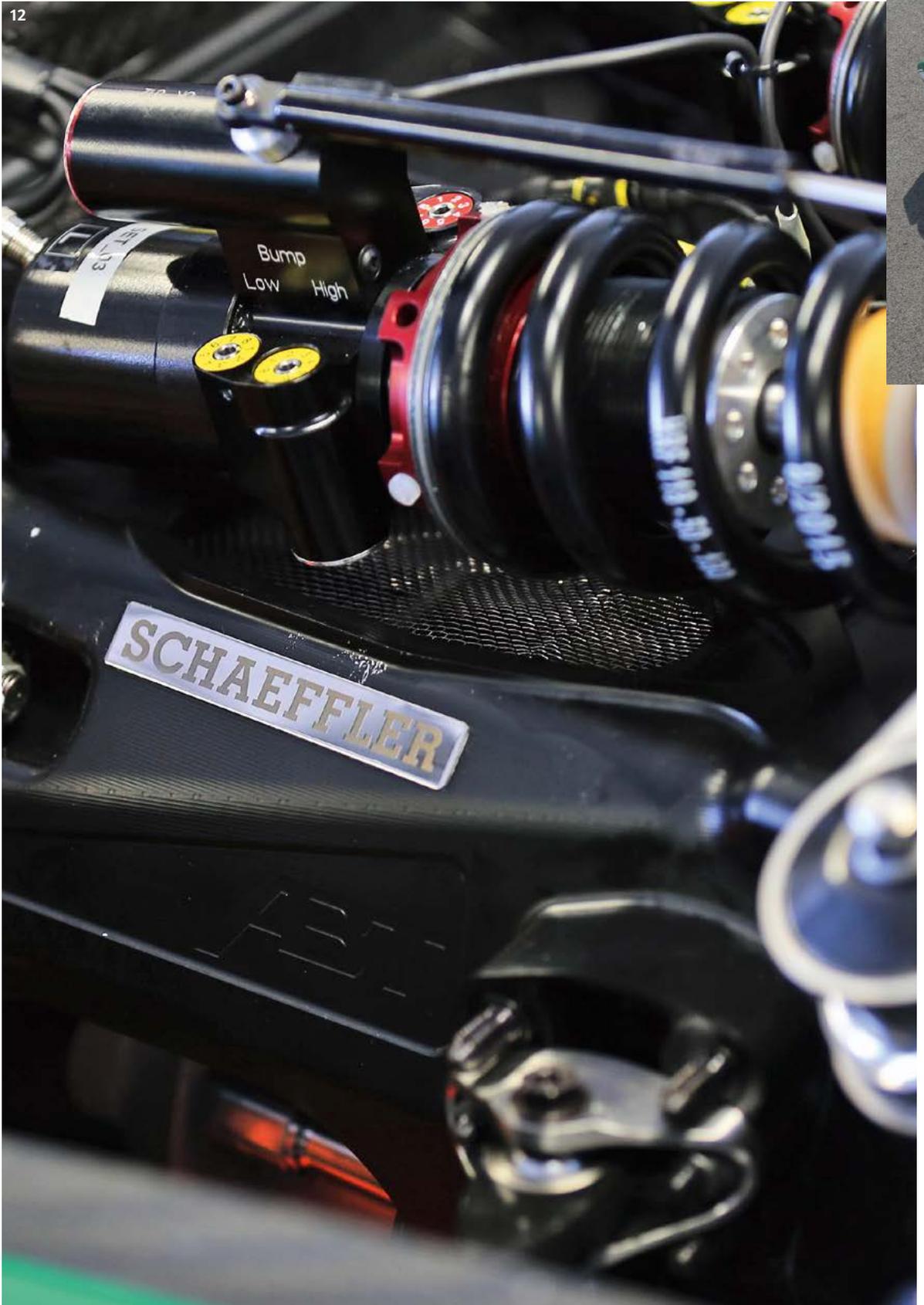
## POWERTRAIN

Electric motor ABT Schaeffler MGU o1+, three-speed transmission

## CHASSIS

Specification carbon fiber-aluminum chassis from Dallara







#### Extensive tests

ABT Schaeffler Audi Sport is perfectly prepared for the start of the season in Hong Kong

# WELL EQUIPPED

**The basic concept for the powertrain of the ABT Schaeffler FE02 remains identical to last year. With this, the team scored three wins and ten podium results. For the 2016/2017 season, the engineers focused on improving many details**

ABT Schaeffler Audi Sport heads off on the Formula E tour around the world with a powertrain that has been improved in many aspects. The ABT Schaeffler MGU01+ – even the name makes it clear that the powertrain is based on the combination of the electric motor and transmission from the successful season two model; in ten races the two pilots Daniel Abt and Lucas di Grassi scored ten podium positions, three of which were victories.

#### IMPROVED DETAILS

The engineers of the exclusive technology partner, Schaeffler, have focused on further improving the torque and drive efficiency. Moreover, the weight has been further reduced. The transmission

features three gears and has also been further optimized in its efficiency and gearshift times.

“We feel well equipped for the challenges of the third season,” says Prof. Peter Gutzmer, The Chief Technical Officer and Formula E project leader at Schaeffler. “In its first season, our powertrain played an important role in our many successes. So, it quickly became clear that we should not only continue to focus on our proven concept, but also to further develop all aspects of our components.

I would like to thank all the engineers who have worked with complete commitment in parallel to our fight for the title, so that we stay competitive and are preferably winning in the future as well.” ■

# 3,959

*test kilometers were covered by the team in preparation for the season*

**Eternal ice?** Formula E made a strong and spectacular statement in Greenland against global warming



# SPECTACULAR STATEMENT AGAINST

**In an unparalleled event, Formula E, Schaeffler and Lucas di Grassi have made a strong statement against global warming. In his Formula E car, the Brazilian turned some laps on a glacier in Greenland**

“Global warming is an issue that affects us all. The electric mobility can and will continue to play an important role against climate change in the future,” says Schaeffler’s CTO, Prof. Peter Gutzmer. “We regard Formula E with its innovations and new ideas as a driving force for mobility of the future and hence we were pleased to support this spectacular event.”

In conjunction with the Greenland government and environmental activists as well as teaming up with other partners such the Monegasque Prince Albert Foundation and the University of Southampton, the event required long and careful planning so that it could be implemented with the least possible input. Stunning images have attracted huge interest worldwide with around

**“I WAS SHOCKED  
TO SEE HOW THE LANDSCAPE  
CHANGES THROUGH  
GLOBAL WARMING”**

Lucas di Grassi  
Formula E vice-champion in  
the ABT Schaeffler Audi Sport  
team (right)



**Unknown territory** The Formula E car is lowered onto the glacier

# CLIMATE CHANGE

three million visitors on YouTube alone. The images also provided footage for a 48-minute documentary which will be premiered on the occasion of the international climate change conference held in Marrakesh at the same time as the ePrix.

## GLOBAL WARMING CHALLENGE

“The Greenland region is such a peaceful place. I was shocked to see how the landscape changes through global warming,” says Lucas di Grassi. “This experience gives me a completely new understanding of the challenge we face and what Formula E can contribute.” ■



# #PROJECTICE

# A TRADITION OF INNOVATION



**ABT Sportsline – the world’s leading tuner of vehicles from the Volkswagen Group and successful motorsport team in the DTM. Together with Schaeffler, the Allgäu-based squad enthusiastically tackles a new motorsport challenge in Formula E**

ABT Sportsline is one of the most successful motorsport teams in Germany and Europe. Its history in racing dates back more than 60 years and began with initial victories scored by Johann Abt in the 1950s. The first recorded success took place in a dirt track race, followed by victories and titles in touring car, sports car and formula racing. 2009 has gone down in the

company’s history as the most successful year to date: Timo Scheider won the DTM, Christian Abt the ADAC GT Masters in the Audi R8 and youngster Daniel Abt was victorious in the ADAC Formula Masters. Previously, in 2007, Schaeffler and ABT had jointly celebrated success as well: with the logos of LuK, INA and FAG on his A4, Mattias Ekström won his DTM title number two.



**Hall of Fame** Success not only in single-seater racing

Founded as a smithy in 1896, the ABT company has been continually developing ever since. Just one thing has never changed: the family still runs the company with about 170 employees and partners in 50 countries around the world. CEO Hans-Jürgen Abt now represents the fourth generation at the helm. For ABT Sportsline, the commitment in Formula E also marks a return to the roots, as the team celebrated success in formula racing as far back as in the early 90s – among others, with Ralf Schumacher in the cockpit back then. ■

## MOMENTS

1970



**Johann Abt** († 2003), father of Hans-Jürgen and Christian Abt, becomes European Touring Car Champion

1999



The **STW Championship** marks the first major title for Christian Abt and the team

2007



Sporting the logos of the **Schaeffler Group**, **Mattias Ekström** becomes DTM champion

2009



**Christian Abt**, **Timo Scheider** and **Daniel Abt** clinch three titles in a single year

2014



**ABT and Schaeffler** win the first ever Formula E race

# A STRONG TEAM

In Lucas di Grassi (32) and Daniel Abt (23) the squad of Hans-Jürgen Abt has its dream team filling the cockpits of the two Formula E race cars. The experienced Brazilian and youngster Daniel Abt are not only fast and technically adept but perfectly harmonize with each other off the race track as well



## **LUCAS DI GRASSI** #11

### HIGHLIGHTS

- 2005** 1st in Macau GP
- 2006** Formula 1 Test
- 2007** 2nd GP2 series, Formula 1 test driver
- 2008** 3rd GP2 series, Formula 1 reserve driver
- 2009** 3rd GP2 series, Formula 1 reserve driver
- 2010** Formula 1
- 2013** 3rd in Le Mans 24 Hours
- 2014** 2nd in Le Mans 24 Hours, 4th WEC
- 2015** 4th in Le Mans 24 Hours, 3rd FIA Formula E
- 2016** 3rd in Le Mans 24 Hours, 2nd FIA Formula E

### VITA

- Date of birth** August 11, 1984
- Place of birth** São Paulo (BR)
- Domicile** Monaco (MC)
- Height** 1.79 m
- Weight** 75 kg

-  [lucasdigrassi.com.br](http://lucasdigrassi.com.br)
-  [lucasdigrassiofficial](#)
-  [@LucasdiGrassi](#)
-  [lucasdigrassi](#)



# IN THE COCKPIT

## SIDE JOBS

Lucas di Grassi is an Audi factory driver and in 2016 is competing in the WEC and at Le Mans in an R18. In June, he took third place in the 24-hour race. Daniel Abt drove a Bentley Continental GT3 for Bentley Team ABT in the ADAC GT Masters this year besides his Formula E commitment.

## DANIEL ABT #66

### HIGHLIGHTS

- 2007** 2nd ADAC Kart Championship
- 2008** 8th ADAC Formula Masters
- 2009** 1st ADAC Formula Masters
- 2010** 2nd ATS Formula 3 Cup
- 2011** 4th FIA Formula 3 International Trophy, 7th Formula 3 Euro Series
- 2012** 2nd GP3 series
- 2013** GP2 Series
- 2014** GP2 Series, FIA Formula E
- 2015** 1st in Le Mans 24 Hours (class), 11th FIA Formula E
- 2016** 19th ADAC GT Masters, 7th FIA Formula E

### VITA

- Date of birth** December 3, 1992
- Place of birth** Kempten (D)
- Domicile** Kempten (D)
- Height** 1.79 m
- Weight** 70 kg

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## 1899 ELECTRIFYING BEGINNINGS

*The car picks up speed. The first car to exceed 100 kph: the electric race car "La Jamais Contente" made by Camille Jenatton. That was 1899, the same year that the Baker Motor Vehicle Company began to build electric cars. Fully electric or hybrid drive from Ferdinand Porsche for the Lohner electric vehicle. The same idea with the Mercedes Électrique and Mercedes Mixte. Up to 1939, Detroit Electric models with more than a 100-kilometer driving range. Around the turn of the century there were more electric cars on the road than combustion ones. Only with the improvement of performance, range and gas station networks do petrol-powered vehicles take over.*

## 1972 THE LIMITS TO GROWTH

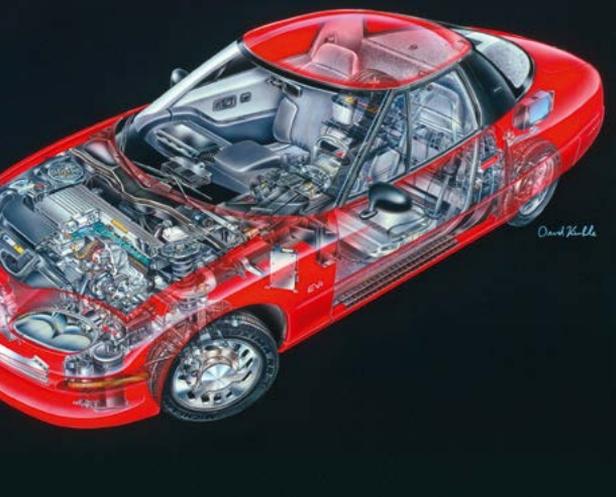
*Electric mobility means drive from a fixed electricity supply – trams, trains, trolley buses. But gasoline-power comes under pressure. The 1972 Club of Rome "limits to growth": Finiteness of resources. 1974 oil crisis. The industry responds with rudimentary electric drives: A BMW 1602 Electro for the 1972 Olympics puts out just 43.5 hp. In a fleet test, the e-Transporters from Mercedes and VW cover only 60 to 80 kilometers. And the electric models of Opel, Mercedes and VW in a large-scale project on the German island of Rügen are based on existing cars. This is the wrong path.*



# FAST CURRENTS

**From the early alternative via public transport and back into the automobile: Electric cars have enjoyed a rapid history spanning more than 100 years and are only now coming of age**





## 1996 TAILORED FOR THE FUTURE

Two things are needed: 1) A paradigm shift. In 1996, General Motors is the first major manufacturer to offer a car specifically designed for electric drive. Around 1,100 units of the EV1 are produced. Its cw value: 0.19. It reaches 130 kph with a range of around 250 km using 26.4 kWh from a nickel-metal hydride battery. 2) A technological leap, based on lithium-ion batteries from Sony. With these batteries, Tesla joins the car industry in 2008 with a roadster; 200 kph top speed, 350-kilometer range. In Japan, the Mitsubishi i-MiEV has been rolling off the assembly line since 2009. Today, there are many electric cars, and Schaeffler is a sought-after partner.

## 1997 ATTRACTIVE ALTERNATIVES?

Is it possible to have a million electric cars on the road in Germany by 2020? The bridging solution comes from the hybrid drive using the combustion engine and electricity. Toyota makes the breakthrough in 1997: The Prius is a million-seller. Electric drive is also possible without a battery: hydrogen and oxygen generate electricity in a fuel cell that drives the car. In 2003, a Mercedes A-class F-Cell is the world's first fuel cell passenger car to go into small-scale production. Since 2015, Toyota has produced the hydrogen model, Mirai.



## 2009 MOTORSPORT

The milestones of electric mobility in racing: In July 2009, the first victory for a McLaren-Mercedes with hybrid drive in Formula 1. In June 2012, the first Audi win with diesel-electric drive at Le Mans. In September 2014, FIA Formula E is launched as the first race series with electric drive. Schaeffler is one of the pioneers with the ABT Schaeffler Audi Sport team. June 2015 heralds the first overall victory of Rhys Millen's electric race car against petrol-powered vehicles at Pikes Peak. September 2016: World record for electric drive by Venturi with 549 kph in Bonneville.



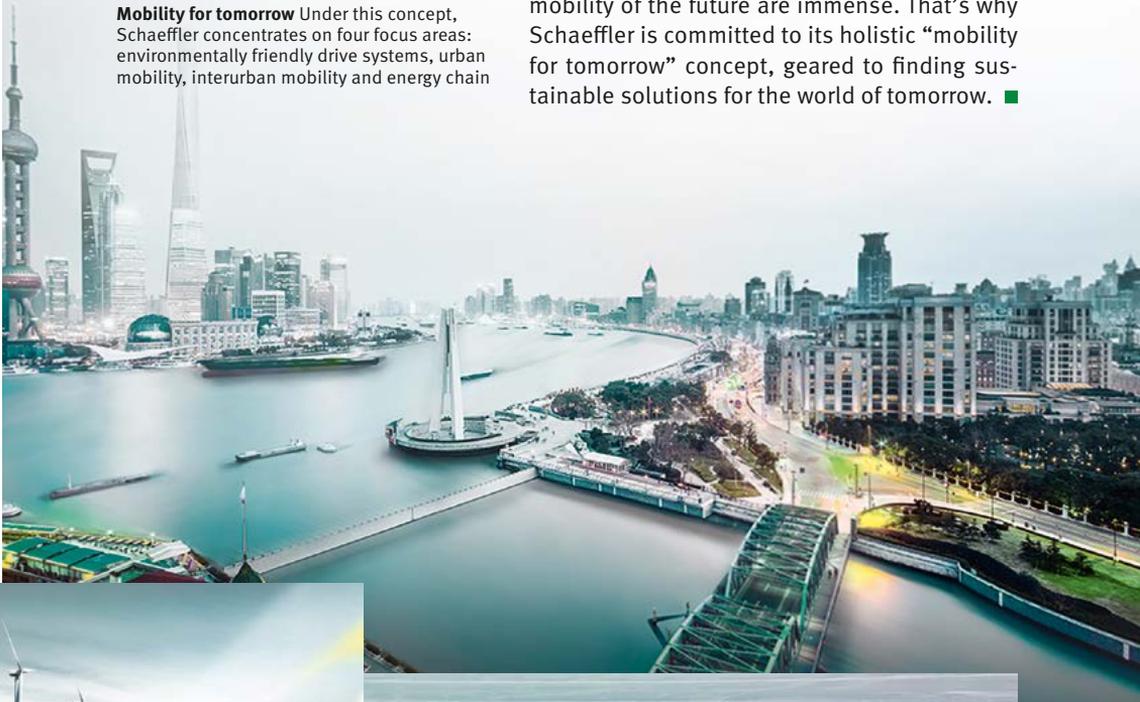
# MOBILITY FOR TOMORROW

For Schaeffler, innovation has been part of its corporate DNA since the foundation of the company. It is based on lateral and interdisciplinary thinking



**Mobility for tomorrow** Under this concept, Schaeffler concentrates on four focus areas: environmentally friendly drive systems, urban mobility, interurban mobility and energy chain

Schaeffler is known as an innovative leader delivering a wealth of technologies that make automobiles more fuel-efficient, environmentally friendly, and safer, as well as products for trains, aircraft, wind turbines, and many other industrial sectors. Schaeffler can be found wherever things are in motion – and motion also means mobility. The challenges facing mobility of the future are immense. That’s why Schaeffler is committed to its holistic “mobility for tomorrow” concept, geared to finding sustainable solutions for the world of tomorrow. ■



# DATA & FACTS



## 78

TV stations



## 7,240 hrs

TV broadcasts



## 28,163

news articles

## 270,319

Spectators visited the racetracks in the 2015/2016 season



## us\$ 1,000,000

Prize money at the Las Vegas eRace early in 2017

## 56 kWh

of energy may be used by a driver per race



The ABT Schaeffler FE02 accelerates from 0 to 100 kph in



## 2.9

seconds

## 200 kW

Power output in qualifying

## 170 kW

Power output in the race

Two-person household (6 days)

Refrigerator, 150 liters (210 days)

Light bulb, 60W (39 days nonstop)

Television (15 days nonstop)

Dish washing machine (70 wash cycles)

## 3

The 3 drivers with the most #FanBoost votes get 100 kJ more energy

## 1

FanBoost for second car

[fanboost.fiaformulae.com](http://fanboost.fiaformulae.com)

## 20,000

conventional AA batteries provide the same amount of energy

## SCHAEFFLER FACTS

≈ 85,000 ..... employees worldwide  
 13.2 ..... billion Euro turnover in 2015  
 > 2,300 ..... registered patents in 2015  
 24,000 ..... active and pending patents  
 170 ..... locations in 50 countries  
 74 ..... factories worldwide  
 60 ..... Schaeffler components in automobiles worldwide (average)  
 17 ..... R&D centers worldwide

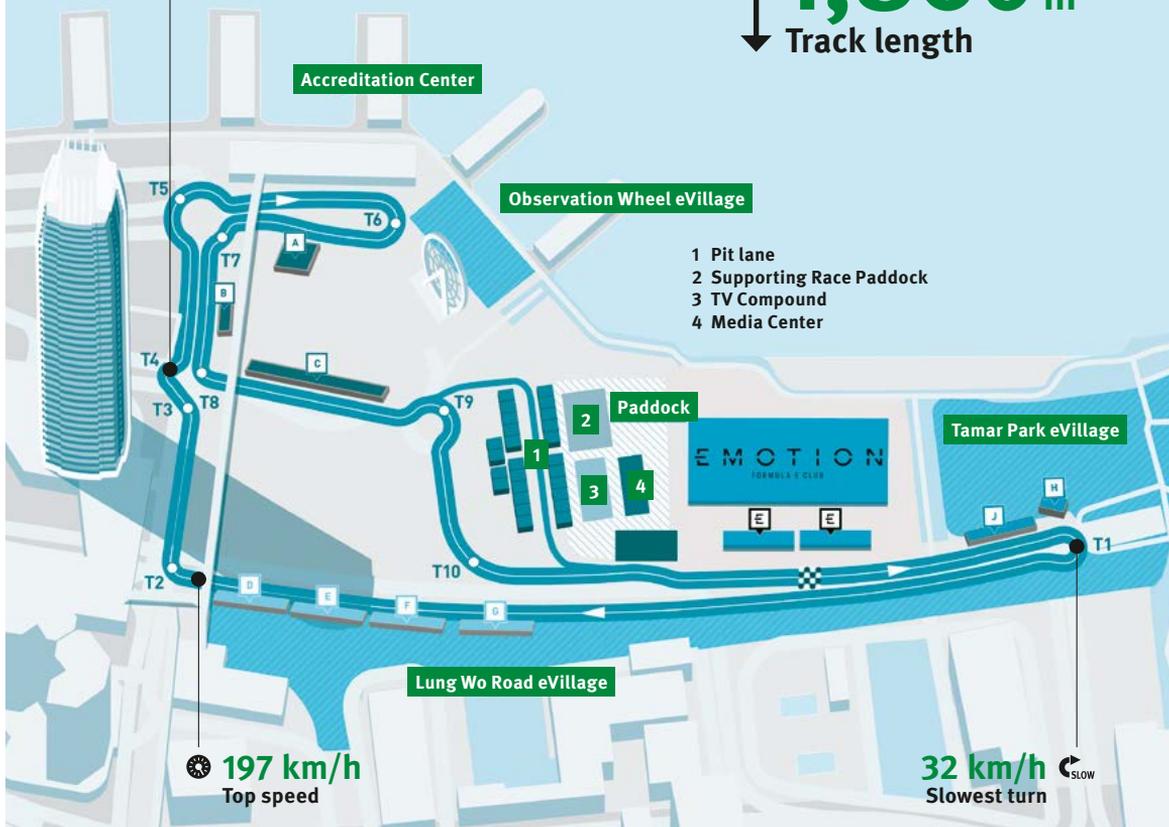
# FACTS AND FIGURES ABOUT FORMULA E IN HONG KONG



South China Sea

**107 km/h**  
Fastest turn

**1,860 m**  
Track length



## SCHAEFFLER

- schaefflergroup
- @schaefflergroup
- schaeffler.com
- Schaeffler

## TEAM ABT

- abtmotorsport
- @abt\_formula\_e
- abt-sportsline.de
- ABTSportslineTV
- abt\_fe

## SCHEDULE SUN, OCT 9, 2016 (LOCAL TIME, CEST +6)

- 08:00 – 08:45 Free practice 1
- 10:30 – 11:00 Free practice 2
- 12:00 – 12:36 Qualifying (4 groups)
- 12:45 – 13:00 Super Pole
- 14:05 – 14:35 Autograph session (eVillage)
- 15:10 Driver parade
- 15:23 Pit lane open
- 16:00 Race (45 laps)
- 17:05 Podium ceremony
- 17:15 – 17:30 Press conference (Media Center)



Learn more about mobility for tomorrow

## FORMULA E

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